



European
City of Science
Leiden2022



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D1.3 ECS2022 Year of Events evaluation report

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General introduction

In 2022, Leiden was the very first European city to present a 365 days science festival for anyone with a curious mind. In September 2020, during the 9th EuroScience Open Forum in Trieste, the title 'European City of Science', which is issued by EuroScience in Strassbourg, was handed over to Leiden.

The main component of the European City of Science 2022 programme was the Year of Events. Throughout the year, Leiden offered an extensive European platform to local, national and international pioneers in science, knowledge, culture and skill. By organising and programming activities through co-creation strategies on every single day, Leiden2022 created a strong regional ecosystem. We invited everyone to take part, and collaborated closely with artists, researchers, designers, scientists, students and active citizens. Together, they have shaped the full Year of Events program.

This deliverable presents the Evaluation Report for the Year of Events. In this Evaluation Report, we are looking back on the development, results and learnings of this remarkable year, the aim of which was to connect science with society. In this Evaluation Report, you will find an overview and review of the Year of Events program presented in three phases:

- Phase 1: Pre-European City of Science (August, 2021 – December, 2021)
- Phase 2: During European City of Science (January 1, 2022 – December 31, 2022)
- Phase 3: Post-European City of Science (January 1, 2023 – March 31, 2023)

Leiden European City of Science 2022 has been an initiative of the four Founding Partners: the municipality of Leiden, Leiden University, Leiden University of Applied Sciences and Leiden University of Applied Sciences.

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1. Phase 1: Pre-European City of Science (August 2021 –December 2021)

1.1. Euro Science Open Forum and the European City of Science title

EuroScience Open Forum (ESOF) – the interdisciplinary Open Science flagship event of EuroScience – made its debut in 2004 in Stockholm. Since then, ESOF is hopping bi-annually across Europe, from city to city, supported by the European Commission. The Dublin2012 edition experimented with a City of Science-festival combined with ESOF. In 2016, this led to the add-on 'European City of Science', as placeholder for public events during and surrounding the event. But only with the Leiden2022 edition the full potential of the title European City of Science was unleashed, recognized and valorised by EuroScience and the European Commission.

EuroScience, as owner of the title, formulated the rationale regarding the European City of Science 2022 as follows: "The ECS label is intended to celebrate the richness and diversity of the European scientific landscape as well as to foster mutual learning, scientific integration, interest for science among the younger generations and development of a borderless European research community across the continent. In addition, the ECS label should enhance the European and international profile of the scientific community in a particular city or region, increase engagement of citizens with the scientific community locally, trigger public investment in regional scientific infrastructures and boost tourism."



1.1.1. Flip the script!

At the occasion of the 10th edition of ESOF host city and organizer Leiden2022 took the liberty not only to innovate ESOF but to also drastically reinvent the conceptual framework of the European City of Science-title. Inspired by Europe's Cultural Capitals, Leiden flipped the concept 180 degrees, thus repositioning European City of Science as Europe's first 365 days science festival, aimed at connecting science with society. ESOF was subsequently integrated in the program as one of the major activities. As we have experienced in Leiden, this turned out to be a novelty with a huge potential. We kickstarted a new European tradition and created a blueprint for future editions. We tried to push boundaries. We think we made a difference.

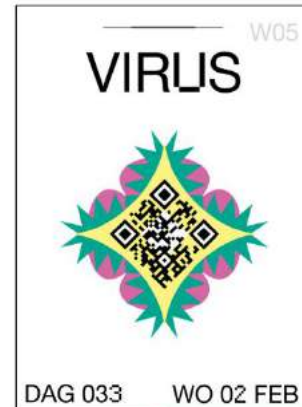
1.1.2. Pandemic

We started preparing the year amidst a pandemic which caused huge risks, uncertain perspectives, anxiety among people, and a general debate about the value of science for society. Being subjected to a range of lockdowns across The Netherlands, Europe and the world at large, we could not foresee how and when we would be able to embrace public life again and start organizing public programs. Therefore, our program had to be flexible, scalable and shareable.

In March 2020 the Dutch government took the first measures against the coronavirus. Mid-March, the Netherlands went into a partial lockdown, closing restaurants, schools and childcare facilities. In June 2020 most corona lockdown measures were lifted. However, at the end of September 2020 restrictions were made again against the virus. With some restrictions lifted and society opening again in June

2021, a major lockdown was again issued in December 2021. As can be expected, this proved some difficulties in the set-up of our yearlong festival programme.

On January 1st, 2022, The Netherlands was still in a lockdown. The festive opening of our year took place by means of an online broadcasted Opening Film, on January 22, 2022. From mid-February onwards, the lockdown was gradually lifted, and we could start organizing small-scaled meetups. All in all, these were really difficult circumstances to prepare a 365 days science festival. But it also meant people were grateful to be able to meet live once the last lockdown was finally lifted. Furthermore, the importance of trust in science was much debated during the pandemic, which provided fertile grounds for public debate and programming on the crossroads of science and society.



1.1.3. Focus on Science with Society

For centuries, science has been able to operate in relative isolation from society. As this is no longer the case, and citizens demand transparency and equality, academic institutions are challenged to re-invent themselves vis-a-vis the public domain and seek new ways to collaborate and interact with society. We believe science and society need to develop relationships based on trust and mutual curiosity, leading the way to impactful and sustainable solutions for today's big challenges.

Therefore, for Leiden2022, we chose the overall aim of connecting science with society. We were especially proud of the support of the European Commission, as they included the Leiden2022 efforts in the European Research Area Policy Agenda, as Action 14: Bring Science closer to Citizens. The European Commission pushed Leiden2022 to create 'a generic model for fostering sustainable relationships between scientists and citizens'. The ERA Policy Agenda was adopted by the Council of the EU on November 26, 2021.

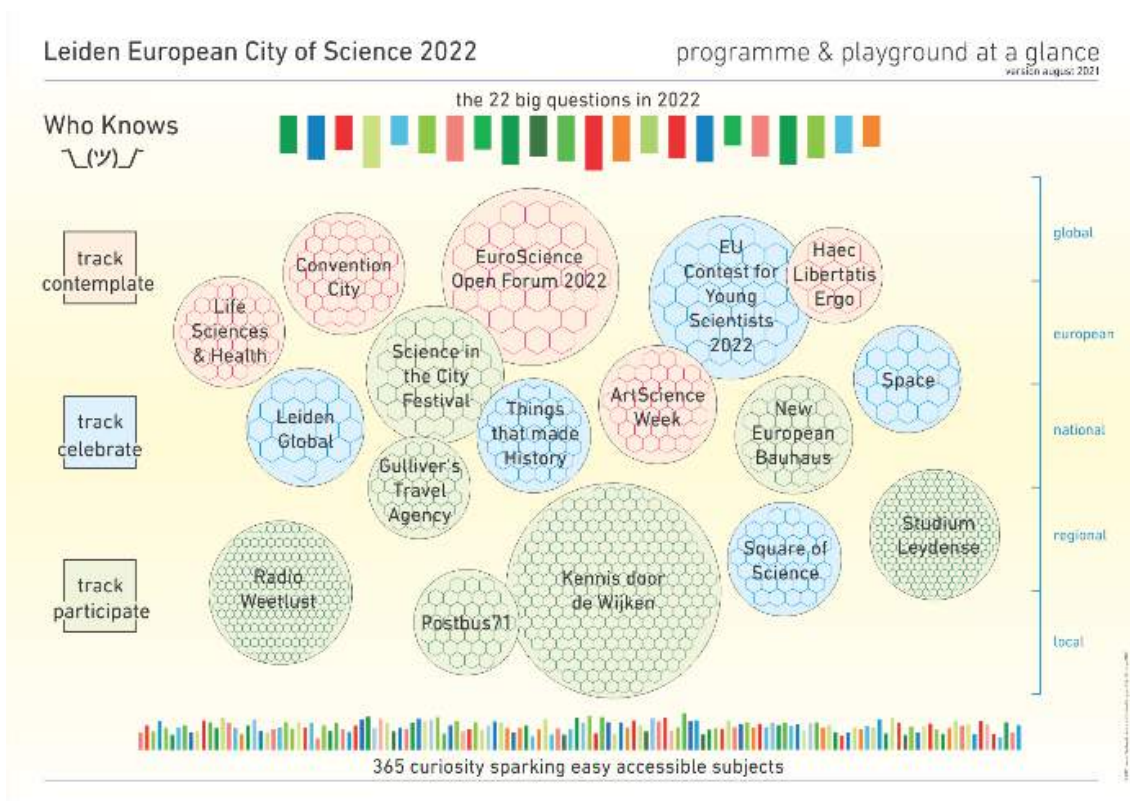


1.1.4. Creating a new model for Public Engagement with Science

Leiden2022 became the very first European City of Science to present a year-long program aimed at connecting science with society. Instead of merely focusing on high-profile events that sustain academic traditions, we invented and tested a new generic model for building sustainable relationships between citizens and scientists. We did so, because we believe profound citizen engagement is necessary to strengthen the bond between science and society. We thus created an advanced, practice-based model for Public Engagement with Science: open minded, bottom-up and with a playful 'just do it'- mentality. It is a new, scalable, co-created method to spark playful interactions between scientists and citizens, aimed at connecting science with society: the Leiden2022 Model for Public Engagement with Science (see page 50).

1.1.5. Conceptualizing Leiden2022: architecture, overarching narrative, and methodology

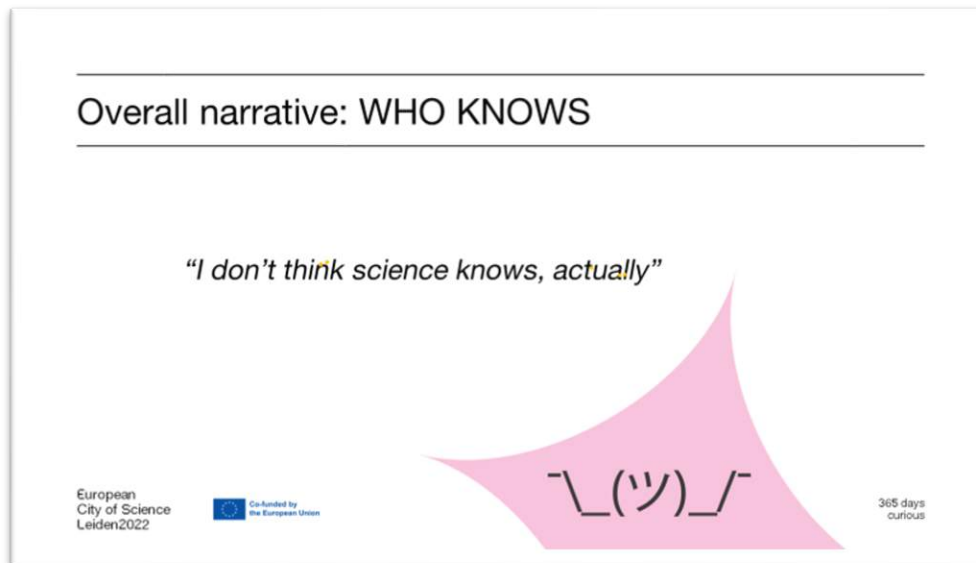
When expanding the European City of Science to a 365 days festival aimed at connecting science with society, we developed a comprehensive architecture covering the whole concept. From September 2020 onwards, the plans for Leiden European City of Science were developed by intendant Lucien Geelhoed, in collaboration with director Meta Knol. Detailed plans for Leiden European City of Science 2022 can be found in Playbook I (published October, 2020) and Playbook II (published February, 2021). Together, both Playbooks offered clarity to our founding partners, local, national and international stakeholders and potential participants. The Playbooks were well received.



Overarching narrative: Who Knows?

In October 2020, the annual programme of Leiden2022 was launched by means of an online live broadcast, during which the overarching narrative of 'Who Knows' was presented. As an overarching narrative, 'Who Knows' successfully referred to our current era of post-truth, fake news and filter bubbles. In our societies, the question who has the authority on knowledge is frequently being asked. Because, who knows? The narrative also refers to the fact that so much is still unknown to scientists, like, for example, 96% of the universe. A third reference is to uncertain futures that have yet to be discovered. The overarching narrative 'Who Knows' could be read as a question, an observation, an exclamation, a concept and as a wink to the future, or in a more neutral sense. It stands for the eternal quest, driven by curiosity, for science, knowledge and skills. For asking questions and the old-fashioned hunger for knowledge. And further to that, for the question of how to secure the reliability

and accessibility of that knowledge. This overarching narrative provided a stimulating and inspiring framework for Leiden European City of Science 2022. Many participants adopted the narrative and started building their own projects around it, thus enriching the program in many ways.



Go Local!

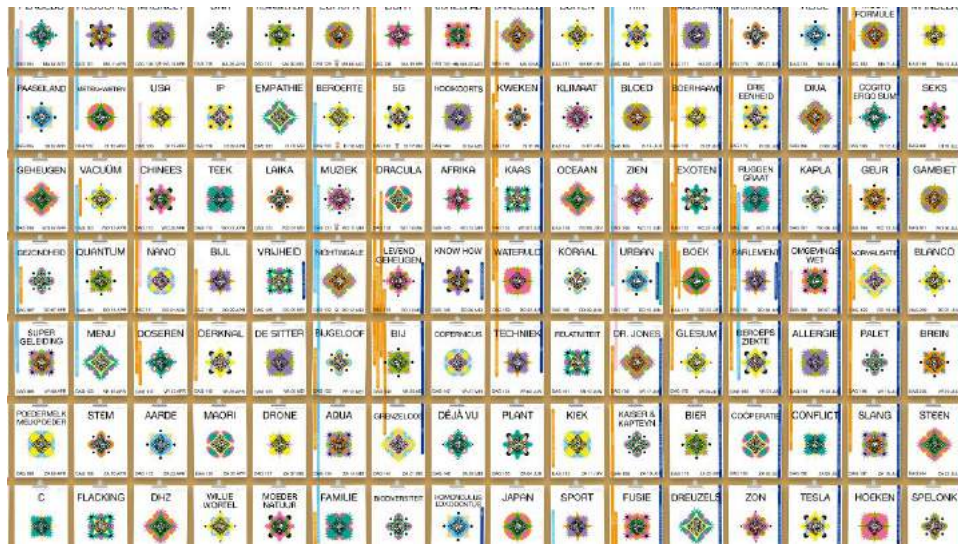
We chose to go local. Because connecting science with society is at stake, we felt we really had to build those connections between scientists and citizens on a local, personal level. Also, the pandemic forced us to choose for small-scaled events. Therefore, we developed a local, small-scaled, distributed model. The project Knowledge throughout the Neighbourhoods was really a key project in this regard (see deliverable 2.2. Evaluation Report Knowledge throughout the Neighbourhoods). Looking back, we are really pleased to have chosen such a strong, local strategy. It was rewarded with positive results among participants and a huge community bonus, because many citizens and local organizations started their own science-related projects, inspired by Leiden2022.

Of course, we didn't stay local. Especially from the moment the lockdown was lifted, we also embraced and developed projects with a national and international outreach. We pushed national agendas on Public Engagement with Science and developed exciting new concepts on a European scale, like the EU TalentOn.

Co-creation & participation

To us, it was key that Leiden European City of Science could become a truly inclusive event, welcoming anyone with a curious mind, be it a 12 year-old kid or a Nobel prize winner. We wanted to create an open model, that could be franchised and 'hi-jacked' by everyone. The aim of the Year of Events was to create a platform and set the right conditions for anyone to take initiatives and participate in the year.

After we presented the first Playbook and the overarching narrative Who Knows in October 2020, we hired an artists' studio in Leiden and pinned 365 blank A4-sheets on the wall ('The Wall'). The aim was to make sure that every single day had a specific theme. Intendant Lucien Geelhoed took the lead in engaging as much citizens, scientists and other stakeholders as possible, in order to collect 365 topics-of-the-day by means of a bottom-up, participatory process of co-creation. Hundreds of online and (because of the pandemic) small-scaled live meetings were held in the first half of 2021, engaging citizens and representatives of the cultural sector, education sector, sports, crafts and community organisations, as well as scientific institutions, national and international organisations.



While the 365 days-calendar was still in progress, we made an online version of 'The Wall' in order to make it accessible to everyone. We also set a deadline of July 1st, 2021. By August, Lucien Geelhoed had selected all 365 Topics-of-the-Day. From this moment onwards, we could start producing the tear-off calendar, invite Owners-of-the-Day for the Knowledge throughout the Neighbourhood project (including Radio Weetlust and P.O. Box 71, see Evaluation Report in deliverable 2.2), and inspire others to develop their own projects, symposia, conferences, exhibitions, Citizen Science workshops, etc to be realized during Leiden European City of Science 2022.

The 365 different day-topics were devised and created, inspired by individuals and partners who wanted to address a specific topic on a specific day and/or a dedicated activity. The intendant Lucien Geelhoed was also well aware of (inter)national agenda's, such as the international Coral Day on June 9, or the local festive day of October 3. He also curated the calendar by appointing dedicated weeks. For example, during the Space Week in September all topics were space related. Other day-topics were created in cooperation with various museums who would launch exhibitions inspired by the topic, such as the 4th of November with day-topic 'Tutankhamun'. In November 2022, exactly 100 years after the discovery of Tutankhamun's tomb, the National Museum of Antiquities in Leiden was packed with a month of activities and events dedicated to this most famous pharaoh of Egypt.

It worked really well: with all suggestions for topics-of-the-day that we collected, we could have filled three years instead of one. Following our concept of 'a theme a day', 365 inspiring scientific topics-of-the-day were adopted bottom-up by hundreds of local initiators. In the end, this unique participatory project featured over 200 dedicated participatory activities, 365 radioshows and a huge, unforeseen

Community Bonus. The architecture of 365 topics-of-the-day led to 1000+ activities throughout the year. However, we also noticed we had to manage expectations of a lot of participants and parties that were either disappointed that their topic had not been chosen, or expected us to organize all events for them, instead of with them. Once we had clarified this in our external communication strategy, it was better understood.



In the end, for 365 days, we carried out continuous field-tests in the city and region of Leiden. Through playful experimentation, we created the conditions for citizen-led, bottom-up, co-created programs. We developed new, open and inspiring relationships between scientists and citizens, based on mutual curiosity, aimed at deepening trust. In doing so, we created a year-long local and regional level playing field for fostering sustainable interactions between scientists and citizens. Based on their experiences, the Leiden2022 team thus developed their Model for Public Engagement with Science.

Curiosity as catalyst

While embracing the overarching narrative of Who Knows and inviting everyone to nominate Topics-of-the-Day, we decided to focus the whole year on the power of curiosity. Curiosity became the catalyst, inciting a hunger for knowledge, raising questions and, if possible, providing answers (the actual knowledge). We wanted people to enhance their general curiosity in science, but we also encouraged scientists to be curious about what keeps citizens awake at night. Fuelled by the exchange of knowledge, we wanted both recipients to take a leap in their knowledge, understanding and personal development. Furthermore, we made sure to focus on the broader fields of science, including arts and humanities, law and social sciences. In order to facilitate an inclusive and inspiring process, we also decided to focus on the whole spectrum of human knowledge, including science, knowledge, expertise and know-how, arts, culture and crafts.

It resulted in a curiosity driven programme with a huge variety of topics. Through integral inclusion of art and culture in all programme elements, the year turned out to provided many inspirational sparks. We really believe this infusion of creativity made a difference.

1.1.6. Mission, vision, strategy

Mission

The mission of Leiden2022 was to provide an inclusive and accessible value-driven platform for sharing, questioning, facilitating, stimulating and celebrating science, knowledge, art and skills.

Vision

The Leiden2022 platform offered all participants the possibility of making a knowledge value leap of a valuable leap in knowledge. With the motto 'a little wiser every day' the team of Leiden2022 aimed for everyone involved to make a leap ahead through knowledge. The principle of the programming was that curious people were able to ask each other questions, them being either citizens or scientists.

Ambition

The ambition of Leiden European City of Science was to make a difference by realising genuine interactions between scientists and citizens leading to lasting, sustainable change.

Leiden2022 wanted to build bridges between science and society. The year proved to be an ideal opportunity to connect the two worlds. This was done by creating a programme based on openness, respect and equality. Leiden European City of Science 2022 focused on science *and* society, but also digged deeper: it was all about connecting science *with* society.

Pathways towards impact

Four pathways towards impact were set out by the European Commission:

1. Bringing science and society closer together.
2. Fostering innovation and development of new research agendas by stimulating scientific exchange.
3. Creating an 'established' and sustainable label for European City of Science.
4. Establishing Leiden as a City of Knowledge.

Strategic goals and evaluation criteria Founding Partners

Challenged by our director Meta Knol, in 2020 the four Founding Partners of Leiden2022 – the Municipality of Leiden, Leiden University, the LUMC and the University of Applied Sciences Leiden – set out their objectives regarding Leiden2022. These strategic objectives were:

1. Allow citizens of Leiden and surrounding municipalities to experience the benefits of science, art, and knowledge as a frontrunner and European example.
2. Showing the "richness" and diversity of the European scientific community.
3. Creating long term sustainable local, regional, national, European, and international collaborations.
4. Profiling Leiden as an international city of knowledge as a whole and promoting her individual scientific institutions separately on a regional, national, and international level.
5. Fostering new talent and increasing the appeal of Leiden for students and researchers.
6. Leiden2022 will be organized in line with the Sustainable Development Goals and is determined to set an example for how such an event can be organized in a sustainable manner.
7. Providing an inclusive platform: science for and by everyone.

1.2. Our audiences

The European City of Science program 2022 aimed to include all societal actors (researchers, citizens, policy makers, business, third sector organisations and a diverse range of social groups) in order to connect science with society in the broadest way possible. Leiden2022 wanted to provide an inclusive and accessible, value-driven platform for sharing, questioning, facilitating, stimulating and celebrating science, knowledge, art and skills. With our communication efforts, we wanted to be generous, in order to foster authentic, vital connections between science and society, while enabling everyone to join in.

We felt inspired by a trailer issued by the Danish national TV, called 'All That We Share': <https://youtu.be/jD8tjhVO1Tc>. It explains how we live in a time where, especially due to tailored marketing strategies, we easily put people in boxes. In their trailer, by asking the same questions to people who represent different groups in society, people discover that they have more in common than they are inclined to think. We felt really inspired because this showcases how people can be united in more universal ways, beyond traditional divisions made in society.



At the start of our project, we felt we had to challenge traditional marketing strategies in order to make sure we would not only reach so called ‘usual suspects’ (theoretically educated, middle-aged or older, already interested in and/or active in science) but, instead, would include ‘non-usual suspects’ (not practically educated, all ages, not a priori interested in science). The choice was made to not rely on traditional target groups, but to choose a more inclusive and open approach by focusing on people's individual curiosity and interest in the 365 Topics-of-the-Day, regardless their level of education, gender, age, cultural background or their place in society. We assumed that by collecting 365 Topics-of-the-Day, and organising low threshold meetings in which anyone interested in that specific topic could participate, we could break through classical barriers. For example, on June 9, the topic was coral. The local diving club organised an event about coral and invited a scientist from Naturalis Biodiversity Centre. Within the Year of Events and Knowledge throughout the Neighbourhood project, there are multiple examples of these kind of new encounters.

We decided to focus our communication strategy on the topics of the 365 days calendar, and to just experiment and see what kind of fish we would catch. While our aim was to attract an audience based on their particular interests, notwithstanding their cultural, societal, educational, demographical etc backgrounds, we still made a generic distinction between the following audiences:

General public. The general public consisted of citizens at local, regional, national, European and international levels.

Scientific community. The scientific community includes (PhD) students, scholars, early career researchers, professors, and any other (career) researchers. They were targeted in all components of the program, including Knowledge throughout the Neighbourhoods, ESOF2022, EU TalentOn and the Year of Events.

Media. In order to attract sufficient media coverage, the communication strategy also addresses the media: press, television, radio, web, and social media networks.

Furthermore, we focused on both awareness-raising and communication measures, widespread (inter)national attention, and tailor-made communication and promotion strategies in cooperation with local, national and international partners. As Leiden2022 and its Founding Partners already provide a

huge network of hundreds of involved partners, we had to make sure they were well connected. Luckily, the integral European City of Science 2022 program offered multiple opportunities for tapping into existing and new networks, We wanted to create as much ambassadors as possible.

Because of the guiding principle of including non-usual suspects and inviting anyone with a curious mind, we decided not to develop and implement a traditional, target-audience based marketing communications strategy. Instead, we focussed on communicating the topics-of-the-day, in order to facilitate anyone with a curious mind to step in and participate. As explained in part 3 of this document, this turned out to be a challenge.

1.3. Creation of a visual identity of European City of Science

The corporate identity of an organization or company is the consciously chosen method of presentation to the outside world, and the visual identity of an organization is the symbolic part of the corporate identity.



The visual identity of Leiden2022 was created in close collaboration with GH+O communication. The company started in 1996 in Ljouwert, Leeuwarden, and was involved in Leeuwarden2018 Capital of Culture. Since 2015 the company is also located in Leiden. GH+O believes that creating an identity starts with a curious mind and was therefore the perfect match for Leiden2022. Fuelled by the team of Leiden2022, in July 2021 GH+O drafted a communication plan focusing on sparking curiosity among people. The full title of Leiden2022 became: Leiden European City of Science 2022, 365 dagen nieuwsgierig (365 days of curiosity). The communication plan contained the following guiding principles:

- A campaign that does not work/respond rationally, but touches upon emotions;
- A campaign that leaves room for multiple interpretations;
- Does not explain but inspires;
- Does not convince but touches;
- Inviting, playful, colourful, stimulating.

The visual symbol became the QR-code. QR-codes were not only highly relevant during the pandemic, when every single human being got their own code, once vaccinated, but they also serve as some kind of digital 'peep hole' (we sought analogies with Alice in Wonderland, down-down-down the rabbit hole). Whenever scanned, QR-codes lead to new experiences, ideas, images, knowledge, questions and possibilities. In the campaign, a range of eye-catching QR-codes was introduced serving as personal 'portals' to 365 days of science, knowledge, art and skill.

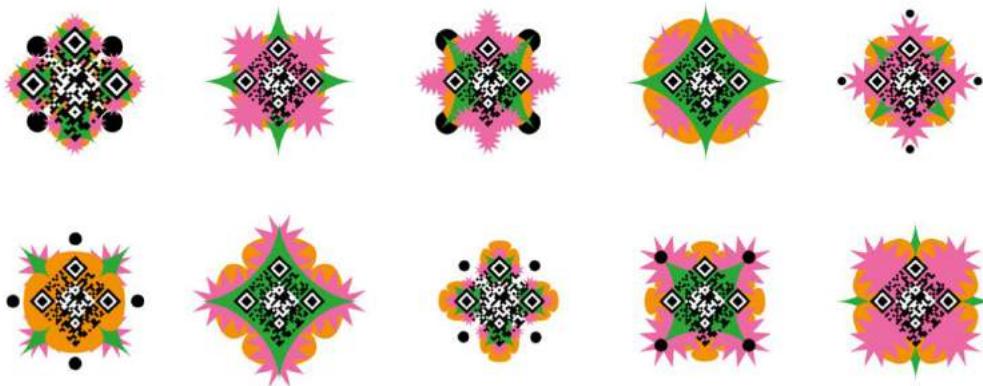
Key visuals of the campaign were:

- The unique QR logo as hero of the campaign; both visually as content-wise;

- In photographic images used in the campaign, people react to QR-codes with an attitude of curiosity;
- The images for the campaign will be shot in recognisable locations in Leiden;
- The visual identity house style is composed of flexible elements that can be used in different ways, as icons, patterns, etc.
- Within the design principles that were defined by GH+O, we were able to generate a maximum of 9,999 QR-codes. This enabled us to facilitate the open, distributed model of Leiden2022, creating a platform for anyone with a curious mind, and giving unique QR-codes to every single party and/or event involved with and/or participating in Leiden European City of Science. This way, the visual identity perfectly matched with the inclusive, conditional approach of the Leiden2022-programme, the Year of Events and its participants. The visual identity proved to be eye-catching and appealing to many as well, and we received a lot of compliments with regard to its look & feel.

Kleurencombinatie 2
(concept QR-code)

Menu →

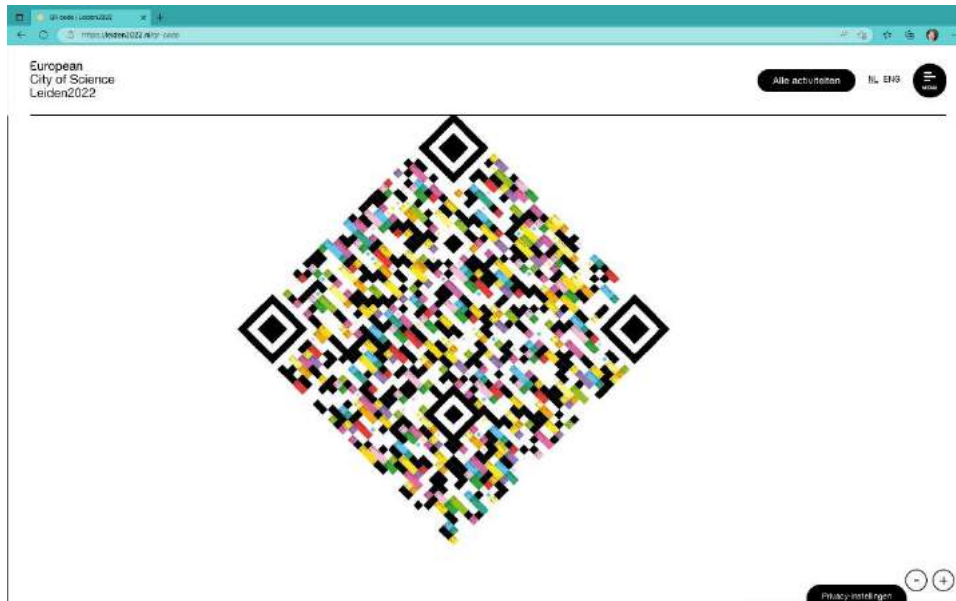


1.4. Creation of a website for Leiden European City of Science 2022

The website of Leiden European City of Science 2022 has been used as the main platform of the year. Information for all our target groups was collected on the website. The idea for the homepage was that users would find themselves immersed in a colourful interactive 365-day-calendar. The goal was to make it easy to navigate through various filters, and through tailor made users' preferences. This turned out to be a complex undertaking.

The website of Leiden European City of Science 2022 was made in collaboration with GH+O and EST digital (now known as ZIGT create). It was launched on the 10th of November 2021 during the public launch of the programme. The communication on the website was presented in different categories: 365 days of curiosity (with all day-topics), a newsroom, a page dedicated to the highlights of 2022, a press page, a page about Leiden2022 section and a homepage.

When a visitor would visit leiden2022.nl, they would end up in maze of different topics and their accompanying date. When they would zoom out the maze would eventually morph into the signature QR-code of Leiden2022. When the visitor would click on a topic or date they would go to the specific day-page. On that page they could see the topic, the date, the explanatory text of the topic and all activities of the date.



Behind the entering page the visitor could find the homepage. This could be done by clicking on the 'homepage' button. On the homepage one could find an activity of the date of visiting the page, news articles, a twitter feed and the founding partners. When asking visitors point blank what they thought of the homepage it was noted that the majority did not know of the existing of the page. The 'homepage' button appeared to be too small. Moreover, visitors complained about the QR maze as being tedious and difficult to manoeuvre through.

Together with EST Digital the entering QR page was chosen to only show once and then link through to the actual homepage. Around approximately May 2022 a final round of redesigning the website was done. During the year, we kept adjusting the website. Eventually, the menu of the website contained 5 big buttons and 5 smaller ones.

The big buttons:

- 365 days of curiosity
 - o An overview of the 12 months of 2022 with all day topics and accompanying dates.
- Join us
 - o A page dedicated to find new people. That being:
 - People wanting to become a partner or sponsor
 - People wanting to organise an event or activity
 - A page with vacancies
 - A page with information on where to receive the Leiden2022 tear off calendar.
- Newsroom
 - o The latest news about Leiden European City of Science 2022
- Highlights
 - o An overview of the highlights of the year.
- About Leiden2022
 - o Information about the year
 - o Information about the team
 - o Vacancies
 - o Leiden2022 videos
 - o Information about the European Union
 - o Reports

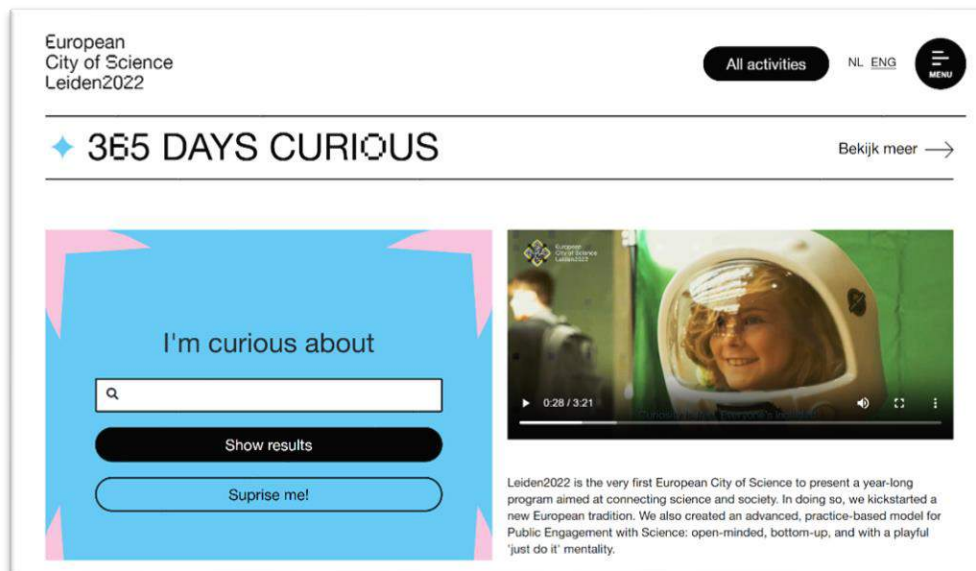
The small buttons:

- Partners
- Press
 - o A page with all relevant information for editorial purposes
 - Press releases

- Media kit
- Social media links
- FAQ page
- FAQ
- Contact
- About Leiden2022

The aforementioned filters that could be used to navigate through the website were added in the form of tags, and the editorial team would upload all activities in the 'Insiders'-system that was already being maintained by our partner Leiden & Partners. The tags could be categorised into: congress, lecture/debate, workshop, exhibition, excursion, open day, and other. On the Leiden2022 website there was no search engine, so the visitor could only filter the activities in those categories. In May 2022, a search engine with limited options was implemented on the homepage. However, it still has limited search options.

Due to budget constraints, we were not able to expand the team in the early stage of web-design. Furthermore, EST proved to be a difficult partner. They did not fulfil obligations, and if possible we should have ended collaboration with them and seek a more professional partner right away. In hindsight, we should have made sure to have web-expertise within the team right away, in order to secure user-friendly input, instead of relying on an external company like EST.



1.5. Promotion of European City of Science

In the build-up to the Leiden European City of Science 2022 year more and more became known about the programme and how the year would take shape. In this section of the evaluation the promotion of pre-European City of Science will be discussed. Naturally, creating synergies in communication between all projects of Leiden European City of Science 2022 was key. This included the Year of Events, the Knowledge throughout the Neighbourhoods project, ESOF2022, the European Science in the City Festival, EUCYS2022, the EU TalentOn, the Final Festival and much more. The visual identity of Leiden2022 provided a clear and recognisable, integrating framework.

Preliminary programme via website, social media channels, and promotion materials such as the tear-off calendar.

With more and more meetings taking place in order to steer various congresses, conferences, exhibitions, artists and more into the direction of Leiden2022, in 2020 and 2021 the Year of Events programme took shape. Apart from direct networking activities from intendant Lucien Geelhoed and director Meta Knol, corporate communication was essential to get the message across that anyone

could participate in the year, in order to share science with society. Communication about the programme in 2020 and 2021 involved providing the invitations to partake in the programme, as well as announcing activities and news articles on the website and social media channels.

Social media channels

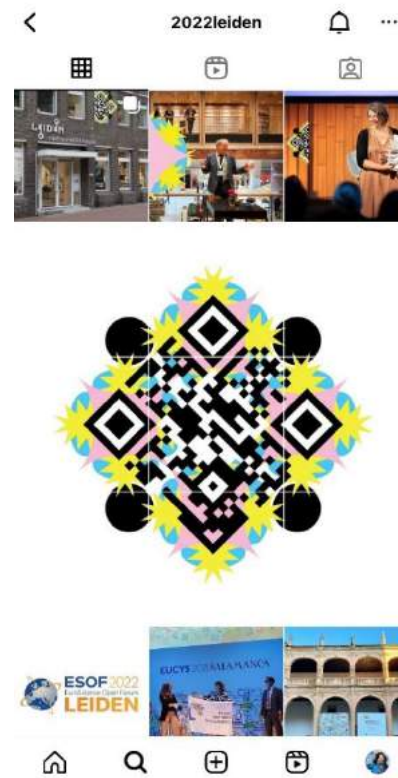
Prior to the City of Science year all social media channels were made. Table 1 shows all social media channels of Leiden2022 with their handle. All channels could use the @Leiden2022, except Instagram, for that specific handle was already taken. The editorial team reached out to the account and asked if the name could be taken over. Unfortunately, the owner of the @Leiden2022 Instagram account never responded to our multiple messages. Therefore, the team decided that Instagram would use the @2022Leiden username.

Table 1: Social media channels of Leiden2022.

| Used social media channel | Handle |
|---------------------------|--------------------------------------|
| Twitter | @Leiden2022 |
| LinkedIn | Leiden2022 / @Leiden2022 |
| Facebook | @Leiden2022 |
| Instagram | @2022Leiden |
| Youtube | Leiden European City of Science 2022 |

The chosen strategy for social media was to consistently build up to 2022. Meaning that in the beginning of 2021 the social media communication consisted of information about Leiden2022, including appeals to the public and partners to organise activities or help with the different daily topics, links to newsletters and reposting important messages of the founding partners.

With the creation of the Leiden2022 campaign with GH+O, the social media channels of Leiden2022 already gave a sneak peek of the new visual identity. The channels were also used to invite people for the press conference in Naturalis on November 10, 2021, where the programme and the visual identity of Leiden2022 were presented.



Alice the movie

To promote the Leiden2022 year a movie trailer was made: [Alice The Movie](#). In the trailer we follow the persona of Alice (in Wonderland!), who portrays someone that is curious by nature, looking where new knowledge is to be found. The trailer puts emphasis on the fact that knowledge can be found everywhere, by everyone. The 1st trailer was presented at the official take-over ceremony in Trieste (I), during the ESOF conference in 2020. Afterwards, it was shared during several presentations, via YouTube and on social media accounts. The longer version can be found here: (37) Alice the Movie 2.0 - Trailer Leiden European City of Science 2022 - YouTube. It was really well received.

Tear-off calendar

Once the tear-off calendar with 365 Topics-of-the-Day was produced, this provided an excellent communication tool to reach out to all citizens of Leiden and its surroundings. The design of the tear-off calendar was made by GH+O together with the Leiden2022 team. The design consisted of 365 pages, one for every topic, combined with a unique and QR code, which brings you to the website with the actual information and program announcements. The online program could be updated daily. Printing and production were done by the Leiden company 'de Bink'. In the end, 53820 physical tear-off calendars were produced. The cost prize per calendar was 1 euro and 23 cents. It is important to mention that the tear-off calendar was handed out for free.

Our dream was to distribute the calendar door-to-door in the 101 neighbourhoods of Leiden and the region. But one of the core values of Leiden2022 for the year was sustainability, so acknowledging the principles of the SDGs and the Green Deal was very important to us. Meaning we were keen on avoiding unnecessary use of products and creating as little waste as possible. Therefore, we chose a limited edition on recycled paper, locally printed and distributed through libraries, markets and shopping centres, schools and even vaccination locations. The tear-off calendar was launched and handed out during the first physical event of Leiden2022, the press conference on the 10th of November 2021.

Due to the covid pandemic and the following lockdown the majority of events and locations that were planned for the handout of the calendars were cancelled. Unfortunately, that meant that at the start of 2022, not every household of Leiden was in possession of a Leiden2022 tear-off calendar.

During every Leiden2022 event the tear-off calendars were also placed in the TukTuks that accompanied the Knowledge throughout the Neighbourhood project and handed out when possible. They were also displayed during major events such as ESOF, the European Science in the City Festival, EUCYS, EU TalentOn, the Space Week and the Final Festival. During lectures, workshops, exhibits and congresses the calendars could be found at the seats of the participants, at welcoming desks or in goody bags. People were generally very pleased with it and some even considered it a collector's item. It is worth mentioning that because of the original nature of the tear-off-calendars, copies were collected by the Rijksmuseum in Amsterdam and the Royal Library in The Hague.



Tuk-tuks

Especially for the Knowledge throughout the Neighbourhoods program, three tuk-tuks (Italian electric scooter cars) were used to promote the year. On the side of these tuk-tuks was the Leiden2022 logo which could be scanned by anyone with a smartphone partaking in the activity or just walking by. The Tuk-tuks were also used for promoting the Year of Events, and they were present at ESOF2022 and the European Science in the City Festival, as well as at EUCYS2022 and the EU TalentOn.

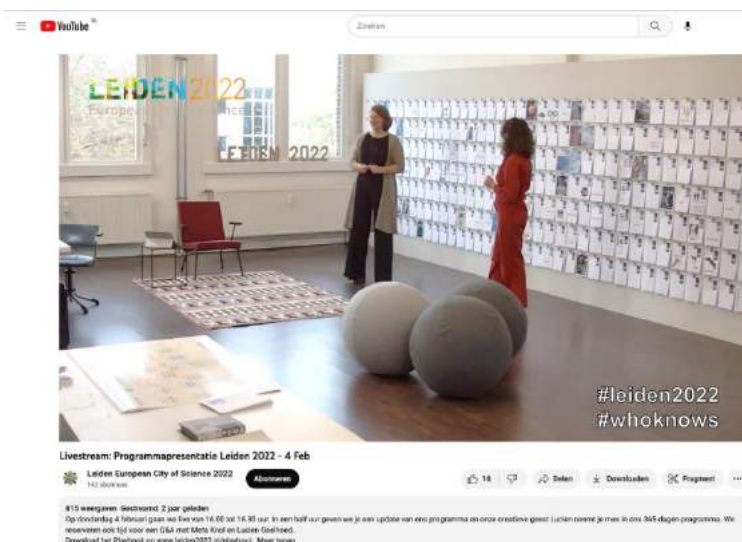


1.5.1. Presentation of European City of Science on press conferences

Apart from promotion of the European City of Science year through posting the Alice-films and trailers on YouTube, the Leiden2022 team also used the Youtube platform for live interaction with the public. The organization of livestreams was necessary because of the pandemic, and to enable as many as possible to take part.

On the 28th of October 2020 the overarching theme of Leiden European City of Science 2022 was presented during a livestream. Over 300 participants watched the livestream. It can be found here: (37) Livestream overarching theme 'Who Knows' (in Dutch) - YouTube.

To keep the public updated on the latest developments of the Leiden European City of Science 2022 year, another livestream was broadcasted on Youtube on the 4th of February 2021. From 16.00 – 16.30 hours a 30 minutes update about the program and build-up for the year was given. The livestream was hosted by Yanti Danoekoesoemo and some 500 participants watched it. The livestream can be watched here: [Livestream: Programmapresentatie Leiden 2022 - 4 Feb - YouTube](#)



1.6. Official launch of Leiden2022

On Wednesday, November 10, the international launch of Leiden European City of Science 2022 took place at the Naturalis Biodiversity Centre. The date was not chosen by chance. That day, exactly 20 years ago, UNESCO declared November 10 as World Science Day for Peace and Development.

During the launch of Leiden2022, international guests spoke, such as Shamila Nair-Bedouelle, Assistant Director-General for Natural Sciences of UNESCO in Paris, and Jean-Eric Paquet, Director-General of Research and Innovation at the European Commission in Brussels. Intendant Lucien Geelhoed, who is responsible for the development of the program, introduced 22 highlights of the program. The launch was concluded with a brief speech by Ingrid van Engelshoven, Minister of Education, Culture and Science. The overall program was hosted by our director Meta Knol.

The launch also included the presentation of Leiden European City of Science's brandnew visual identity, tear-off calendar and website. Due to the Covid19 restrictions, the number of guests that could be invited to join the press launch in Naturalis Biodiversity Centre on-site was limited. Founding partners and consorts were invited to join on-site. The number of on-site visitors was estimated at 100. To include the bigger public and other partners the press-launch was livestreamed on Youtube.

The press launch of Leiden European City of Science 2022 of 10 November can be found here: [Press launch - Leiden European City of Science 2022 \(Dutch subtitles\) - YouTube](#) (English spoken, Dutch subtitles).

Unfortunately, there were some technical difficulties resulting in a malfunctioning livestream. Viewers were only able to see the first 15 minutes of the press launch. The communication team on-site contacted the technical staff of the external party that was hired for the broadcast. Via a live chat and mail the participants of the livestream were kept up-to-date on the status of the bug. Contact with that party proved to be difficult and the livestream was not fixed until the end.

All participants of the online press-launch that left contact details were contacted after the launch. In a personal mail, Leiden2022 apologized for the non-functioning of the livestream. That message included the link to the recorded livestream, so people could also watch it on demand.





1.6.1. Publishing of press-releases, for online and printed publication

Before the European City of Science year started several press-releases were send out, such as:

- Leiden2022 partner New European Bauhaus
 - o [Leiden2022 partner of New European Bauhaus | Leiden2022](#)
- 33rd edition of EUCYS
 - o [EU Contest for Young Scientists returns to the Netherlands after more than 20 years | Leiden2022](#)
- Call for proposals ESOF2022
 - o [Now Open: Call for Proposals ESOF2022 | Leiden2022](#)
- Press Launch 10 November
 - o [Leiden European City of Science 2022 has officially launched! | Leiden2022](#)

All press releases were sent via mailchimp or mail to a large contact database that was collected via the founding partners and other national and international news outlets.

Apart from the press-releases of Leiden2022, there have been several important printed publications. Those will be discussed in the section below.

1.6.2. INTO business

INTO business is a local/regional magazine that responds to the desire of entrepreneurs to connect and be inspired by other entrepreneurs. The magazine is published four times a year. In the autumn issue of 2020, Leiden2022 was featured for the first time. The interview introduces the European City of Science concept, and what it means for Leiden to hold the title in 2022 and more. The interview can be found here in Dutch: [INTO business Leiden Herfst 2020 by INTO business - Issuu](#)

In the winter edition of 2021 Leiden2022 was mentioned again in INTO business. In the interview with Meta Knol and Lucien Geelhoed the program of the year was discussed, and the tear-off calendar was introduced. The interview can be found here at page 8-11 in Dutch: [INTO business Leiden winter 2021 by INTO business - Issuu.](#)

1.6.3. New Scientist

New Scientist is originally an English-language popular science magazine. Since 2013, the magazine has also been published in an editorially independent Dutch-language edition. The English-language edition is a weekly, the Dutch-language edition a monthly.

Together with New Scientist Netherlands, Leiden2022 produced a New Scientist special. The special was published January 2022. There were 28.000 specials printed in total. 10.000 of those were sent to New Scientist Netherlands members together with the January 2022 edition of the magazine. The Dutch version of the magazine was printed 4.000 times for use of Leiden2022 and the English version 14.000 times, also for the use of Leiden2022.



The special was built around 22 big questions of 2022. The idea was that throughout the year, 22 topical, always urgent, universal yet unsolvable endlessly fascinating scientific questions would take centre stage. The 22 big questions of 2022 can be found here together with the corresponding article in which a scientist answers the question: [The 22 big questions of 2022 | Leiden2022](#)

The Dutch version of the New Scientist special: [Special Leiden European City of Science 2022 \(NL\) by New Scientist NL - Issuu.](#)

The English version of the New Scientist special: [Special Leiden European City of Science 2022 \(ENG\) by New Scientist NL - Issuu.](#)



Promotion of European City of Science through a targeted campaign on different media: press, television, radio and internet.

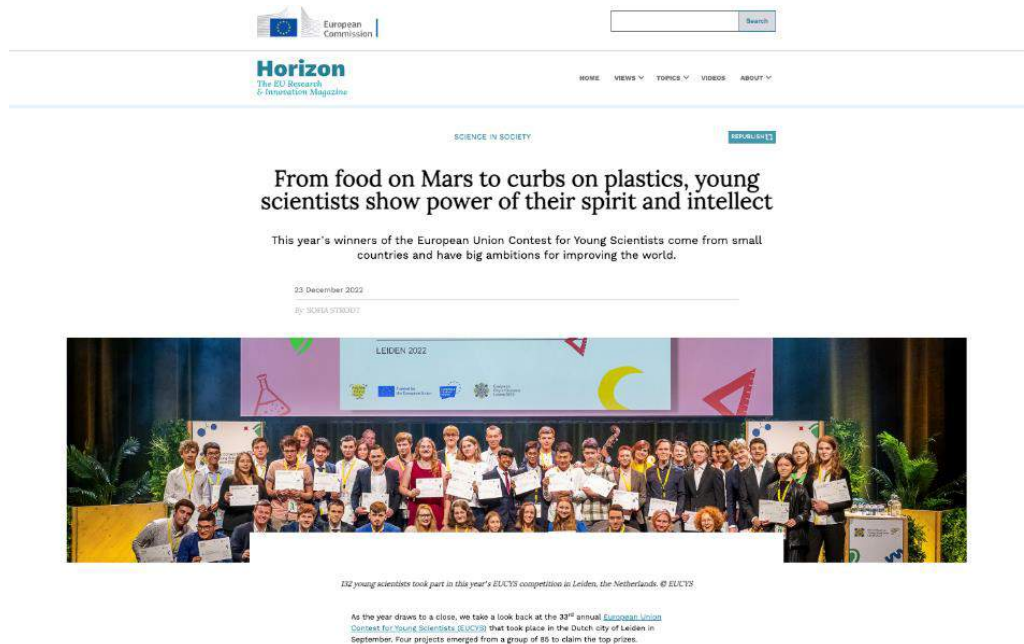
After the official launch of the programme, the 365 topics and the tear-off calendar in November 2021, and following then official opening on January 22, we should have pushed national promotion

campaigns in order to spread the word. However, due to lack of resources, we could not produce targeted media campaigns in 2021 and the first half of 2022. As funding proved to come in late, and our Supervisory Board was not inclined to take financial risks, the budget foreseen was skipped. Instead, we focussed on generating free publicity on social media.

1.6.4. Branding of EU Social media channels in co-operation with European Commission

Prior to the European City of Science 2022 year, the communication team of Leiden2022 was in contact with the EU Social media team to organise a coordinated spread of information on the social channels.

When social media toolkits were made by the Leiden2022 team, the toolkit was always sent to the European Commission contact. Prior to the use of pictures and quotes of European Commission representatives such as Mariya Gabriel, the frequency of the contact between the European Commission and Leiden2022 became higher. By that time, also the guidelines with regard to the use of the EU funded and the EU co-funded logo were clarified. While the contact could have been more frequent, prior to the European City of Science year there was no real need to communicate more. However, looking back, it would have been useful to have had more meetings on communication in an earlier stage, to discuss mutual expectations and communication strategies.



1.6.5. Promotion of European City of Science through Radio Weetlust

Before the year started, a set-up for the local radio programme Radio Weetlust was created. The idea was that every day of the year 2022, from the 1st of January until the 31st of December, each morning from 8 to 9 am, the day would start with an hour of science-related radio. In the studio Lucien Geelhoed would be the host, interviewing guests. The broadcast would be focused on the topic of the day and the guest would be expert on the topic. And so it happened.

While it was mentioned in earlier reports that Leiden European City of Science 2022 would be promoted through Radio Weetlust even before the European City of Science year started, this could not be the case. On the first of January 1st of 2022 at 8 am sharp Radio Weetlust premiered. It turned out to be the first of exactly 365 episodes. In total, during the year, we welcomed 410 studio guests, some of which were internationally known scientists, others were experts, artists or specialists in their field. A few broadcasts had to do without a guest, due to unforeseen circumstances, such as illness or lack of public transport. Overall, the guests were really pleased by the invitation. Having a full hour of radio time at their disposal, they were able to transfer in-depth information and scientific knowledge. Also, listeners were very enthusiastic. Many people in Leiden and its surroundings started their day by scanning the tear-off calendar and turning on Radio Weetlust. Because the local broadcast agency Sleutelstad FM does not collect data, we cannot say how many people exactly listened to the radio.

The editorial team of Leiden2022 was well aware to bring in a diverse range of guests. Despite their efforts, 56.59% identified as male. While we are not satisfied with this result, compared to the usual dominance of male guests in mainstream media, it was even rather uplifting. However, if we could have the chance to do it again, we would invest in scaling up the diversity of the guests even more.

Table 2: Radio Weetlust insights.

| | |
|---------------------------------|--------|
| Total Radio Weetlust broadcasts | 365 |
| Total guests | 410 |
| Episodes without guest | 14 |
| Percentage male guest | 56.59% |
| Percentage female guest | 43.17% |
| Percentage other guest | 0.24% |

1.6.6. Set-up of the communication team

The editorial team of Leiden2022 started in December 2020 when Yanti Danoekoesoemo joined the Leiden2022 team as a Science Communicator. Together with Meta Knol (director of Leiden2022) and Lucien Geelhoed (intendant and chief editor) she began setting up the communication of Leiden2022 and started working on a communication strategy.

In March 2021 Hanne Riekerk started as an intern, and in August 2021 she joined the team as Junior Science Communicator. In September 2021 Eva van Ekdom started working as Coordinator of Communications. Chel Bastiaan joined the team as an intern in October 2021. In December 2021 Chel joined the team as an official Editorial Member. Bahador Fatemi was added to the communication team in November 2021 as a Multimedia Editor. By that time, the editorial team was completed. At the start of the year the communication team consisted of: Lucien Geelhoed (Chief Editor), Eva van Ekdom (Coordinator of Communications), Yanti Danoekoesoemo (Science Communicator), Hanne Riekerk (Junior Science Communicator), Chel Bastiaan (Editorial Member) and Bahador Fatemi (Multimedia Editor). Due to personal circumstances Eva van Ekdom did not continue her job as Coordinator of Communications. In 2022 this vacancy was filled with Ilonka Coenraad. During 2022 several interns joined the communication team.

In the first stage of the project, while preparing the year, the editorial team was preoccupied with setting up the communications strategy, organising livestreams, distributing tear-off calendars, preparing Radio Weetlust and setting up the website and social media structure.

Because we had rejected classical marketing target audience-based strategies and were merely exploring new ways of public engagement with science, while aiming to include 'non-usual suspects', the editorial team lacked focus. Instead of following a clear pathway, they had to reinvent the wheel while producing a lot of output at the same time. This proved to be a huge challenge, and too much to ask, really. Only in the course of the year, with some lessons learned, rookie mistakes repaired, more budget available, the help of local marketing organization Leiden & Partners, and Ilonka Coenraad as coordinator, the overall communication strategy was clarified and pulled tight. Although we are proud of the overall results, in hindsight we would recommend to onboard experienced professionals right from the start, and to make sure that there is a clear communication strategy, combined with realistic planning pathways and sufficient budget.



1.6.7. Liaising with EuroScience regarding the ESOF2022 website and ensure coherent communication.

As the Leiden European City of Science label was issued by EuroScience, we had to deal with their communication guidelines. While we were relatively free to develop our own concepts with regard to the Year of Events, for ESOF2022 we were bound to make use of the EuroScience website of ESOF: [EuroScience Open Forum | July 13-16 2022 \(esof.eu\)](https://www.esof.eu). It contains information about all previous years of the EuroScience Open Forum (ESOF) congress. The ESOF website is owned and operated by EuroScience, therefore our influence was limited (see Deliverable 3.2. Evaluation Report ESOF2022).

Occasionally, information about Leiden2022 was shared through the website and social media channels of EuroScience and ESOF2022. Due to strict deadlines, an overall time pressure and lack of resources on both ends, we were not able to really establish fruitful, overall communication strategies and/or actions with EuroScience. The information about the 2022 edition of European City of Science on the EuroScience and the ESOF website was kept basic: information about the Leiden edition, how ESOF would be part of a year-long program and some practical information. While gathering more information and the program of 2022 becoming more concrete, more information was shared with the EuroScience communication team and added to their website.

Before the launch of Leiden European City of Science 2022 the contact became more frequent and important since traffic through the Leiden2022 website would also lead directly to the ESOF website. All relevant information was given to the communication team of EuroScience and they made the website up-to-date. Before and after the launch the contact between communication team of Leiden2022 and EuroScience was also used to discuss all social media communications of both parties. We have always experienced the contact as pleasant.



Flagship event of EuroScience

Research

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ESOF EuroScience Open Forum

THE FLAGSHIP EVENT OF EuroScience

Home About ESOF2022 Leiden Attend ESOF2022 Katowice Partners News & Press Contact Become a partner

IN 2022, THE CITY OF LEIDEN IN THE NETHERLANDS, HOSTED THE 10th EDITION OF THE EUROSCIENCE OPEN FORUM

CONFERENCE GALLERY

About ESOF

Alem Tukic
Student Earth Sciences, Bosnia and Herzegovina
"Events like these help bridge the gap between science and wider and also overcome crises"

Startpagina

Verkennen

Meldingen

Berichten

Bladwijzers

Twitter Blue

Profiel

Meer

Tweeten

ESOF2022

4,888 Tweets

Volgend

We look back on a fruitful and fun #ESOF2022 with this aftermovie

Let's celebrate #Science!

Thanks to all partners, speakers and attendees for enabling an open debate and crossing borders.

@leiden2022 @EUScienceInnov @JEPaquetEU @GabrielMariya @elsfoundation

JEAN-ERIC PAQUET
DIRECTOR GENERAL
DIRECTORATE-GENERAL FOR INNOVATION (DTG) OF THE EUROPEAN COMMISSION

1:15 1,191 keer bekeken

ESOF2022 heeft geretweet

@EuraxessASEAN @EuraxessASEAN · 22 jul. 2022

Still pumped! 4 conference days, 119 sessions both onsite and online wrapped around 7 themes w/ 2 sessions from #Euraxess Worldwide! We are very pleased to have participated at #ESOF2022 in Leiden - City of Science. Thank you to all who shared the experience w/ us!

Leiden2022 @leiden2022

2. Phase 2: During European City of Science (January 1, 2022 – December 31, 2022)

2.1. Highlights of the Year of Events

Positioning the European City of Science as a year-round program with a multitude of scales worked like a magnet. During 2022, 1,000+ activities took place. Citizens, scientists and anyone else was invited to be inspired and take initiatives, based on the Topic-of-the-Day. Thus, we were able to gain impact and stimulate the growth and development of the program. We tried to cover all initiatives on our website, but we are aware we did not always know everything that happened or, sometimes we knew, but we did not get publication materials from the organizing parties. All in all, we were pretty overwhelmed by the number of science-related initiatives. A full overview of the events, as published on our website, can be found in [Appendix 1](#).

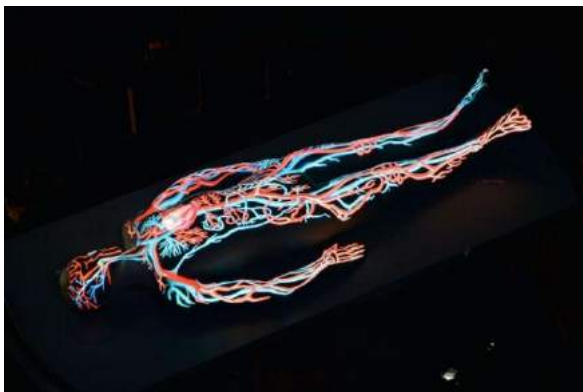
Apart from local initiatives, Leiden2022 attracted several additional high profile international, European and national events. Below, you will find an overview of the official highlights of the Year of Events.

2.1.1. Life Sciences & Health Week

Between the 28th of May and the 5th of June 2022 researchers and healthcare professionals met each other during the Life Sciences & Health Week, which was initiated by Leiden2022 and organized by the Leiden Bioscience Park Foundation, supported by the Leiden University Medical Centre and Rijksmuseum Boerhaave. The life sciences and health sector are huge sectors within Leiden. Ever since the first medicinal plants were brought to the Hortus Botanicus, 400 years ago, medical innovations have seen one discovery lead to the next in Leiden. In the city where Albinus, Boerhaave, Von Siebold, and Einthoven once flourished, nowadays 30,000 bright minds are working every day on the breakthroughs of tomorrow. The Janssen covid-vaccine, and regenerative medicine are examples of the impressive results of such research.

During the week, professional meetings and scientific presentations were combined with scientific debates and public events where people could learn more about the future of prevention and healthcare. The main goal of the event was to connect civilians, companies, researchers, medical professionals, and others to stimulate an exchange of knowledge. The secondary goal was to create fun and educational activities for different audiences.

The event started of with the Public Day of Regenerative Medicine in the Stadsgehoorzaal on the 28th of May. This Public Day consisted of dozens of smaller activities. Highlights consisted of the TK Challenge marathon run on the 29th of May, the Global Impact in Health Symposium on the 30th of May, the workshop microscopics in Rijksmuseum Boerhaave on the 4th of June, and the opening of *Folding Life*, an artwork by Ana Oosting which could be seen in the LUMC Gallery from the 3rd of June onwards. The yearly recurring Museum Night also played a role in the event. The 1st Life Sciences & Health Week was experienced by the organizing parties as a successful start of a new tradition. The Life Sciences & Health Week 2023 has already been planned for 20 to 29 June, 2023.



2.1.2. EuroScience Open Forum

Leiden was the proud host city of ESOF2022, the largest multidisciplinary congress in Europe for changemakers, scientists, students and entrepreneurs. The EuroScience Open Forum 2022 took place from 13-16 July, 2022, and the theme was ‘Crossing Borders: Engaged Science, Resilient Societies’. At the same time, a ESOF 2022 Regional Site accompanying conference took place on 15 July at the International Congress Centre in Katowice, the city that will be European City of Science 2024. Events in both places could be watched online on a specially dedicated platform. The European Union was present at the ESOF2022 exhibition with a dedicated EU pavilion, featuring the first European Talent Fair. A separate and extensive Evaluation Report for ESOF2022 has been made, see WP3. See: [EuroScience Open Forum | July 13-16 2022 \(esof.eu\)](https://www.esof.eu/).

2.1.3. European Science in the City Festival

On the occasion of ESOF2022, everyone was invited to celebrate science during a festive, month-long program in June/July. We also highlighted special events and exhibitions in the Leiden based museums and galleries. During ESOF an open air science festival was created which was freely accessible for everyone with a curious mind. The public could enjoy mobile exhibitions, art, pop up museums, workshops and city walks on the Pieterskerkplein, ESOF’s main venue. On Thursday 14 and Friday 15 July from 14-18h and on Saturday 16 July from 12-18h the ESOF exhibition floor in the Pieterskerk was also open to everyone. Festival visitors could visit the ESOF booths of for example Johnson & Johnson, Elsevier, the Estonian Research Council and the European Commission, as well as the model of the James Webb telescope. A separate Evaluation Report was made for the festival, see WP4. See: [European Science in the City Festival | Leiden2022](https://www.leiden2022.nl/en/european-science-in-the-city-festival).



2.1.4. European Year of Youth

Following the State of the Union by European Commission President Ursula von der Leyen, 2022 was declared the European Year of Youth. The whole year was dedicated to young people, shedding light on the importance of a better future for young Europeans: greener, more inclusive and more digital. Given the composition of its population, Leiden can be characterized as a real youth city: half (!) of the residents are under 36 years of age. During the European City of Science year in Leiden, a lot of activities engaged youth in science. For example, we organized the Bright Young Minds program. Between the 13th and the 18th of September several events took place which shone a light on young talents.



During the Bright Young Minds Week, Leiden2022 hosted the 33rd finals of the EU Contest for Young Scientists: 132 young talents between the ages of 14-20 years, originating from 33 different countries, gathered for the European final of EUCYS and brought their brilliant projects to life. They were selected from over 65.000 participants.

Simultaneously more than a hundred young academics between the ages of 21-35 were joining in for the first ever EU TalentOn: a pressurecooker-event in which these peer-selected geniuses entered teams and EU-mission arena's based on five big challenges of the moment. The ideas they came up with have the potential to become real gamechangers.

See: [Home - EU TalentOn](#)

See: [EUCYS2022 - EUCYS Leiden 2022](#)

See: [Bright Young Minds | Leiden2022](#)

Please note that EUCYS and EU TalentOn are being assessed in a separate grant process, and these projects are therefore not integrated in this Evaluation Report. Evaluation Reports of EUCYS and EU TalentOn can be found under EU grant number 101052410 – EUCYS2022.

In the Brave Young Minds event, hundred young curious minds aged 10-18 years were invited to ask clever questions to a special international guest: historian and philosopher Professor Yuval Noah Harari. The event, which took place on the occasion of the publication of his first children's book **Unstoppable Us: How Humans Took Over the World**, was recorded and broadcast in a range of international media. See: [Yuval Noah Harari - Brave Young Minds - Brave New World](#).



Brave Young Minds with Yuval Noah Harari (Picture by: Annick Elzenga)

Last but not least a special edition of the Night of Discoveries was organized, which also served as the after party event for all Bright Young Minds united in EUCYS and EU TalentOn. The event focused fully on young artists and scientists, who curated the event themselves. They came up with more than 100 breathtaking performances and thrilling lectures, and the event was visited by 1,000s of visitors. See: [Nacht van Ontdekkingen - Nacht van Ontdekkingen](#).

2.1.5. Leiden Convention City

In 2022, Leiden was the hub of international science. For a whole year, the knowledge region's calendar was packed with conventions, conferences, symposia, and workshops. As a result, Leiden hosted almost twice as many conferences in 2022 (85 in total, of which 82 scientific and 56 directly linked to Leiden2022), in comparison to the 43 hosted in 2019 (pre-COVID). Of these, 56 conferences linked directly to Leiden2022, and Leiden hosted an extra 13.000 visitors. These visitors generated an economic impact of €7 - 9 million for the region of Leiden, an economic impact estimate based on average expenses of conference visitors (NBTC). An estimated 80% of the conference visitors came from outside of Leiden and the average duration of the conferences in Leiden in 2022 was 2,1 days (Leiden&Partners). See: [Leiden 2022 | Leiden Convention Bureau | Leiden Convention Bureau](#).



In the slipstream of these conventions, Leiden2022 hosted numerous special events. For example, the European Research Council (ERC) chose ESOF2022 as setting for its Public Engagement with Research Award-ceremony, attributed to young scientists. The 23 associated universities of the League of European Research Universities (LERU) and its global affiliates celebrated their 20 year-anniversary in Leiden, the European City of Science 2022. And the Royal Netherlands Academy of Arts and Science (KNAW) traded for once their Amsterdam base to award the prestigious Lorentz Medal in Leiden.

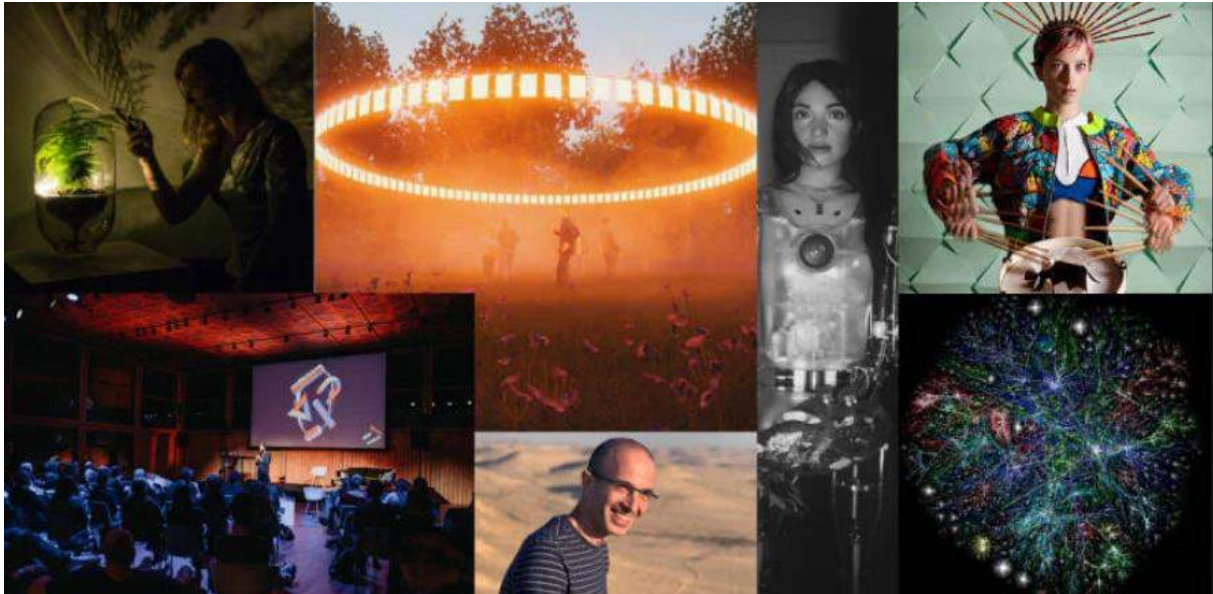
2.1.6. Gullivers Travel Agency

Jonathan Swift's world-famous Gulliver once began his wondrous journeys in Leiden as a medical student, after which he embarked on a journey into the great unknown. Inspired by this fictional story, Leiden2022 launched the Gulliver travel agency, which offered tours, walks, treasure hunts, bike tours, and boat packages for all curious people, throughout the year. It was run by Leiden Global, in close collaboration with the Leiden-Delft-Erasmus Centre for Global Heritage and Development. It featured, for example the city walk 'Hidden gems of Leiden', a guided tour highlighting Leiden's innovative science and Nobel laureates. It was very successful and almost all excursions were fully booked. See: [Gulliver's Travel Agency | Leiden2022](#).

2.1.7. ArtScience Week

During the ArtScienceWeek, which took place between September 12 and 18, a range of (international) activities, experiments, confrontations, courtships, investigations, and debates and took place, inspired by the supposed words of Einstein: "Imagination is more important than knowledge. Knowledge is limited." In a series of events and exhibitions, the twilight zone between fact and free-thinking was explored and art and science enjoyed adventurous cross-pollinations. The ArtScience Week was organized by the Brave New World organization, based in Leiden, in close collaboration with Leiden2022 and other partners and stakeholders. See: [Events | ARTSCIENCEWEEK](#).

Brave New World also hosted their annual international ArtScience conference during the week: on September 12 and 13th, 2022, the seventh edition of Brave New World Conference took place at Naturalis Biodiversity Centre in Leiden. This year, the theme was: The Future of Intelligence. The conference showcased the work of artists, scientists and anything in between, focusing on different forms of intelligence and the role of new technologies. It was attended live by some 350 participants. See: [Media - Brave New World](#).



2.1.8. Seeing Stars Leiden

On September, 2022, the internationally known artist Daan Roosegaarde and UNESCO brought back the stars to Leiden: "Lights out, stars on!". In the surroundings of the Old Observatory in Leiden, all the lights went out for one full hour. It was a huge effort for all involved to really make sure every light in the neighbourhood was switched of. It was also an amazingly successful event which was attended by thousands of people, which rightfully addressed light pollution and created a new sense of togetherness. The event was produced by Leiden & Partners in close collaboration with the municipality of Leiden and Leiden2022: [Seeing Stars Leiden | Visit Leiden](#). The Citizen Science LAB of Leiden University created a wonderful citizen science project, and hundreds of people counted stars by means of a special app. The aftermovie can be found here: [Aftermovie Seeing Stars Leiden – YouTube](#).

"Everyone lives in its own bubble, disconnected from each other," says Daan Roosegaarde. "I realised that an impressive light spectacle takes place in the sky every night, hidden. Seeing Stars brings the stars back into your street. The stars are just a light switch away from us."

Kathleen Ferrier, Chairperson UNESCO Committee Netherlands, stated: "More than 80% of the world's population lives under a sky polluted by artificial light, a barrier that prevents us from experiencing the beauty of the Universe. Everyone should have the right to see the stars in an unpolluted night sky. Looking at the stars makes you feel connected to each other. After all, we are all part of the same cosmos."





2.1.9. The Space Week

At the initiative of Leiden2022, the very first edition of the Dutch Space Week took place from September 25 to October 2. A 8-day space extravaganza was presented for anyone with an interest in space. The Dutch space region, which is located with a 30 mns travelling distance of Leiden, opened its doors. The Space Week demystified space exploration by bringing everyone together, from your neighbour to current astronauts and everyone in between. The initiative was produced by [NL Space Campus](#) in cooperation with [ESA ESTEC](#) and Leiden 2022, supported by many space partners.

The entire Dutch space region sprouted space activities, from Leiden to the site of NL Space Campus, in Noordwijk. From making a telescope out of lego to looking through the telescope of the Old Observatory or walking around the Space Expo. "Space week has been very dynamic and it is the opportunity for us, working with space daily, to showcase to the public what we do in space, what space is and how space is an integral part of our daily life and an integral part of everybody's daily life", as Torben Henriksen, Director of ESA ESTEC, stated afterwards. See: [The Space Week | Leiden2022](#).

2.1.10. Finale Festival

When Leiden2022 was officially opened on January, 2022, The Netherlands was still in a complete lockdown, and we could not organize any live meetings. Therefore, we were extra motivated and pleased to be able to wrap-up the year with a festive Final Festival on the 22nd of December 2022 at the Stadsgehoorzaal, which was transformed into the *playground* of Leiden European City of Science.

We created the Finale Festival by inviting local Owners-of-the-Day, representatives of Year of Events and Community Bonus-initiators to re-enact their activities. Some 150 of them responded positively and contributed to the festival, which became a co-created celebration of science, knowledge, art, and skill. It is certainly not a coincidence that the Topic-of-the-Day on the 22nd of December was: FUTURE. Thus, FUTURE was also the (very appropriate) theme of the Final Festival.

The Finale Festival was freely accessible for anyone with a curious mind, free of charge. Everyone was invited to take their friends and family. In the end, the event was so successful we had to close the registrations in advance. The festival terrain was opened from 4pm to 9pm. The program featured, among other things:

- SPACE: Talks with the scientists behind Seeing Stars. Margaret Gold's Citizen Science Lab about light pollution. Designing your own star sign in the Star Sign Brainstorm. Travel through space and time with the Mobile Planetarium. Star Lego: play with Lego and build your own telescope. Discovering the universe through the James Webb telescope with (PhD) students of Leiden university.

- HEALTH: Testing the rhythm of your heart with TNO Leiden. Stem Cell Game by the LUMC. The Microbiome (!) Dating Show.
- ART: Live sized 'We are the City' game by PS|Theater. Doubtful science with the Wijscokar (Wisecream Truck). Dance and maths coming together in a choreography of Lehmers Dance. Discovering science and art in Art of the Scientific Story. Incredible artwork by Jos Agasi. Bingewatching the scientific tv program Nieuw Licht, which was produced especially on the occasion of Leiden2022 by theatre company Domino.
- LEIDEN2022 Remakes: Living Library: 'borrow' one of the partners of Knowledge Throughout the Neighbourhoods. A special edition of Postbus71, in which scientific questions were being answered by Vincent Icke, Marco Roos, Ariadne Schmidt, and Kees van Kooten
- Live conversations powered by Radio Weetlust with Bowen Cameron, Anna Tudos, and Evelien Campfen.
- And... Workshops with the sewing studio of Circular Warehouse. Timetraveling walks with Merlijn Twaalfhoven. Children's dreams about the future in the JES-dromenboom (JES-dreamtree). The Watergate: how much water do you use in a day? And some spectacular ice cold experiments by Freezing Physics.
- On stage, an Expert Meeting on the Future of Public Engagement with Science was presented, followed by the launch of the Leiden2022 Model for Public Engagement with Science (see page 50).



See: [The Finale Festival | Leiden2022](#)



2.2. New European Bauhaus Leiden

In 2021, Leiden2022 became an official partner of the New European Bauhaus program of the European Commission. New European Bauhaus Leiden presented a future-oriented program at the intersection of culture, science and society, based at the Stadsbauhaus, located in the city centre. The aim of this program was to strengthen and accelerate sustainable transition for the sake of future generations. We developed the program for, by and with residents of Leiden, in collaboration with national and international networks.



In the New European Bauhaus program by Leiden European City of Science 2022 people, institutes, and companies came together to work, in creative ways, on a more sustainable, inclusive and beautiful Leiden. Spearheaded by a young team, extra attention was given to future generations and intergenerational justice. An overview of the program can be found here: [New European Bauhaus | Leiden2022](#).

The Leiden2022 New European Bauhaus program gave birth to a new, national movement, called the Ministry of the Future: ‘We live now. In doing so, we determine all sorts of things for the people and life after us. So the question is: are we good ancestors?’ With the Ministry of the Future, we put this question on the agenda in various places in society. This way, we aimed to secure long term solutions and encourage intergenerational solidarity, for the sake of a sustainable future for all.

The Ministry of the Future started as a bottom-up initiative in times of complex societal change. It united a growing group of positive-oriented citizens who, each in their own environment and sphere of influence, put the future on the agenda, beyond polarization and haste. They share their belief that in politics, culture, economy and society the focus should be shifted from the short term towards long-term, *cathedral thinking*. The Ministry of the Future designed the method of *local citizen assemblies* (Plekberaad) the very 1st of which was initiated by the Leiden2022 in June, 2021. It is a bottom-up, co-created meeting about the future of *your* place. The key question is always the same: what will your place look like, 15, 30 or 45 years from now? What should we do now to make that possible? The Ministry also developed *thematic assemblies* about a specific, future-oriented themes, such as food production, light pollution, healthcare systems or the energy transition. Every Minister is encouraged

to organize thematic assemblies on future-oriented topics that transcend their own place or region, or organize place-based, future-oriented citizen assemblies.

The Ministry of the Future strongly supports the Broad Welfare Model, as an alternative to the economic model of the GDP. Measuring Broad Welfare does not focus on quantity, but on the quality of life for all, beyond material prosperity. It includes health, education, environment and living environment, social cohesion, personal development and (in)security. Measuring Broad Welfare raises questions about the impact of our quality of life towards future generations, towards people elsewhere in the world, and towards nature and life in general.

Since June 2021, the Ministry of the Future grew into a national movement with hundreds of civic members, who organized dozens of local citizens assemblies all across the country. The Ministry continues to exist and might expand further. Invited by Lia Karamali of the European Commission, we have written a position paper on the New European Bauhaus program, which can be found in [Appendix 2](#).



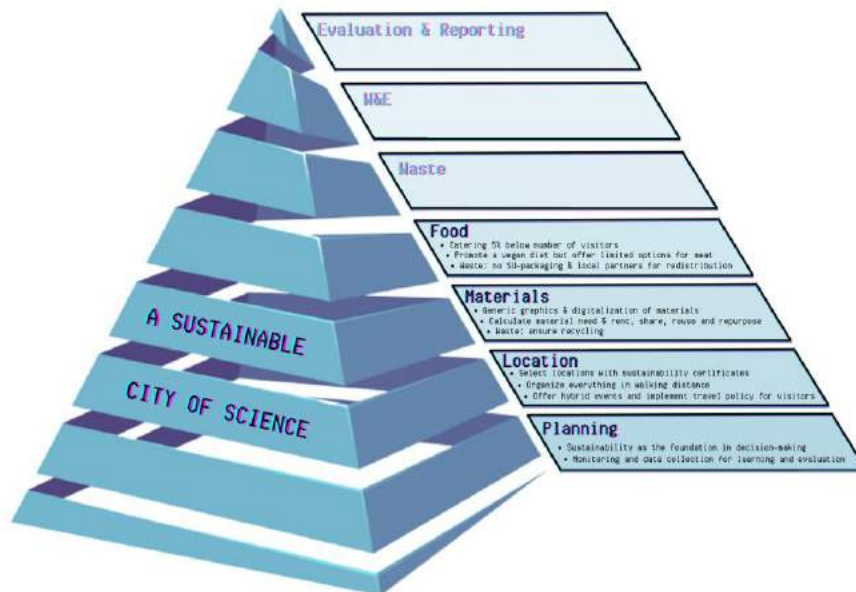
2.3. A sustainable Event Organization

The organizing team of Leiden2022 was keen on making sure that their Year of Events was being produced in the most sustainable way. However, we were aware that this confronted us with a huge challenge, and we needed to break patterns and habits of both ourselves, our participants, our partners and our stakeholders.

In order to prepare the process beforehand and assess the results afterwards, we commissioned two groups of students of the Leiden-Delft-Erasmus Centre for Sustainability to perform their annual Sustainability Challenge with Leiden2022 as a research topic. In 2021-2022, the first team of students created a framework providing tools for a sustainable organization of events. Based on their report, we identified ten Golden Rules for a sustainable event organization:

1. We communicate to everyone that Leiden2022 opts for a new, sustainable route.
2. We practice what we preach: with everything we do we examine if there is a more sustainable option.
3. We offer tap water and stimulate the use of water tap points and refillable bottles.
4. We offer, especially during bigger events, vegan or vegetarian catering.
5. We collaborate with caterers who avoid disposing of food and packaging.
6. We aim to use Green Key locations (hotels, event locations).
7. We walk, bike or use public transport. Within Europe we advise using the train.
8. We separate our trash, at the Stadsbauhaus and during the big events.
9. We use used or reusable materials, furniture etc.
10. We save energy where possible and do not use unnecessary lights.

The second group evaluated this methodology in 2022-2023 and assessed how it can be improved, while focusing on event location, material management, and catering. They concluded the team of Leiden2022 attempted to incorporate the sustainability framework of the first Sustainability Challenge group into their organization, but their framework was heavily theoretical and had to be summarized to be able to use it. Consequently, the framework was used as a checklist rather than a foundational part of the organization. Evaluating the categories catering, materials and locations through the core events of the festival, allowed for improvement of the previous framework and new recommendations. The students developed more practical policy guidelines to be used in future event planning. Their final deliverable was a practical guide for future European City of Science organizers, along with other events of similar size and scope. This Sustainability Guide can be utilized in the planning of their events in order to improve their sustainability.



Visualization of recommendations

All in all, while there is still a lot of room for improvement with regard to sustainable behaviour, production and consumption, we believe to have set a new standard with Leiden2022. The sustainability reports of the students, as well as the sustainability guidebook that the second group developed, have been shared with our partners. They can be found in [Appendix 3](#).

After the year ended, we were able to plant 52 fruit trees, together with the local organizations Bomenbond Rijnland and Zuid-Hollands Landschap, symbolizing every week of the year, thus symbolically compensating some of our CO₂-footprint.

2.3.1. Sustainability

Sustainability was a theme throughout all of Leiden European City of Science 2022. Most of the promotion of the year was done online to ensure being as sustainable as possible. The physical promotional materials were often re-used for several events. For example, the t-shirts and jackets that were produced for the employees and volunteers to wear during some of the events, were re-used and re-worn for each event. Banners were sometimes re-used, but sometimes ended up being reprinted for several events. In close collaboration with the sewing studio of the Circular Warehouse, which was housed at the Stadsbauhaus, the flags and banners were eventually transformed into backpacks, kitchen aprons and toiletry bags, which were given away as presents to the team of Leiden2022 and several other stakeholders.



Cooperation with internal Leiden2022 parties

There were periodical meetings with the communication department of the DG Research and Innovation of the European Commission, the editorial team of Leiden2022, the ESOF2022 team, the EUCYS team, the EU TalentOn team, and the communication officers of the Founding Partners and Leiden&Partners. Communication plans, information about events, activities and social media posts was exchanged in advance and during the events. This way, correct information could be posted on both the Leiden2022 main website and social media accounts and the dedicated event websites and social media accounts.

2.4. Communication Results

Throughout the year, Leiden European City of Science 2022 strived to be as visible as possible in the city of Leiden, in the Netherlands and beyond. Because we had chosen to go local, we wanted all of the inhabitants of Leiden and surrounding areas to know about Leiden2022, and to know about several of the events being hosted under the Leiden2022 name.

Visual Identity

Leiden2022 created a dedicated logo, which was consistently used in all of Leiden2022's promotional material. The colours of the logo (pastel pink, light blue and yellow) were also used in many of Leiden2022's promotional materials. Leiden2022 also consistently used the same font in its promotional materials and on its website (a combination of Helvetica and Neue Pixel Grotesk). To read more about the visual identity, please check the manual [here](#). It contains an explanation regarding the specific colours, fonts, and shapes Leiden2022 used and the thought process behind choosing these colours, fonts, and shapes.

Communication strategy

As explained earlier, during the first half of the year budget for an extensive communication campaign was not available. The focus of the campaign was on the distribution of the Leiden2022 calendar, using the website, social media and making use of communication channels of partners organisations such as Leiden University, Leiden University of Applied Sciences, the Leiden University Medical Centre, the Leiden municipality and the regional networking agency Leiden & Partners, which also includes the Leiden Convention Bureau and the Leiden International Centre. This however, also proved to be quite complex, because each partner already had their own visual identity and corporate communication strategy, and we were not always that high on their priority list. But of course we were very pleased with all the help we could get. Especially Leiden & Partners really made a real difference in their generous support to us.

Dissemination Campaign I

With ESOF2022 and the European Science in the City Festival, EUCYS2022 and the EU TalentOn, dedicated promotion campaigns were issued which were fully focused on these projects. It was not until the third quarter of 2022 that we could finally start a campaign to spread the word about the Year of Events, and the overall highlights and pay-offs of Leiden2022. This campaign was centred around the tagline "Are you curious enough?" To learn more about this campaign, please see to "Dissemination Campaign II" in Phase 3.

Media kit

To make sure that other outlets communicating Leiden2022 used our visual style consistently, the Leiden2022 team created a [media kit](#) which was easily accessible via the Leiden2022 website. In this media kit, people could find our logos, QR codes, visual elements, and an instruction manual regarding the visual style. We stimulated all partners to use the elements in the communication of the activities.

♦ ARE YOU CURIOUS ENOUGH?

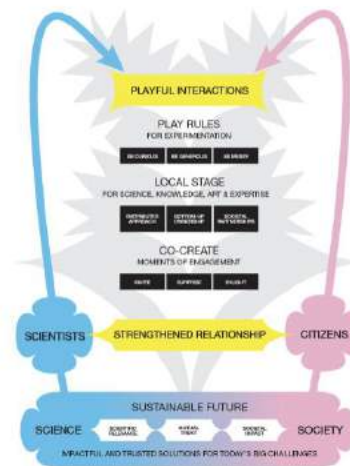


● THE LEIDEN2022 MODEL & POSITION PAPER

A new, scalable, co-creation method to spark playful interactions between scientists and citizens, aimed at connecting science and society.

Leiden2022 is the very first European City of Science to present a year-long program aimed at connecting science and society. In doing so, we kickstarted a new European tradition. We also created an advanced, practice-based model for Public Engagement with Science: open-minded, bottom-up, and with a playful 'just do it' mentality.

Curious? Click below for our Position Paper, and read more...



2.4.1. Promotional Materials

The year itself and its events were promoted in several ways. From the beginning, it was decided that the promotion of events would mainly happen digitally and online. The logo of Leiden2022 consisted of a QR code which led to leiden2022.nl. On this website, people could find information about the events, the company and the year itself. The overall logo and hundreds of other QR codes leading to specific web-pages dedicated to certain events, were spread throughout the year on multiple platforms.

Physical promotional materials

The QR-logos were added to a range of physical materials, such as posters which were distributed throughout Leiden, mainly at public places like libraries and bus stops. They were also added onto merchandise, and could be found on (guide)books, bookmarks, beer bottles, etc. There were also t-shirts, jackets and sandwichboards with the Leiden2022 logo, to be worn by our volunteers and employees. Besides that, there were also banners, flags and poster boards.

During large events such as the ESOF, the Bright Young Minds week, the LERU and Finale Festival, MUPI's, banners and flags were employed throughout the city and at the location of the event in the form of city dressing. Also, a DNA-shaped sculpture was produced by Leiden & Partners. This instagrammable feature was meant to draw people in and make them curious about science. It was placed near Leiden Central Station, where it could be viewed by anyone who passed by.

In September 2022, supported by Leiden & Partners, we organized a national outdoor campaign in which posters were put on mupi's, abri's, billboards and busses throughout the Netherlands. This was a great way to share the Year of Events with wider audiences.



Stadsbauhaus

The team of Leiden2022 was based at the Stadsbouwhuis. The building is owned by the municipality and will be demolished in a few years. Meanwhile, the upper floors are rented out to appr. 100 students. The ground floor is being rented out as artists studios, and provides offices for start-ups. It an anti-squatting formula that is pretty common in the Netherlands. During 2022, the Leiden2022 team rented 1,000 m2 on the Ground Floor. As we had become a partner of the New European Bauhaus program, we renamed the building as Stadsbauhaus, and appointed Roosmarijn van der Velde to produce a future-oriented New European Bauhaus program on the crossroads of science, culture, and society. Huge banners were put on the façade of the Stadsbauhaus, so everyone passing could see this promotional material and scan the logo.



At a building site facing Leiden's Central Station, a wall was built to fence off the site, as it is public area with a lot of traffic. Leiden2022 was asked to provide a special design for this wall. Our multimedia designer Bahador Fatemi made the design, which was successfully implemented. It included the the logo, the 22 Big Questions of 2022 and the 365 QR codes of all Topics-of-the-Day, as well as a brief introductory text. The wall was meant to spark curiosity, which it did: after placing the wall, the number of visitors to our website and social media increased.



There were also many promotional materials created for the science year which weren't commissioned by Leiden2022. One of these was the "A Sip of Science" beer made by local brewery Brewery Pronck. This beer was made on the occasion of Leiden European City of Science and sported the Leiden2022 logo. It was served at several of Leiden2022's events. Another example was the poster boards Aaf Verkade created for her events during the Leiden European City of Science year. They included the Leiden2022 logo and a lot of information about marine life in the Leiden canals (which related to her events). These boards remain in use after the European City of Science year ended.

Digital promotional material

Leiden2022 mainly used digital promotional material to promote the European City of Science year. All of the physical promotional material led directly to the Leiden2022 website. Leiden2022 used several different social media platforms, online newspapers, newsletters, and other digital outlets. The main reasons for the mostly digital campaign were accessibility and sustainability. Anyone, regardless of their location could visit the Leiden2022 website. And anyone with a relatively new model of smartphone could scan the QR codes spread throughout Leiden. Printing materials were only made if it was deemed crucial to reach specific target groups.

Social media

During the entire European City of Science year, Leiden2022 made use of several social media platforms to promote the year, the events, and the connection between science and society. We mainly used [Instagram](#), [LinkedIn](#), [Facebook](#) and [Twitter](#) as their outlets.

On Instagram, the editorial team made stories, highlight reels, graphics, and regular posts to boost the account in the Instagram algorithm and connect with as many people as possible. On Twitter, regular updates were posted, and tweets mentioning the Leiden2022 or its events were retweeted or liked.

As of the 1st of March 2023, the Instagram account had 1533 followers, the Twitter account had 1483 followers, the Facebook page had 668 followers, and the LinkedIn page had 1774 followers. This means that Facebook was the company's least followed social media platform.

For some events, YouTube was also used by Leiden2022. [The YouTube account](#) wasn't updated on a regular basis but after major events, after-movies, trailers and other videos would usually appear on the YouTube channel. Although this channel wasn't actively promoted on other (social) media outlets, it was referred to in the form of links and hyperlinks leading to videos on the channel.

The graphics and other visual material that appeared on all of the social media platforms were almost always made in the visual style of Leiden2022. Almost all of the material included the Leiden2022 logo and the Leiden2022 colours (pastel pink, yellow, and light blue).

Advertisements

For some events, Leiden2022 bought articles or advertisements on websites catered to Leiden and surrounding areas. To promote the Science in the City Festival, Leiden2022 bought an article on the *Indebuurt* Leiden website (a local online news and entertainment magazine) and advertised on Kidsproof a platform for activities for families with small children.



For the Finale Festival there also was an article bought on the advertising platform “Indebuurt”. The festival was also promoted via a page filling advertisement in the local newspapers *Het Leidsch Dagblad* and *Het Leidsch Nieuwsblad*. During the Finale Festival City Hosts and a mobile advertisement car was used to invite people to visit the festival.

Newsletter

The Knowledge Throughout the Neighbourhoods team produced digital newsletters. The Knowledge Throughout the Neighbourhoods newsletter was sent out each week, starting on the 9th of March 2022, to 170 email addresses consisting mostly of partners and local papers.

Radio Weetlust

Radio Weetlust was the daily radio show organized by Leiden2022 and Sleutelstad (a local radio broadcaster). In this radio show, presenters Lucien Geelhoed and Gideon Roggeveen talked for an hour with 1 or 2 scientists/experts about a subject relating to the daily topic. Because of this connection to the daily topic, different activities happening on that day were often promoted during the show. Additionally, the show provided a way for scientists to talk in a simple but educational way about scientific topics. In this way, the radio show made science accessible to the average Dutch person.



Astronomy Professor Ewine van Dishoeck in the Radio Weetlust studio.

The show could be accessed live over the radio but could also be listened to via the [Sleutelstad website](#). The Leiden2022 website had a dedicated page that was updated as often as possible to link to the radio show on the Sleutelstad website. The show was also promoted on other shows within the Sleutelstad network, such as Science071.

After the broadcast had ended, the show could still be accessed via the Sleutelstad website. This meant that anyone could listen to whichever topic they wanted regardless of whether they were capable of listening to it live. To add on to this, the show was also often filmed. [These videos](#) could be watched live on television but were also available after the broadcast was over to be watched at people's own leisure.

The show brought about a lot of interesting conversations. And definitely added to Leiden European City of Science 2022's message and reach. Unfortunately, Sleutelstad doesn't keep a record of how many listeners they had at any given time. So, it is not possible to estimate how many people the show reached.

In the end, 365 episodes of the show were made, and the presenters welcomed 410 different guests.



2.4.2. Press

As mentioned before, there was a media-kit for press available. Besides that, Leiden2022 also provided interviews upon request.

As mentioned before, Leiden2022 bought article spaces in several newspapers and magazines, but we were also written about unprompted. The company and its events were mentioned in hundreds of different (online) publications. For the media monitoring overview, please see [Appendix 4](#).

National press

As a part of spreading the message about Leiden European City of Science 2022, Leiden2022 paid for several spreads/articles in the Volkskrant; a Dutch newspaper.

The Volkskrant is a well-known paper: its printed edition reaches about 599,000 people per edition. Every month it reaches about 1.956.000 unique readers throughout the entirety of the Netherlands with its printed edition alone. The online version of the Volkskrant has 2.731.000 visitors per month. The paper is read mostly by people in the west of the Netherlands (North Holland & South Holland), with over half of its readership (56%) coming from those two provinces. With Leiden being located in South Holland, it made sense to choose a newspaper which reaches people that could potentially visit Leiden without too much trouble, while still addressing people in the rest of the Netherlands.

In total, there were three big dedicated issues/articles.

In January of 2022 an issue dedicated to Leiden2022 was released. In this issue, surrounding the catchphrase “Who knows?”, the Volkskrant explained the concept of the daily topics and the big conferences (mainly ESOF) that were a part of Leiden2022, and took care to dive into the relationship between science and society.

The issue focused on the increased trust people have in scientists and science in general, in spite of (or maybe because of) the Covid-19 pandemic. The issue also showed off several of the (then upcoming) events that were a part of Leiden2022, like museum exhibitions, courses and symposiums, promoted the tear-off calendar, and talked with scientists and experts about concepts like citizen science (science done with or by citizens) and trust in science as an overarching field.

The issue also dedicated a page to young talent, mainly people who already performed scientific research at a very young age. The page also mentions EUCYS, and emphasizes that these young people will be the scientists of the future. The issue thereby also promoted Leiden2022’s message of future-gear thinking and science.

A second issue came out in September of 2022 surrounding the ArtScience Week. The ArtScience Week was a week in which the events that were a part of Leiden2022 were dedicated to art. The week delved into art in general and how art can merge with science in some ways.

The ArtScience Week issue by the Volkskrant mentioned Leiden2022 on the cover and mentioned some of their minor events on the back cover along with the Nacht van Ontdekkingen; another event in which Leiden2022 had a hand. Some of Leiden2022’s major events were expanded upon in the issue itself, mainly Seeing Stars and the Brave Young Minds part of the Brave New World convention.

The third issue came out less than a month later in October of 2022 and centred around the Life Sciences & Health Week, another dedicated week filled with events surrounding certain topic. As the name reveals, the Life Sciences and Health Week, and the dedicated Volkskrant issue both focused on science and health.

In the issue, several aspects of living a healthy life, and developments within healthcare and science, are discussed by experts and scientists. The issue also dedicates a page to Leiden as a ‘city of science’, and pays special attention to the life/healthcare science within Leiden. The Volkskrant includes an interview with the mayor of Leiden about keeping Leiden a healthy city, and discussed research done by the Leiden BioScience Park (one of Leiden2022’s partners).

Lastly, the issue dedicates its back cover to several minor events and activities organized by Leiden2022. It also mentions the Knowledge Throughout the Neighbourhoods program, P.O. Box 71, EUCYS, the ArtScience Week, and the Life Sciences & Health Week itself.

These three issues played a crucial part in promoting Leiden2022 and its events on a national scale and shone a spotlight on the city of Leiden in general.



One of the publications which regularly mentioned Leiden2022 was the Leids Nieuwsblad, a local weekly newspaper, free copies of which are being spread throughout all of Leidens' households. In the Leids Nieuwsblad, the Leidse Amateur Fotografen Vereniging (LAFV, Leiden association of amateur photographers) published a picture and article on a weekly basis. European City of Science activities often provided subjects of these photos and articles. Yanti Danoeckoemo, Science Communicator in Leiden2022's Editorial Team, provided the paper with information and short articles. The LAFV was very inspired and pleased with this collaboration, and after the year they produced and printed a beautiful book in which all 52 pictures and stories were assembled. They arranged a festive presentation in a Leiden based theatre, and our director Meta Knol was given the very first edition. This also raised local media attention.

LAFV legt Leiden als dé wetenschapsstad vast

LEIDEN – Op 22 november is 'kleur' het dagonderwerp van Leiden2022. Daarom maakte Helene Roelofs van de Leidse Amateur Fotografen Vereniging dit kleurige palet uit de Leidse regio. Een kort gesprek met Inger Groeneveld, adviseur historisch stadsbeeld van Erfgoed Leiden, over hele andere kleuren dan die we zien op de foto, namelijk het Leids kleurenpalet.

WAT IS HET LEIDS KLEURENPALET? "Een verkleurenkaart met een selectie van de historische kleuren die gevonden zijn in de vele kleuronderzoeken op historische, vooral 17de, 18de en 19de-eeuwse, voorwerpen in de Leidse binnenstad. De waarder heeft behalve historische okers, groenen en roodbruinen en ook materiaalkleuren zoals zandsteen- en hardsteentinten, en enkele warme houtbruinten. In het

Leiden viert de wetenschap

LEIDEN – Leiden is in 2022 European City of Science. 365 Dagen lang viert men wetenschap, kennis, kunst en kunde, vol activiteiten voor iedereen met een nieuwsgierige geest. Elke dag staat er een ander onderwerp centraal. En zo viert de LAFV in samenwerking met Leiden2022 haar 100-jarig bestaan in deze rubriek, iedere week plaatst de LAFV op deze plek in het Leids Nieuwsblad een foto die gereleateerd is aan een dagonderwerp.



Kleurige creaties in de Leidse regio (Foto: pr/LAFV/Helene Roelofs).

bijbehorende boekje "Van de Leidse schilders met te grootte quaast", geschreven door Olga van der Klooster, staat meer uitgebreid over de achtergrond van dit kleurenpalet en de geschiedenis van verfpigmenten en toepassing op gevels in Leiden.

WAT MAAKT DEZE KLEUREN TYPISCH LEIDS? "Ik vind zelf, en hoor ook van anderen: de warme van de kleu-

ren, vooral de warme zandsteenkleuren. Kleuronderzoekers zijn soms verbaasd dat Leiden zoveel okergeel heeft, maar ze vinden die kleuren ook echt op de kozijnen en gevels van oudere panden. Leidenaars zijn over het algemeen heel enthousiast over historische kleuherstel. Als je echt de authentieke kleuren van je voorvoel wilt terugbrengen op basis van kleuronder-

zoek, raad ik de Leidse kleursubsidie aan."

HOE KUNNEN MENSEN AAN DEZE KLEUREN KOMEN? "Elke schilder in Leiden kent deze kaart wel. En het boekje en kaart is verkrijgbaar in de boekwinkel. De kaart is bedoeld om mensen zelf een richtlijn te geven

wat acceptabele historische kleuren zijn in een beschermd stadsgezicht. Let wel op, monumenten mogen niet zonder omgevingsvergunning van kleur wijzigen. Ook is het verstandig om welstandsadvies te vragen bij het overschillen van geplasterde gevels."

One of the 52 articles of LAFV, Leiden association of amateur photographers

On a national scale, the Leiden2022's efforts often went unnoticed. Although the previously mentioned articles in the Volkskrant did draw attention to Leiden2022, there weren't that many national outlets that wrote about our activities. We really regretted this, but we assume that our activities were regarded too local, and the distributed model of multiple small-scaled activities wasn't drawing a lot of media attention. Because of our multiple partnerships, sometimes Leiden2022 was not properly mentioned as well, and our initiatives could gain national media attention without Leiden2022 being mentioned. On the Nederlandse Schelpenteldag, an event initiated by Leiden2022, the event hit national headlines and daily news TV broadcasts. However, Leiden2022 wasn't mentioned in any of these broadcasts. So even when the Leiden2022 events had a national or even international reach, the organisation often remained in the background. This was, we assume, also due to the fact that we didn't invest in national promotional campaigns because of budget restraints.

2.4.3. ESOF2022

There was a separate team within the Leiden2022 organisation which took care of the organisation and promotion of ESOF2022. ESOF has a separate website and social media outlets, managed by EuroScience. ESOF was announced and promoted via the normal Leiden2022 outlets as well. It was announced on the Leiden2022 website in the form of a [highlight](#) on [leiden2022.nl](#). After ESOF was over, this highlight was transformed into a page where you could look back on the event with an explanation about the event and videos.

While ESOF2022 was ongoing, the Leiden2022 social media accounts dedicated most of their posts to it. On Twitter, they retweeted the ESOF account and [made tweets](#) with graphics dedicated to promoting activities which were going on at ESOF at that time. On the other social media platforms (LinkedIn, Instagram and Facebook), similar posts were being made, with Instagram stories being made at the event itself.



2.4.4. EUCYS/EU TalentOn

During EUCYS2022 and the first ever EU TalentOn, similar things were done as with ESOF2022. There were dedicated posts and webpages ([EUCYS & TalentOn](#)) owned by Leiden2022 which promoted the events. After the events were over, these webpages were transformed, just like with ESOF2022, to explain what the events had been like and to show off pictures and videos.

A part of the Leiden2022 website called the Newsroom, was kept up to date with developments during EUCYS2022 and the EU TalentOn. For example: there were posts in the Newsroom when [EUCYS2022 started](#), when the [participants in the EU TalentOn](#) were made known to the public, and when the [EU TalentOn projects](#) were announced.

Just like with ESOF2022, videos and pictures were taken at the events themselves. This visual content was shared via Leiden2022's social media platforms.



2.5. Press conferences and releases

Throughout 2022, there were multiple press releases. [All press releases](#) can be found on the Leiden2022 website.

In order, the press releases were:

1. Leiden partners up with New European Bauhaus (21st of June 2021)
2. 33rd edition of EUCYS is coming to Leiden (19th of September 2021)
3. Call for proposals ESOF2022 (30th of September 2021)
4. Leiden2022 Press Launch (10th of November 2021)
5. Opening Leiden2022 (19th of January 2022)
6. [ESOF about Leiden2022](#) (20th of July 2022)
7. [Press release start of EUCYS](#) (14th of September 2022)
8. [Press release start of EU TalentOn](#) (15th of September 2022)
9. [Model announcement](#) (23rd of December 2022)
10. Finale Festival persbericht van Esther.



Because the Leiden2022 only existed to prepare, produce and wrap-up the year, there was no press database, and it turned out to be difficult to build the necessary networks and press relations in such a short amount of time. With its distributed model, Leiden2022 focused on creating a lot of small scale local activities, which were not favored by media outlets. This is why Leiden2022 chose to only distribute press releases when major events happened. However, Leiden2022 did keep up with what the media wrote about the organization and its events. The links and information about these media articles can be found in the Media Monitor (see [Appendix 4](#)).

3. Phase 3: Post-European City of Science (January 1, 2023 – March 31, 2023)

3.1. Communication Results

3.1.1. Leiden2022 in the media

In the distributed model of Leiden2022, many of the events were intimate, small-scaled and local. Because national and international media weren't likely to pick up these small events, throughout the year we lacked national and international media attention. It also caused us distributing only a relatively small amount of press releases. Between February and September 2022, due to budget restraints we could not invest in paid promotion campaigns.

Despite these handicaps, still plenty of articles were published about Leiden2022. This happened both during the year, and after it was over. Throughout the year, Leiden2022 collected all media publications, the overview of which can be found in the Media Monitor (see [Appendix 4](#)). Please note we did not subscribe to a media monitoring service, such as Lexus Nexus, as this would by far exceed our budget. The Media Monitor therefore only covers publications we collected ourselves. It is far from complete, but it does give an impression of online visibility and media attention on both local/regional, national and international scales. All in all, we are pretty proud to have had such a wide outreach after all.

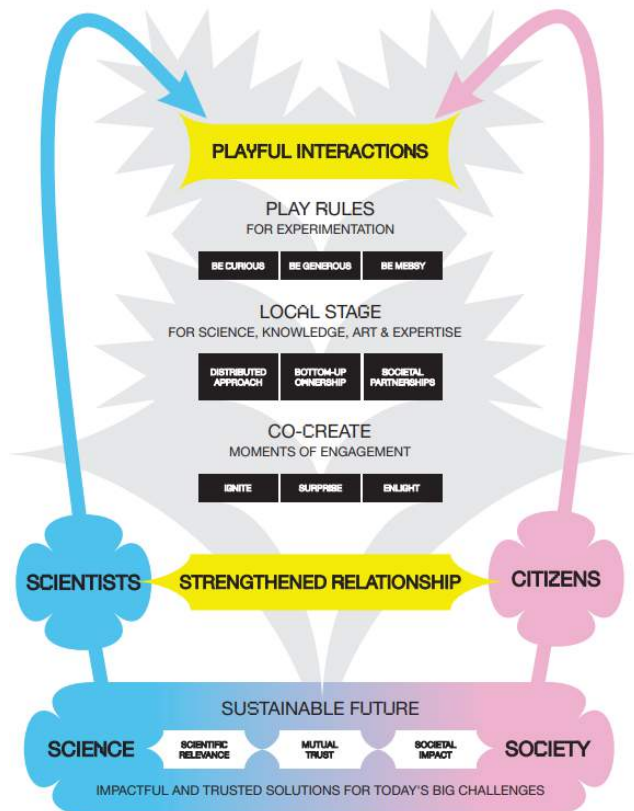
3.1.2. Videos and photos

During the year, videos and photos of the Leiden2022 project were continuously released via our social media outlets. During many events, including Knowledge throughout the Neighbourhoods, our professional photographers were present. We also commissioned several dedicated video's/trailers on highlights such as the Opening Film, the EuroScience Open Forum, EUCYS, EU TalentOn and the Final Festival. After the year was over, we created an [Aftermovie](#). Many other partners and stakeholders have produced films and images, which were shared online. We can really say the year has been celebrated in pictures!

3.1.3. The Leiden2022 Model

On the 22nd of December 2022, during the Finale Festival, Leiden European City of Science 2022 presented the Leiden2022 Model for Public Engagement with Science. It illustrates how we connected science with society in innovative and playful ways, throughout the year. The model consists of a fun, simple drawing in the Leiden2022 style, which is further explained in a Position Paper. The Position Paper contains explanatory steps and so-called 'play rules' for applying the Leiden2022 Model for Public Engagement with Science. See [Appendix 5](#).

To further disseminate the results of Leiden2022 and share our learnings, we created a dedicated webpage on which we published the Leiden2022 Model and the Position Paper, as well as seven articles summarizing our events, methods, learnings and results: [European City of Science Leiden 2022 \(modelleiden2022.nl\) / modelleiden2022.nl](https://modelleiden2022.nl/). Specific highlights of Leiden2022 are described in separate articles and explained in the context of the year and in relation to the model. The highlights



described are: Knowledge throughout the Neighbourhoods, ESOF, EUCYS, EU TalentOn, Ministry of the Future (New European Bauhaus) and the Community Bonus. A seventh article explained the philosophy and methods sustaining the year as a whole. We also produced and published a so-called 'manifesto video', which was also published on the webpage, containing our vision, and images of highlights.

On the new webpage, professionals and others interested may find the whole story of Leiden City of Science 2022 summarized. Visitors of the webpage are invited to become part of a bigger movement connecting science and society in new, open, and creative ways. The platform also offers visitors the opportunity to get in touch with Leiden2022 in order to learn more.

The Model, Position Paper, Manifesto Film and webpage were developed in collaboration with WePublic and Woedend! Design Agency.

Finale Festival

The Leiden2022 Model, the webpage, the film and the presentation were launched by Director Meta Knol during the Final Festival on December 22, 2022. A special symposium was organised on the stage of the Stadsgehoorzaal. Invited guests and general public of the festival, which was open and freely accessible for anyone with a curious mind, could attend a diverse range of presentations and talks, on how to connect science with society. The symposium consisted of an afternoon-session, led by New Scientist-editor Jim Jansen, and an evening session, led by science-communicator Eveline van Rijswijk.

Afternoon session

#1 The Future of Public Engagement with Science: societal perspective, with Derk Loorbach (Director DRIFT, Rotterdam), Saskia Naafs (Board of Government Advisors), and Klaas Sietse Spoelstra (Ministry of the Future)

#2 The Future of Public Engagement with Science: scientific perspective, with Christine Mummery (professor Leiden University Medical Centre), Jops van der Steenhoven (doctor, Leiden), Margaret Gold (coordinator Citizen Science Lab)

#3 The Future of Public Engagement with Science: cultural perspective, with Micha Hamel (poet/composer Academie van Kunsten), Frans Snik (astronomer Leiden University, Münise Yavuz (The Art of the Scientific Story)

Evening session

Talk with **Henri Lenferink**, Mayor of Leiden, looking back at Leiden European City of Science 2022

Director **Meta Knol** presenting the Leiden2022 Model for Public Engagement with Science

Performance by **Nynke Laverman**: 'Your Ancestor'

Talk with **Annetje Ottow** (Chair and Member of the Executive Board of Leiden University) and **Joeri van den Steenhoven** (Vice President Executive Board

Column by **Eefje Cuppen**, director Rathenau Institute

Spoken word by **Jon Chase**



Presentations and meetings

As a result of the success of Leiden being the first European city to host a 365 days science festival, containing the Year of Events, Knowledge throughout the Neighbourhoods, ESOF2022, EUCYS2022, EU TalentOn and much more, Meta Knol and Lucien Geelhoed were invited by multiple organisations to share the model and learnings of Leiden2022. A full overview of these appointments and presentations will be added to the Technical Reporting.

3.1.4. Overall communication strategy

As explained in paragraph 1.2, our aim was to attract audiences based on their particular interests, notwithstanding their cultural, societal, educational, demographical etc backgrounds. In principle, the choice to open up our communication strategies and make them more inclusive, while dismissing more traditional marketing-communications techniques, is to be cheered upon. In hindsight, we were faced with multiple practical difficulties:

- In reality, targeting 365 different media, marketing and communication strategies, one day after another, proved not only impossible to realize for our team, but also turned out to be confusing for our audiences. The distributed model proved to be almost impossible to communicate.
- It took Leiden2022's editorial team a lot of time and effort to prepare a basic working method. While they were still struggling with structuring their work, chances were missed to create a strong network of ambassadors among partners and stakeholders.
- Once we knew how to bring our methods and messages across, which was only halfway through the year, the impact of our efforts raised considerably.
- As our audiences were so diverse, it was not possible to really measure the impact of our *communication* efforts (as opposed to the impact of *participation*, which was measured by CigarBox). We do not know what kind of fish we caught!

Leiden2022 aimed to provide an inclusive and accessible platform for sharing science with society. Despite difficulties as sketched above, we believe we have been able to move the needle, especially by freely exploring new ways of Public Engagement with Science.

3.1.5. Open Science

Throughout the year, we have been advocating the principles of Open Science whenever we could. Like, for example, by hosting the very 1st Fair Digital Objects Forum, which took place in Leiden in

October, 2022 ([FAIR Digital Objects Forum | \(fairdo.org\)](https://fairdo.org), leading to the [Leiden Declaration on Fair Digital Objects: Leiden Declaration FDO \(fdo2022.org\)](https://fdo2022.org).

We did not generate any research outputs or publications ourselves. However, a paper reviewing the legacy and impact of Leiden European City of Science’s new model for public engagement is being prepared by Margaret Gold of the Citizen Science Lab. It will be published in an accessible way and comply with open science practices.



In *Leids Nieuwsblad*, on December 29, 2022, an overview was published, looking back at the year.

3.1.6. Press releases

Throughout the Leiden European City of Science 2022 year, press releases were issued around the large-scale events such as the Opening Film, ESOF2022, EUCYS2022, EU TalentOn and the Finale Festival. These press releases can be found online ([Newsroom | Leiden2022](https://newsroom.leiden2022.nl)), and they are also listed in “Press conferences and releases” in Phase 2 of this document.

On April 4, 2023, on the occasion of the release of the Impact Report of CigarBox, press releases were sent out to international, national and local media, summarizing the year, thus finalizing Dissemination Campaign II.

3.1.7. Dissemination Campaign II

In order to share our learnings, we created a dedicated Public Affairs campaign. The webpage which was created to disseminate the Leiden2022 Model for Engagement with Science served as point of departure of this campaign, which started with the Finale Festival on December, 2022.

To promote our efforts and the model, Leiden2022 set up a promotional campaign with Abovo Media. The seven articles were shared with journalists via our mailing list and via social media and PR platform Meltwater throughout Europe. It was supported by a social media and email campaign. A special LinkedIn campaign was created, centred around the tagline “Are you curious enough?”. Videos and posts were spread, and the results of the campaign were monitored. The public affairs campaign is still in progress.

The overall campaign aimed to:

Inspire policymakers, representatives of universities, cities, government agencies, and other academic bodies to reinvent themselves and start investing in building sustainable relationships between scientists and citizens.

Showcase, by communicating the Leiden2022’s legacy, by shedding light onto our successes and failures, and by sharing what we have done and learned.

Share insights. Based on the model and the results of the year, we created a powerpoint-presentation in which all the learnings were summarized, to share our experiences, outputs and learning points.

3.1.8. Radio advertisements

In addition to the content on social media platforms, thanks to Leiden & Partners, Leiden2022 also was advertised on Dutch radio. Radio advertisements were used as the main traditional media outlet. The number of Leiden2022 radio advertisements increased since September 2022, which is in line with the increase in social media content around the same period. In September 2022 alone there were 370 spots, in contrast with the 151 spots until July 2022. Due to the doubling of the number of spots, range has increased considerably between July and September. In September 2022, approximately 35% of radio listeners had heard the Leiden2022 advertisement at least once. In July 2022 this was 26%.

3.1.9. LinkedIn campaign

After the Finale Festival, we launched another LinkedIn-campaign to disseminate the results.

We created two videos, one containing a clip of the spoken word poem written about European City of Science, which was performed by Jon Chase on the Finale Festival. A second video containing a clip of the performance of Nynke Laverman. These videos were spread in order to gain video views, and clicks towards the webpage modelleiden2022.nl. This first way will be called *videoview*, the second one will be called *traffic*.

This worked out really well, as the videos were watched 325.309 times. In this case “watched” means at least 2 seconds of the advertisement have been seen by the viewer. The videos were watched in their totality about 9,65% of the time. This number is in line with other videoview campaigns. In the end, the videoview videos caused 222 people to click on the ad and go to modelleiden2022.nl.

The second part of the campaign targeted at traffic to the modelleiden2022.nl pages, was even more successful. While the advising agency estimated the costs about 9 to 13 euros per click, this ended up being much lower, coming in at 5,35 euros per click. This means the advertisement was clicked on more often than we expected. The traffic videos were watched 244.789 times. In this case “watched” means at least 2 seconds of the advertisement have been seen by the viewer. The videos were watched in its totality 4257 times. In the end, the traffic videos caused 798 people to click on the ad and go to modelleiden2022.nl.

Video Jon

- 164.319 weergaven
- 27.819 volledig bekeken
- 9,16% voltooiingspercentage
- 112 klikken (CTR 0,04%)

Video Jon

- 167.111 weergaven
- 68.161 personen bereikt
- 1,8% voltooiingspercentage
- 553 klikken (CTR 0,33%)

Translation:

Weergaven = views

Volledig bekeken = watched in its totality

Personen bereikt = people reached

Video Nynke

- 160.990 Weergaven
- 28.207 volledig bekeken
- 10,19% voltooiingspercentage
- 110 klikken (CTR 0,04%)

Video Nynke

- 77.678 weergaven
- 39.772 personen bereikt
- 3,05% voltooiingspercentage
- 245 klikken (CTR 0,32%)

Voltooiingspercentage = percentage of people who finished the video

Klikken = clicks

Both of these campaign-parts can be considered successful. The traffic campaign led to more clicks and the videoview campaign led to more views, just as planned. The videos were also watched to their

completion more often with the videoview videos. The traffic videos reached 107.933 people. The videoview videos reached 89.751 people.

Target groups LinkedIn

The target groups of the campaign were being monitored while the campaign was happening. The company who took care of the campaign, Abovo Media, monitored the sectors in which the viewers worked and the country the viewers were from. Interestingly enough, both the videoview and traffic videos were watched most by people from France and people who work in the further/higher education sector. After France, people from the UK, Belgium, and Germany made up the largest part of the viewer-base. Those active at governmental companies, the research sector, and the healthcare sector also made up a significant part of the viewers. Please find the information about the target groups in the tables below.

Nationalities of viewers of videoview videos

| Country of origin | Impressions | Views | Fully watched | Voltooiingspercentage |
|-------------------|------------------|------------------|-----------------|-----------------------|
| France | 264.234 (45,68%) | 110.757 (34,05%) | 21.775 (38,67%) | 8,99% |
| United Kingdom | 259.811 (45,11%) | 107.869 (57,75%) | 30.745 (34,86%) | 11,7% |
| Belgium | 39.110 (6,79%) | 19.260 (5,93%) | 2.951 (5,27%) | 7,2% |
| Germany | 1.437 (0,25%) | 776 (0,24%) | 147 (0,20%) | 9,2% |
| Finland | 1.066 (0,19%) | 514 (0,16%) | 69 (0,12%) | 6% |
| Sweden | 720 (0,13%) | 449 (0,14%) | 79 (0,14%) | 10,21% |
| Norway | 708 (0,12%) | 526 (0,16%) | 93 (0,17%) | 12,79% |

Nationalities of viewers of traffic videos

| Country of Origin | Views | Clicks | Gemiddelde CTR |
|-------------------|------------------|--------------|----------------|
| France | 117.283 (47,91%) | 383 (47,99%) | 0,33% |
| United Kingdom | 48.367 (19,76%) | 161 (20,18%) | 0,33% |
| Belgium | 36.164 (14,77%) | 106 (13,28%) | 0,29% |
| Germany | 21.592 (8,82%) | 73 (9,15%) | 0,34% |
| Sweden | 9.707 (3,97%) | 34 (4,26%) | 0,35% |
| Finland | 7.543 (3,08%) | 24 (3,01%) | 0,32% |
| Norway | 2.868 (1,17%) | 8 (1%) | 0,28% |

Sectors of viewers of videoview videos

| Name of Sector | Impressions | Views <small>2 of meer sec. afgespeeld</small> | Fully Watched | Voltooiingspercentage <small>↕</small> |
|------------------------------------|-----------------|--|-----------------|--|
| Higher education | 111.135 (19,3%) | 77.349 (23,78%) | 13.491 (24,06%) | 12,08% |
| Administration government | 65.201 (11,32%) | 31.095 (9,56%) | 5.993 (10,7%) | 9,17% |
| Research Services | 54.980 (9,53%) | 38.359 (11,79%) | 7.467 (13,33%) | 13,41% |
| Healthcare Services | 31.024 (3,39%) | 19.335 (3,94%) | 3.261 (5,62%) | 10,48% |
| Civil & Social Organisations | 20.072 (3,49%) | 8.768 (2,7%) | 1.693 (3,02%) | 8,37% |
| Technology, information & internet | 18.242 (3,17%) | 10.771 (3,31%) | 2.076 (3,71%) | 10,80% |
| Medicine | 17.429 (3,03%) | 8.340 (2,56%) | 1.500 (2,78%) | 8,95% |
| Non profit organisations | 16.480 (2,86%) | 10.771 (3,31%) | 1.767 (3,15%) | 10,67% |
| Primary & high schools | 13.378 (2,67%) | 8.548 (2,63%) | 1.627 (2,99%) | 10,57% |

Sectors of viewers of traffic videos

| Name of Sector | Views | Clicks | Gemiddelde CTR <small>↕</small> |
|----------------------------------|------------------|--------------|---------------------------------|
| Higher education | 111.314 (45,47%) | 367 (45,99%) | 0,33% |
| Research services | 49.754 (20,33%) | 162 (20,3%) | 0,33% |
| Administration government | 43.171 (17,64%) | 145 (18,17%) | 0,34% |
| Healthcare services | 24.533 (10,02%) | 83 (10,4%) | 0,34% |
| Non profit organisations | 12.053 (4,92%) | 40 (5,01%) | 0,33% |
| Consulting firms and services | 11.801 (4,82%) | 33 (4,14%) | 0,28% |
| Professional training & coaching | 8.637 (3,53%) | 29 (3,63%) | 0,34% |
| Advertisement services | 7.530 (3,08%) | 27 (3,38%) | 0,36% |
| Legal help | 6.932 (2,83%) | 21 (2,63%) | 0,3% |
| Civil and Social Organisations | 7.839 (3,2%) | 20 (2,51%) | 0,26% |

Although the campaign reached many different people in many different countries, it is interesting that research services and higher education were reached most often. This could support our expectations that those who actually work in fields closely related to science are the most interested in connecting science with society.

The goal of the campaign was, among other things, to inspire policymakers and people within government agencies and academic institutions. Those groups turned out to be the same as the groups that were targeted by the campaign. Although nobody can know for sure that the Leiden2022 model inspired people who saw the advertisement or the website, we do know that our target audience was reached.

3.1.10. Social media mix Leiden2022

Leiden2022 chose a mix of the most popular social platforms (in the Netherlands): LinkedIn, Instagram, Twitter and Facebook. This allowed us to make our social media activity as effective as possible. The

media mix is the perfect combination of B2B and B2C. Also all partners were present on these platforms and could therefore actively share our news and events.

Being present on multiple social media platforms gave us more opportunities to communicate with our followers & partners and present all our activities such as events and Knowledge throughout the neighbourhood activities. It also allowed us to reach out to a broader audience (in and around Leiden) and build better relationships by using communication methods that our audience is comfortable with.

3.1.11. Social media results Leiden2022

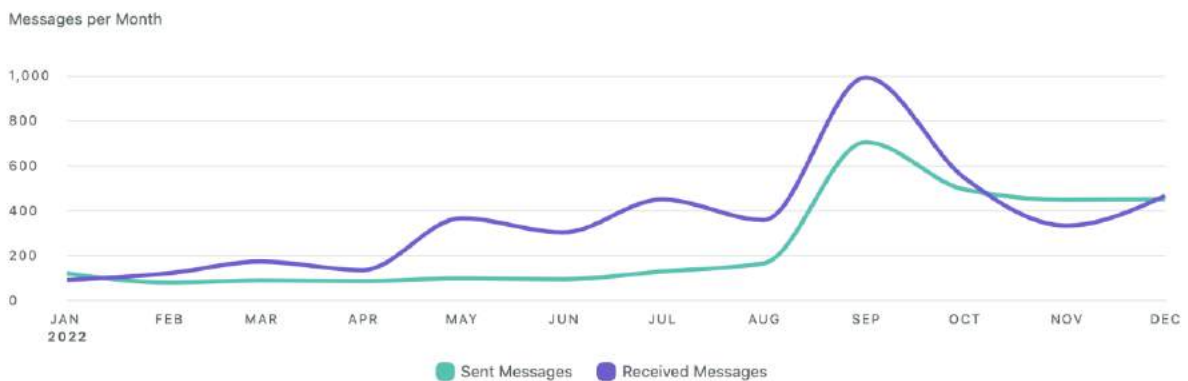
Throughout the year we built an audience of 5382+ fans/followers on all our active social media channels. The biggest audience was found on LinkedIn where we have 1,736 followers from which most were B2B. On Instagram we had the biggest B2C audience, and we also shared the most. On a daily base we created stories, posts and reels to update Leiden and surroundings about Leiden2022 and its activities such as Knowledge throughout the neighborhood. Also on Twitter and Facebook we we're active on a daily base sharing mainly activities and links.

In total we published 2296+ post that generated 1,541.480 impressions, we engaged with 43,786 people and we got 113,590+ video views in 2022. Here you can find a few charts:

| Profile | Audience | Net Audience Growth | Published Posts | Impressions | Engagements | Engagement Rate (per Impression) | Video Views |
|----------------------------|--------------|---------------------|-----------------|------------------|---------------|----------------------------------|----------------|
| Reporting Period | 5,382 | 1,441 | 2,296 | 1,541,480 | 43,786 | 2.8% | 113,590 |
| Jan 1, 2022 – Dec 31, 2022 | ↑ 1,836% | ↑ 326.3% | ↑ 1,127.8% | ↑ 471.9% | ↑ 342.6% | ↓ 22.6% | ↑ 4,819.4% |
| Compare to | 278 | 338 | 187 | 269,531 | 9,894 | 3.7% | 2,309 |
| Jan 1, 2021 – Dec 31, 2021 | | | | | | | |
| @leiden2022 | 1,499 | 35 | 538 | 565,369 | 9,944 | 1.8% | 18,570 |
| 2022leiden | 1,564 | 226 | 1,044 | 375,716 | 10,308 | 2.7% | 51,210 |
| Leiden 2022 | 583 | 187 | 615 | 454,500 | 13,304 | 2.9% | 36,055 |
| Leiden2022 | 1,736 | 993 | 99 | 145,895 | 10,230 | 7% | 7,755 |

Message Volume

Review the volume of sent and received messages across networks during the selected time period.





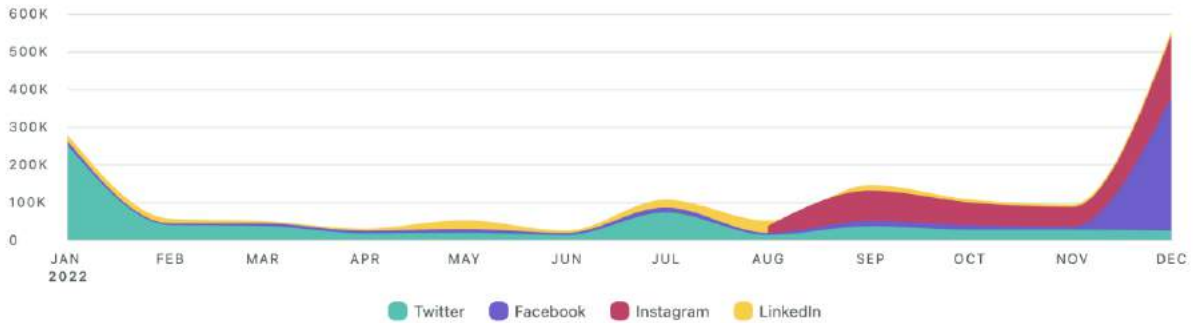
| Received Messages Metrics | Totals | % Change |
|--------------------------------|--------------|-------------------|
| Total Received Messages | 4,311 | ↗ 5,032.1% |
| Twitter Received Messages | 2,360 | ↗ 47,100% |
| Facebook Received Messages | 596 | ↗ 1,224.4% |
| Instagram Received Messages | 1,320 | ↗ 3,782.4% |
| LinkedIn Received Comments | 35 | ↗ — |

| Sent Messages Metrics | Totals | % Change |
|----------------------------|--------------|-------------------|
| Total Sent Messages | 2,934 | ↗ 1,444.2% |
| Twitter Sent Messages | 549 | ↗ 339.2% |
| Facebook Sent Messages | 629 | ↗ 2,319.2% |
| Instagram Sent Messages | 1,651 | ↗ 4,133.3% |
| LinkedIn Sent Messages | 105 | ↗ — |

Impressions

Review how your content was seen across networks during the reporting period.

Impressions, by Month



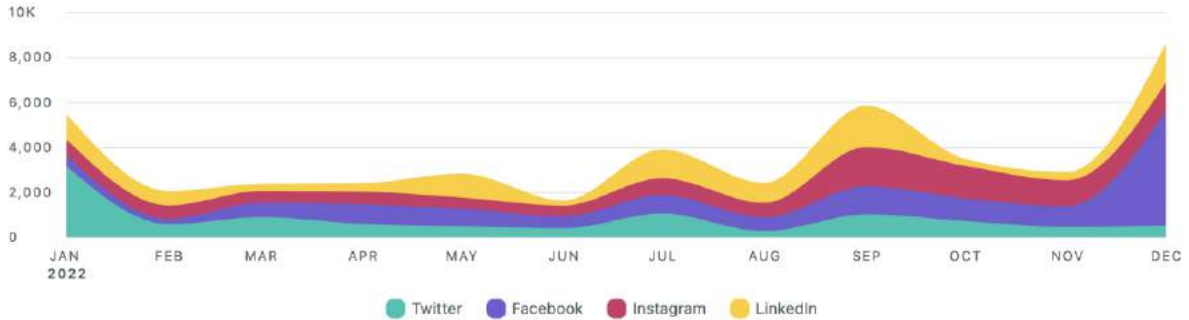
| Impression Metrics | Totals | % Change |
|--------------------------|------------------|-----------------|
| Total Impressions | 1,541,480 | ↗ 471.9% |
| Twitter Impressions | 565,369 | ↗ 135.2% |
| Facebook Impressions | 454,500 | ↗ 3,366.8% |
| Instagram Impressions | 375,716 | — |
| LinkedIn Impressions | 145,895 | ↗ 812.3% |



Engagement

See how people are engaging with your posts during the reporting period.

Engagements, by Month



| Engagement Metrics | Totals | % Change |
|--------------------------|---------------|-----------------|
| Total Engagements | 43,786 | ↗ 342.6% |
| Twitter Engagements | 9,944 | ↗ 37.3% |
| Facebook Engagements | 13,304 | ↗ 2,689.1% |
| Instagram Engagements | 10,308 | ↗ 1,381% |
| LinkedIn Engagements | 10,230 | ↗ 592.2% |

3.1.12. Best posts performance

| | | |
|-----------------------------|----------------------------|----------------------------|
| <p>Impressions: 116,153</p> | <p>Impressions: 24,687</p> | <p>Impressions: 20,220</p> |
|-----------------------------|----------------------------|----------------------------|



Leiden 2022
Fri 7/15/2022 12:43 pm CEST

Pssst! Wist jij al dat er morgen op 16 juli 2022 een AMA-sessie plaatsvindt met Ewine van Dishoek? De wereldberoemde astronome zal...



Total Engagements 234

Leiden 2022
Sun 5/15/2022 7:00 am CEST

#FAMILIE Je hoort wel eens dat bloed dikker is dan water, maar velen zien mensen die niet bloed-gerelateerd zijn als hun familie....



Total Engagements 207

Leiden 2022
Tue 9/20/2022 12:04 pm CEST

#Gaia is een rondreizend kunstwerk van de Brit Jerram. Het kunstwerk was eerder te zien in wene Rome, Parijs, Melbourne, Shanghai en Washington



Total Engagements 176

2022leiden
Tue 9/20/2022 7:18 am CEST

TRONREDE 🏰 Op de derde dinsdag van september leest de monarch de troonrede voor.* Het klinkt bijna als het begin van een sprookje,....



Reach 3,827

2022leiden
Thu 12/1/2022 9:11 am CET

KOM JE OOK?! 🎉 Leiden2022 Finale Festival. Wanneer? 22 december 2022 van 16:00 - 22:22 uur Waar? @stadsgehoorzaalleiden Tickets?...



Reach 3,099

2022leiden
Wed 10/19/2022 9:14 am CEST

Licht uit, sterren aan! 🌟🌌 Beleef deze bijzondere avond opnieuw. In het jaar dat Leiden European City of Science is, deed kunstenaar...



Reach 2,976

Leiden2022
Thu 12/22/2022 7:20 pm CET

Het Leiden2022 Finale Festival in de Stadsgehoorzaal Leiden in volle gang. De grote zaal is opgevuld met een aantal niet te missen...



Total Engagements 1,249

Leiden2022
Thu 9/15/2022 10:02 am CEST

Yesterday, the 33rd edition of the EU Contest for Young Scientists, EUCYS, was officially opened. We look back at a festive opening with...



Total Engagements 731

Leiden2022
Wed 9/21/2022 12:09 pm CEST

Derde Leidse Plekberaad – wonen in de toekomst Op 15 september bogen vijftig Leidenaren zich over de toekomstige generatie...

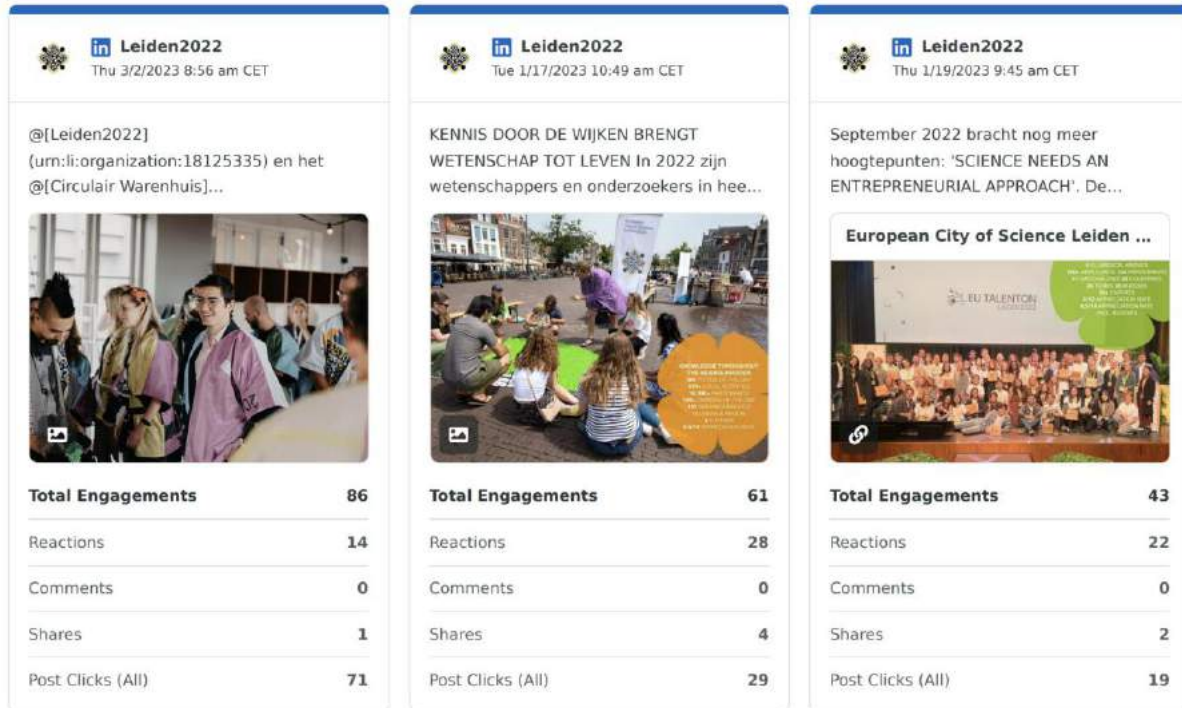


Total Engagements 505

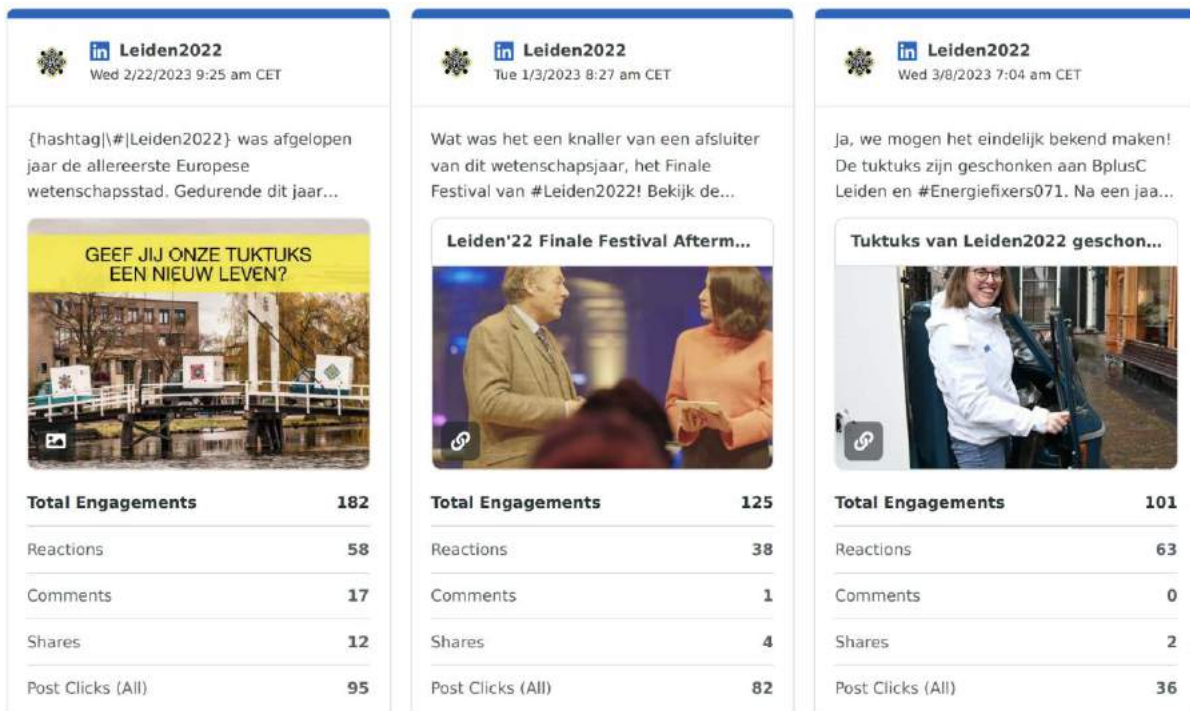


3.1.13. Leiden2022 in 2023

In a throwback campaign on social media in the first months of 2023, we shared results of the past year. We did this through photo, video, articles and stories. The goal was to let everyone know what and who we had reached the past year. We published 47+ posts spread over all our social channels, with which we generated 35,501 impressions, 3,012 video views and engaged with 1698+ people.



Via social media we donated our Tuktuks to give them a second life. Organizations interested in taking over the tuktuks could apply with a motivation. In assessing the applications, a number of pillars were important: the local aspect of the organization, sustainability, and the social aspect. We successfully shared this with our social network. In less than a week, we got 49 reactions of interested parties, among which social organisations, libraries, volunteer groups and civic initiatives.



We successfully turned the handover of the Tuktuks into local news.

In March 2023, we also planted 52 trees, together with the local organizations Bomenbond Rijnland and Zuid-Hollands Landschap. They selected 52 fruit trees in order to plant them in a public park next to a community garden. The Leiden2022 team was keen to offset the associated CO2 emissions by symbolically planting a tree for every week of the year: 52 of them. Through social media we shared the publicly planted trees, which also made it to local news.



A really nice surprise at the very end, was the fact that Leiden European City of Science 2022 won a national Gouden Giraffe Award for presenting the best science event of the Netherlands. It was presented to us on April 3, 2023 ([Home \(gouden-giraffe.nl\)](http://Home(gouden-giraffe.nl))), and we were especially pleased that the jury mentioned the innovative, truly interactive nature of the project.



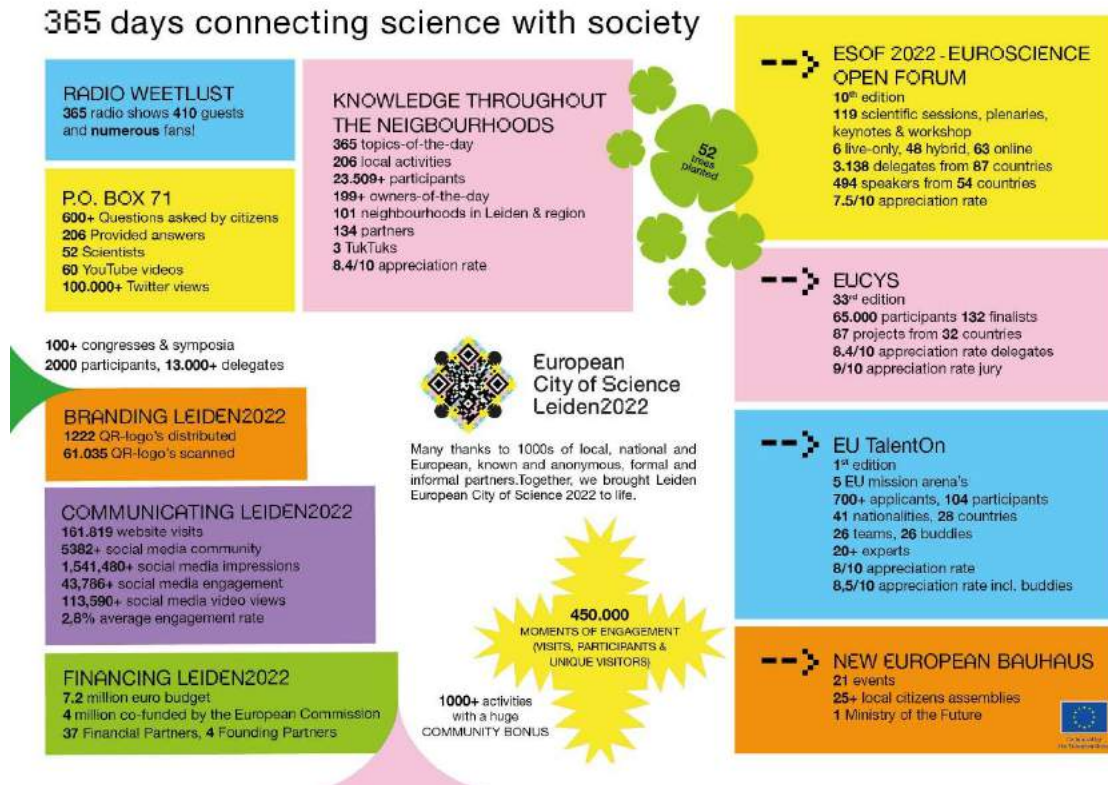
All in all...

- The organization behind Leiden2022 used social media and traditional media (radio, television, and newspapers) to increase awareness for Leiden European City of Science 2022.
- Leiden2022 used four social media platforms (Twitter, Facebook, Instagram, and LinkedIn) with a total of 5.382 followers for all platforms in 2022. More content has been shared by Leiden2022 since August 2022, which had a clear effect on the growth in views, followers, and engagement (especially around events) on the four social media platforms.
- In total there were 1.541.480 social media impressions of the Leiden2022 content. Most of these came from Twitter (565.369) and Facebook (454.500), followed by LinkedIn (145.895).
- Although LinkedIn had the least impressions of the four social media platforms, it has the highest engagement rate of 7%, versus an average engagement rate of 2,8%. This means that if a post on LinkedIn was viewed 1000 times, 70 of those views included some kind of engagement with the content.
- On the contrary, Instagram scores low regarding the engagement rate (2,7%). The difference in engagement rate is likely due to the type of content being shared and the type of platform it is being shared on. LinkedIn is a platform for professionals, which is an important target group for Leiden2022 content.
- Sharing more content with more regularity has led to an upward trend across all channels. Towards the end of the year there was more interaction between partners, other parties, participants, and us. This ultimately resulted in more awareness for Leiden2022.

Towards the end of the Year of Events our campaigns really started to pay off. If we could have invested more time and money in promotional campaigns and coordinated social media campaigns in the first six months of the year, we could have created a lot more overall online and media attention. The lesson here, is to invest at an earlier stage in scaling up communication.

3.1.14. 365 Days of Curiosity: Overall Results

In this final part of the Evaluation Report of the Year of Events, we will present the results, impact and future potential of the 1st extended version of the European City of Science. In the image below, you will find a visual overview of the results of Leiden2022.



We commissioned independent research agency CigarBox in Rotterdam to assess and review these pathways towards impact and strategic goals. A selection of the results is to be found below. The full Cigar Box Impact Report can be found in [Appendix 6](#).

Fact sheets of separate projects are added to the Evaluation Reports of ESOF2022, EUCYS2022, and EU TalentOn. The fact sheet concerning the *local citizens assemblies* of the Ministry of the Future (New European Bauhaus Leiden) are to be found in [Appendix 7](#). The fact sheet concerning the European Science in the City Festival are to be found in [Appendix 8](#).

3.2. Summary of Leiden2022's origin, structure, strategic goals and pathways

Initiated by the Founding Partners (Leiden municipality, Leiden University, Leiden University of Applied Sciences and Leiden University Medical Centre), supported by EuroScience and the European Commission, Leiden2022 adopted a new approach for the 2022 edition of European City of Science.

The 2022 edition set out to connect the dots between multiple scientific events, like for example EUCYS and EU TalentOn, building on the flagship tradition of the EuroScience Open Forum (ESOF) event. The new approach included a pilot of a full year of public scientific programming, while experimenting with new models for public engagement, in order to allow the citizens of Leiden and its region to engage with the scientific community and to break down the barriers between community and academia. This resulted in a 365-day science festival, brimming with activities, workshops, excursions, exhibitions, and major scientific events, designed for anyone with a curious mind.

The programme consisted of six components:

1. The 10th edition of the EuroScience Open Forum (ESOF2022)
2. The 33rd edition of the European Union Contest for Young Scientists (EUCYS)
3. The inaugural edition of EU TalentOn

4. The European Science in the City Festival
5. The Knowledge throughout the Neighbourhoods project
6. And a year-round calendar of tangential activities, called the Year of Events, which includes the New European Bauhaus programme and the unexpected Community Bonus.

3.2.1. EuroScience and The European City of Science label

Leiden had been awarded the title European City of Science by EuroScience. The European City of Science (ECS) label intends to celebrate the richness and diversity of the European scientific landscape. It enhances the European and international profile of the scientific community in a particular city or region, increases engagement of citizens with the scientific community locally, triggers public investments in regional scientific infrastructures and boosts tourism. Moreover, it aims to foster mutual learning, scientific integration, interest for science among younger generations and the development of a borderless European research community across the continent.

3.2.2. Pathways towards impact

Prior to our year, four pathways towards impact were set out by the European Commission:

1. Bringing science and society closer together.
2. Fostering innovation and development of new research agendas by stimulating scientific exchange.
3. Creating an 'established' and sustainable label for European City of Science.
4. Establishing Leiden as a City of Knowledge.

Leiden City of Science 2022 has been integrated in the European Research Area Policy Agenda 2022-2024, as Action 14: Bringing Science Closer to Citizens. The aim was to develop foster sustainable relationships between science and society and develop a generic and sustainable model for the European City of Science title, in line with the topic of 'Widening participation and strengthening the European Research Area'. As it is the first time that the European City of Science and EuroScience Open Forum are organised in a new way, the objective, programme and results of Leiden2022 are considered crucial to potential further developments. Considering the extended scope of Leiden2022 compared to previous ECS-editions, much bigger impact is to be expected.

3.2.3. Strategic Goals Founding Partners

Starting the project in 2020, director Meta Knol challenged the Founding Partners (Leiden Municipality, Leiden University, Leiden University of Applied Sciences, Leiden University Medical Centre) to define their strategic goals. This resulted in seven general goals that were approved by the Supervisory Board. These are complementary to the four pathways mentioned above.

1. Allow citizens of Leiden and surrounding municipalities to experience the benefits of science, art, and knowledge as a frontrunner and European example.
2. Showing the "richness" and diversity of the European scientific community.
3. Creating long term sustainable local, regional, national, European, and international collaborations.
4. Profiling Leiden as an international city of knowledge as a whole and promoting her individual scientific institutions separately on a regional, national, and international level.
5. Fostering new talent and increasing the appeal of Leiden for students and researchers.
6. Leiden2022 will be organized in line with the Sustainable Development Goals and is determined to set an example for how such an event can be organized in a sustainable manner.
7. Promoting an inclusive platform: science for and by everyone.

3.3. The audience in numbers

The goal was to have more than 500.000 visitors taking part in the Leiden2022 activities.

During the year, Leiden European City of Science 2022 tallied between 400,000 and 500,000 engagements (visits, participants, or unique visitors) with guests – both local and visiting. This number

is based on the Leiden2022 and community programming, museum visits, as well as a net-increase due to European City of Science awareness and/or programming.

As we began the year during the last Covid-lockdown, as a result of which we could not plan any live activities, we are really pleased with this result. A remarkable fact is that museum visits actually increased in Leiden, as opposed to national tendencies.

| Component | Scope |
|---|---|
| EuroScience Open Forum (ESOF) | 3.138 unique participants |
| European Union Contest for Young Scientists (EUCYS) | 132 unique on-site competitors out of 65.000 participants |
| EU TalentOn | 104 unique on-site competitors, 700+ participants overall |
| European Science in the City Festival (ESCF) | Approximately 95.000 visits |
| Knowledge throughout the Neighbourhoods | Approximately 10.000+ visits |
| Year of Events and Community Bonus | 175.000 – 225.000 visits, based on 87 reported events |
| The New European Bauhaus Leiden | 100 unique participants |
| Leiden museums (14, including science and crafts) | Approximately 100.000 – 150.000 related to Leiden2022 |

3.4. Economic impact: Leiden region

Based on established model, CigarBox made an estimate of the economic spin off of the European City of Science year for the city. Events, conferences, and visitors contributed to an economic impact for the Leiden region of between €20 and 26 million as a result of Leiden2022.

| <i>Contribution</i> | <i>Low end</i> | <i>High end</i> |
|---|----------------|-----------------|
| <i>Conference visitor expenditure</i> | €7 M | €9 M |
| <i>Expenditure by visitors to public events</i> | €12 M | €16 M |
| <i>Leiden2022 expenditure</i> | €7 M | €7 M |
| <i>Estimated range, total</i> | €20 M | €26 M |

3.5. Four pathways towards impact

Based on our experiences throughout the year, as well as the Impact Report of independent research agency CigarBox, an evaluation and assessment of the four pathways towards impact is given below.

3.5.1. Bringing science and society closer together

Leiden2022 was not about science and society, but about science *with* society. A substantive part of the European City of Science 2022 programme was focused on including citizens, enhancing dialogue, exchange on science and its role in society. As a team, we have been working on a value-based foundation of openness, respect, inclusivity, and equality. Continuously, we have been seeking interaction and dialogue between scientists and citizens. We also stimulated a free flow of creativity and playfulness, which turned out to spark curiosity and imagination on both ends. Citizens, scientists and other stakeholders were encouraged to share their questions and thoughts regarding science throughout our activities, inspired by the 365 Topics-of-the-Day and the tear-off calendar. Especially with the Knowledge throughout Neighbourhoods program, we facilitated multiple personal meetings between scientists and citizens. With this approach, Leiden2022 provided a unique and innovative method for fostering sustainable interactions between science and citizens.

Community Bonus

One of the unexpected outcomes of Leiden2022's public engagement set-up, was the large amount of spontaneous local and regional initiatives that sprung from society at large. We could not have dreamt how many local, bottom-up initiatives and science-related activities were initiated spontaneously. Many of them were inspired by the 365 Topics-of-the-Day and the tear-off calendar. Especially the local community really wanted to participate, and it turned out they felt welcomed by our open program structure.

Because we had 9,999 unique QR logos available, we could also let them make use of the European City of Science brand. For example, The Pronck brewery in Leiden introduced a specially-brewed beer, Sip of Science, with a series of unique labels — all in the style of the Leiden2022 QR logo.

Large, previously existing public events also decided to recognise and celebrate the year of science. That's why thousands of participants in the Leiden Marathon each received a beautiful science medal, and the huge annual celebration of the Siege and Relief of Leiden was completely dedicated to the overall theme of Leiden2022, Who Knows, translated to "Echt Waar?!" in Dutch. During the traditional Grand Parade, there was a procession of children wearing Pinocchio noses to refer to fake news.



Another captivating example is the *Wijscokar* (Wisecream Truck), a converted bright pink ice cream van used by Emeritus professor of Science Communication Jos van den Broek and theatre director Danny Molenaar. The two cycled past primary schools and through Leiden neighbourhoods to develop a fun way to talk with children about science subjects, by means of playful, 'doubtful' research.

By not gatekeeping and instead letting everyone participate, target groups were reached that the Leiden2022 organisation itself did not foresee. For example, the theatre group Domino – which largely consists of actors with disabilities – developed a year-long six-part television program titled Nieuw Licht. With this program, they played directly into the daily topics of Leiden2022 and performed some remarkably different scientific research.

So many things happened - our team lacked the necessary eyes and ears to oversee them all. But getting all these gifts from society, gave us proof of the power of the community-building. It showed that our strategy to stimulate interactions based on true exchange and curiosity really worked, and it had led to multiple new initiatives. Science and society were truly connected. The most important lesson for us, as organizers? Let go of control. Choose trust. Let the messy stuff win!



Open-ended experiments

However, we also encountered difficulties. Our experiments with co-creation and participation methods were not always endorsed. For example, among the Supervisory Board of Leiden2022, Deans of the university and Senior Management levels, the very nature of the co-creation process was not really understood. For example, our supervisors would request detailed lists of all activities and involved scientists, even before the year began, requiring a clear view on controllable output. Obviously, we could not deliver such overviews in advance. They also expressed concerns that our activities would lack scientific quality, especially since our team did not consist of esteemed scientists. In general, our supervisors were risk-averse and resistant of open-ended experiments. At the same time, on a positive note, throughout the year we have met countless individual scientists who, at all levels, were very keen to share their knowledge with society. To us, it is clear that while universities in general do develop more interest in public engagement, science communication, citizen science projects, open science, and science education, there's still a long way to go. The pathway towards real implementation of public engagement policies within universities will require sustained processes of improvement and renewal.

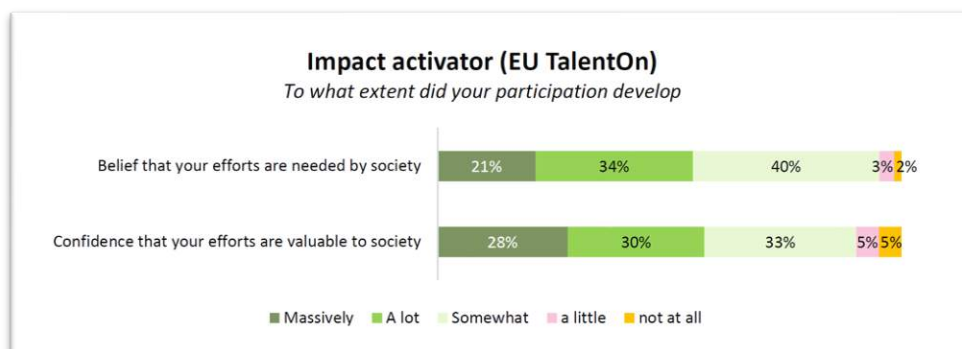
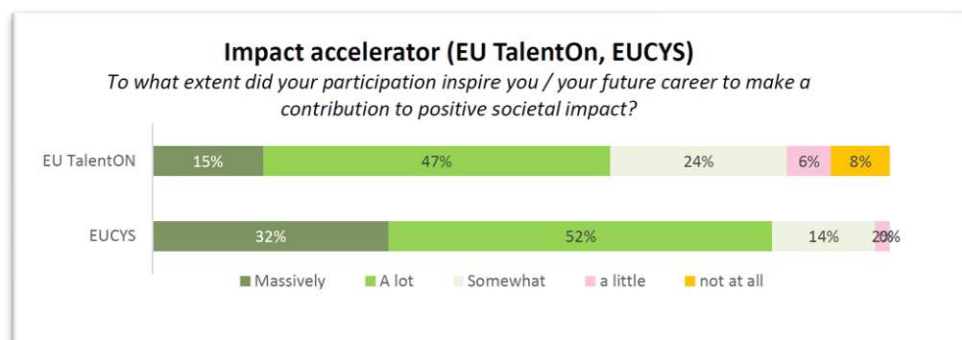
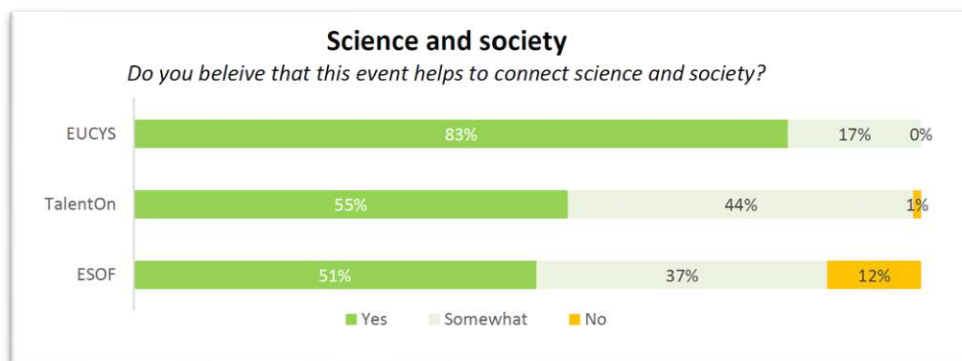
CigarBox Impact Report

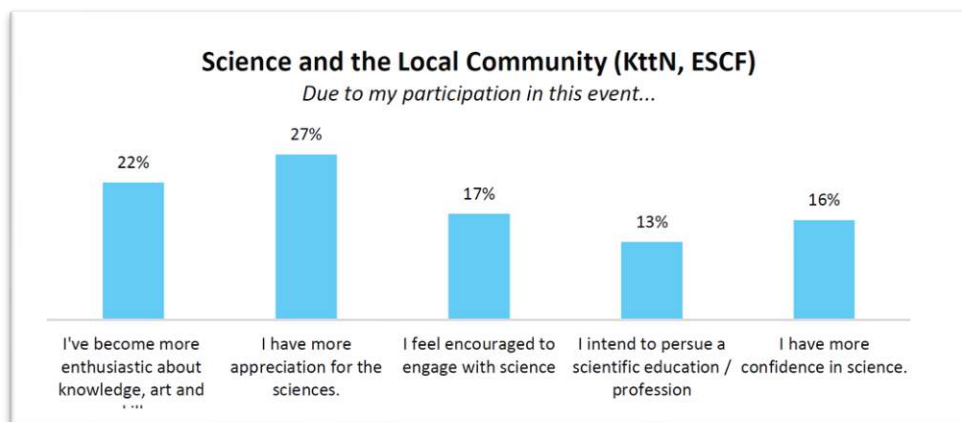
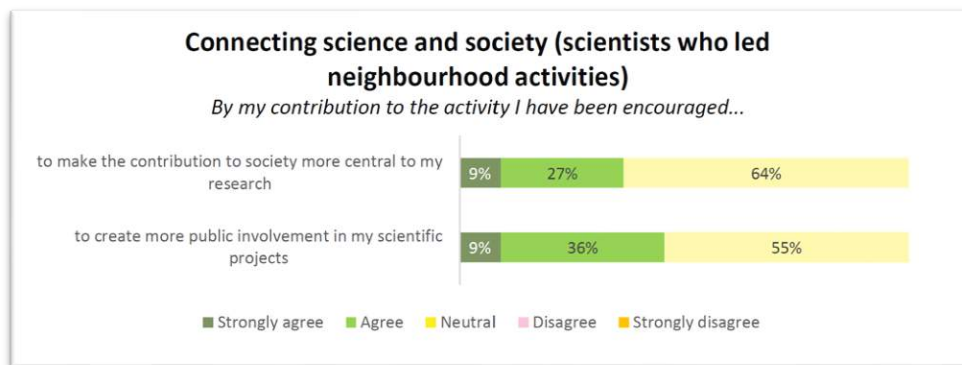
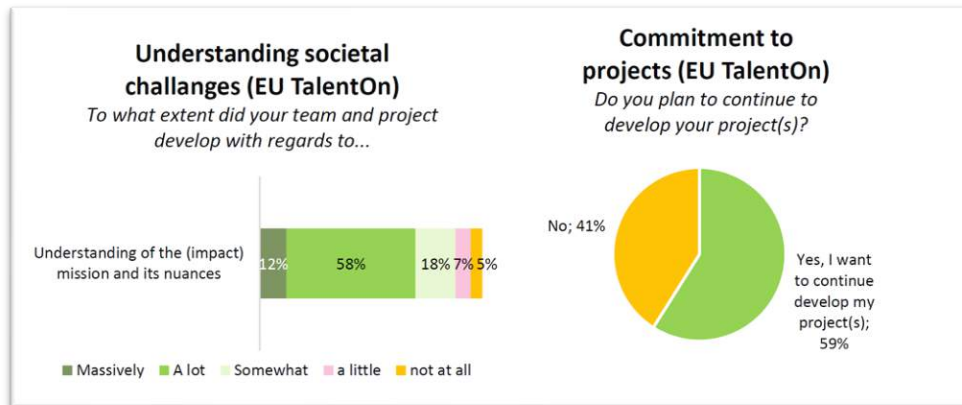
In their Impact Report, CigarBox assessed the scientists' perspective in addressing societal challenges, as well as the flipside; bringing individual members of society in closer contact with science:

- Participants in ESOF2022, and especially the younger scientists represented in EUCYS2022, and EU TalentOn, share the perception that their event helps connect science and society. EU TalentOn and EUCYS participants reported they were inspired to contribute to positive societal impact. Of EU TalentOn participants, 86% reported a deeper understanding of their EU-mission after participating, and nearly 60% planned to continue working on their project. In the case of EU TalentOn, there was also a shift in feelings of personal ability and responsibility

toward society: 58% of the participants felt their participation ‘massively’ or ‘a lot’ increased confidence that their efforts are valuable to society.

- Scientists who participated in neighbourhood activities experienced a moderate positive shift in their thinking about interactions with society. More than one-third of them (45%) were encouraged to create more public involvement in scientific projects and 36% aimed to make contributions to society more central in their research, as a result of their participation.
- Participants of the Knowledge throughout the Neighbourhoods project gave some very positive feedback, with an overall score of 8.5 out of 10. They found the programme approachable, easy to understand (68%), playful, appealing (94%), and 79% walked away feeling inspired. Their engagement appears to have also translated into positive outcomes, such as a higher level of appreciation for the sciences (27%), them feeling encouraged to engage with the sciences (17%) and a higher general level of confidence in science (16%). It is worth mentioning that 55% of Knowledge throughout the Neighbourhoods participants who were (re-)connecting with science after at least five years reported an increased confidence in science. We may conclude the Leiden2022 Model for Public Engagement worked really well. As the Cigar Box report states: ‘Leiden2022’s model of public programming resulted in personal interactions between the local public and its knowledge institutions and scientists. Elements of ‘meeting people where they are (in the neighbourhood)’, eschewing traditional scientific spaces, and encouraging playful formats and co-creation with local stakeholders can be seen as best practices for further development.’





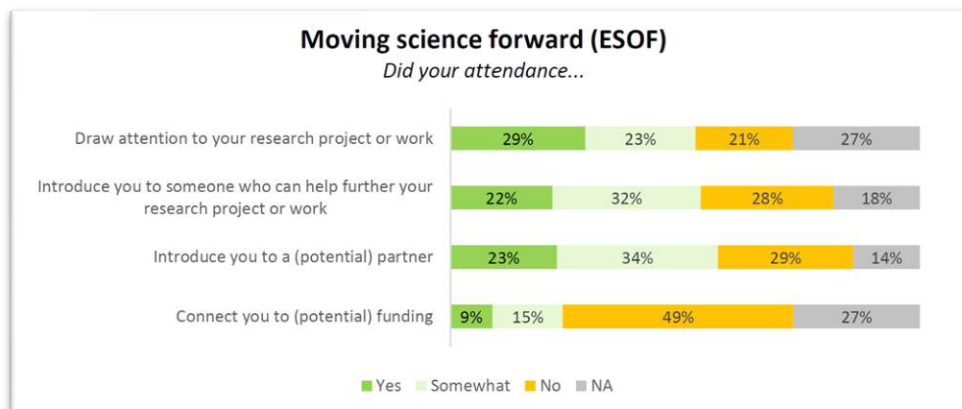
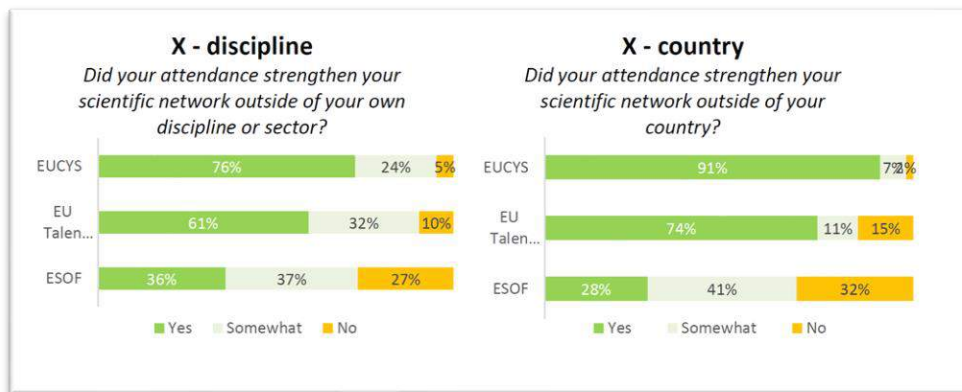
3.5.2. Fostering innovation and development of new research agendas by stimulating scientific exchange.

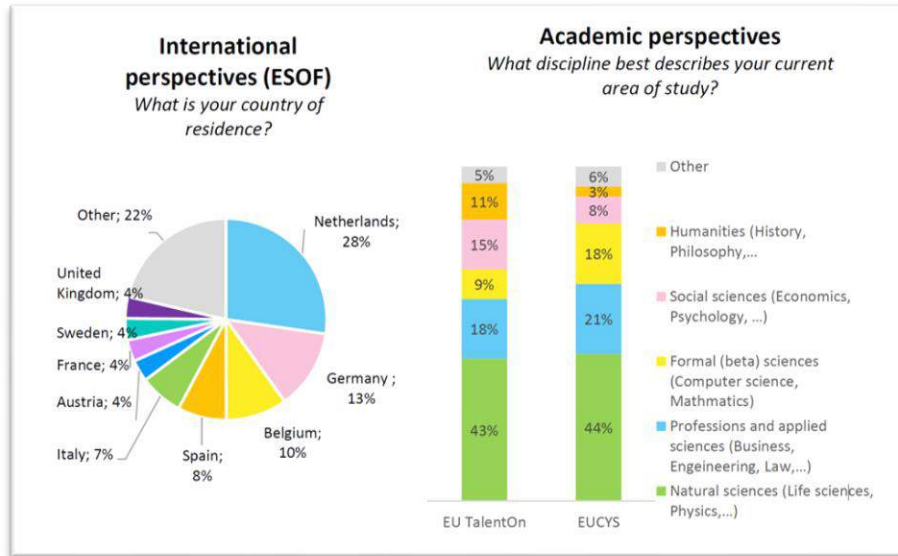
By reaching out to European research and innovation community, Leiden2022 aimed to be a source of inspiration for scientific discovery and innovation. Through knowledge exchange, conferences and multi-disciplinary debates, we have focused on research topics, new discoveries, publications, and innovations. Apart from large projects like ESOF2022, EUCYS and EU TalentON that were focused on scientific exchange and networking, and that were produced in close collaboration with the European Commission and EuroScience, throughout the year multiple other interesting scientific events and exchanges took place. Leiden2022 truly served as a magnet.

CigarBox Impact Report

The CigarBox Impact Report assessed the pathway to fostering innovation and development of new research agendas by stimulating scientific exchange as follows:

- EuroScience Open Forum (ESOF), excluding the naturally high representation from the host country of the Netherlands, saw a diverse representation from western, northern, and southern Europe. However, representation from eastern Europe was shallow. EU TalentOn and European Union Contest for Young Scientists (EUCYS) attracted distributed backgrounds and disciplines, with the natural sciences in the majority.
- Participating scientists made connections to collaborate across borders and disciplines. The youngest participants (EUCYS) experienced extremely positive increases in their networks; ESOF the least. Despite having the lowest result, ESOF attendees were very positive (73% confirmed increased networks geographically; 69% confirmed increased network across disciplines). In addition to the connections established above, EUCYS participants were also inspired collaborate internationally (91%) and combine science from other fields (76%). Of ESOF participants, 52% drew attention to their research project or work, gained a needed support contact (54%), a potential partner (57%) or connections to (potential) funding (24%). Of ESOF participants, 89% reported that the event both inspired new thinking about the societal impact of their work, and 92% that it opened their eyes to new scientific insight.
- All in all, Leiden2022 brought together European scientists with different perspectives (as indicated by age, gender, nationality, and discipline diversity). Via their participation in ESOF, EUCYS and EU TalentOn, these scientific participants opened their eyes to new insight, and made connections with peers in different countries and disciplines. In facilitating these connections, Leiden2022 laid the groundwork for future collaboration. Whether this comes to fruition in the form of new research agendas, discoveries, publications, and innovation is unclear due to a much longer horizon and indirect progression toward these outcomes.
- The networking results were more pronounced among EUYCS and EU TalentOn participants. These are small groups altogether, but they consist of very motivated and talented young scientists who could be expected to develop into decision-makers and influencers. Connections made at European City of Science could have outsized influence in future.





3.5.3. Creating an established and sustainable label for European City of Science

The European Union has a long set tradition of established labels, such as the Cultural Capitals, the Innovation Capitals, and the Youth Capitals. By extending the programme of European City of Science to a full year of activities, Leiden aimed to be a pioneer a new European tradition. The objective was to become the first European city to establish a future-proof concept, ultimately leading to multiple full-year European Cities of Science to be held after this 1st Leiden edition.



During the Closing Ceremony of ESOF2022, the Polish city of Katowice was appointed by EuroScience to become European City of Science in 2024. They will also present a yearlong program, aimed at connecting science with society. Furthermore, the Leiden2022 team successfully presented outcomes and results at the European Research Area Forum on February 17, 2022, an online event which was attended by 95+ representatives of the 27 EU members states. We might say: mission accomplished. However, formal decisions still need to be made.

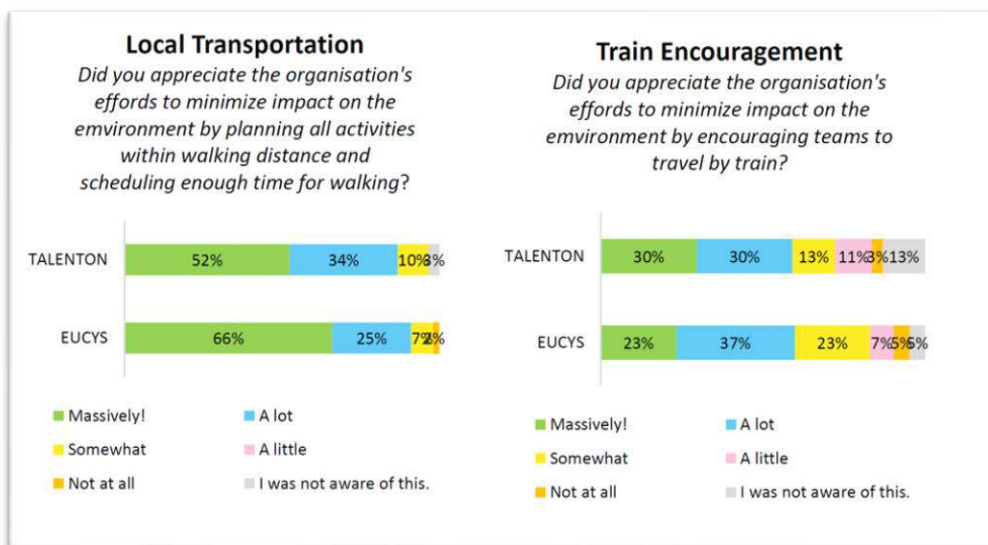
Invited by ERA-director Lia Karamali, we produced a Position Paper to sustain the case for this new European tradition. It can be found in [Appendix 9](#).

Sustainability Challenge

Because 'sustainable' should also be explained in terms of green measures, we wanted to make sure that we could pave the way towards a more sustainable event organization. Therefore, we embraced the 17 Sustainable Development Goals (SDGs) and the European Green Deal 2050. We also took the

chance to become a partner of the New European Bauhaus. In doing so, we aimed to build bridges between science, culture, and society, aimed at building a more sustainable, inclusive and beautiful future. Sustainability was always top of mind throughout our programs and activities.

Inspired by the student research project of the 1st LDE Sustainability Challenge that we commissioned, we set out 10 Golden Rules in order to lower the level of carbon emissions of our Year of Events. For example, for the first time, ESOF was offered as a hybrid event, allowing for scaling and extension of reach without an equivalent increase in emissions. All our organizers and team members stimulated responsible consumption and production, which resulted in operational decisions such as digital programs, recycling measurements, sustainable local transportation plans (walk!), vegetarian catering and stimulating guests to travel by train. Although we were not able to capture reductions in emissions explicitly, we believe we have set an example, and definitely raised awareness among participants. The final report and Guide for Sustainable Event Organization that has been produced by the LDE Sustainability Challenge students, have been shared with our partners and stakeholders.



New European Bauhaus

We were really inspired to become a partner of the New European Bauhaus. At the local Stadsbauhaus, throughout the year, we presented a creative and interdisciplinary program at the crossroads of culture, science, and society, focused on social design and future ways of living. As Leiden municipality is already very keen on becoming as ‘green’ as possible, and they also applied for the Cities Mission, we discovered that the New European Bauhaus did not really resonate among our Founding Partners. Unfortunately, this is also due to a general lack of interest in cultural experiments.

However, through our social design efforts, we were able to co-create a new national movement, called the Ministry of the Future. It unites a range of future-oriented citizens and organizations such as the Turn Club, the Arcadia festival, the Future Generations Lab, the Embassy of the North Sea, and the Citizens Assembly Bureau (Bureau Burgerberaad). Also, we joint forces with the Atelier Rijksbouwmeester (Board of Government Advisors), with whom we organized the very first networking event for NEB-related initiatives in The Netherlands: ‘Connecting the dots’, on May 25, 2022 at the Stadsbauhaus. The Ministry of the Future turned out to be highly successful, with over 200 members across the country, who organized over 30 local citizens assemblies. Five of those took place in Leiden European City of Science 2022. We have nominated the Ministry of the Future for the 2023 edition of the New European Bauhaus-prizes and the Overhoop Prize, and are still awaiting their announcements (fingers crossed). For a summary of the Leiden New European Bauhaus project, see [Appendix 2](#). For the Fact Sheet of CigarBox on the local citizens assemblies, see [Appendix 7](#).



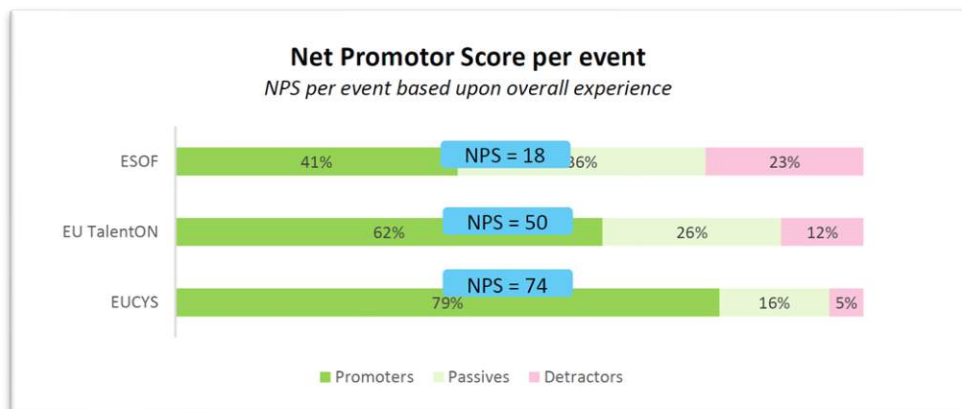
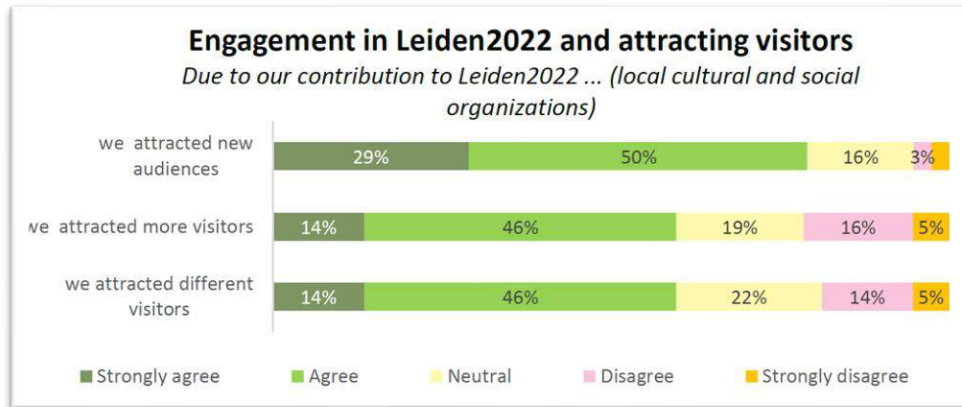
CigarBox Impact Report

The CigarBox Impact Report assessed the pathway to create an 'established' and sustainable label for European City of Science label as follows:

- The intention to extend the programme of European City of Science to a year of activities and become a model for future editions appears to have 'extended the season' for the European City of Science. This extension benefited participating institutions in the form of new, different, and more customer engagement and resulted in positive economic results for the region, to the tune of €20+ million, as outlined in the Economic Impact section of this report. By these measures, the Leiden2022 model of year-round programming appears to offer a best practice for an 'established' European City of Science model.
- As for awareness and engagement of local community, there are indications that the Leiden community already had an appreciation for the European City of Science label in the early phases of planning. In advance of the festival's launch, already 39% of Leiden's residents were aware of Leiden's title as upcoming European City of Science host. Of all residents, 84% expressed an interest or intention to participate.
- As for the effect on engagement from association with European City of Science, the interest of local institutions appears to have paid off. Theatres, museums, businesses, scientific institutions, and other organizations not officially affiliated with Leiden2022 reported attracting new (79%), larger (60%) and different (60%) audiences.
- As for visitor/customer engagement with European City of Science components: some received very positive Net Promoter Scores (NPS), a model that is often used as an indicator for growth, customer engagement, and loyalty. Very high scores for EU TalentOn (50) and EUCYS (74) surpassed an industry-agnostic benchmark of 40 for a very positive result. This

indicates that European City of Science has an existing, though latent, network of advocates, if the connection can be made between these specific events and the overarching label.

- Leiden2022's efforts to integrate the Sustainable Development Goals (SDGs) in planning and operations, and build awareness by communicating these efforts, have been acknowledged. Though it may not move the needle directly, and while exact decrease of carbon emissions cannot be measured, CigarBox concludes it provides a foundation upon which future hosts can build.



3.5.4. Establishing Leiden as a City of Knowledge

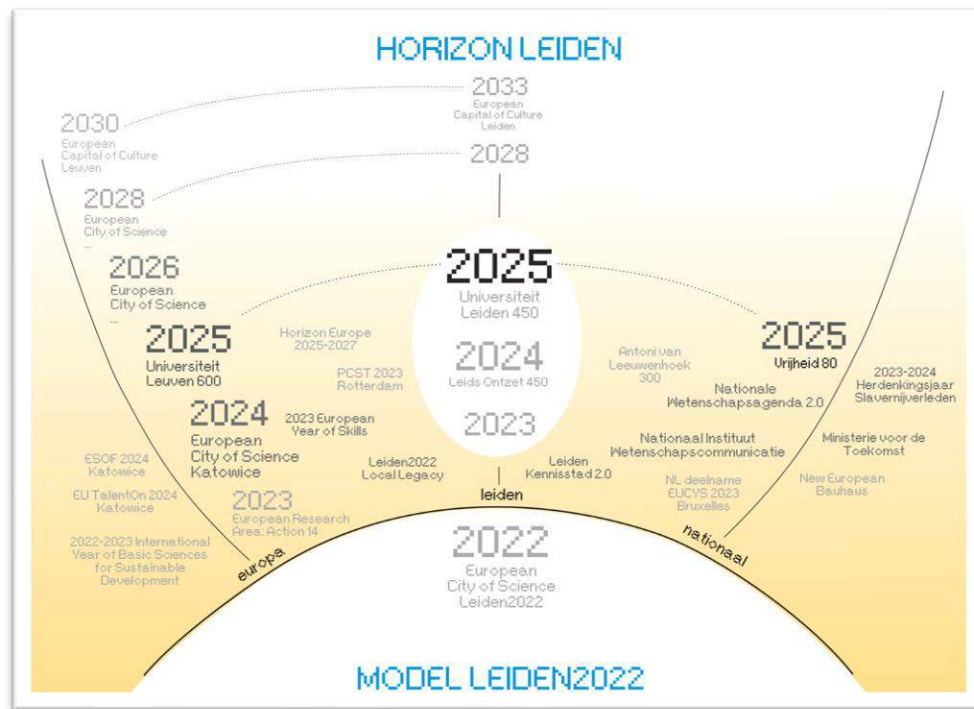
Regarding long term impact and results, the European City of Science 2022 aimed to further strengthen sustainable collaborations between knowledge institutions and the municipality of Leiden. As a universal City of Knowledge, Leiden residents should endorse the great value of science in general, perceiving it as a place where everyone can experience and learn, without barriers in age, background or knowledge level. By pioneering new collaborations and reinforcing existing relations between the Leiden knowledge institutions, Leiden2022 was aiming at creating a long-term impact. Our ideal is a city where science alongside citizens is regarded as a standard pathway for everyone, through open and shared processes of lifelong learning. This strongly motivated us to experiment with new ways of public engagement, throughout the year.

Short terms, long horizons?

Of course we hope that the knowledge generated by Leiden2022, about how to organise knowledge sharing strategies for everyone in society, can be used for long term chances and opportunities. However, we also see that our role has been relatively modest. The fact that the Leiden European City of Science 2022 was organized as a onetime event by the Leiden2022 foundation, which is going to be dissolved after the year, put substantial focus on the temporality of the project. Meanwhile, our Founding Partners are already and steadily collaborating on multiple levels, such as the successful

programs of Leiden Kennisstad (Leiden City of Knowledge), *Leren met de Stad* (Learning with the City) and, more recently the newly established Healthy Society Centre.

We presented a Legacy Plan to the Founding Partners, containing possible local, national and European outlooks (see image below). Currently, they are still reluctant to really adopt the legacy of Leiden2022. Of course we do hope our legacy will, in any way, come to fruition in the upcoming years. But really, it is too early to say whether Leiden2022 sparked long-term results.



City of Science

On a more positive note, the Leiden & Partners networking organization (including the Leiden Convention Bureau and Leiden International Centre), with which we have collaborated successfully in the past year, already set their strategic agenda to further strengthen Leiden's national and international position and outreach. Interestingly enough, whereas they had so far positioned Leiden as a City of Knowledge (on local and national scales) and as a City of Discoveries (for the sake of tourism), the Leiden2022 project steered them towards a more unified and self-confident manifestation of Leiden as an esteemed, international City of Science. Having experienced that the number of scientific conferences doubled as a result of Leiden2022, they are now actively creating a legacy in order to keep on attracting scientific conferences, engaging scientific talents to pursue their careers in Leiden, and drawing international tourists interested in Leiden's scientific and cultural history.

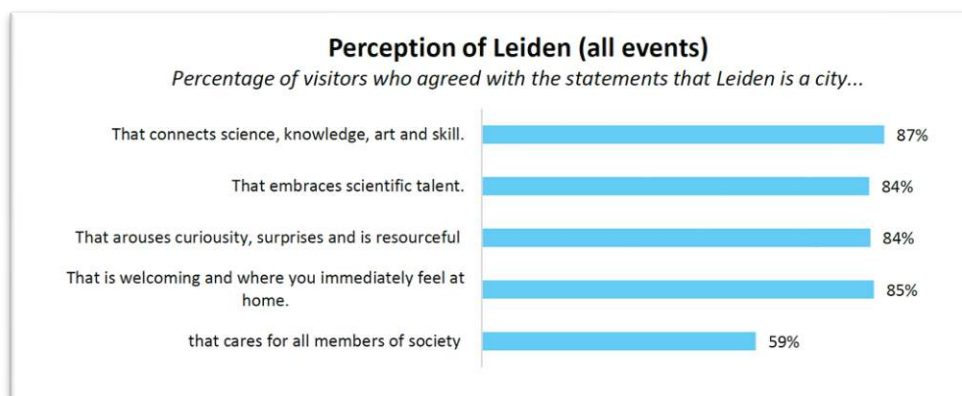
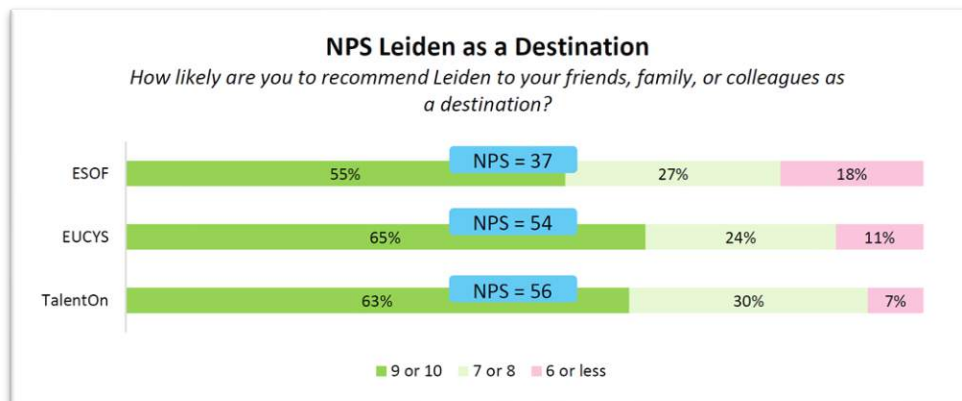
CigarBox Impact Report

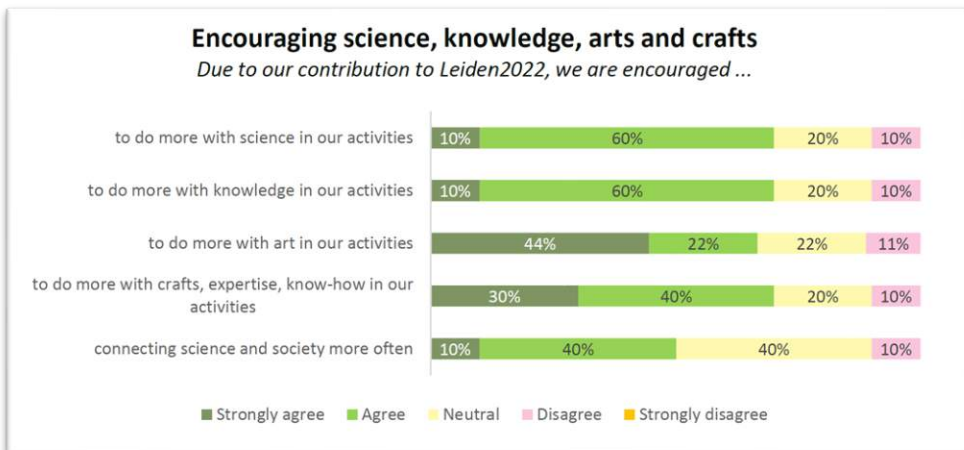
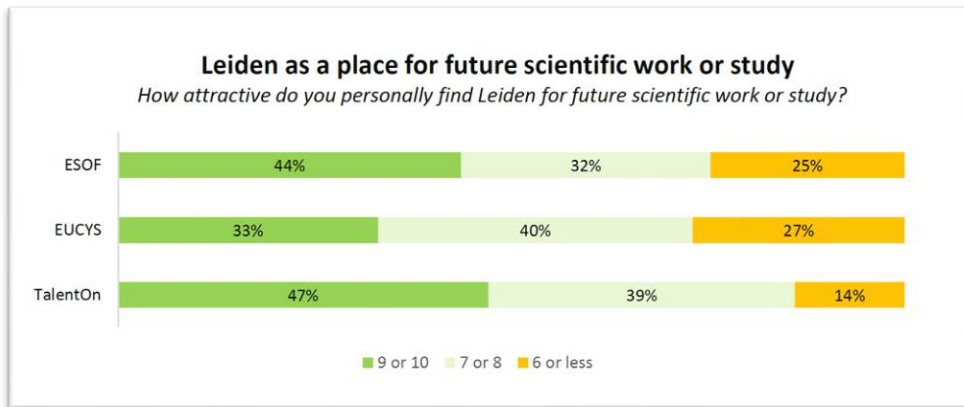
The CigarBox Impact Report assessed the pathway to establish Leiden as a City of Knowledge as follows:

- During the year, Leiden European City of Science 2022 tallied between 400,000 and 500,000 engagements (visits, participants, or unique visitors) with guests – both local and visiting.
- Many of the scientific/professional visitors were visiting Leiden for the first time. In the case of European Union Contest for Young Scientists (EUCYS), that number was 98%. Attendees of these events had very high Net Promotor Scores (NPS) for Leiden, indicating that they are likely to recommend Leiden to their friends, family, or colleagues as a destination.
- Attendees of each of the events reported similar perceptions of Leiden, in line with the host's aspirations to be seen as a city that connects science, knowledge, art and skill (87%), embraces scientific talent (84%), arouses curiosity, surprises and is resourceful (84%), and is

welcoming (85%). The lowest scoring brand perception for Leiden was the statement that Leiden is a city that cares for all members of society (59%).

- Of participating local businesses, museums, theatres, community centres and other local organizations 75% feel more connected to Leiden as a city of knowledge than to Leiden as a city of culture (57%).
- As for Leiden’s potential for attracting scientific talent, both the relatively senior audience of ESOF professionals and researchers (44%) and younger researchers (EU TalentOn 47%, EUCYS 33%) find Leiden very attractive (9 or 10 out of 10) for future scientific work or study. These attendees can be considered ambassadors for Leiden as a city of knowledge.
- As for the engagement of local stakeholders, 63% organized more activities in 2022 than usual and 89% worked with new partners. The involved organizations expressed a broad interest in future opportunities to do more with science (70%), knowledge (70%), arts (66%) and crafts (70%). The expressed interest to do more with other disciplines endorses the playful and inclusive approach Leiden2022 followed.
- All in all, Leiden2022 led to stronger connections between the municipality and local knowledge institutions, as well as *between* these knowledge institutions. Programming clearly supported “science alongside citizens,” as evidenced by thousands of touchpoints between citizens and scientists that came about through Leiden2022’s public programming. For example, with the project Knowledge throughout the Neighbourhoods science was accessible to the public where they are, and in playful and interactive ways rather than in traditional, top-down formats. Both locals and visitors had positive impressions of Leiden in the context of knowledge. Externally, also, Leiden’s reputation as a City of Knowledge developed due to its role as host for European City of Science. Many scientific guests were experiencing Leiden for the first time and left likely to recommend Leiden as a destination or even for future scientific work or study.





3.6. Strategic goals

Based on our experiences throughout the year, as well as the Impact Report of independent research agency CigarBox, a brief evaluation and assessment of the six strategic goals is given below. These comments are complementary to the evaluation of the four pathways towards impact in the previous chapter.

1. *Allow citizens of Leiden and surrounding municipalities to experience the benefits of science, art, and knowledge as a frontrunner and European example.*

Leiden2022 made a huge effort to engage with the non-scientific community. Both Knowledge throughout the Neighbourhoods, the European Science in the City Festival, the New European Bauhaus project, the Final Festival and the Year of Events were intended for citizens of Leiden and the surrounding area and designed to make programming accessible for this audience. Every day of the year brought radioshows and activities, fostering co-creation with citizens and a wide variety of local institutions. On their turn, local society rewarded our efforts with a fantastic Community Bonus. The overall responses were very positive.

Both the pilot of a yearlong European science festival and the Leiden2022 Model for Public Engagement are already being regarded as a best practice on European levels. Leiden2022 has been a frontrunner and European example.

2. *Showing the richness and diversity of the European scientific community.*

With the organisation of ESOF2022 as Europe's largest biannual, interdisciplinary science conference, the European research and innovation community got the opportunity to exchange knowledge and engage in multidisciplinary debates. Although we believe to have provided, with ESOF2022, EUCYS2022 and EU TalentOn, a podium to show the richness and diversity of the European scientific community, this cannot be assessed on the basis of factual information. However, we assume these exchanges influenced the emergence of research topics, stimulated new discoveries and led to possible scientific publications and innovations. Participating scientists appeared to be a diverse European group, and there was a rich program of diverse topics displayed across hundreds of scientific conferences, symposia, workshops and other events throughout the year.

3. *Creating long term sustainable local, regional, national, European, and international collaborations.*

The aim of the Founding Partners was to continue at least 10 projects that had started in the context of Leiden22, in 2023 and beyond. This target will easily be met, as quite a few of these projects and partnerships are demonstrably sustainable and will continue to create a legacy after 2022. Examples are, for example, the Life Sciences & Health Week, the ArtScience Week and the Space Week.

Leiden2022 brought together diverse crowds of European scientists and facilitated connections between peers in different countries and disciplines. These connections might provide first steps toward future collaboration, publications, or agenda setting. We believe we challenged quite a few individual scientists to make connections outside of their own disciplines, countries and local institutions. However, we cannot yet measure long-term, sustainable progress toward collaboration. The pan-European and interdisciplinary connections made via Leiden2022 lay the groundwork for future collaboration on (inter)national levels but provide no guarantee of future outcomes

Our biggest success is, of course, the creation of a new European bi-annual tradition, with Katowice in Poland presenting a full year of connecting science with society, as European City of Science 2024. They were inspired by our Knowledge throughout the Neighbourhood program and will also develop a yearlong project, targeted at connecting science with society.

We provided the Founding Partners with a Legacy Scenario, which is still under consideration.

4. *Profiling Leiden as an international city of knowledge as a whole and promoting her individual scientific institutions separately on a regional, national, and international level.*

We believe to have successfully promoted Leiden as an international city of knowledge. A vast majority of Leiden2022 visitors (87%) perceived Leiden as a city that connects science, knowledge, art and skill. In the minds of Dutch people and Europeans, Leiden is an international knowledge city.

Leiden2022s approach of a year-long festival benefited participating institutions in the form of new, different, and more customer engagement and resulted in positive economic results for the region, to the tune of €20+ million. In 2022, Leiden hosted a record number of 85 conferences, 56 of which were linked to Leiden2022. ESOF, EUCYS and EU TalentOn participants were very positive about Leiden, as proved by the high level of Net Promotion Scores.

The audience and economic impact results demonstrated by Leiden2022 serve as advertisements for the European City of Science label, as do positive Net Promoter Scores (NPS) of participating scientists. If NPS, an indicator of goodwill/loyalty, can be extended from the specific events to the overarching label, it will have brand advocates across Europe. Based on the 2022 success, Leiden & Partners is developing a strategy to secure its legacy as an international City of Science.

Due to choice to go local and develop a distributed model, we experienced a general lack of national interest in Leiden2022 throughout the year. This was of course also due to the fact that we could not invest in promotional marketing and communication campaigns in the first 6 months of 2022. On a professional level however, especially among Dutch science communication networks, the Leiden2022 Model for Public Engagement has gained some interest.

On a local level, Leiden's existing DNA and reputation as a city of knowledge has been reinforced. Leiden2022 led to stronger connections between the municipality and local knowledge institutions. By one measure, 73% of participating local businesses, museums, theatres, community centres and other local organizations 'feel more connected to Leiden as a city of knowledge' as a result of Leiden2022. Leiden2022 also resulted in partnering between local knowledge institutions: 89% of organizations affiliated with Leiden2022 collaborated with new partners during their participation.

5. *Fostering new talent and increasing the appeal of Leiden for students and researchers.*

Scientific professionals found Leiden very attractive for future scientific work or study. ESOF professionals and researchers (44%) and younger researchers (EU TalentOn 47%, EUCYS 33%) found Leiden very attractive (9 or 10 out of 10) for future scientific work or study. The European Commission premiered the 1st European Talent Fair at ESOF2022. Leiden2022 will be organized in line with the Sustainable Development Goals and is determined to set an example for how such an event can be organized in a sustainable manner.

The SDGs were thoughtfully considered in planning and execution of Leiden2022, and the audience recognized and appreciated a good deal off these efforts, so Leiden2022 might certainly have set an example!

6. *Providing an inclusive platform: science for and by everyone.*

Leiden European City of Science 2022 promoted and celebrated science and education, in close connection with society. With our programs, we may have reinforced and empowered local and regional civic and scientific ecosystems. By fostering experiential knowledge by means of a collaborative, interdisciplinary approach, we created synergy and connected science and society in many ways.

As the CigarBox reports states: "Leiden2022's model of public programming - as seen in Knowledge throughout the Neighbourhoods and European Science in the City Festival, for example - offers a best practice for stimulating personal interaction between the local public and its knowledge institutions and scientists. Elements of "meeting people where they are," eschewing traditional scientific spaces, and encouraging playful formats and co-creation with local stakeholders resulted not only increased connections, but also in outcomes of increased appreciation for, interest in, and trust in the sciences.

(...) Programming clearly supported “science alongside citizens,” as evidenced by thousands of touchpoints between citizens and scientists—in non-traditional, interactive and non-hierarchical ways—that came about through Leiden2022’s public programming.”

Leiden2022 was also successful in stimulating participating scientists and researchers to consider the intersection of their work and societal impact. Even ESOF, EUCYS, and EU TalentOn were successful in stimulating participating scientists and researchers to think more about the societal impact of their work and to make more of a contribution to societal impact. Though these outcomes were more pronounced in the younger audiences of EUCYS and EU TalentOn, the more experienced participants of ESOF and scientific presenters in public programming reported a shift in thinking around how their work intersects with society.

Audiences for Leiden2022’s broad and accessible public programme appeared to be representative of the Leiden community, and 20% of the visitors of Knowledge throughout the Neighbourhood visited a scientific activity for the first time in five years. The subjects of the public programmes were deliberately made very accessible and understandable; and many activities were organized close to citizens, in their neighbourhoods.

As CigarBox concludes: “The learnings and conclusions above can help Leiden not only look back, but also continue to build a legacy from this once-in-a-lifetime investment for stakeholders and residents. It also offers food for thought for future title holders for European City of Science and other institutions and bodies who seek to connect science with society.”

All in all, Leiden European City of Science 2022 was a valuable testing environment for collaborations between local knowledge institutions and Leiden residents. With our innovative approach, we have set an example on European scales. Whether this will contribute to becoming a city where science *for and by* everyone is a true given, still remains to be seen.

So.

What shall we say? It has been quite a journey!

We are intensely grateful for the challenge to organize the year, to meet so many interesting, curious people, and to have had the chance to create a jumping board for so many to take a leap, and learn.



4. Annex

Appendix 1 – Year of Events activity overview

All Year of Event activities of Leiden European City of Science 2022

Introduction

For the whole of 2022 Leiden was named the European City of Science. As the first ever city, Leiden evolved the City of Science title into a year long programme instead of solely organizing EuroScience Open Forum and a small public programme during the week of the conference.

For 365 days Leiden became the podium for science, knowledge, art, and expertise. The year contained numerous conferences, expositions, lectures, workshops, excursions, exhibitions, events, and activities. With the unique Knowledge throughout the Neighbourhoods project activities were organized by various parties but with one consistency: always bringing science and society together in a part of Leiden and surroundings.

In this appendix all activities of the Year of Event of Leiden European City of Science 2022 will be described. The criteria for an event to be included in the Year of Event category is: all activities, exhibitions, events, expositions, exhibitions, lectures and workshops that are not Knowledge throughout the Neighbourhoods.

In here all activities are displayed. Apart from an overall sum up of the activities, several of them are placed into different categories in order to help find specific events. They are divided into: activities during the Life Science & Health Week; Art Science Week; Seeing Stars and Space Week; the different congresses during the year, the New European Bauhaus activities; exhibitions and expositions in museums.

A more detailed summary of the Opening event of Leiden2022; the Life Science & Health Week; The Seeing Stars & Space Week; New European Bauhaus events; and the Closing of Leiden2022 will be given.

Moreover, the small text explaining and accompanying the 365 different day topics can be found in this appendix as well.

All activities mentioned in this document are activities that have been delivered to or noticed by the editorial team of Leiden European City of Science 2022. The editors put the activities online on the Leiden2022 website. Even though the list of the Year of Events activities is extensive, it is most likely not complete due to the enormous stream of activities organized this year.

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1. Year of Events communication strategy

Website

The Leiden2022 website was used as a platform to display a vast majority of the activities of the European City of Science year. A link with the system of Leiden&Partners was created to enter, manage and display the activities on the Leiden2022 website.

The communication on the website was presented into different categories: 365 days of curiosity (with all day-topic text), join us, newsroom, highlights, and about Leiden2022. The 365 days are also displayed in a QR-code on a special page

Every day of 2022 has its own page on the website. On the day-page the topic of the day, the date, the number of the day and the text accompanying the day-topic is visible. Underneath the explanatory text the activities that could be visited that specific day are listed.

It is also possible to find the activities by searching themes on the homepage, where the activity of today was listed and there is a page with all activities.

The majority of the Year of Events activities was brought by the editorial team via mail. From there the team placed the text into a specific format and made the text comprehensible and accessible to society as a whole. The team proactively searched the internet for activities that were not submitted via email.

News items were also made in order to promote the Year of Event events.

Social media

| Used social media channel | Handel |
|---------------------------|--------------------------|
| Twitter | @Leiden2022 |
| LinkedIn | Leiden2022 / @Leiden2022 |
| Facebook | @Leiden2022 |
| Instagram | @2022Leiden |

All social media channels were used to promote daily topics, Knowledge throughout the Neighbourhoods activities, Radio Weetlust shows, Year of Event events and much more. The channels were used daily and more frequently during highlight weeks.

The language used on the social media channels was English and Dutch. The communication via social media was set up to engage the public. This was either done by asking questions (for example, multiple choice via Instagram stories), provoking a reaction with curiosity from the day-topic texts, etc.

In weekly meetings with the Leiden2022 partners and Leiden&Partners were informed about the planned social media posts about the weekly activities. The created content was shared and spread via their social media channels. For the highlights special content was created.

Literary media

Posters, flyers and banners were printed this year to promote specific events. Another form of literary media that was used was the weekly publication of a Year of Event calendar in 'het Leids Nieuwsblad', a newspaper published by the municipality of Leiden and spread from door to door in de Leiden neighbourhoods.

The paper came out every Thursday. The table/calendar contained three rows: one with the day topic, one with the date and one with a short explanation of the activity that could be done on that specific day. In total the table was 150 words.

Radio Weetlust

Every day of 2022 Leiden2022 broadcasted a radio show, Radio Weetlust (translated: Radio Lust for Knowledge). In Radio Weetlust, every morning, seven days a week from 08.00 – 09.00 hours the radio show covered the day's activities with guests specialized in the topic of the day.

In the beginning of the year the broadcast contained a specific calendar/agenda piece in which different workshops, exhibitions and activities from that week were brought to light. Year of Event activity organizers were often asked to participate in the show as a guest and talk about their event or exhibition.

The radioshow was broadcasted on Sleutelstad FM and every episode is still available on their website

Dissemination Campaign

In the third quarter of 2022 we started a campaign to spread the word about the successes of Leiden2022. The campaign with the tagline "Are you curious enough."

The departure point of the campaign is public affairs: We created a platform where interested professionals can find the whole story of Leiden City of Science 2022. We want to challenge visitor's on this platform "to become part of something big." The platform gives the opportunity to get in touch with Leiden2022 and make an appointment.

We build the story by showing the highlights of the year, and we used those to illustrate the bigger picture. The parts are there to support the bigger story.

The campaign aims to:

Inspire policymakers and board members of universities, cities, government agencies, and other academic bodies to reinvent themselves. The manifesto video we made tells the whole story and shows images of EUCYS and EU TalentOn to support this.

Showcase, by communicating the legacy Leiden2022 in a playful and unique way, show successes and failures, what we have done and learned. This can be found on the online landing page www.modelleiden2022.nl, which contains the Leiden2022-model, the position paper and 6 articles. One of these articles is about EU TalentOn and the Bright Young Minds week and also mentions EUCYS.

Share insights, a presentation with all the learnings, including the events EUCYS and EU TalentOn is created to share the experiences and learning points. This presentation is used during the Final Festival of Leiden2022, appointments of Director Meta Knol and Intendant Lucien Geelhoed with decision- and policymakers. The articles are shared with journalist via our mailing list and all over Europe via platform social media and PR platform "Meldwater".

2. Summary of the Year of Event activities

- **Challenge 2: Geef je op voor de Leidse PWS Prijs 2022! / Challenge 2: Sign up for the Leiden PWS Prize 2022!**

From: 1st January– 31 March 2022

Description: Have you written a creative and original Profile paper in the context of Leiden European City of Science? Then register quickly for the Leiden PWS Prize 2022!

Have you written a creative and original Profile paper in Vmbo 4, Havo 5 or Vwo 6 in the context of Leiden EU City of Science? Then enter the Leiden PWS competition for final exam students.

Does your PWS add value for Leiden students, residents, entrepreneurs, museums or organisations? For example, have you collaborated with or collected data by doing interviews with Leiden experts/researchers or within a social or educational organisation? Then you might be The Next Leiden Expert!

You can submit your PWS from January to March 2022.

Fill in the form immediately at VMBO 4, HAVO 5 or VWO 6 before 31 March 2022 or mail to leidenprofielwerkstuk@gmail.com.

- **Stoeplantjes onderzoek / Pavement plant research**

From: 1 January 2022 – 1 January 2023

Description: Which plants grow on your doorstep? We'd like to know!

Pavement plants are incredibly important. They cool the city, they make water run off faster when it rains, they are good for clean air and important for nature.

With the pavement plant project, we want to investigate with you which plants grow on and along your pavement and why.

We want to do this together with as many people as possible throughout the Netherlands. On this website, you can enter which plants you have found where.

- **Maak je eigen Azteekse fluit / Make your own Aztec flute**

Date: 2nd of January 2022

Museum: Volkenkunde

Description: Find out all about the role of flutes among the Aztecs. For example, did you know that this instrument played an important role in various ceremonies? Studies have revealed interesting facts that we are happy to share. Of course, you will also find out what these flutes sound like. And how special is this: during this workshop you can also paint a real Aztec flute, the Tlaloc, yourself. This will be made into a beautiful necklace, a special souvenir of the special exhibition and workshop.

- **Kindercollege: Echt Nep?! / Children's lecture: Real Fake!**

Date: 5 January 2022

Museum: de Lakenhal

Description: Museums are full of extraordinary objects, but sometimes an object sneaks through that really shouldn't have been there. Forgeries, mix-ups and misjudged artworks: sometimes real is indistinguishable from fake. And if a fake object looks so much like the real thing, isn't it a work of art in itself?

Inspired by the exhibition *Misleading - Fakes from Art and Science*, you can explore fakes, disguises and counterfeit objects together with *Fresco Sam-Sin* during this Children's Lecture. Can you distinguish real from fake?

The Kids' Lecture is especially for children aged 8 to 12 and will be held on 5 January in the Auditorium at Museum De Lakenhal. Adults are also welcome.

Separate tickets are not necessary! If you have an admission ticket to Museum De Lakenhal, you may also join the Children's Lecture. Take a seat in the Auditorium 15 minutes beforehand and learn more about what is real and what is fake.

- **TEDx BoerhaavedistrictStudio: A Walk in the Park**

Date: 6 January 2022

Location: Boerhaavedistrict

Time: 10.00 – 16.00 uur

Description: TEDxBoerhaavedistrictStudio showcases ideas from people who live, work and/or study in this special place in Leiden.

Amazing science happens in Leiden Bio Science Park: museum Naturalis displays a huge collection of natural history, schools, colleges and the university prepare young people for their future. And LUMC researches new ways to cure and prevent diseases. 'A walk in the park' is a nod to the different functions of a park: a place where people meet, to relax, for a run, for picnics, BBQs and games with friends. In English, it also means something easy for an expert to do, like cooking a delicious meal for a chef. A walk in the park combines the feeling of greenery and fun with passion from an expert talking fervently about his or her favourite subject.

More information on the TEDx talk can be found [here](#). Do you work, live or study in the Boerhaavedistrict in Leiden? Do you have an idea you would like to share? Then sign up quickly via [this link](#).

- **Challenge 1: Heb jij de leukste Leiden research vlog 2022? / Challenge 1: Do you have the best Leiden research vlog 2022?**

Date: 13 January – 31 March 2022

Description: Who Knows! You! Join the Leiden Research Diaries! Make a short film of max five minutes in which you show why you are a real researcher.

Are you a researcher and vlogger at heart? Join the Leiden Research Diaries. What is your definition of a researcher? How do you research your environment? Make a short film of maximum 4 minutes, in Dutch and/or English. Important: any Leiden student may participate!

Can you use your mobile phone smartly? Then send in your vlog and show that you are a real Urban Street Researcher Leiden European City of Science 2022. Apply before 31 March 2022.

- **De Japanse cipres roept vragen op / the Japanese cypress raises questions**

Date : 20th January 2022

Organized by SieboldHuis

Time : 14.00 – 14.45 (online)

Description: The Japanese cypress raises many questions. These many questions prompt a talk by Rinny E. Kooi during an online lecture at Japan Museum Het SieboldHuis.

The cypress is the national tree of Japan and there is a lot to tell about this tree. Very early on, it had a wide distribution and survived only in Japan, where? It is an icon there, why? Do we in the

Netherlands have icons? What about the import of trees in the Netherlands and in Japan? What did people use this cypress for? How did people in the Netherlands and Japan treat this tree? Rinny Kooi will answer these questions.

The Japanese cypress (*Cryptomeria japonica*) was imported by Philipp Franz von Siebold, (namesake of Japanmuseum SieboldHuis) and planted in Hortus botanicus Leiden, among other places. In Japan, the cypress is the national tree and no wonder! It is a very special tree from both a biological and cultural point of view.

Rinny Kooi, a native of Groningen, had an interest in nature from an early age. In 1970, Kooi came to Leiden from Groningen. She obtained her PhD in 1990 on the relationship between insects and plants, and she taught 'animal biodiversity' at Leiden University for many years.

- **Maakt waarheid vrij? / Does the truth set free?**

Date: January 23rd 2022

From: 15.00 – 17.00 in Sijthoff Cultuur

Description: A found truth can broaden the view of the world, make it more accessible and enthuse people to also act in freedom. Philosopher Auke van der Mey discusses the question of how truth and freedom relate to each other.

A found truth can broaden the view of the world, make it more accessible and enthuse people to also act in freedom. Led by philosopher Auke van der Mey, the question of how truth and freedom relate to each other will be discussed.

This afternoon is the first from a trio of connected afternoons. They are an introduction to the autumn programme 2022 in Sijthoff, which is in the context of Leiden European City of Science 2022. Follow-up dates: 20-03 and 22-05

- **LIBC Publieksdag Brein & Recht / LIBC Public Day Brain & Law**

Date: 4th February 2022

Location: Stadsgehoorzaal Leiden, 09.15 – 16.30 hrs

Description: How is the human brain involved in law? How can brain techniques be used in making decisions that touch on truth-telling, immutability and punishment? Fine questions that take centre stage at Brain & Law 2022.

The influence of research on the brain on law, criminal law and criminal justice in particular, is undeniable and ever-increasing. This influence can be seen in several areas of criminal justice: investigation, prosecution & trial and enforcement of sanctions. During the LIBC Public Day Brain & Law, speakers from Leiden, several other universities and institutions will take attendees through the possibilities and limits of using information about the brain on decisions to be made by different actors in criminal justice. Think police, prosecutors, judges and so on.

Dr Lotte van Dillen: Lotte van Dillen, associate professor at Leiden University and member of the Leiden Institute for Brain and Cognition (LIBC), is interested in the influence of emotions on decisions and the role of attention in this. A central theme of Lotte's research is the fact that people have limited mental capacity and that this affects their judgements and choices. By generating knowledge about the psychological mechanisms underlying this, Lotte hopes to contribute to 'healthier' decision-making behaviour in areas such as health, law and economics.

Prof Jeroen ten Voorde: Jeroen ten Voorde is professor of criminal law and criminal procedure at Leiden University. His research focuses mainly on issues within substantive criminal law and the philosophy of criminal law. A number of areas have his particular interest: sexual offences and property crimes in cyberspace, terrorism, criteria for criminalisation (especially focusing on legal interests and

the harm principle) and the grounds for criminal exclusion. His research also focuses on the future of the Penal Code.

Prof Michiel van der Wolf: Michiel van der Wolf is professor of Forensic Psychiatry at the Institute of Criminal Law & Criminology at Leiden University. He publishes widely on topics at the interface of behavioural science and criminal law. He experienced a turbulent period as a psychologist trainee at a number of tbs clinics in 2003, when some notorious recidivism in the tbs field eventually led to a parliamentary enquiry.

- **Planktonium**

From: 26 January 2022 – 15 January 2023

Museum: de Lakenhal

Description: Museum De Lakenhal shows Planktonium by Jan van Ijken: a magical art film about the life of plankton

Planktonium by Leiden artist Jan van Ijken is on show in the auditorium of Museum De Lakenhal. Planktonium is a short, abstract film about the secret life of plankton. These organisms are so small you can't see them with the naked eye, but that doesn't make them any less magnificent. In his art film, Van Ijken takes you to an unknown universe, inhabited by wonderful creatures he took from Dutch waters. The extraordinary sound composition was created by Norwegian artist Jana Winderen.

Museum De Lakenhal recently purchased the work and will screen it as part of European City of Science Leiden 2022.

- **Gluren bij de buren en hobby hoorcolleges / Peeping at neighbours and hobby lectures**

Date: 13 February 2022

Location: Different locations in Leiden, 13.00 – 18.00 hrs.

Description: Today it's time for Leiden's cosiest living room festival full of cultural performances. And in this knowledge-packed year, a whole new kind of act is added: the Hobby Hearing. People who love to talk about their passion will be given a stage.

Gluren bij de Buren is the festival where the rug is the stage and the bench the grandstand. Enthusiastic Leiden residents open their living rooms for an act and for local audiences. One act will be linked to each participating living room and will perform three times for 30 minutes at set times on Sunday afternoon. Visitors can map out a route and hop from living room to living room. This year there is also a whole new kind of act: the Hobby Hearing. People who love to talk about their passion will be given a stage.

- **Stukafest Leiden**

Date: 13 February 2022

Location: de Wibar

Description: Stukafest Leiden is back with the best (student room) festival of the year!

In the 14th edition of the festival, as in previous editions, you can enjoy exciting upcoming artists from Leiden. Want to listen to music? Be moved by a poetry reading or laugh at a cabaret performer? Everything is possible at Stukafest Leiden on 13 February.

Stukafest Leiden is an event that brings students together to enjoy different art styles. Because of coronamate regulations, the 2022 edition will be a bit different than usual. Instead of holding the festival in student rooms, it has been moved to the Wibar where, hopefully, live performances can take place.

Stukafest operates in more than 10 Dutch cities and is helped by a large network of volunteers. This year, Stukafest Leiden is partnering with Leiden2022, the European City of Science of the year. This way, we show that science and art are beautifully intertwined.

- **Workshop een meertalig kind op de groep / Workshop a multilingual child in the group**

Date: 21 February 2022

Location: Het Gebouw, Leiden.

Description: One, two or three languages in your area? For many children in our region, this is no longer an exception; they are growing up multilingual. So in childcare and education, we increasingly have to deal with multilingual children and their parents. The arrival of a multilingual child in the group sometimes raises questions. For instance, when should you start worrying about language development? What questions do you ask multilingual parents at an intake meeting to get the best possible picture of the languages the child understands and speaks? But also what language offerings are appropriate for the different stages of language development? And how do you make the different languages and cultures visible in the group?

During the workshop 'A multilingual child in the group', the current developments in multilingualism will be discussed and told, and all the above questions will be answered using practical examples. Of course, there will be room for your own questions on the subject.

The workshop is free of charge. You can register via taalhuis@bplusc.nl. This workshop is for professionals from childcare, education, CJG and others working with children.

The workshop will be given by Marga van Mil-Leijtens. She works at Onderwijsadvies as a speech therapist and multilingualism specialist and in her work she deals with multilingual children and parents on a daily basis.

- **Kindercollege: Echt Nep?! / Children's lecture: Real Fake!**

Date: 2 March 2022

Museum: de Lakenhal

Description: Museums are full of extraordinary objects, but sometimes an object sneaks through that really shouldn't have been there. Forgeries, mix-ups and misjudged artworks: sometimes real is indistinguishable from fake. And if a fake object looks so much like the real thing, isn't it a work of art in itself?

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The Kids' Lecture is especially for children aged 8 to 12 and will be held in the Auditorium at Museum De Lakenhal. Adults are also welcome.

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- **Regeneratieve landbouw op kaasboerderij de Eenzaamheid in Warmond / Regenerative farming at cheese farm de Eenzaamheid in Warmond**

Date: 5 March

Location: Boerderij de Eenzaamheid, 14.30 – 16.30.

Description: For six generations, the van Schie family has been making cheese on an island near Leiden. In 2020, they started researching the relationship between cows, cheese and climate. Can

they coexist sustainably? Farm 'De Eenzaamheid' is a research ground for regenerative methodologies. For more information: www.boerderijdeeenzaamheid.nl

During the tour, they will tell how the farming family works, what their vision is for farming today and in the future, and how, together with partners, they research and experiment with new farming systems and earning models.

Entrance: Free. You can register by emailing boerderij@deeenzaamheid.nl with name and the number of people you are coming with.

The tour takes place on an island that can only be reached by boat. The ferry departs at 2.30pm. Do not miss the boat, there is no possibility to join later. Earlier departure is also not possible

- **Peers4Parents experience**

Date: 7 March

Location: Het LEF, 19.30 – 21.30

Description: The Leiden Approach to Talent Development is organising a meeting especially for parents of gifted children.

Raising a gifted child brings special moments, satisfactions and challenges. Would you like to discover how to understand your child better? Share experiences with other parents who understand you? Find ways to support your child emotionally? And improve communication and relationships with your child, partner and/or school.

The Leiden Approach to Talent Development organises a meeting especially for parents of gifted children. In collaboration with Peers4Parents, they offer a 'Peers4Parents-experience'. Up to 10 parent pairs will discuss raising gifted children this evening under the guidance of facilitators.

- **Science Café Leiden: Stikstofcrisis! / Science Café Leiden: Nitrogen crisis!**

Date: 8 March 2022

Location: Scheltema, 19.40 – 22.00 hrs

Description: Interested in science in its broadest sense? Fancy finding out more and engaging in discussions on controversial topics in science? While enjoying a drink and in a cosy, informal atmosphere? Then the Science Café Leiden is for you. In a Science Café you will learn all about a subject ranging from 'nuclear energy' to 'the new spelling'. After one or more scientists have talked about the subject, there is time to ask questions and join the discussion. With live music or an outspoken column, always convivial, informal and free of charge.

Programme 8 March: This evening, Prof. Jan Willem Erisman will discuss the background to the nitrogen crisis and possible solutions. After the break, this can be discussed with him. Before the lecture and in the break between lecture and discussion, the singer-songwriter duo JD&Co will perform.

- **Speech Minister Robbert Dijkgraaf**

Date: 11 March 2022

Location: University Leiden Kamerlingh Onnes-Building

Description: On Friday 11 March (4pm), Minister Dijkgraaf (Education, Culture and Science) will give a lecture entitled 'When knowledge becomes critical'. In this lecture, he will reflect on a number of critical challenges in science and society. The minister will speak from Leiden University's Kamerlingh Onnes building.

The speed at which science is changing our lives brings tensions and concerns. Minister Dijkgraaf will talk, among other things, about the fragility of knowledge, the distance between science and society, and the relationship between science and politics.

The corona pandemic exposed how dependent we are on scientific knowledge, but also how vulnerable this knowledge is in the public debate. Facts are questioned and scientists threatened. Minister Dijkgraaf argues that we must stand up for the facts and the people who bring us new knowledge.

After the lecture, a discussion will take place on the questions and concerns described by Minister Dijkgraaf. Scientists Marc van Ranst, Gerrit Hiemstra, Ineke Sluiter and Ionica Smeets reflect from their perspectives and personal experiences on the message and challenges described by the minister. Discussion leader is education and policy historian Pieter Slaman.

- **Workshop Spiritualiteit voor Sceptici / Spirituality for Sceptics workshop**

Date: 13 March 2022

Location: Bibliotheek Voorschoten, 13.30 – 15.00 hrs

Description: What is spirituality anyway? Talking to dead people and flying around on unicorns? Eveline Ramaekers explains what she thinks it is all about in the Spirituality for Sceptics workshop.

Spirituality. What does this word conjure up in your mind? Smoking out your house with sage, perhaps? Or just talking to dead people? Flying around on unicorns? Maybe you think spirituality is something for floaty types. Goat-wool socks. Dancing at a full moon. Something like that?

Eveline Ramaekers has an academic background. For years, she worked as a lawyer for universities at home and abroad. Until she started working on sage, dead people and unicorns. Only to discover that that is not what it is really about. So what is it really about? You can come discover that with her in her workshop: "Spirituality for Sceptics".

For people who shy away from spirituality but are curious at the same time. Be welcome. Then you can talk about those dead people and those unicorns right away.

Eveline Ramaekers started her working life as an academic, as a lawyer. Despite a promising career, it did not make her happy. She said goodbye to her career and entered an intense process of recovery, therapy and soul-searching. Spirituality became increasingly important in her life and Eveline decided to share her insights and start helping people. As part of her consciousness development, she regularly attends courses such as Aura Healing, Trauma Healing for babies and toddlers, and various courses on the evolution of human consciousness.

- **Gala van wetenschap en samenleving / Gala of science and society**

Date: 14th March 2022

Location: Stadgehoorzaal Leiden 19.30 – 22.30 hrs

Description: Today is a special day for science: high-level science communication professor Ionica Smeets and New Scientist editor-in-chief Jim Jansen to host the Gala of Science and Society for the first time.

Monday 14 March 2022 is a special day for science. It is the birthday of Albert Einstein, the death anniversary of Stephen Hawking and it is π -day. To make this day even better, high-level science communication professor Ionica Smeets and New Scientist editor-in-chief Jim Jansen are organising the Gala of Science and Society for the first time. In one evening, we will show you how Dutch science affects your life and society. In Leiden, European City of Science, you will be updated by Marion Koopmans, Ben Feringa, Julia Cramer and Reint Jan Renes, among others.

- **Medical delta café - 'e-health: vergroot of verkleint het gezondheidsverschillen?' / Medical delta café - 'e-health: does it widen or narrow health inequalities?'**

Date: 17 March 2022

Location: Biopartner 5

Description: Science and (healthcare) practice experts talk about whether and how e-health is having the desired impact on the most vulnerable groups.

E-health applications are increasingly used for health improvement and prevention. They are seen as a low-threshold and effective intervention. However, a key challenge is ease of use and accessibility. Often, it is precisely the most vulnerable groups that are hard to reach or cannot get to grips with the ingenious apps due to low dd. In doing so, doesn't e-health actually increase existing health inequalities?

During the Medical Delta Café 'E-health: does it widen or narrow health differences?', we will look from different angles at whether and how e-health will have the desired effect on the most vulnerable groups. Speakers from science and (healthcare) practice will share their views and experiences and enter into discussion with each other and with the audience.

- **Afval of Bouwmateriaal? Rondleiding circulaire bouw Biopartner 5 / Waste or Building Material? Tour circular construction Biopartner 5**

Date: 18 March 2022

Location: De Limes (Biopartner 5)

Description: Tour circular construction BioPartner 5, the first building in the Netherlands to meet Paris climate targets.

What is waste for one person can be used by another to make something new. This is how a circular economy is realised.

BioPartner 5 is a great example of large-scale reuse of materials. It starts with 160 tonnes of steel taken from the demolished Gorleaus university building and used as a donor skeleton in BioPartner 5. Circularity has been applied at many levels, from the floor tiles to the toilets, making the building an inspiring collection of stories. Director Thijs de Kleer talks enthusiastically during a pictorial tour of the first building in the Netherlands to meet the Paris climate targets.

During the tour, you will also be introduced to the work of the Circular Department Store. The Circular Department Store (CW) is a label, concept store and production house for circular design and winner of Best Commissioning Dutch Design Awards 2021. It is part of Stichting Kringloopbedrijf het Warenhuis and set up in late 2019 to add value to the company's waste streams while creating new work for people distanced from the labour market.

Come and listen and admire too. The tour will end with convivial drinks in company restaurant the Keet.

- **Schelpenteldag / Counting Shell Day**

Date: 19 March 2022

Organized by: Naturalis

Location: different beaches

Description: Today, Naturalis and other organisations are organising a shell count day on seven Dutch beaches. You can follow the count live at the museum.

The Flemish Institute for the Sea has been organising a shell count for five years, and this year the Netherlands is taking part. Naturalis, the Beach Working Community, the Dutch Malacological Society

and the Anemone Foundation will go on seven Dutch beaches to help families, beach visitors and citizen scientists map the shells there. That will make all your beach visits more fun, and your data will help science.

During the day, have a live programme on beach shells in the Live Science room at Naturalis, with lectures, activities and more. There will also be the "Shell Desk" there, where experts will help name the most difficult species and answer questions from the public and from the beaches. If you have a shell that you would like to know the name of, bring it along.

You can learn more about shells from the discovery boxes in the hall. Some shells that wash up on Dutch beaches are millions of years old - but how can you tell if a shell is 'fresh' or fossil?

Location: Beaches at Ouddorp, Hoek van Holland, Kijkduin, Scheveningen, Katwijk, Noordwijk and Langervelderslag. [Click here for more info.](#)

Time: All day, but experts will be on the beaches from 11am-4pm to help with sorting out the type of shell and handing out counting forms.

- **Online Kwalificatietoernooi NK puzzelen en sudoku / Online Qualifying tournament NK puzzles and sudoku**

Date: 25 March – 28 March 2022

Organised by: WCPN (World Class Puzzels from the Netherlands)

Description: Do you want to compete against the best puzzlers and/or sudoku players in the country? Then quickly join the online qualification competitions of the Dutch Puzzles and Sudoku Championships

WCPN (World Class Puzzels from the Netherlands) is the Dutch puzzle association and organises the Dutch Championships Puzzle and Sudoku this year. The best enter these championships based on the results of online qualification competitions.

Logic puzzles are language- and culture-neutral. There are many types of puzzles, some of which many people know from the newspapers, such as Tentje-Boompje, Zeeslag and Sudoku. But there are many more. Due to the popularity of sudoku, a separate competition has been held for it for years. In particular, besides the classic sudoku, you will find a multitude of variants, each with its own logic, but still requiring 1 to 9 to be entered in each row, column and block.

The instruction book will be published on 11 March. It will list all the puzzle types that will be covered during the qualification.

So would you like to compete with the best puzzlers and/or sudokus in the country? Then hurry to www.nk.wcpn.nl and sign up!

Important: Anyone who wants to can participate in the online qualification. Three categories will participate in the live finals: WCPN members, Ortec employees and students. If you are not a member of WCPN but scored very well, there is the option to become a member after the qualification, so you can still participate in the live finals. (WCPN membership is 25 euros per year).

Entry: participation in the tournament is free. Registration can be done on the website.

WCPN (World Class Puzzels from the Netherlands) is the Dutch puzzle association. The association brings logical puzzles to the attention of the Dutch public. They do so by offering a free, handmade logic puzzle on their website every day and by organising meetings, including the Dutch Puzzles and Sudoku Championships.

- **Opening Kiek! De nachthemel door een Leidse lens met workshop astrofotografie / opening Kiek! The night sky through a Leidse lens with astrophotography workshop.**

Date: 30 March 2022

Organized by: Old Observatory Leiden and Leiden Observatory Working Group

Location: BplusC Stevenshof

Description: Astrophotography lecture and workshop. Tonight the BplusC Library Stevenshof is dedicated to astrophotography for the official opening of Kiek! The night sky through a Leiden lens.

A few of the astrophotographers from the Old Observatory, Leiden and the Leiden Observatory Working Group (WLS) will be on hand to guide you through the exhibition and answer any burning questions. If you would like tips and tricks on how to take a breathtaking photo from your backyard, come along!

Workshop on astrophotography: Want to capture a constellation, or create a light painting? Then sign up for our 'Introduction to Astrophotography' workshop, taught by one of the astrophotographers. You don't need expensive equipment or previous experience, just a smartphone!

The free workshop lasts from 20.30 to 21.30 and is in Dutch. It is recommended for anyone aged 11+, under-16s must be accompanied by an adult. Share the experience with your friends and family. Help each other create exciting images, or join in to see who is the best astrophotographer!

- **Met padden over straat en in de put / With toads down the street and into the well**

Date: 31st March 2022

Organised by: Naturalis Biodiversity Center

Description: Toads, frogs and salamanders do not go to Africa; their migration - in spring and autumn - takes place within a radius of no more than three kilometres. That small space, however, is bursting with traces of human presence: motorways, cycle paths, fences, buildings. Curbs are huge stumbling blocks, as are the neat and tidy banks of ditches and ponds where these animals mate and where the next generation is hatched.

In Leiden, the population has crashed over the past decade That's why a Toad Patrol has been operating for a few years now to safely transfer amphibians at busy locations. A special Pit Patrol fishes them out of pits on the streets. These patrols number over 120 and nearly 20 volunteers respectively.

Meanwhile, more and more locations are being added. Data on numbers of animals, age and sex are accurately recorded: a kind of citizen science, in other words. You can learn it too - and patrolling is a healthy way to discover a fascinating world!

Roek Vermeulen, well-known Leiden conservationist, initiator and coordinator, talks about toad migration and the work of the Toad Patrol KNNV Leiden. Come to Naturalis on 31 March and learn why the toad patrol is important for the Leiden area.

- **De Toekomstbouwers / The Builders of the Future**

Organized by: New European Bauhaus Leiden (Roosmarijn van de Velde) and Da Vinci college Kagerstraat Leiden.

Date: 1 April 2022 – 30 april 2022

Description: "What will Leiden look like when I grow up?" is what the bridge class pupils of Da Vinci College Kagerstraat asked themselves in the project The Future Builders. Come and admire their City of the Future in the Stadsbauhaus!

For the exhibition The Future Builders, pupils of the 1st class of Da Vinci College Kagerstraat built the Leiden of the future! In collaboration with various organisations from all over the Netherlands, the pupils of all 11 bridge classes made a beautiful, inclusive and sustainable Leiden with a model or, of course, in Minecraft.

The ultimate goal? To win a place in the exhibition! From each class, only one can be the best... Curious about the winners? Come to the Stadsbauhaus and be inspired by the future through the eyes of classes 1H, 1I, 1K, 1L and 1M!

The Future Builders is part of the Leiden2022 programme 'Stadsbauhaus - New European Bauhaus Leiden', which uses science and art to work towards a sustainable, beautiful and inclusive future. Many thanks go to the Coaches: Foundation 2030, Dura Vermeer, Fontys University of Applied Sciences and the Leiden neighbourhood ambassadors. Interested in becoming a coach of one of the other bridge classes? Contact Roosmarijn van de Velde (Chief New European Bauhaus Leiden) at r.vandavelde@leiden2022.nl.

[De Toekomstbouwers | Leiden2022](#)

- **Kuipenproject Tulpenmanie @ Hortus / Tub project Tulip mania @ Hortus**

Date: 1 April 2022

Description: A tulip experiment by Tulip Mania Leiden. Come see how different soil types affect the growth of tulips.

Does it matter what kind of soil you grow tulips in? Yes it does! You can see the richness (or poverty) of the soil reflected in the life above ground. Find out in the tubs in front of the Hortus. Come see the growth and flowering of tulips and the effect of micro-organisms in the soil on life above ground. With new knowledge of soil life, we can devise and apply biological solutions.

Citizen Science project of Tulip Mania: Tulpenmania Leiden 2022 has set up a citizen science project where residents plant 10, pre-selected, organic tulip bulbs in their gardens. If 9 red tulips come out of those 10 bulbs and the 10th is a different colour, that gardener is the winner. A soil analysis will then be done in his, her or their garden where one test will read all DNA from the soil sample. All fungi, nematodes, bacteria in the garden soil will thus be mapped and it will be seen whether differences in biodiversity affect the growth of the tulips.

In the Hortus, the Leiden University of Applied Sciences, in collaboration with Naturalis, simulated the experiment in 11 tubs: 5 tubs with soil from organic tulip grower John Huiberts; 5 tubs with Leiden mix used in public gardens and 1 tub with sand.

Patience is a virtue, even in science. Do the organically grown tulip bulbs catch on well in the various tubs? The tubs can be viewed 24/7, but on 1, 23 and 25 April, students from the University of Applied Sciences and the Tulip Mania team will be present to give explanations.

There will be a fun surprise for interested parties who come to watch on the morning of 1 April!

Location: In front of the entrance to the Hortus Botanicus, Rapenburg 73, 2311GJ Leiden

Time: the tubs are accessible 24/7. Between 10.00 - 12.30 there will be students from the University of Applied Sciences & people from the Tulip Mania team present today. At 10.15am there will be an official moment with the presentation of the 1st heritage card Leiden from Tulpenmania to Leiden2022.

[Kuipenproject Tulpenmanie @ Hortus | Leiden2022](#)

- **Energiepark, een plek vol verhalen / Energiepark Leiden, a place full with stories.**

Date: 3 April 2022

Organized by: Energiepark Leiden

Description: Come to Leiden's centre of industrial industry. With fun workshops, presentations and stories.

Originally the Energiepark Leiden is the centre of industrial industry in Leiden, with the monumental power plant as eye-catcher. Special historical buildings tell the past of this part of the city centre.

On Sunday 3 April 2022, you are welcome to come and find out about the Energiepark at Lange Gracht in Leiden. The activities are free of charge.

[Energiepark, een plek vol verhalen | Leiden2022](#)

- **De Mobiele Verwarming / The Mobile Heating**

Date: 4 – 8 April 2022

Organized by: Inluzio Leiden

Description: Complete the Educational Escaperoom in three quarters of an hour and experience the special world of people with dementia.

Experience this educational escaperoom and experience something of the special world of people with dementia. In this professional escaperoom full of puzzles and light and sound effects, you complete a mission in 3 quarters of an hour with a group of three people.

Unnoticed, you learn important lessons and your creative skills are put to great use. This will give you more insight on how to deal with a person with dementia or a damaged brain. The experience in The Mobile Confusion is followed by a debriefing in which we discuss experiences and insights.

Per time slot, 3 visitors can enter the caravan.

Location:

4/4 HvdB Stevenshof, Trix Terwindstraat 4

5/4 HvdB Op Eigen Wieken, Valkenpad 5

6/4 HvdB Het Gebouw, Arubapad 2

7/4 HvdB Morschwijk, Topaaslaan 19

8/4 HvdB Matillo, Zaanstraat 126

Time: Between 9am and 5pm, there are eight one-hour time slots, on the hour.

Entrance: free of charge. The caravan is unfortunately not wheelchair accessible.

[De Mobiele Verwarring | Leiden2022](#)

- **Paaseilandkenner Jan Boersema, Norbert Peeters en auteur Jeroen Windmeijer aan het woord / Easter Island expert Jan Boersema, Norbert Peeters and author Jeroen Windmeijer speaking.**

Date: 5 April 2022

Location: Telders Auditorium

Description: Norbert Peeters talks to professor and Easter Island expert Professor Jan Boersema and author Jeroen Windmeijer.

Three centuries ago, on Easter Sunday 5 April in 1722, an island looms out of the fog, all alone in the vast Pacific Ocean. In his travel journal, the Zeeland expedition leader Jacob Roggeveen pens: "En gaeven aen het land den naem van 't Paasch Eyland, omdat het van ons op paaschdag ontdekt en gevonden is." The name 'Easter Island' stuck. Although the island is now better known among the natives as Rapa Nui, meaning 'big rock'. When they finally go ashore after a few days of exploring, they see up close the characteristic Moai, colossal statues carved from volcanic tuff, which are still emblematic of the island. But how did Roggeveen end up on Easter Island? Can we even speak of a discovery? How was the first contact between the crewmen and the islanders? And how did the islanders fare after Roggeveen's visit? These questions and more will be answered during this evening.

During this evening, Norbert Peeters will talk to professor and Easter Island expert Professor Jan Boersema and author Jeroen Windmeijer. Jeroen Windmeijer's new thriller *The Stone Gods* (Harper Collins, 2022) will also be presented during this evening.

Entrance: Free. Registration is not necessary. Can't be physically present? You can also follow the talk via the livestream.

Prof Dr J.J. (Jan) Boersema, professor of Foundations of Environmental Sciences at Leiden University, author of *Images of Easter Island. On the sustainability and resilience of a culture* (2020)

Jeroen Windmeijer, author of, among others, *Het Petrusmysterie* (2015), *Het Pilgrim Fathers Conspiracy* (2018) and *Het Isisgeheim* (2020).

[Paaseilandkenner Jan Boersema, Norbert Peeters en auteur Jeroen Windmeijer aan het woord. | Leiden2022](#)

- **Reis door het Heelal! / Travel through the Universe**

Date: 6 April 2022

Location: De Sterrentuin

Organized by: Volksuniversiteit Leiderdorp

Description: Is there life beyond Earth? What are supernovas? And can you escape a black hole? Take an imaginary journey through the heeal and discover a fascinating spectrum of celestial bodies, galaxies and...?

During this lecture, together with lecturer Theo van Es, you will take an imaginary journey through the universe and discover what we all encounter there: planets, stars, comets, galaxies, supernovas, black holes, etc. The question of whether there is life outside the Earth will also be addressed. Theo makes ample use of beautiful images and spectacular videos, making this complicated subject matter understandable and exciting for everyone.

Theo van Es: Theo van Es is retired and now spends his time lecturing about the universe and modern physics. About 40 times a year, he lectures on the universe. His motivation in giving lectures is mainly to convey his fascination about the universe to the audience

[Reis door het heelaal! | Leiden2022](#)

- **Launch event of the series on European universities: 'how European universities can shape the future'**

Date: 6 April 2022

Location: Academiegebouw Leiden and online

Organized by: the Institute Francais Pays-Baseen

Description: In the framework of EU Foreign Policy and Leiden European City of Science 2022, the Institute Français Pays-Baseen organises a series of events dedicated to European universities. Launch on 6 April in Leiden.

The European Commission started in 2017 with the set up of a network of European Universities. This was based on an idea of the French President Emmanuel Macron the network will become the flagship of the European Educational Area.

The network of European universities will help to strengthen the position of a new generation of Europeans and to improve the international competitiveness of higher education in Europe. The European Commission considers that the 'European Universities' network has the potential to significantly enhance the mobility of students and scholars. It can stimulate high and even excellence in education and research by strengthening the link between education, research and innovation.

The panel discussion

Expectations for European universities are high. Are they equipped to meet those expectations? What challenges do they currently face in putting the visions into practice? And how can they help to understand, improve, measure and rebalance the wellbeing of individuals, our own community and society as a whole on the basis of our shared values?

The panel discussion will address these and many more questions. **The panel discussion will be in english.**

EUniWell: EUniWell, the European University of Well-Being, is an alliance of eight universities. The alliance's aim is to promote an inclusive well-being agenda for students, staff, and society at large by offering new, innovative, interdisciplinary, and international opportunities for collaboration and development across education and research. More information about EUniWell can be found on [the website](#).

Looking beyond boundaries

The accompanied universities want to show that diversity and working beyond disciplinary and national borders is the best way to deal with the challenges surrounding well-being in universities, in society and in the world as a whole. EUniWell actively promotes pioneering research and innovation in education and research.

[Launch event of the series on European Universities: 'How European Universities Can Shape the Future' | Leiden2022](#)

- **Interdisciplinary lecture on superconductivity**

Date: 8 April 2022

Description: On 8 April 1911, superconductivity was discovered by Heike Kamerling Onnes at the Kamerlingh Onnes Building.

This discovery, the phenomenon that some materials have no electrical resistance below certain (very low) temperatures, has many practical applications today. The best-known example is the MRI scanner used in hospitals.

On Friday 8 April 2022, Prof Carlo Beenakker, theoretical physicist and Spinoza Prize winner, will talk about the experiment, the historical background and the practical implications of the discovery of superconductivity. The lecture 'The discovery of superconductivity' will last about 45 minutes. Afterwards, there will be room for questions.

[Interdisciplinaire lezing over supergeleiding | Leiden2022](#)

- **Launching the Leiden Law Methods Portal**

Date: 12 April 2022

Description: Launch of the Leiden Law Methods Portal. During the launch, we will show you how to use the portal and experts will give an introduction to various empirical research methods.

The principle 'measuring is knowing' may not be the first thing that comes to mind when you think of legal research. Nevertheless, during the launch of the Leiden Law Methods Portal, several legal scholars will discuss how they have integrated the use of empirical research methods and a socio-legal approach into their legal research - and how one can do so - in order to reach a deeper understanding of the real workings of law in action. During this 2-hour session, we invite everyone to come and take a look into the world of empirical and socio-legal research!

On 12 April, the Leiden Law Methods Portal will be launched during a festive lunch launching-the-leiden-law-methodsportalssie between 12 and 2 pm at C.020 (Steenschuur 25). The Methods Portal is a handy tool that provides law scholars with a broad overview of empirical methods and the

(empirical) stages of research. During the launch, we will show you how to use the portal and experts will give an introduction to various empirical research methods.

[Launching the Leiden Law Methods Portal! | Leiden2022](#)

- **Science Café Leiden: Vulkanen! / Science Café Leiden : Volcanoes !**

Date : 12 April 2022

Description : Interested in science in its broadest sense? Come to the Science Café Leiden! Tonight Dr Janne Koornneef on volcanoes.

In a Science Café you will learn all about a subject ranging from 'nuclear energy' to 'the new spelling'. After one or more scientists have talked about the subject, there is time to ask questions and join the discussion. With live music or an outspoken column, always convivial, informal and free of charge.

Programme 12 April: Dr Janne Koornneef, from VU Amsterdam, will this evening explain what we know about volcanoes and the deep earth by looking at the composition of lava. And how we know where volcanoes are dangerous and where they are not and why? After the break, there will be room for discussion. Before the lecture and in the break between lecture and discussion, the acoustic trio Late Experience will perform.

[Science Café Leiden: vulkanen! | Leiden2022](#)

- **De Nederlandse Vacuümvereniging (NEVAC) 2022 / The Dutch Vacuum Association 2022**

Date: 13 April 2022

Organized by: NEVAC

Description: The Dutch Vacuum Association (NEVAC) will celebrate its 60th anniversary on 13 April at Museum Boerhaave in collaboration with Leiden 2022.

NEVAC members as well as interested parties and others working with vacuum technology will be able to celebrate NEVAC's 60th anniversary at Museum Boerhaave on 13 April. This will be in collaboration with Leiden 2022; the day 13 April will therefore be in the theme of vacuum on the '365 days of curiosity' calendar.

NEVAC, also known as the Dutch Vacuum Association, is a professional association of researchers, technicians, and organisations to promote the exchange of knowledge in vacuum engineering and related fields by organising scientific meetings and courses.

[NEVAC 2022 | Leiden2022](#)

- **22e Leidse Taalkundeolympiade / 22nd Leiden Linguistics Olympiad**

Date: 16 April 2022

Description: The Linguistics Olympiad is for pupils from 4, 5 and 6 vwo who are interested in both language and logic. You will be given assignments on a wide variety of ancient and modern languages and scripts.

The Linguistics Olympiad is a competition for 4, 5 and 6 vwo students interested in both language and logic. You will be given assignments on a wide variety of ancient and modern languages and scripts. Knowledge of the language is not necessary; if you enjoy working with languages and also like maths, you stand a good chance of winning great prizes.

The Linguistics Olympiad is held annually and consists of a preliminary round and a final round. The entrants of the best solutions of the preliminary round have qualified for the final round to be held in Leiden University on 16 April 2022.

If you are not afraid of cuneiform, ancient German or modern Hebrew and enjoy the challenge of discovering the mathematics behind a language, don't miss the Linguistics Olympiad!

[22e Leidse Taalkundeolympiade | Leiden2022](#)

- **Landschapmanagement, 125.000 jaar geleden / Landscape management, 125,000 years ago?**

Date: 19 April 2022

Organized by: the Leiden Faculty of Archaeology and the Rijksmuseum van Oudheden

Description: In the Leiden Theses series, archaeologist Wil Roebroeks takes us back to Halle, Germany, 125,000 years ago. A lot can be gleaned from the remarkable Neumark-Nord site.

Thesis: Landscape management, 125,000 years ago?

Decades-long archaeological research in a large lignite quarry near Halle, Germany, has yielded a wealth of data on the environment of the time, 125,000 years ago, from pollen, charred seeds, fish and bird remains, and the bones of hundreds of large mammals, including some almost complete elephant skeletons. Along the shores of former lakes there, archaeologists documented a wide spectrum of traces of Neanderthal activities in large-scale excavations. The presence of these hunter-gatherers coincides with a 2,000-year period in which the vegetation in the immediate area remained remarkably open. What does this site, Neumark-Nord, mean for our knowledge of the behaviour of early hunter-gatherers, and for our knowledge of past environments?

Wil Roebroeks: Prof Wil Roebroeks' work ranges from the evolution of human ancestors to the migration of Neanderthals and of modern humans across Europe and the rest of the world.

More information about this lecture can be found on the website of Rijksmuseum van Oudheden.

As part of Leiden European City of Science 2022, the Leiden Faculty of Archaeology and the Rijksmuseum van Oudheden are joining forces. Every month there will be a (livestream) lecture by one of our renowned professors in the Leiden Theses lecture series. What drives these scientists in their work? With stimulating Leiden theses and great stories, they take us into the world of the archaeologist.

[Landschapsmanagement, 125.000 jaar geleden? | Leiden2022](#)

- **Criminal Justice Publiekslezing: Grenzeloos Europa**

Date: 20 April 2022

Description: This public lecture shines a critical light on how 'open' European borders actually are, and also, for whom.

Borderless Europe? On social control, mobility and the 'crimmigrant' other.

A key pillar of Europe is the free movement of services, goods and people. In recent years, we have seen that increased mobility of people in particular seems to create concerns and tension, due to associations with cross-border crime, terrorism, welfare and public health. This public lecture will shine a critical light on how 'open' European borders actually are, and also, for whom. It will also consider the various underlying feelings of unease and concerns about national security and national, as well as European, identity. This lecture will be given by Maartje van der Woude, Professor of Sociology of Law. The lecture will take place both online and in Room A015 of the Kamerlingh Onnes Building.

Maartje van der Woude: Maartje van der Woude (1980) is Professor of Sociology of Law at the Van Vollenhoven Institute for Law, Governance and Society at the Faculty of Law of Leiden University. Maartje studied Dutch Law (1998 - 2002) and Criminology (2002 - 2005, cum laude) in Leiden and obtained her PhD in 2010 with the thesis "Legislation in a Security Culture. Creation of anti-terrorism legislation in the Netherlands viewed from the social and (legal) political context".

[Criminal Justice Publiekslezing: Grenzeloos Europa? | Leiden2022](#)

- **Salon Leiden: Wetenschap, Stad en Park / Salon Leiden: Science, City and Park**

Date: 23 April 2022

Description: For over 400 years, Leiden University has played a full role on the world scientific stage. Herman Boerhaave became the 'teacher of Europe', at the beginning of the last century alone three Nobel prizes were awarded to 'Leiden' research, and recently the foundations for the 'Janssen vaccine' were laid in Leiden's bio science park. But what role did the city itself play in the science practised there? And how did science shape the city? Five lectures in which the global and the local meet.

Science, city and park by Cor Smit and Jorrit Smit: Realisation and significance of Leiden Bio Science Park. In 1982, Leiden Bio Science Park was not yet on any policy agenda, neither of the city nor the university. At the end of 1984 it was suddenly there. Anno 2022, the park is Leiden's most important economic force. How did that happen? And what exactly did it mean for the city of Leiden?

Why do science parks exist?: Since the 1980s, countless municipalities and universities have tried to turn wasteland into science parks. One sign, pile and subsidy tap further, such an area suddenly carried the promise of innovation and progress, profit and employment. Why were these spaces globally designed as 'parks'? And for whom does this actually provide valuable knowledge?

Cor Smit is a social and economic historian, with a PhD in child labour (2014). He specialises in the history of Leiden. In 2020, he published a book on the history of incubator Biopartner-ABC and the Leiden Bio Science Park. Jorrit Smit researches the connection of science and society in the past and present. At Leiden University, he obtained his PhD in 2021 for historical research on the spatial design of 'useful' science in the post-war period.

[Salon Leiden: Wetenschap, stad en park | Leiden2022](#)

- **Kuipenproject Tulpenmanie @ Hortus / Tub project Tulip mania @ Hortus**

Date: 23 April 2022

Description: A tulip experiment by Tulip Mania Leiden. Come see how different soil types affect the growth of tulips.

Does it matter what kind of soil you grow tulips in? Yes it does! You can see the richness (or poverty) of the soil reflected in the life above ground. Find out in the tubs in front of the Hortus. Come see the growth and flowering of tulips and the effect of micro-organisms in the soil on life above ground. With new knowledge of soil life, we can devise and apply biological solutions.

Citizen Science project of Tulip Mania: Tulpenmania Leiden 2022 has set up a citizen science project where residents plant 10, pre-selected, organic tulip bulbs in their gardens. If 9 red tulips come out of those 10 bulbs and the 10th is a different colour, that gardener is the winner. A soil analysis will then be done in his, her or them garden where one test will read all DNA from the soil sample. All fungi, nematodes, bacteria in the garden soil will thus be mapped and it will be seen whether differences in biodiversity affect the growth of the tulips.

In the Hortus, the Leiden University of Applied Sciences, in collaboration with Naturalis, simulated the experiment in 11 tubs: 5 tubs with soil from organic tulip grower John Huiberts; 5 tubs with Leiden mix used in public gardens and 1 tub with sand.

Patience is a virtue, even in science. Do the organically grown tulip bulbs catch on well in the various tubs? The tubs can be viewed 24/7, but on 1, 23 and 25 April, students from the University of Applied Sciences and the Tulip Mania team will be present to give explanations.

[Kuipenproject Tulpenmanie @ Hortus | Leiden2022](#)

- **De invloed van jouw DNA op je medicatie / The influence of your DNA on your medication**

Date: 25 April

Organized by: Leiden University Medical Center (LUMC)

Description: Always wanted to know how your DNA affects how drugs work? Join researchers at LUMC and discover all about the wonderful world of pharmacogenetics.

Have you always wanted to know how your DNA affects how medicines work? Maybe you took part in the PREPARE study and want to know what it revealed? You will hear the answers during the presentations on Monday 25 April!

The presentations will discuss the following topics led by Dr Jesse Swen, hospital pharmacist and head of pharmacogenetics laboratory LUMC:

1. What is DNA and pharmacogenetics (By Dr Maaïke van der Lee, pharmacist-researcher).
2. What does your doctor or pharmacist do with your DNA results? (By Anne Marie Buunk, pharmacist at Katwijk Pharmacy)
3. Examples of DNA testing and its effect on medication and results from the PREPARE study conducted in Leiden and the surrounding area. (By Lianne Manson, pharmacist-researcher)

After the presentations, you can have a chat with the pharmacists and with researchers at Leiden University Medical Centre (LUMC) who conduct research on pharmacogenetics.

[De invloed van jouw DNA op je medicatie | Leiden2022](#)

- **Geboortedag Oort, lezing over de structuur van de Melkweg door LWSK / Birthday Oort, lecture on the structure of the Milky Way by LWSK**

Date: 28 April 2022

Organized by: Leiden Weather and Astronomy Circle (LWSK)

Description: Lecture on astronomer Jan Oort and the structure of the Milky Way.

The Leiden Weather and Astronomy Circle (LWSK) is an association of amateurs interested in the origins and developments of the universe; the nature, properties and diversity of celestial bodies; weather and climate on Earth. The LWSK organises lectures and courses. This lecture is dedicated to astronomer Jan Oort and the Structure of the Milky Way.

[Geboortedag Oort, Lezing over de Structuur van de Melkweg door LWSK | Leiden2022](#)

- **Retourtje Oerknal / Return trip to the Big Bang**

Date: 29 April 2022

Organized by: Mobile Planetarium

Description: Take a trip through space and time with the Mobile Planetarium in village centre Oegstgeest.

To the infinity and beyond! On 29 April, the Mobile Planetarium will take you on a journey through space and time. Drop by village centre Oegstgeest and let the universe open up before you.

Did you know that when you look at the stars, you are actually looking back in time? Because stars are so far away, it sometimes takes billions of years for their light to reach your eyes. As a result, some of the stars we see now have actually disappeared a long time ago.

Astronomers take advantage of this. By looking far enough away, they hope to peer so far back in time that they can figure out what the big bang was. Where did everything come from? And what traces did the Big Bang leave behind in our universe?

On 29 April, the NOVA Mobile Planetarium will be set up at Dorpscentrum Oegstgeest. In this dome, we can show you exactly what the universe looks like and travel into the past to get as close as possible to the Big Bang. All shows are live and interactive so where do you want to go yourself?

Between 10 a.m. and 5 p.m., a 45-50 min show will start every full hour, with room for 30 people per show. Just walking in is possible, but reserving a place via the booking form ensures you a spot. Come along for the trip of a lifetime!

[Retourtje Oerknal | Leiden2022](#)

- **NRC Future Affairs X Leiden European City of Science 2022**

Date: 29 April

Organized by: NRC Future Affairs and Leiden European City of Science 2022.

Description: From groundbreaking ideas about the nature of our consciousness, to research demonstrating the stunning intelligence of nature, get ready for an event that might just change your view of the future.

Are we really just separate individuals, separated from each other and the rest of nature? A radically different picture is looming in all kinds of branches of science. Ecology shows how symbiosis is often more important than competition, from physics and mathematics come new ideas about the mathematical patterns (fractals) that connect everything to everything, in biology the view is moving towards the interconnectedness of all life and the fascinating intelligence that nature has produced through millions of years of evolution. So what about artificial intelligence? In philosophy and neuroscience, there are ideas of panpsychism: the possibility that everything around us has some form of intelligence - and perhaps even consciousness. Are these scientific breakthroughs going to provide a substantially different world and nature view, or is that wishful thinking? Either way, I think it's time to take a look at these big topics in context.

Future Affairs x Leiden European City of Science 2022 brings together leading thinkers, artists, researchers and pioneers to explore what awaits us in this time of disruption and change. How can we prepare for the mindshifts ahead? From groundbreaking ideas about the nature of our consciousness, to research demonstrating the stunning intelligence of nature, to quantum physics painting a very strange picture of reality. And indigenous wisdom that is remarkably relevant in these modern times: brace yourself for an event that may well change the way you think about the future.

Together with leading thinkers and pioneers such as Philip Goff (Galileo's Error), Chief Phil Lane (leader of the Ihanktonwan Dakota and Chickasaw Nations), Cristiane de Moraes Smith (professor of theoretical physics), Claudy Jongstra (Guernica de la ecologia) and Li An Phoa (Drinkable Rivers Movement), we try to capture the coming changes.

About NRC Future Affairs: For NRC, philosopher Jessica van der Schalk and journalist Wouter van Noort interview leading pioneers and thinkers on systemic change and our shifting relationship to nature and technology. We host live events and podcasts that reach up to 40,000 listeners, the weekly episodes of the email newsletter reach some 50,000 curious souls. Previous interviewees include Toby Ord, Jeremy Lent and Philipp Blom.

[NRC Future Affairs x Leiden European City of Science 2022 | Leiden2022](#)

- **Wij zijn de stad / We are the city**

Date: 30 April 2022

Description: It is now 2022. If you are a boy today, put four pips on the die. If you are a girl, put three.

'We are the City' by PS Theatre is a life-size party game in which you are the pawn. With the passport of a just-born baby in one hand and a die full of odds in the other, you walk the course of life of this Leiden resident. From plus class at primary school to job opportunities, from a minor crime during

puberty to a major event later in life. Step into the shoes of Fleur, Edino, Isaya, Henkie or one of the other inhabitants of Leiden and discover whether there is such a thing as equal opportunities.

[Wij zijn de stad | Leiden2022](#)

- **Maori weekend in museum Volkenkunde / Maori Weekend in museum Volkenkunde**

Date: 30 April – 1 May 2022

Organized by: Museum Volkenkunde and the Old Observatory

Description: Did you know that Museum of Ethnology and the Maori have a very special bond? Come to Ethnology this weekend and learn all about the Maori from the Maori and with fun workshops.

Museum Volkenkunde has a rich collection of objects made by Maori, the taonga (treasures) some of which are on display in the Oceania room. There is an extremely special and close relationship between the Maori of New Zealand and the Museum. In 2010, Museum Volkenkunde was even handed over a ceremonial boat, waka taua, and a boat for daily use, waka tete kura. Especially for this weekend, Maori living in England are coming over.

GUIDED TOUR - Maori treasures: Join the museum docent to tour the objects that tell about the dynamics of Maori culture and its wealth of artefacts.

FAMILY FUN – Vaiana: Do you know the Disney film Vaiana? During this family lecture, you will be taken to the real Oceania through footage from the film. This way, you will discover what the filmmakers themselves invented and what is based on reality.

FAMILY READING - with the whale to New Zealand?: Did the first humans come to New Zealand on a whaleback? New Zealand is all the way on the other side of the world. But when and how did humans get there? Discover the role of whales in sailing. And learn even more about kiwis, sheep, long white clouds and canoes.

WORKSHOP - Learn the weaving technique: Maori dance groups very often wear a braided headband. The head is the most sacred (sacred) part of the body. It is tapu - the Dutch word 'tabu' is derived from it. The Maori colours of red, white and black are usually used. Fibre arts were mainly a women's business. Knowledge of techniques and materials was passed on from one generation to the next. Today, weaving is no longer a skill for women; anyone can enjoy it and learn it.

ACTIVITY - Sail along with the waka: The waka is pre-eminently a symbol of Maori identity. Students of the Leiden rowing club Njord, specially trained by Maori rowers, ceremoniously sail the waka through the Singel. Would you like to learn the techniques and commands too? Join them in the waka and sail together to the Observatory where a great programme also awaits you.

EXTRA information:

Maori & Wakas : The waka plays an important role in the lives of many Maoris. According to tradition, their ancestors travelled to New Zealand for the first time in seven wakas. Each group knows exactly which waka their ancestors came ashore with. When a Maori introduces themselves, they tell which waka they belong to and which mythical waka their own group arrived in New Zealand with. Today, many family groups still have their own waka which they sail on during special occasions. The waka is the pre-eminent symbol of Maori identity.

[Maori Weekend in Volkenkunde | Leiden2022](#)

- **Festiwell '22: towards global sustainable well-being | Euniwell event**

Date: 2 May – 13 May 2022

Organized by: European University for Well-Being

Description: From 2 to 13 May 2022 [EUniWell](#), the European University for Well-Being, will be hosting its second annual FestiWell. The nine-day event - 'Towards global sustainable well-being' - will

explore with students, researchers, and academic and university staff from all EUniWell institutions one of the great challenges of the present day: how to set the course for a sustainable future in which we can live together with well-being.

In-person and online

We look forward to welcoming you in the morning in PLNT where the in-person events will be held. The in-person portion of the day will be rounded off with a networking lunch, at which you are very welcome to join us. Following a short afternoon break, we will start up with our online portion of the day where we offer a series of online events on a broad selection of topics. Have a look at the programme below for more information.

[FestiWell '22: Towards global sustainable well-being | EUniWell Event | Leiden2022](#)

- **Leen een levend boek in de living library / Borrow a living book at the living library**

Date: 3 May

Organized by: Leiden University in collaboration with BplusC.

Description: A real Living Library in Leiden! Engage in conversation with living books step into a world other than your own.

Leiden University is organising a Living Library in collaboration with BplusC!

What is a Living Library? The idea of a living library is that visitors borrow so-called 'living' books - people - to talk to. These living books are people who often face certain prejudices in their daily lives, for example a transgender person, an ex-prisoner, a teenage mother, an asylum seeker or someone with autism. Engaging in a conversation with a living book gives you a chance to exchange views with and get a glimpse into the world of experience of someone you might not otherwise be so quick to speak to in such a way.

In her research and teaching, Professor of Sociology of Law Maartje van der Woude (Van Vollenhoven Institute) frequently pays attention to processes of inclusion and exclusion and the role the law plays in them. In stimulating people's empathy, she sees a simple but powerful way to partly counterbalance the increasing polarisation within society.

There are 12 living books available for 20-minute talks for 3 hours.

[Leen een levend boek in de Living Library | Leiden2022](#)

- **Kigo – seizoenwoorden in Japanese Haiku / Kigo - seasonal words in Japanese Haiku**

Date: 04 May 2022

Organized by: Japanese Museum Sieboldhuis

Description: After the success of the previous Haiku workshop, the Siebold House is organising a second one! This time with an exciting challenge

Haiku lovers beware! Do you also love Japanese poems? Maybe you already know what a haiku is and how to make one yourself. But did you know that traditional Japanese haiku often include kigo?

Kigo are seasonal words in Japanese haiku that refer to a particular season. These can simply be the words 'summer' or 'spring', but often a word from nature is used in haiku to refer to a season. For example, 'snow' represents winter and 'cherry blossom' represents spring.

In this workshop, you will learn all about the use of kigo in traditional Japanese haiku. You will also get to work with Japanese kigo yourself! Together with Japan experts Sanne, Luisa and Juliette, you will first practice how to write words like seasons in Japanese, and get to decorate your own haiku paper to match your favourite kigo. In the end, you will go home with a beautiful homemade haiku written in Japanese!

This activity is a collaboration between Leiden University's Faculty of Humanities and Japan Museum SieboldHuis and is organised as part of Leiden European City of Science 2022.

- **Informatieve Singelparkcafés / Informative Singlepark cafés**

Date: 08 May – 22 May 2022

Organized by: Vrienden van het Singelpark / Friends of the Singelpark

Description: Friends of the Singelpark are organising special Singelpark Cafés on biodiversity. Join scientists and other stakeholders to discuss the importance of biodiversity in Leiden and how we can strengthen it in the city and the Singelpark.

The Netherlands has 12% left of the original biodiversity of some 100 - 150 years ago and is still losing. But what is biodiversity? What is important about it? And how can you preserve and promote it? Research shows that only about 15% of the population has a good idea of what biodiversity is. Even administrators and civil servants sometimes appear to be only moderately informed. This often makes it difficult for people to know what they could do to promote biodiversity.

In 2009, the Leiden city council's ambition was: Leiden should become the biodiversity capital of Europe. The city has gone green in recent years. Design and construction of the six-and-a-half-kilometre-long Singelpark is a good example of this. Yet this does not mean that the city's biodiversity has increased that much. To achieve this, there is still a lot more to do. And that is why we would like to talk to you!

Interested? Below you will find more information about the full programme. Admission is free, but registration is strongly recommended due to limited seating. You can do so via programmeringsingelpark@gmail.com. After registration, you will receive a confirmation.

You are welcome on all afternoons from 12.30 pm, when coffee/tea will be ready. The programme starts around 1 pm and will last until 3 pm. Afterwards, there will be time for a chat.

[Informatieve Singelparkcafés | Leiden2022](#)

- **Astronomy on tap: ontdek de sterren in de oude sterrewacht en in café 't Keizertje / Astronomy on tap: discover the stars at the Old Observatory and café 't Keizertje**

Date: 9 May 2022

Organized by: Old Observatory and the Leiden Observatory Working Group

Description: Three members of the Leiden Observatory Working Group showcase their work and research. Watch and listen while enjoying a real Sip of Science.

The Old Observatory in Leiden has a rich history and is the oldest existing university observatory in the world. The Leiden Observatory Working Group (WLS) plays a vital role in its smooth operation. The work of the WLS ensures that the astronomical instruments of the Old Leiden Observatory remain in good technical and functional condition. At this event, we would like to show what kind of work WLS does and how they work to promote the Old Leiden Observatory.

What better way to reach the general public than an event in a pub! In collaboration with Pint of Science Netherlands and Astronomy on Tap - Leiden, we have an evening where three members of the WLS will present the work they do. From developing an optical corrector that shows images sharper than the human eye, to explaining the range of images possible with ancient telescopes, we have a stargazing evening planned for you.

And of course you can enjoy the evening with the beer made especially for Leiden 2022, the 'Sip of Science' from Pronck Brewery. See you soon!

[Astronomy on tap: ontdek de sterren in de Oude Sterrewacht en in café 't Keizertje | Leiden2022](#)

- **Science café leiden: medische robotica en beeldgeleide chirurgie / leiden science café: medical robotics and image-guided surgery**

Date: 10 May 2022

Description: Interested in science in its broadest sense? Come to the Science Café Leiden!

The Science Café Leiden organises evenings with accessible science for a wide audience in an informal setting. This evening, Prof Fijs van Leeuwen will take you into the dynamic field of medical robotics and image-guided surgery. How do these robots and medical imaging work? What can we already do and what developments are expected?

After the break, there will be an opportunity to discuss this with him. Prior to the lecture and in the break between lecture and discussion, Beechcraft Bonanza will perform.

[Science Café Leiden: Medische Robotica en Beeldgeleide Chirurgie | Leiden2022](#)

- **Kwantummechanica – Het bizarre gedrag van atomen / Quantum mechanics - The bizarre behaviour of atoms**

Date: 11 May 2022

Organized by: Volksuniversiteit Leiderdorp

Description: To make sense of the universe, we need to understand the world of the small. It is about the bizarre behaviour of matter and energy at a level smaller than atoms.

To make sense of the universe, we need to understand the world of the small. It's about the bizarre behaviour of matter and energy at a level smaller than atoms, which is studied, among other things, in the giant Large Hadron Collider of the European research organisation CERN under Jurassic near Geneva. To make all this understandable, lecturer Theo van Es presents a large stream of images and videos.

Theo van Es: Theo van Es is retired and now spends his time lecturing on the universe and modern physics. About 40 times a year, he lectures on the universe. His motivation in lecturing is mainly to convey his fascination about the universe to the public.

[Kwantummechanica - het bizarre gedrag van atomen | Leiden2022](#)

- **Zuidwest Symphonies live lancing / Southwest Symphonies live launch**

Date: 11 May 2022

Organized by: Zuidwest Symphonies

Description: Festive celebration of the Zuidwest Symphonies website! With live music by the composers of the streets of Leiden Zuidwest

On Wednesday 11 May 2022, the Zuidwest Symphonies organises a festive neighbourhood concert in Leiden Zuidwest to celebrate the launch of the website www.zuidwestsymphonies.nl. This website is a musical tour through this little-known neighbourhood where all streets are named after composers.

Between 16.30 and 21.30, you are welcome in the Parelvisiers (Bizetpad 8) for live performances by both enthusiastic amateurs and professional musicians. They will play music by the composers the streets are named after or by contemporaries of these composers.

[Zuidwest Symphonies LIVE Lancing | Leiden2022](#)

- **3^e Leidse Melanoomdag / 3rd Leiden Melanoma Day**

Date: 12 May 2022

Organized by: LUMC/Boerhaave Nascholing

Description: Updated in one day on prevention, recognition, diagnosis and treatment of both (familial) skin, mucosal and ophthalmic melanoma.

The Leiden Melanoma Day is organised by LUMC/Boerhaave Nascholing. LUMC is a national centre of expertise for the diagnosis and treatment of primary (familial) skin, mucosal and ophthalmic melanoma. It is also a centre for the treatment of patients with metastatic skin and eye melanoma.

On Thursday 12 May 2022, you are welcome to attend the third edition of the Leiden Melanoma Day. Here, you will learn all about the recognition and treatment of early- and late-stage skin, mucosal and ophthalmic melanoma.

Furthermore, you will be updated on the latest developments in prevention and diagnostics of skin and eye melanomas. The content of the symposium is aimed at general practitioners and all professionals involved in melanoma care. So as a referring medical specialist (in training), physician assistants or nursing specialist, you can simply participate.

[3e Leidse Melanoomdag | Leiden2022](#)

- **Stevenshof Music Festival Water!**

Date: 13 May 2022

Organized by: BplusC, Fonds 1818, Gemeente Leiden, Includio Leiden en GaGoed Leiden.

Description: A music festival entirely on the theme of WATER! With an information market, tips and experiments to measure the neighbourhood's water quality. And, of course, lots of music!

The Stevenshof Music Festival Water is an initiative by a number of residents of the neighbourhood who would like to liven things up a bit and are using music to do so. Music for everyone, for all ages, at different times of day, by children, amateurs and professional musicians.

With WATER! as the theme. The Stevenshof is rich in water. You can enjoy yourself on it and with it, you can drink it, wash yourself with it. What can the Stevenshof do to handle this precious good as carefully as possible? We express this in music and in an information market where all kinds of facts about water are presented, tips for using it wisely in a simple way and experiments to measure the quality of water in the neighbourhood.

The musical part of the festival ranges from chamber to surf music and from opera arias to sea shanties. There will also be an orchestral scratch of G.F. Handel's Water Music.

[Stevenshof Muziekfestival Water!!! | Leiden2022](#)

- **Avondje Sterrewacht voor jongeren / A night at the Old Observatory for the youth**

Date: 13 May 2022

Organized by: Jongeren Sterrenkunde Vereniging and Leiden en Omgeving

Description: Tonight it is again time for the monthly meeting of the Leiden and Environs (LEO) section of the Youth Astronomy Society (JWG). At the meeting at the Leiden Sterrewacht, there will be lots of talks about weather and astronomy. Be welcome!

Tonight it is time again for the monthly meeting of the Leiden and Environs (Leiden en Omstreken (LEO)) section of the Youth Astronomical Society (Jongeren Sterrenkunde Vereniging (JWG)). At the meeting at the Leiden Observatory, we will be told a lot about weather and astronomy, do the occasional experiment or make a fun craft. Are you interested? Feel free to come along!

[Avondje Sterrewacht voor jongeren | Leiden2022](#)

- **Workshop oeverplanten Stevenshof Leiden / Workshop riparian plants Stevenshof Leiden**

Date: 14 May 2022

Organized by: Naturalis Biodiversity Center

Description: Help map the riparian vegetation of Leiden and its surroundings with Naturalis' Citizen Science project OEVERPLANTEN.

In polder landscapes and built-up areas, banks often offer good opportunities for 'wildlife' and important hiding places for various plant and animal species. With the project 'Bank plants', various researchers are mapping which banks are doing well and which banks could be better managed. To get the best possible picture of all banks, we need as many people as possible to contribute to the project by looking at bank plants and reporting how the plants are doing.

For the fifth year, from 15 May and until 15 September 2022, anyone who likes it can become a 'riparian expert'. This way, you contribute to research as a co-researcher and experience the ditches and banks in a different way. Find banks in your neighbourhood or take your bike and go exploring. Interested in becoming a co-researcher? Then take a look at the website. There you will find a fun quiz that will help you learn about 24 riverbank plants. Get started independently with the manual and information on the website.

During the riparian plants workshop today, we will do a bank check together along the banks!

[Workshop Oeverplanten Stevenshof Leiden | Leiden2022](#)

- **Publiekslezing zwarte gaten / Public lecture black holes**

Date: 14 May 2022

Organized by:

Description: In May of 2022, the first photo of the black hole at the heart of our Milky Way was revealed. An amazing discovery! But what exactly do we know about black holes? And what does this photo mean for the future?

On 12 May 2022, the Event Horizon Telescope (EHT) published the very first photo of the black hole at the centre of our Galaxy, called Sagittarius A*. A picture that could only be taken with a global network of telescopes. How exactly did this photo come about? And what does it mean for science?

Director of the EHT and Leiden professor, Huib Jan van Langevelde, will give a public lecture on the unveiled results on Saturday 14 May 2022. This public lecture will take place at 4pm in the Grand Auditorium of the Academy Building. This event is free, with Dutch as the language of instruction.

[Publiekslezing Zwarte Gaten | Leiden2022](#)

- **Leidse Marathon / Leiden Marathon**

Date: 14 – 15 May 2022

Organized by: Leiden Marathon

Description: Walk or run in and around Leiden this weekend!

The 31st edition of the Leiden Marathon! Walk or run together in and around Leiden. Both are equally fun. Distances are 42 kilometres, 21 kilometres, 10 kilometres, 5 kilometres or the Kidsrun over 2 kilometres (5km and 2km not with the walk).

[Leiden Marathon | Leiden2022](#)

- **NINO Annual Meeting**

Date: 14 May 2022

Organized by: Netherlands institute for the Near East and (Faculty of Archaeology) Leiden University.

Description: The Netherlands Institute for the Near East (Nederlandse Instituut voor het Nabije Oosten, NINO) Annual Meeting brings together Near East students and researchers to share ideas on research projects and present the NINO Thesis awards.

The Netherlands Institute for the Near East, also known as NINO, holds an annual meeting for Near East students and researchers. At this Annual Meeting, they can network, exchange ideas, listen to keynote speeches by experts, and the NINO Thesis awards will be presented at a ceremony.

This conference is organised by NINO and (Faculty of Archaeology) Leiden University.

NINO is a Dutch Near Eastern research institute located at Leiden University. It maintains an internationally recognised open library, important collections of relevant objects, and publishes scientific journals, with the aim of advancing knowledge on the Near East.

Leiden University's Faculty of Archaeology researches the development of human societies worldwide and studies heritage of human history. Besides research, the faculty's core task is to train archaeologists.

[NINO Annual Meeting | Leiden2022](#)

- **The Jordcast live**

Date: 14 May 2022

Organized by: Dr Kelder and Co

Description: Jort Kelder will debate with students and influential thinkers and you can attend this debate live. As part of Le Grand Tour des Académies, Jort is coming to Leiden University!

You can be part of a live broadcast of Dr Kelder and Co, 'your weekly hour of radio therapy against hypes and hysteria', a radio programme with a special focus on science. On tour of the Netherlands' leading universities, the programme also visits Leiden University.

Jort Kelder will debate with students and influential thinkers. The programme consists of an hour of live broadcasting with several interviews, followed by about an hour of debate with researchers and audience. During the broadcast, Jort Kelder talks with (among others) college president Annetje Ottow about the power of Leiden research, and with professor of Galactic Radio Astronomy Huib Jan van Langevelde about black holes.

In the subsequent debate, we will discuss democracy. Is representative democracy making the Netherlands ungovernable? How do we save politics? Should we activate citizens' councils or should the qualified elite come to power? This will include Professor of Philosophy of Law Andreas Kinningg.

[De Jortcast Live | Leiden2022](#)

- **Spelen in het Singelpark / Playing in the Singelpark**

Date: 15 May 2022

Organized by: Leiden University of Applied Sciences – lectorate Nature & Child development

Description: Come to a digital mini-lecture on outdoor play, especially for Leiden families.

See the Singelpark with different eyes and discover new play areas for your child and yourself, together with researchers from the lectorate Nature & Child Development of Leiden University of Applied Sciences.

Especially for Leiden families, two researchers from the lectorate Nature & Child Development will give a digital mini-lecture on outdoor play. You get scientific information about the importance of outdoor play. After the mini-lecture, you will look at the Singelpark with different eyes and discover new play areas for your child(ren) and yourself. You can go out in the Singelpark right afterwards! Sunday 15 May is Family Day, a great day to go out.

[Spelen in het Singelpark | Leiden2022](#)

- **Het Leidse Basisschooldebat / The Leiden primary school debate**

Date: 17 May 2022

Description: Do you have a talent for debating? Or would you like to learn how to debate? Come to the Leiden Primary School Debate and practice your speaking, thinking and presentation skills.

Today, at primary school De Singel, the Leiden Primary School Debate Tournament is being organised. Together with Basisschool De Singel, OBS De Viersprong, Stichting BplusC and DebatUnie, pupils of group 7 and 8 will have an unforgettable day!

Pupils will debate together on various topics, practising their speaking, thinking and presentation skills. The day will also focus on the topic: 'The relationship between humans and animals', on which the pupils will receive literature lessons beforehand and which will also be the subject of the debate rounds. Under the guidance of professional judges, they will receive extra explanation and feedback on the debates. This will prepare them extra well with important skills for secondary school and beyond.

At De Singel primary school, we will therefore take on this challenge with all pupils, would you like to be there too? Then sign up quickly!

[Het Leidse Basisschooldebat | Leiden2022](#)

- **Lentesymposium: iedereen doet mee toch? / Spring symposium: everybody participates right?**

Date: 17 May 2022

Organized by: Knowledge Centre for Psychology and Economic Behaviour (KCPEG)

Description: After a successful autumn symposium last year, Knowledge Centre for Psychology and Economic Behaviour (KCPEG) is organising their first spring symposium on Tuesday 17 May!

The topic is citizen perspective and participation. In an interactive programme, our speakers will give their views on this topic from practice, policy and science. This symposium is part of Leiden 2022 European City of Science and participation is possible both online and in person.

[Lentesymposium: iedereen doet mee, toch? | Leiden2022](#)

- **Meet up Wetenschapsknooppunten Zuid-Holland / Meet up Science points South-Holland**

Date: 18 May 2022

Organized by: Wetenschapsknooppunten Zuid-Holland in cooperation with scientists from the European Sell STEM project

Description: Meet up Science Focal Points Zuid-Holland (primary and lower secondary schools)

Today, several science hubs will meet in Leiden to exchange knowledge about Science & Technology (S&T), inquiry-based & design-based learning, spatial insight, perspectives and skills. With the latest scientific insights!

This meeting is organised by the Wetenschapsknooppunten Zuid-Holland in cooperation with scientists from the European Sell STEM project, which is researching spatial insight.

[Meet up Wetenschapsknooppunten Zuid-Holland | Leiden2022](#)

- **League European Research Universities (LERU)**

Date: 19 – 20 May 2022

Organized by: League European Research Universities

Description: LERU is an association of leading European research-intensive universities that share the values of high-quality teaching within an environment of internationally competitive research.

LERU's primary aim is to demonstrate to national and European public authorities the importance of basic scientific research and the role that research universities can play in it. The alliance does this by setting out its vision of research and science policy in policy papers and statements, and by organising various events and meetings.

The LERU maintains a dialogue and cooperates with the EU institutions and EU-related organisations active in the higher education and research arena on topics such as the European Research Area, Open Science, Horizon Europe and Erasmus+. They do this through direct communication and discussions within the policy community, sound proposals for improvement and progress, and carefully considered publications on fundamental issues affecting Europe's research universities.

In addition, LERU focuses on the exchange of expertise between its members and fostering cooperation and interaction between its students and scientists. LERU is strongly committed to the development of Open Science, both at the level of research institutions and at the level of EU policymaking.

For Leiden University, LERU is one of the most important partnerships within Europe. However, the scope of this alliance extends beyond Europe. For example, LERU is seeking to collaborate with like-minded university networks in the USA, China, Japan, Canada and other countries. Within the Economic and Social Council of the United Nations, LERU has special consultative status.

About LERU

The League of European Research Universities (LERU) is a well-established network of research-intensive universities. We develop and disseminate our views on research, innovation and higher education through policy papers, statements, meetings and events helping to shape policy at the EU level.

The League is a valued interlocutor for the European institutions and other policy stakeholders. It acts as a strong, outspoken voice of European research-intensive universities on a wide range of topics related to EU policies and initiatives.

[League of European Reserach Universities \(LERU\) | Leiden2022](#)

- WIJSCO kar / WISECREAM truck

Date: 22 May 2022

Organized by: ZITSO

Description: Wise in the neighbourhood, harvesting doubts in the year of science! Join ZITSO?'s doubt research into the doubts, prejudices, fears and questions that the Leiden public has about science.

The centre for the doubtful research is the cheerfully pink coloured WIJSCO cart. In a theatrical way, the researchers go to the audience to question them. Most importantly? They do not come to bring science, but engage in conversation in an approachable way and 'harvest doubts'. This happens particularly around the themes of health, climate and biodiversity.

The doubters will do this by going into a different neighbourhood each time (community centre, library, school, children's activity) to question the public (adults and especially children). There are four different flavours. All lead to knowledge sharing. The flavours leave room for doubt, fears and questions. Doubt is at the root of science. Together with the doubters, the audience explores existing or undiscovered sources of knowledge and potential solutions to problems.

The goal? The aim is to introduce children (groups 7 and 8) and local residents to scientific topics such as biodiversity, health and climate in a playful way, and to ask the relevant questions about them. 'Questioning' is learning to ask the 'how-to' question.

[De WIJSCO-kar: twijfel zaaien in een jaar van wetenschap | Leiden2022](#)

- **Leiden Science Family Day**

Date: 22 May 2022

Organized by: Leiden University's Faculty of Mathematics and Natural Sciences

Description: Want to know what goes on behind the doors of Leiden University's Faculty of Mathematics and Natural Sciences?

Come discover science together! During the Leiden Science Family Day, young and old can discover together what happens in the faculty and how much fun science is! Participation in the Leiden Science Family Day is free of charge. The programme is suitable for all ages and everyone is welcome! In fact, the building where the event is held is fully wheelchair accessible and has a disabled toilet.

Join your family and friends at the Leiden Science Family Day on Sunday 22 May from 11:00 to 16:00! Watch exciting demonstrations, step into the shoes of a scientist at numerous workshops, visit the Experiments Square or listen to our speakers.

[Leiden Science Family Day | Leiden2022](#)

- **De reuzenalbatros en zijn gevleugelde vrienden / The giant albatross and its winged friends**

Date: 22 May 2022

Organized by: chamber orchestra Sinfonietta Voorschoten , in collaboration with IVN Leidse regio Natuureducatie

Description: Can you really appreciate birdsong? Do you unwind from a walk in nature? Then sign up for a nature walk and concert focusing on all kinds of winged friends!

On Sunday afternoon 22 May, chamber orchestra Sinfonietta Voorschoten is organising a bird walk followed by a unique concert, in collaboration with IVN Leidse regio Natuureducatie. The programme will be performed twice and is open to everyone (young and old!).

The afternoon starts at the Kruispunt (Schoolstraat 2, 2252BH Voorschoten) with a walk led by IVN Leidse regio guides in the nearby Berkhout Park. IVN Leidse regio's guides will be happy to take you exploring. It is recommended to bring binoculars if you have them. That way, you can get a good look at the details, colours and markings of the birds' feathers.

The walk will be followed by Sinfonietta's concert entirely dedicated to birds. The title of the afternoon programme is: 'The giant albatross and its winged friends'. The title is mainly based on the piece that will be played by Huub de Vriend: 'The giant albatross'.

Annemarie shows in a melodic oboe solo by Respighi how the pigeon makes humming and cooing sounds. Daniëlle, in her flute solo of Vivaldi, shows a series of tinkling variations of the goldfinch. Listen also to the swan, the cuckoo, the hen and the magpie, and glide along with the giant albatross, which picks up the melodies of the countries it flies over.

[De reuzenalbatros en zijn gevleugelde vrienden | Leiden2022](#)

- **Naturalis Biodiversity Day 2022**

Date: 22 May 2022

Organised by Naturalis Biodiversity Center

Description: On Sunday 22 May, World Biodiversity Day, we celebrate all life. Celebrate together with Naturalis and do your bit to preserve biodiversity! There are various activities to do!

Bioblitz: During the Bioblitz you will work on the question: what lives in 100 square metres? Discover together how many species can be found. Who knows what we might find, maybe a new species? In front of the Naturalis entrance, everyone can get started for free with everything that lives under your feet and around you. This event is suitable for all ages.

Tower of all life: Without flowers no bees, without plankton no fish, and without trees no monkeys. All life depends on other life. It is called biodiversity. But if too many species disappear, the balance is at stake... Will you keep the Tower of All Life in balance? In the Atrium of Naturalis, you can try to keep the tower balanced yourself. This event is free and suitable for all ages.

Spotlight on the experts: In the - free to enter! -hall LiveScience, Naturalis turns the spotlight on their experts. So you will learn how to recognise plants and insects, or how to research the smallest life. The experts bring along real collection pieces and talk passionately about their work at the museum. This event is suitable for everyone from 8 years old.

ObsIdentify: Naturalis challenges you to discover wild plants and animals unknown to you in your neighbourhood on World Biodiversity Day. You walk through your garden, street or neighbourhood every day, but do you really know who and what lives on your doorstep? Take photos of the species in your area that you don't yet know and report them via the free ObsIdentify app. The app recognises a wide variety of flora and fauna based on photos, names them and gives facts about them. In the app, the 'Discover nature in your neighbourhood' challenge is active on 22 May. Download the app, sign in with a Waarneming.nl account and join the 'Discover nature in your neighbourhood' challenge on 22 May.

Biodiversity & us: We live in the age of man. Our population has exploded. You and 8 billion fellow humans are asking a lot of the earth and life on it. In the new museum tour, you will discover how vulnerable biodiversity is and also how resilient. From 22 May, the interactive tour can be found in the Naturalis museum app called 'Biodiversity & us'.

Wijscokar: Do you know another word for biodiversity? And where do you prefer to be: in the city or in nature? While enjoying an ice cream, chat about biodiversity with the 'doubters'. On World Biodiversity Day, the Wijscoco cart will drive through the districts of Leiden, including the Plantsoen for the City of Science 2022 activities. So keep your ears open for the sound of the (w)ice cream cart!

[Naturalis Biodiversiteitsdag | Leiden2022](#)

- Story competition

From: 25 May – 15 June 2022

Organized by: Stemmen van Afrika / Voices of Afrika

Description: Can you figure out why zebras have stripes?

A quick Google search yields results like "protection from insects" or "cooling," but there is no clear answer (yet). In Africa, animal characteristics are actually an important part of traditional folk tales. African myths are full of original explanations of why a particular animal has a particular trait. In Sierra Leone, for example, there is a story that explains how the leopard gets its black spots. According to this story, it is because the leopard had invited his friend the Fire to his home at the insistence of his wife. The house burned down completely as a result. The black spots are scorch marks left by the fire on the leopard.

Now it's up to you! Can you explain in an original, interesting, exciting, or funny way why an animal has a certain characteristic? For example, why monkeys eat bananas, or why zebras have stripes? Pack it into a story of up to 1,500 words and send the story to verhalen@stemmenvanafrika.nl by 15 June 2022.

[Verhalencompetitie: Dat leest als een beest! | Leiden2022](#)

- **Copernicus Day evening lecture**

Date: 27 May 2022

Organized by: Leiden Astronomical Society Fredrik Kaiser

Description: In the evening there will be a lecture by a member of the Leiden Astronomical Society Fredrik Kaiser on developments in astronomy

This year Leiden is Leiden City of Science and in doing so, 27 May has been declared Copernicus Day. Copernicus was a scientist from Torun in present-day Poland. He is considered the shaper of modern astronomy. The Leiden Astronomical Society Fredrik Kaiser is involved in the Old Observatory in Leiden. One of the members of this dispute gives a presentation on developments in astronomy

- **LS&H: Je eigen cellen als medicijn? / Your own cells as medicine?**

Date: 28 May 2022

Organized by: Dutch Science Agenda (Nederlandse Wetenschaps Agenda)

Description: Discover the future at the Public Day Regenerative Medicine

On 28 May, the Public Day Regenerative Medicine will take place at the Stadsgehoorzaal in Leiden. This day is organised by the Regenerative Medicine route related to the Dutch Science Agenda (NWA). On this day, we will show you what the future of medicine holds. Could you be treated by your own cells? Will we be able to make drug development more efficient? How could your own genes be the solution to your health problem? But also: what are the societal implications of current developments in medicine? How do we pay for these expensive treatments? And who owns commercialised therapies derived from your cells?

All this will be discussed at a fair (open from 10:00-16:00) where you can read, experience, discuss, watch and listen to the story of the Dutch route Regenerative Medicine. Access to the day is free and registration is not required.

The day is organised by the Dutch Science Agenda (NWA) and provides a platform for anyone interested in this exciting topic.

Whether you know nothing at all about stem cells or are already familiar with regenerative medicine, are young or older, everyone is welcome. Bring your friends and family along too. There are activities for all ages.

[LS&H - Je eigen cellen als medicijn? | Leiden2022](#)

- **LS&H: Museumnacht / Museumnight**

Date: 29 May 2022

Organized by: various parties

Description: THE FOURTEENTH EDITION OF MUSEUMNACHT LEIDEN

Museum Night on Saturday 28 May is a perfect opportunity to discover Leiden's unique museums, including Rijksmuseum Boerhaave, Naturalis and CORPUS. There will be a special Leiden2022 LSH programme.

Location: Rijksmuseum Boerhaave

Time: 20.00 - 01.00 (from 28 May 20.00 - 29 May 01.00)

The Museum Night is dedicated to the exhibition Herman Boerhaave & the Golden Age of Science. At a time when professors hardly dared make sick visits, Boerhaave's practical approach was a breath

of fresh air. Numerous activities will be organised within the theme of medical science this Museum Night. Learn all about piss watching, take part in beer yoga and make questionable cough syrup.

Location: Naturalis

Time: 20.00 - 01.00

Is it a meteorite or not? Is it a dinosaur or not? Are you also curious about the answers to such questions? Naturalis experts Hans Jorg Ahrends & Alice van Duijn, led by José de Wit, will shine their light on the most extraordinary finds made by visitors. From the entrants, we will draw someone to win an exclusive look inside the tower!

Location: CORPUS

Time: 20.00 - 01.00

Curious about the wondrous workings of your brain? But find neuroscience way too complicated? Nothing could be further from the truth! The films, music and art you enjoy every day are packed with interesting brain facts. For instance, did you know that techno is a feast for the brain because the repetition of sounds activates the reward system? And that the yellow glow in Van Gogh's 'Starry Night' is a side effect of psychiatric medication? In this interactive mini-pub quiz, you will see the world through the eyes of a neuroscientist. The neuroscience quizmasters of the Brain in the Picture Foundation will take you through brain research at a bird's eye view, with questions related to everyday life experiences.

[LS&H - Museumnacht | Leiden2022](#)

- **LS&H: TK Challenge Bio Sciencepark run**

Date: 29 May 2022

Organized by: Bio Sciencepark

Description: Run 5-6km through the Leiden Bio Sciencepark (LBSP) during the TL Challenge.

TK Challenge is a Leiden initiative and contributes to the connection within the Leiden region, provided that they contribute to Vitality. On Sunday, May 29, 2022 during the Life Sciences & Health (LSH) week the TK Challenge Bio Science Parkrun will take place. This run fits perfectly with the theme: Prevention and Lifestyle.

The run through the Leiden Bio Science Park is 5-6km and open to everyone. The proceeds of the run will go to the Willem Alexander Children's Hospital in Leiden.

[LS&H - TK Challenge Bio Science Park Run | Leiden2022](#)

- **Lecture Ellen ter Gast**

Date: 29 May 2022

Description: Medical biologist and philosopher Ellen ter Gast will talk about how science fiction and bio-art invite us to repeatedly explore the boundary between nature and technology.

Sunday 29 May has been declared Homunculus Loxodontus Day by the European City of Science committee. At 15.00 on that day, medical biologist and philosopher Ellen ter Gast will talk about how science fiction and bioart invite us to explore the boundary between nature and technology again and again. How does technology influence human and animal evolution?

[Lezing Ellen ter Gast | Leiden2022](#)

- **#Waardig en de werkelijke kracht van de wijk / #Worthy and the real power of the neighbourhood**

Date: 30 May – 2 July

Organized by: Theatre Ins Blau

Description: Theatre Ins Blau and De Generator's theatre makers put 'gentrification' at the heart of their work as part of Festival of Other Theatre. Art, theatre and activism connects.

The next FAT (Festival of the Other Theatre) festival is not until 2023! But until then, the theatres are not keeping quiet!

Partly as part of Leiden City of Science 2022, Theater Ins Blau and De Generator have invited an 'artist in residence'. Specifically for the De Waard district in Leiden, a project is being organised in the context of gentrification. We are learning more and more about 'gentrification'. Do people experience that change is also improvement? Or does it also have other sides? Sides that are not always immediately visible. Consequences that may be silently accepted, but have more impact than is good.

In the month of June, #WAARDIG will take place. The aim is to zoom in on De Waard, to see what is actually happening. A search for the real power of the neighbourhood.

What do local residents feel for their neighbourhood and how do they not let themselves be pushed away by imposed innovations? Are all developments #worthy of De Waard?

Artist Julia Heslopen and theatre-maker Sterre de Vries descend as neighbourhood residents!

British Julia investigates the phenomenon of 'gentrification' in several European cities. She uses art and architecture to ask critical questions about the consequences of property ownership and housing insecurity. Sterre is already a familiar face in De Waard (FAT festival); she is a social artistic maker who often creates work from encounters. In addition to meetings with Leiden residents, Julia and Sterre will also engage with housing policymakers.

The archives of city planning and housing corporations will be turned over. Next, they will look at how steps taken have affected the housing climate of De Waard. Neighbourhood residents will 'feel', 'smell', 'see' and 'hear' the neighbourhood in workshops and a diversity of meetings.

Neighbourhood walks will take place on 4 and 5 June. On Saturday afternoon, 2 July, all experiences will come together in a theatrical meeting with drinks and snacks.

Meet the artists for a conversation and interview. Or join in among the local residents!

If you would like to join us or be a guest at the meeting on 2 July, we cordially invite you to send a message to communicatie@fatleiden.nl

[#WAARDIG en de werkelijke kracht van de wijk | Leiden2022](#)

- **Fototentoonstelling : Crafting Cultures / Photo exhibition: Craftring Cultures**

Date: 31 May 2022

Organized by: Leiden Global together with Faculty of Archaeology

Description: Leiden Global, together with the Faculty of Archaeology and Leiden University, organises this exhibition on craft and culture.

Crafting Cultures: Crafts and innovation have always gone hand in hand. Nowadays, a worldwide revaluation of crafts and craftsmanship is evident. This is not a nostalgic return to an idealised past. It is a search for a more sustainable society. Crafts can play a central role in various sciences and innovation.

Photo exhibition: Researchers from different disciplines come into contact with crafts during their work, sometimes as a main subject, sometimes by chance. This exhibition shows photos by researchers - connected to LeidenGlobal partners - that relate to the theme of craftsmanship and innovation through crafts.

[Fototentoonstelling: Crafting Cultures | Leiden2022](#)

- **LS&H: Life Science & Health career event**

Date: 01 June

Description: The Life Science & Health Career Event will consist of an information market, workshops and one-to-one interviews.

The event starts on 1 June 2022 at 19:00 at CORPUS and will be combined with the welcome reception for the FIGON Dutch Medicines Days & EUFEPS Annual Meeting 2022.

Are you a recent graduate looking for your first job? Or are you an experienced or young professional looking for the next step in your career? Or maybe you just want to broaden your perspectives. This event is the ideal opportunity to expand your network. Maybe you will find that special job you have been looking for for so long!

[LS&H - Life Science & Health Career Event | Leiden2022](#)

- **Seniorencollege: muziek en het brein / Senior lecture: music and the brain**

Date: 02 June – 23 June 2022

Organized by: Stichting Oud Geleerd Jong Gedaan

Description: Join the journey on the lecture tour for seniors and carers and discover all about the brain and music.

How does music affect your brain? And how important is music as you get older? Join student May on a musical journey through the brain. Afterwards, there will be a tasty lunch where you can engage in conversation together.

The senior lecture tour is organised in collaboration with Old Learned Young Done.

Programme

2 June: What happens to your brain when you listen to music.

9 June: Why some songs stay in your head

16 June: How does music trigger memories? Followed by: Grandma's soup

23 June: Does music influence our behaviour?

[Seniorencollegetour: Muziek & het brein | Leiden2022](#)

- **LS&H: Life Sciences Pubquiz**

Date: 02 June 2022

Organized by: PLNT and JPP

Description: Want to put your knowledge to the test? Then come to the Life Science Pubquiz! In the biggest science pub quiz in the country, you can prove yourself and learn all kinds of new facts.

As Leiden has been named European City of Science in 2022, PLNT and JPP have jointly organised a pub quiz. During Life Science & Health Week, you can participate in this quiz and learn about life sciences, biotech and pharma.

The quiz is meant for companies with several employees who want to compete against other companies. Thus, the quiz is a truly collegial event!

The quiz will consist of six rounds with short breaks in between. During these breaks, you can get a drink at the bar and chat about anything and everything.

[LS&H - Life Sciences Pubquiz | Leiden2022](#)

- **LS&H: The installation folding life from artist Ana Oosting**

Date: 03 June 2022

Description: The installation Folding Life from artist Ana Oosting will be opened on Friday 3 June at the LUMC Art Space. This artwork is inspired by protein structures and is produced in collaboration with the LUMC research group of Meindert Lamers.

Their research focuses on the relation between proteins and DNA replication. Commissioned by the LUMC, Ana Oosting created an immersive artwork in which visitors can experience the fusion of art and science while walking through the magical structures of proteins. The installation consists of folded colored shapes made by hand. Ana Oosting is specialized in this folding technique with which she folds complex shapes.

[LS&H - The installation Folding Life from artist Ana Oosting | Leiden2022](#)

- **Plant Scientist for a day**

Date: 04 June 2022

Organized by: Institute of Biology Leiden (Leiden University)

Description: Did you know that fungi and bacteria work together with plants? That's how they all grow better! On Saturday 4 June, you will get the chance to do a real experiment with researchers from Leiden University.

During the 'Plant scientist for a day' activity on Saturday 4 June, you will get the chance to do a real experiment! Together with researchers from the Institute of Biology Leiden (Leiden University), you can see which microbes work together with plants.

[Plantenwetenschapper voor een dag | Leiden2022](#)

- **De Hortusimker vertelt / The Hortus beekeeper tells**

Date: 05 June 2022

Organized by: Hortus Botanicus Leiden (Leiden University)

Description: What exactly does a Leiden bee do? At the Hortus Botanicus Leiden, you can find out! How do bees adapt to the weather, different plants and the season? Learn more!

Every part of the year, nature is different. The bees follow the seasons, and the beekeeper follows the bees.

On 5 June, Hortus tutors will look with you at what is happening outside, how it affects the bees' behaviour and how the beekeeper deals with it in turn. This means you will take a walk through the Hortus with a focus on the bees' activities. In addition to focusing on honey bees, there will always be a look at wild bees and hoverflies, bumblebees and wasps. In case of bad weather, - part of - the time will be devoted to an indoor lecture or workshop.

The walk starts at 14:00 and lasts about an hour.

To join, you need an extra ticket of 4 euros. In addition, you must also have a standard ticket for the entrance to the Hortus.

[De Hortusimker vertelt | Leiden2022](#)

- **Bomen opmeten in de Burcht / Measuring trees in the Burcht**

Date: 06 June 2022

Description: If you are interested in trees, then the outdoor activity on 6 June might be for you! Together with a team of tree experts, participants will identify trees in and around the castle, measure them and put them on the 'open tree map'.

If you are interested in trees, then the outdoor activity on 6 June might be for you! Together with a team of tree experts, participants will identify, measure and put on the 'open tree map' the trees in and around the citadel.

Maps of the Castle and its surroundings will be available for all registered participants. At the beginning of the activity, after 10 a.m., an explanation of the Open Tree Map and tree inventory and measurement will be given. After that explanation, small groups will measure different trees. Around 11.30 a.m., the event will end together with a drink.

Supervised by Sjaan van Agtmaal, Hans van Daalen, Eduard Groen and Erik Zachte.

[Bomen opmeten in en om de Burcht | Leiden2022](#)

- **The Life Cycle: from 1 cell to 14,000,000,000 cells**

Date: 11 June 2022

Organized by: Leiden University Medical Center

Description: Learn about life's journey with LUMC! Listen to interesting presentations or attend one of the many workshops. For example, put on an ageing suit and feel 20 years older.

Our life begins with 1 cell, the fertilised egg. During the course of life, the body will grow until it consists of as many as fourteen billion cells!

How do you ensure that your cells, and therefore you, age healthily? Throughout your life cycle, your body and your health face challenges. Sometimes without your choosing and sometimes you do have the choices. At LUMC, there is plenty of research on all stages of the life course, both in the early stages of life and during ageing. What happens in the body during life? And what can you do about it yourself?

Today, LUMC presents research on the different phases of the life course. During the activity, there will be interesting presentations, as well as plenty of opportunities to talk to researchers and to experience and explore the life course yourself in different workshops. How does life begin? How does it feel to be old? Put on an ageing suit and (physically) spontaneously feel 20 years older! And measure how young (or old) your brain still is!

Engage with experts. Think with them, they would love to hear your ideas and questions.

[De levensloop: van 1 cel naar 14.000.000.000 cellen | Leiden2022](#)

- **Zondagwandeling biomimicry / Sunday stroll biomimicry**

Date: 12 June 2022

Organized by: Hortus Botanicus Leiden

Description: For centuries, man has admired the technical ingenuity of nature. From a fly walking on the ceiling to a flying bird; but also in the world of plants a lot of things happen that we ourselves would like to be able to do.

Nature is very special. Plants and animals have many qualities that humans themselves do not have, but would perhaps like to have.

On 12 June, the Hortus Botanicus Leiden dives into all the special aspects of plants. From aircraft paint and bicycle jackets with the properties of the lotus leaf to closures inspired by the spread of the seed of the large burdock. During the Biomimicry walk, tour guides Ton Gordijn and Thal Jonas will point out plants with special properties, and tell you how far humans have come to imitate them.

The walk lasts about an hour and starts at 11:00.

[Zondagwandeling Biomimicry | Leiden2022](#)

- **An introduction into the world of Haiku**

Date: 12 June 2022

Organized by: Japan museum Sieboldhuis

Description: In this lecture, Professor W.J. Boot will take you into the wonderful world of haiku.

Haiku are a late development in the history of Japanese poetry. The genre originated in the seventeenth century and has since grown into a form known all over the world.

Whereas haiku used to originate in clubs of poets across Japan, there is now even a haiku by the famous poet Matsuo Bashō (1644-1694) on the Leiden walls. During this lecture, Professor W.J. Boot will take you into the wonderful world of haiku and discuss some examples. Of course, there will also be room to ask questions at the end of the lecture.

A ticket for this lecture is only 2.50 euros (excluding entrance fee of the Japan Museum Sieboldhuis). Buy your ticket here.

About haiku:

The genre originated in the seventeenth century, at a time of domestic peace, growing prosperity, urbanisation, and increasing general development. Haiku were popular among "ordinary" people: the merchants and artisans of the cities, and the wealthier farmers in the countryside. Samurai were quite welcome to participate, but they enjoyed no special privileges.

As is the case with all Japanese poetry, writing haiku was a group affair. There were clubs of amateur poets who met regularly and recited their poems over tea or sake.

The meetings, sometimes even the clubs, were led by a "master" who chaired the meetings, monitored quality, improved where necessary, and initiated publications.

These publications included not only the poems of the master, but also the poems of the amateur poets. Anthologies such as the Sarumino ("A mackintosh for the monkey") thus contain not only poems by the great poet Matsuo Bashō (1644-1694), but also those of his students.

In terms of content, haiku are very different. Some haiku are simple descriptions of one's own observations; others are more profound, or they have double meanings in the form of references to special knowledge or older poetry. They often also contain a "joke": the first line then mentions the theme, often ending with the particle ya, and in the remaining lines the poet may say something unexpected about it.

[Een introductie tot de wereld van haiku | Leiden2022](#)

- **Science Café Leiden: emotions, so much more than just feelings**

Date: 14 June

Organized by: Science Café Leiden

Description: Interested in science in its broadest sense? Come to the Science Café Leiden!

While enjoying a drink and in a cosy, informal atmosphere? Then the Science Café Leiden is for you. In a Science Café you will learn all about a subject ranging from 'nuclear energy' to 'the new spelling'. After one or more scientists have talked about the subject, there is time to ask questions and join the discussion. With live music or an outspoken column, always convivial, informal and free of charge.

This evening, Prof Ad Vingerhoets, Emeritus Professor of Emotions and Well-being at Tilburg University, will introduce you to the importance of emotions for human functioning. After the break,

there will be an opportunity to discuss this with him. Before the lecture and in the break between lecture and discussion, Walk Right Back will perform.

[Science Café Leiden: Emoties: zoveel meer dan gevoelens | Leiden2022](#)

- **Leidse Fusie / Leiden Fusion**

Date: 18 June 2022

Organized by: Miverva Social

Description: Leiden's population is incredibly diverse. Today we merge different groups and connect the city. Come have a bite to eat and a drink and get to know your fellow residents!

The theme of 19 June is fusion, but Minerva Social can't start fusing all the different populaites of Leiden soon enough!

The city of Leiden has an incredibly diverse population of children, students and seniors! But sometimes it feels like these different groups live on separate islands from each other instead of in 1 city. There are already so many great initiatives to connect the city and we, on behalf of several student associations, would like to do our bit! Minerva Social are organising the 'Fusion' day, with the aim of facilitating the merging of people in Leiden!

On 18 June the time has come: everyone is welcome at a public location in the city centre where various activities will take place. A large seating area will be created where people can gather for snacks and drinks to get to know each other better. There will also be an art exhibition where everyone can express their views on the theme of fusion. Finally, several interactive experiments will also be provided so that everyone can learn about nuclear fusion in addition to social fusion.

We are extremely looking forward to this diverse day and hope everyone will feel addressed and involved to come and have a look too!

[Leidse Fusie | Leiden2022](#)

- **Presentation Big Questions:**

Date: 23 June 2022

Organized by: Rijksmuseum Boerhaave

Description: The Big Questions theme tells the story of what science has contributed to where we are today over the past 100 years.

Included in the theme are stories about Albert Einstein, the cultured citizen and Auzoux's gorilla model, among others

Big Questions is the new finale to Rijksmuseum Boerhaave's award-winning permanent presentation. Big Questions is a stimulating, audiovisual journey about the richness of science now, and offers windows on the future.

Can we look at disease and health in a new way? How do we keep the earth livable? And are we alone in the universe? These are three key questions from the Big Questions exhibition. Visitors themselves can also ask questions of thirteen (inter)national scientists researching these specific areas of interest. The museum's collection policy has also been tightened up and is current here: the objects illustrate current scientific research.

Minister Dijkgraaf will open the Rijksmuseum Boerhaave's revamped Great Questions theme room on 23 June 2022. This opening is private.

[Presentatie Grote Vragen | Leiden2022](#)

- **Festival de Fusie / Festival the Fusion**

Date : 25 June 2022

Description : Genieten van heerlijke deuntjes in de grootste woonkamer van Leiden!

Verplaats op zaterdag 25 juni 2022 je fusie met ons mee naar buiten.. Naar de grootste woonkamer van Leiden! Geniet met een biertje in je hand van muziek en cultuur.

Festival de Fusie is een Leids initiatief om in een leuke setting mensen bij elkaar te brengen. In de huiselijke sfeer van loungebanken, lp's en lampenkappen voel je je snel op je plek!

Geniet van de heerlijke deuntjes; de muziek varieert van disco tot house en van hitjes tot groovy techno. Kom bij in de cultuurstage waar je kan ontspannen bij onder andere een singer-songwriter, dichter en kunstenaar.

[Festival de Fusie | Leiden2022](#)

- **Trinity : Contemporary triptych in Leiden**

Date : 28 June – 17 July 2022

Organized by: Tim Juffermans (Studio 071) en Kees Kranenburg (Het Ontwikkelingsatelier). Met dank aan de Hooglandse Kerk, Gemeente Leiden, Cultuurfonds Leiden, Floreat Musica, Leiden European City of Science 2022, EP Swaak, Samsung, Yomooka.

Description : The Trinity exhibition creates a stage for monumental art in Leiden in conjunction with the science evoked by the traditional division of the seven arts.

An exhibition featuring triptychs by contemporary Leiden artists, brought back to its place of origin: a cathedral-like church. Add an event with science, dance, poetry and song and you have the ingredients for Trinity: Art & Science exhibition.

You are cordially invited to come and see, listen, feel and experience this at the opening on Tuesday 28 June. The exhibition will open its doors at 3.30pm. The performances start at 19.30 and will last, with breaks, until about 22.30.

Can't make it on that night, the exhibition will run until the first week of August.

[Trinity | Leiden2022](#)

- **Plekberaad**

Date: 30 June 2022

Description: In the Plekberaad of Leiden 2022 at the 30th of June 2022, the young project team organises a dialogue about the future of Leiden.

At the Burcht of Leiden 30 young Leideners, local politicians and pioneers in sustainability and community come together. They discover what Leiden looks like in 6 generations, in the year 2112. What does life look like then, to the people that live in Leiden then?

For all participants Leiden is their 'plek', their hometown in a way. In this deliberation participants share the themes they encounter in their journey to the future. From this image of the future they map the challenges that are relevant to Leiden, and how these can be translated into solutions.

Together, the group takes responsibility for the long term of their 'plek', and advocates a switch from short term thinking to long term perspective. In the Plekberaad the Future Design Method. Read more about that here in the artikel of The Scientific Council for Government Policy: "Talking back to the present: giving voice to future generations" [<https://www.wrr.nl/publicaties/publicaties/2022/05/23/jongeren-en-het-zorgen-voor-hun-morgen>]. The method allows to incorporate both the interests of current generations and future generation in the making of long term policy. This is done by dividing the group into two halves. The one half focuses

form the 'here and now' on the future. The other half envisions themselves being the Leideners of the year 2112 and looks for solutions from that point in time.

The results will be shared both locally and nationally. Locally the organisation hopes to contribute to the dialogue about the future, and the role that art and science can play in it. Nationally, in collaboration with the "Ministry of the Future" network [<https://www.ministerievandetoekomst.nl/>]

[Plekberaad Leiden 2022 | Leiden2022](#)

- **Zonnekijkdag / solar viewing day**

Date: 3 July 2022

Organised by: the Leiden Observatory Working Group

Description: Take a look at the sun! Experts from the Leiden Observatory Working Group will be on hand today to answer all your questions about the sun.

3 July is National Solar Day. At various locations in the Netherlands, you can learn all kinds of things about the sun. Did you know that the sun is a star? And that there are local explosions on the sun? Experts from the Leiden Observatory Working Group will be on hand with various telescopes to answer your questions about the sun. There are special lenses on these telescopes so we can look at the sun safely. They can also tell you all about our special solar telescope (the Lunt), the heliostat and looking through telescopes with special solar filter.

[Zonnekijkdag | Leiden2022](#)

- **Muurformule tour / Wall Formulas tour**

Date: 11 July 2022

Description: Go on an exploration of Leiden's Wall Formulas!

Besides the famous wall poems, you will find a number of so-called wall formulas in Leiden. These are scientific formulas devised by someone who was connected to Leiden University. Each of these formulas has had great influence on science around the world. And therefore also on what pupils and students learn at school and university.

The wall formulas show this history of science to the (casual) passer-by. On the walls, you will find not only a formula, but also an image and a sentence describing the discovery. On 11 July, you can take a free tour of the Leiden wall formulas. During the one-hour tour, a guide will tell you about the discoveries and the people behind them.

The tours are in Dutch or English. They start on the Pieterskerkplein at the following times:

10:00 (Dutch)

11:00 (Ukrainian, English)

12:00 (Dutch)

13:00 (English)

[Muurformule tour | Leiden2022](#)

- **Nature calls music show**

Date: 11 July 2022

Description: On Monday 11 July, Leiden European City of Science will be all about Wall Formulas. A day that starts with walks along the various wall formulas, and ends with a very special performance in Scheltema.

Especially for this event, Leiden band The Stream created a new show called Nature Calls.

The inspiration for the music was drawn from Leiden's many wall formulas and the ideas surrounding them. And those who have heard and seen this orchestral pop/rock band before will no doubt know, there is more... In fact, the musical programme, consisting of no less than 20 songs, will feature some live demonstrations of real physics experiments performed by Rino. To complete the multidisciplinary spectacle, The Stream collaborated with Lennard van der Valk, who adds his fantastic projections.

During this performance, The Stream will take you on a journey full of wonder, from the unpredictability of the smallest particles to the grandeur of the universe. And, without giving too much away beforehand; they go out with a bang!

[Nature Calls Muziekshow | Leiden2022](#)

- **James Webb event: a look at the first images**

Date: 15 July 2022

Organized by: Rijksmuseum Boerhaave

Description: The James Webb telescope is an important milestone in modern astronomy. Europe and the Netherlands, including Leiden's world famous Ewine van Dishoeck, played an important part in the creation of the Webb telescope.

On December the 25th 2021, the James Webb telescope was launched. Currently, the telescope is floating 1,5 million kilometres away from Earth. On July 12th 2022, NASA will show off the first color images made by the telescope.

A lot of people are waiting for these images: what are we expecting and what will we actually see? To answer these questions, Rijksmuseum Boerhaave is organizing a special day together with Ewine van Dishoeck and her team on July 15th. Together with you (!) they'll take a look at these first pictures.

In two short lectures, Ewine van Dishoeck and her team will discuss the images. First of, Ewine will tell you what you can see in these pictures and what (careful) conclusions we can draw from them. When the images are made public on the 12th, museum Boerhaave will decide on a second speaker who's most suited for discussing these pictures. This name will be announced after the 12th.

In the KidsCorner families can make their own James Webb telescope model out of paper or LEGO. Did you know that the scientist Christiaan Huygens in 1600 published a book about aliens as one of the first people ever? In the KidsCorner you can imagine and draw your own alien.

Moreover, a moveable scale model of the James Webb telescope (1:10) will be presented. With the help of this model you can see how the sunshades and mirrors folded out in space during the first few weeks after the launch. Astronomers of the Leiden Observatory will explain everything you want to know about the telescope and the model.

[James Webb Event: A Look At The First Images | Leiden2022](#)

- **Session: Ask me anything you want to know about the James Watt Space Telescope (JWST) with Ewine van Dishoeck**

Date: 16 July 2022

Description: Everything you want to know about black holes and stars! Ask our very own Ewine van Dishoeck, top scientist from Leiden who will explain it all to you in plain language.

[Sessie: 'Ask-me-anything-you-want-to-know-about-JWST' \(Ewine van Dishoeck\) | Leiden2022](#)

- **City Walk "Hidden Gems of Leiden"**

Date: 17 July 2022

Organized by: Centre for Global Heritage and Development

Description: Free guided walk to discover Leiden and its hidden gems.

Deze stadswandeling wordt alleen in het Engels gegeven.

The Centre for Global Heritage and Development is offering a free guided walk to discover Leiden and its hidden gems. It is a great opportunity to discover one most charming cities in the Netherlands, breeding ground for innovative science and Nobel laureates and home to the oldest university in the country.

This tour shows the lesser known, but no less important side of the university. It is a great opportunity to discover one most charming towns in the Netherlands, city of books, breeding ground for innovative science and Nobel laureates and - last but not least - home to the oldest university in the country.

On the basis of a number of people, we will explain the history of the university and science and scholarship in Leiden. By telling a number of personal stories we want to show the University from its human side. After all, it is not just about the university as a large institution, but also about the people who lived here Leiden.

Who *knows*
Centre for Global Heritage and Development. Heritage studies in the 21st century call for a new approach, a partnership between archaeology, architecture, the social sciences, the humanities, law, science, technology and design and urban and regional studies. The Centre for Global Heritage and Development uses its interuniversity and interdisciplinary status to go beyond the traditional study of heritage, by focusing on how heritage relates to cultural, social and environmental developments and decisions. The Centre for Global Heritage and Development is a collaboration of Leiden University, Delft University of Technology and Erasmus University Rotterdam.

[City Walk "Hidden Gems of Leiden" | Leiden2022](#)

- **Colouring Page Hercules Rhijngeestus**

Date: 29 July – 22 September 2022

Organized by: Cultuurfonds Oegstgeest

Description: Hercules Rhijngeestus is and artwork that will soon grace Park Landskroon in Nieuw-Rhijngeest in Oegstgeest. He'll be balancing on 1 foot, wearing one Nike shoe.

Folkert de Jong created a mythical Germanic figure that resisted the Romans so thoroughly that they created the Northern border of the Roman empire around the river closest to him. This border became the Limes (pronounced: lee-mass), the latin word for border.

Jetteke Bolten, chairwoman of the Cultuurfonds Oegstgeest: 'We want to show off the history of Nieuw-Rhijngeest. We want to make it visible and include the village and the youth.' That's why Cultuurfonds Oegstgeest collaborated with Dorpsmarketing Oegstgeest to make a special Hercules Rhijngeestus themed colouring page for children ages between 4 and 12 years old.

The children can pick up the colouring pages from Friday the 29th of July. The colouring pages have to be handed back in before the 9th of September. The colouring pages can be picked up and handed in at the following locations in Oegstgeest: the Jumbo Supermarket, the Echte Bakker den Dulk at the Rustenburgerpad, and the Library at the Lange Voort. All kids are invited to let their creativity take over. If they colouring page is the most creative, they can even win a small prize. The award ceremony takes place on the 22nd of September. Marjolijn van der Jagt, village marketer Dorpsmarketing Oegstgeest: "We chose this day because of Leiden European City of Science. The daily subject on this day is 'Ommelanden'. That suits Oegstgeest and the Limes nicely."

[Colouring Page Hercules Rhijngeestus | Leiden2022](#)

- **Public lecture: flocking birds, marching penguins and the marvelous physics of active matter**

Date: 24 August 2022

Organized by: Museum Volkenkunde

Description: This lecture by Cristina Marchetti wants to share with the general public how physicists think about bird flocks, marching penguins, collectively swarming bacteria and communities of simple robots.

In 1995, the mysterious beauty of collective motion in animals and other non-equilibrium systems was about to take the physics community back to square one of its understanding of emergent phenomena.

Twenty five years later, **active matter** has evolved into one of the most vibrant and productive areas of physics, with hundreds of articles published every year.

On the occasion of the 25th anniversary of the field of active matter (plus the two years interruption caused by the Covid pandemic), the Leiden Institute of Physics (LION) and the Lorentz Center are gathering in Leiden the pioneers and the current protagonists of this exciting research area to look ahead at the next grand challenge.

[Public lecture: Flocking birds, marching penguins and the marvelous physics of active matter | Leiden2022](#)

- **Opening Galerie LUMC: Op weg naar het begin / Opening Gallery LUMC: Towards the beginning**

Date: 01 September 2022

Organized by: Leiden University Medical Center's (LUMC) Art Committee

Description: LUMC's Art Committee invites you to the opening on 1 September at 5pm of the exhibition Towards the Beginning.

An exhibition in collaboration with Prof Ewine van Dishoeck and Prof Vincent Icke of Sterrewacht Leiden. Dr Mark McCaughrean, senior advisor for science at ESA/ESTEC/JWST, will open the exhibition.

Central to this exhibition is a 1:10 scale model of the James Webb Space Telescope, the most ambitious space telescope ever built. With it, we study the universe as deeply as is currently possible.

To look out into space is to look back in time. By looking deeper, astronomers take another step towards the beginning of the universe. To areas where new stars and planets are born. To the very first galaxies that formed after the Big Bang. The first spectacular images can be seen here.

Science and art are linked. Observations and underlying theory provide inspiration for creating images. Some extraordinary examples of cosmic art accompany Webb's reality.

[Opening Galerie LUMC: Op weg naar het begin | Leiden2022](#)

- **Lectures: Humans in the Machine**

Date: 05 – 30 September 2022

Organized by: Rijksmuseum Boerhaave and Studium Generale

Description: In the news, you read a lot about artificial intelligence operating independently, in ways that for ordinary people and scientists, are inimitable. Fortunately, a lot of work is being done to make artificial intelligence more transparent.

In collaboration with Rijksmuseum Boerhaave, Studium Generale has invited some scientists to talk about their research on artificial intelligence in the form of a lecture. All these lectures focus on the relationship between humans and artificial intelligence.

The lectures are as follows:

5 September: Artificial "Intelligence" versus Human Dignity: Issues of Fairness and Power in Algorithmic Decisions by Dr Francien Dechesne and Lexo Zardiashvili.

9 September: We, robots by Prof. Dr. Lode Lauwaert.

16 September: Artificial Intelligence and creativity by Dr Maarten Lamers

This lecture takes place during Artscience Week and discusses whether computers are also capable of being creative. We increasingly see examples of so-called "artificial creativity". Computers compose music, invent recipes, create visual artworks and even tap jokes. But can we capture creativity in a computer programme?

This lecture will take place at Rijksmuseum Boerhaave between 16:30 and 18:00.

23 September: A good conversation with artificial intelligence by PhD student Tom Kouwenhoven

30 September: Artificial intelligence on the moon by Dr.ir. Chris Verhoeven

This lecture will take place during The Space Week. Doing research on the moon is not easy, but fortunately robots are increasingly offering a helping hand! At TU Delft, students led by Chris Verhoeven are working on Lunar Zebros: small, six-legged moon cars that can work together in a swarm. Chris Verhoeven will tell more about this during the lecture.

This lecture will take place at Rijksmuseum Boerhaave between 16:30 and 18:00.

[Lezingen: Mens in de Machine | Leiden2022](#)

- **Treatment or toxic: will you become part of the debate?**

Date: 10 September 2022

Description: How do you find the truth? Partake in a fictive criminal hearing based on a real story from Leiden.

Imagine this: shortly after the death of the 4 year old Suzanna, her mother Hester dies in an unnatural way. The cause of death is fatal combination of several medications. Suzanna's aunt and Hester's sister, Mie, becomes the prime suspect. She gets recognised by a witness and possesses part of the medications that killed Suzanna and Hester. Now, she's the sole heiress to a fortune.

But what does all this "evidence" mean? Did Mie poison her sister and her niece? Or is all of this just an unfortunate series of events?

This question will take centre stage during the public day about truthseeking and most of all, truthfinding. On the 10th of September, you'll be able to find the truth via a fictive criminal hearing and several mini-lectures. You'll get to explore the work and research done by the Institute of Criminal Law and Criminology at Leiden University. In the end, it's up to you to judge the evidence and decide whether Mie is guilty or not.

The public day starts at 13:00 and ends around 16:15. There's an opportunity to get a drink and socialize afterwards.

[Treatment or Toxic: Will you become part of the debate? | Leiden2022](#)

- **35th Open Monument Days: Sustainable heritage**

Date: 10 and 11 September 2022

Organized by: Stichting Open Monumentendagen Leiden

Description: On the 10th and the 11th of September, you can view about 30 monuments for free in Leiden during the Open Monument Days.

The international theme of 2022 is Sustainable Heritage. A theme which can mean a lot of different things in Leiden. What is more sustainable than a monument that's several centuries old, right? Well, maybe not. Monuments can still get a lot more sustainable than they are right now. Think about better insulation or double windows. The use of environmentally friendly and recycled building materials in the restoration world could also help. From August onwards, you can find the entire program of the Open Monument Days on their website.

Location: At over 30 monuments scattered through Leiden (including themed walks and bicycle routes).

Time: Saturday the 10th of September 12:00 -17.00 | Sunday the 11th of September 10.00 - 17.00

Entry: Free

There's a Dutch booklet with more information about the program, and an English flyer. In some of the monuments, following an English tour is an option.

[35th Open Monument Days: Sustainable Heritage | Leiden2022](#)

- **Lecture: Vulnerability VS. Malleability**

Date: 12 September 2022

Organized by: The workgroup 'Lectures' of Christian organization Ekklesia

Description: The workgroup 'Lectures' of Christian organization Ekklesia is organizing a series of lectures this fall with the help of the Studium Generale of Leiden University.

The series of lectures all fall within the theme 'Meesters van ons Lot?!' (Masters of our Fate), a quote by famous Dutch writer Ilya Leonard Pfeiffer from one of his novels based on the biblical book of Job.

On the 12th of September 2022, a lecture will take place during the Artscience Week. This lecture is called Vulnerability vs. Malleability and will be given by dr. Peter van der Putten.

Every lecture in the series will take place on a Monday evening between 19:30 and 21:00. Vulnerability vs. Malleability is no exception. If you want to know more about the other lectures, you can find an overview of them [here](#) (link is in Dutch).

[Lecture: Vulnerability vs. Malleability | Leiden2022](#)

- **Inclusive history walk**

Date: 13 September 2022

Description: Walk through Leiden on how freedom and inclusion.

How is the history of Leiden told? What information, signs and statues can be seen? And what is concealed and omitted? Which groups and people are excluded or actually mentioned in the city's history? But also, to what extent were residents of Leiden free and how did that change during different historical periods? These questions prompted the design of the various routes and assignments we take during the walk.

The walk runs from the Pieterskerk to the Burcht and along the way, different places are visited, questions answered and assignments made. At the end, there is a communal moment where participants answer a final assignment on freedom and inclusion in Leiden.

[Inclusieve geschiedeniswandeling | Leiden2022](#)

- Pubquiz van Science Café Leiden

Date : 13 September 2022

Description : Interested in science in its broadest sense? Fancy finding out more and engaging in discussions on controversial topics in science? While enjoying a drink and in a cosy, informal atmosphere? Then the Science Café Leiden is for you!

In a Science Café you will learn all about a subject ranging from 'nuclear energy' to 'the new spelling'. After one or more scientists have talked about the subject, there is time to ask questions and join the discussion. With live music or a spoken column, always entertaining, informal and free of charge

The pub quiz questions are all about something scientific, of course. Some of the questions are based on the Science Café lectures of past years.

You can participate in this quiz in a team of 4 to 8 people. Teams will be composed on the evening itself. Of course, you can agree in advance with a group to form a team. But you can also form a team with others on the spot or join an existing team.

Registration is open from 19:30 to 20:00, there is no need to sign up in advance. People who do not yet have a team will be added to a team. A maximum of 15 teams can participate. If more teams sign up, teams can be merged. The quiz consists of a number of rounds.

During the quiz, you are of course not allowed to use your smartphone.

Bas Kleijweg will act as quizmaster. Music: Annette Vogel. She is a singer-songwriter with songs about the search for the meaning of existence, truth and love.

[Pubquiz van Science Café Leiden | Leiden2022](#)

- Supermassive black holes and where to find them

Date: 14 September 2022

Organized by: the Jan Hendrik Oort Foundation and the Leiden Observatory

Description: Supermassive black holes - or SMBHs in short - are objects as massive as a million to a billion suns.

In this Oort lecture, professor James Moran, will take the public into the world of Supermassive black holes and discuss how world-wide arrays of radio telescopes operating in precise synchronism can be used to exquisitely track the cosmic debris surrounding SMBHs and help understand their nature.

After the lecture you are welcome to have a drink and a snack at the borrel in the Academy Building.

Reservations are needed if you want to attend this lecture at the Academy Building in Leiden. The lecture will also be live streamed. To receive the link you need to register, as well. Register over [here](#)

About James Moran

James Moran is one of the world experts in the use of Very Long Baseline Interferometry (VLBI) to study cosmic masers and supermassive black holes in the centers of galaxies. He is a member of the Event Horizon Telescope consortium, which was awarded the Breakthrough Prize in Theoretical Physics in 2019 for the imaging of the black hole shadow in the galaxy Messier 87. He was also a member of the team recognized with the Rumford Prize of the American Academy of Arts and Sciences for the development of VLBI more than 50 years ago. He received his BS and PhD degrees from the University of Notre Dame and the Massachusetts Institute of Technology in 1963 and 1968 respectively, both in electrical engineering. He has spent most of his career at the Center for Astrophysics where he is the Donald H. Menzel Professor of Astrophysics, Emeritus, at Harvard University, and a senior scientist at the Smithsonian Astrophysical Observatory. He served as the Director of the Submillimeter Array in Hawaii during its construction phase, as

Associate Director of the CfA, and as chair of the Astronomy department at Harvard. He is an author of the widely used textbook "Interferometry and Synthesis in Radio Astronomy." He was awarded the Newton Lacy Pierce Prize of the American Astronomical Society. He is a member of the US National Academy of Sciences and the American Philosophical Society, founded by Benjamin Franklin

About the Oort Lecture

The Oort Lecture has been organized in the Netherlands for over 30 years. The lecture is being organized in the memory of famous Dutch astronomer Jan Hendrik Oort by the Jan Hendrik Oort Foundation and the Leiden Observatory. The Oort Lecture is meant for a very broad public: everyone who has an interest in astronomy. The lecture is always given by a prominent astronomer. This year will mark the 31st Oort Lecture. It will be held in the Large Auditorium in the Academy Building in Leiden from 20:00h - 21:00h.

- Geuzenintocht / Beggars march

Date: 15 September 2022

Description: The Geuzenintocht as the start of Leids Ontzet celebrations is a new tradition and Leiden people love it!

In 1574, the Spaniards kept Leiden under siege. When William of Orange had the lands around Leiden flooded, the Spaniards were driven out of their positions and the Geuzen fleet could sail into the city on 3 October. On their ships, in addition to ammunition, they carried herring & white bread for the starving population.

This year too, it is exciting who will take on the role of Beggars' Admiral Louis van Boisot. At the front of the fleet, he will lead the men: the Geuzen van Boisot of the 3 October Vereeniging, the Geuzen of the 1 April Society from Brielle and Vive les Gueux of the 8 October Society from Alkmaar. A real Leids Geuzen choir welcomed the fleet at the Waaghoofd.

Between 16.00 and 16.25, Louis Boisot will hand over his good gifts at the Waaghoofd. Together with the mayor of Leiden and the chairman of the 3 October Vereeniging, he performs the opening act. The Leids Volkslied sounds from the throats of the people and cannon shots signal the start of the celebrations. On the quay, the public can cheer on the Geuzen. Spectators in boats can join behind the Geuzen fleet.

[Geuzenintocht | Leiden2022](#)

- LIBC hybride Public Day on brain research

Date: 16 September 2022

Organized by: The LIBC Leiden City Council

Description: The LIBC Leiden City Council are organising a Public Day on brain research. This year, the public day will be held in hybrid form!

The LIBC & the Municipality of Leiden are organising a Public Day on brain research. This year the public day will be held in hybrid form!

This day is organised for anyone interested in this topic. All presentations will be given in Dutch.

[LIBC HYBRIDE Publieksdag Brein & Recht | Leiden2022](#)

- Wijsneusfestival / Wishy Washy Festival

Date: 16 September 2022

Organized by: Knowledge Centre for Psychology and Economic Behaviour and Leiden University

Description: Come and have a look! We will show you how we as humans make choices and why we feel, think and do certain things.

On Friday afternoon 16 September 2022, the Knowledge Centre for Psychology and Economic Behaviour and Leiden University will organise the small-scale Wijnsneus Festival in Park de Leidse Hout.

The following questions will be addressed through experiments and short talks: Can we properly assess whether a suspect on camera is guilty or innocent? How useful is it to punish people when they are not doing their job properly? Have you ever seen your heartbeat on a cardiogram? And how do we deal with our waste in nature?

[Wishy-washy Festival | Leiden2022](#)

- **Workshop: AI and Art**

Date: 17 September 2022

Organized by: Leiden University and Helena Nikonole

Description: Aesthetics and Politics of Artificial Neural Networks

Machine learning or AI is a general-purpose technology which means that it can be broadly implemented and transforms human and society. Due to its universality AI becomes a great tool for artists and designers, working with peculiar AI-aesthetics. But machine learning is also a part of algorithmic power structure: from digital control to AI decision-making. Artists explore these power structures and ethical issues related to the implementation of AI algorithms.

During the workshop we will examine different artistic approaches: from AI aesthetics to research-based methodology and develop critical perspective to technology through the hands-on experience with Machine Learning architectures such as StyleGAN and LSTM. Participants of the workshop are invited to travel the distance from an intuitive interest in AI to transforming this interest into the project's idea, followed by the selection of an instrument and a form.

Instructor: Helena Nikonole (www.nikonole.com), artist, curator and educator specializing on AI and art.

The structure of the workshop:

1. Introduction
2. Lecture: Aesthetics and Politics of AI
3. hands-on: AI and text. Introduction to Google Colab. LSTM architecture.
4. hands-on: AI and images. Hacking of StyleGAN2 architecture.
5. Presentations of the ideas and open discussion

When & Where:

September 17, 11:00-12:15 – Artist lecture, Lipsius 123 (open to everyone)

13:00-16:00 – Workshop, Lipsius 126 (upon registration)

Requirements: basic computer skills, no prior experience of working with AI or programming is needed. Computers are provided by the organizers.

Language: English

[Workshop: AI & Art | Leiden2022](#)

- **Nacht van Ontdekkingen / Night of Discoveries**

Date: 17 September 2022

Organized by:

Description: In 2022, the focus of the Night of Discoveries will be on our youth. The night is a true journey through performances, exhibitions, debates, workshops, and inspiring lectures by young creators.

On Saturday, the 17th of September 2022, you can go on a journey full of new discoveries at the festival terrain near Leiden University, the Hortus Botanicus (botanical garden), the Academy Building, and the Old Observatory.

The festival has undergone a big change this year. There's still a focus on science and art, but young people are also taking centre stage. At many different spots in Leiden, you'll find young creators, researchers and artists.

This event is organized during the ArtScience Week.

[Nacht van Ontdekkingen \(Night of Discoveries\) | Leiden2022](#)

- **An introduction into the traditional Japanese Kintsugi**

Date: 17 September 2022

Organized by: Japanmuseum Sieboldhuis

Description: This presentation gives an insight into the Japanese art of repairing broken ceramics with lacquer, which is sprinkled over gold or silver.

Kintsugi (金継ぎ) literally means "golden joint" and is a Japanese art that breathes new life into broken ceramic objects by performing repairs with lacquer.

On Saturday 17 September, Yoko Silk of Yoko Silk Ceramics Workshop, Leiden, will give a presentation on Kintsugi at Japanmuseum Sieboldhuis. Using examples from her own workshop and collection, she will give an expert look at the entire Kintsugi process: from broken object to renewed creation and all the steps involved.

The presentation will take place on Saturday 17 September 2022 between 14:00 and 14:45 at the Japan Museum Sieboldhuis.

Admission to the presentation itself is free, however, a valid admission ticket to the Siebold House (ticket, museum annual card, student card, Rembrandt card, etc.) is required

[Een introductie tot traditionele Japanse kintsugi | Leiden2022](#)

- **Brave Young Minds**

Date: 18 September 2022

Organized by: [Brave New World Conference](#)

Description: BRAVE YOUNG MINDS IN CONVERSATION WITH PROF. YUVAL NOAH HARARI IN NATURALIS LEIDEN

Young generation asks questions about who we are as humans

During the first edition of Brave Young Minds, on September 18 in Naturalis Biodiversity Center, writer, historian and philosopher Yuval Noah Harari will talk with hundred children about the history of mankind. Brave Young Minds is organised by [Brave New World Conference](#), especially for our youngest generation. Children from 10 years of age will be invited to ask their questions about the world and mankind to a very special guest. We are extremely honored that Prof. Harari will be our first guest in Naturalis in Leiden as one of the highlights of [Leiden European City of Science 2022](#).

In September Yuval Noah Harari will publish a new children's book – "How Humans Took Over the World". Harari will bring his talents to the page for young readers for the very first time to share how

humans eventually came to dominate Earth. And how—through triumph and growth, but also relentless, destructive voracity—humans became truly unstoppable. From learning to make fire and using the stars as guides to inventing stories and cooperating in huge numbers, the secrets of how our ancestors evolved millions of years ago will be uncovered, revealing the superpowers that brought us to “now,” and how they were used to make humans invincible . . . but also insatiable.

Do you have a question for prof. Harari?

Brave Young Minds is an English speaking event, based on invitations only. Youth between 10 and 18 years old that want to participate, can apply for an invitation through the application form. This requires filling in their name, age, contact details as well as a question (max. 3) in English. One hundred children will be selected from all applications to attend the event on September 18th at Naturalis in Leiden. They will be offered the chance to ask their question directly to prof. Harari. The event is free.

[Brave Young Minds | Leiden2022](#)

- **Leiden Youth Talks**

Date: 22 September 2022

Organized by: the Stedelijk Gymnasium, the Bonaventura Burggravenlaan and the Rijnlands Lyceum Oegstgeest

Description: Pupils from three different schools are organising a beautiful science communication event on 22 September 2022 at the Trianon Theatre in Leiden, 31 Breestraat.

Pupils 4/5 Vwo from three schools: the Stedelijk Gymnasium, the Bonaventura Burggravenlaan and the Rijnlands Lyceum Oegstgeest are organising a science event!

What is the theme? The theme chosen this year is 'Be the Change', free from a quote by Gandhi: "Be the Change that you want to see".

What does Leiden Youth Talks entail?

The students want to give fellow students a stage who can make a difference in how people treat each other, to celebrate diversity, or how we can better treat our planet. The Vwo prepares for science. Science communication is about how to communicate that science to a wider audience: in Dutch and in English, with an eye on global citizenship.

What did the preliminary course entail? In the preliminary course, the fourth graders in English gave a TED talk -like speech around the theme 'Be the Change. Subthemes were: opportunities, the 'infinite' world (in the context of the fact that the world is not so infinite given the climate crisis), connection in the city (Leiden) and Respect. Wonderful speeches that are inspiring, motivating, informative and incite to action, identifying what needs to change and how you might go about it. Research, critical thinking and speaking are essential here. Students have also created critical cartoons. Those selected for RLO included Alex, Thirza, Sabine.

What has all been offered in the preliminary process?

Workshops on persuasive speaking and rhetoric, science communication by Leiden University, event management and a cartoon workshop by a real cartoon artist. In the interscholastic preliminary round on 2 June at the Leiden Education Innovation Network, Mert and Max, Nandini, Rozalien and Lies, David and Amélie from our 4 Vwo participated. Nandini is through to the Final and will represent RLO at the Trianon. She has already won!

The students hope that 5 Vwo pupils, subject teachers, Vwo Upper School team leader Mr. van der Zeeuw, the Rector and friends and family of Nandini and Lies in the audience will be present to cheer them on!

[Leiden Youth Talks | Leiden2022](#)

- Seeing Stars Leiden

Date: 25 September 2022

Organized by: Leiden European City of Science 2022, UNESCO and artist Daan Roosegaarde.

Description: See the stars from your own window! It sounds like a fairy tale, but Leiden is dedicated to stargazing on September 25th 2022.

In collaboration with UNESCO and artist Daan Roosegaarde, we'll try to make the stars visible for everyone and create a feeling of togetherness.

For 1 hour, all lights in and around the Leiden Observatory will be turned off. The more lights we turn off, the more stars we'll be able to see in the sky. **Will you join us?**

"Everyone's living in their own bubble, separate from each other", says Daan Roosegaarde. "I realised there's an impressive light show happening every night, but it's hidden. Seeing Stars brings the stars back to your street. The stars are only a lightswitch away."

Kathleen Ferrier, chairwoman of UNESCO Commission the Netherlands: "More than 80% of the world population lives under a sky that is polluted by artificial light; a barrier that withholds us from experiencing the beauty of the universe. Everyone should have the right to see the stars in a non-polluted sky. Looking at the stars makes you feel connected to each other, after all, we're all part of the same cosmos. This is the communal and universal legacy that I strive towards. Seeing Stars is an important step in the right direction."

[Seeing Stars Leiden | Leiden2022](#)

- Seeing Stars Citizen Science

Date: 25 September 2022 – January 2023

Organized by: Citizen Science Lab Leiden

Description: During the night of Seeing Stars Leiden, Citizen Science will try to answer many burning questions!

Seeing Stars Leiden is looking for project ambassadors within the range of the project area. What kind of light pollution is present in your street / your neighborhood?

- Does someone in your street leave the porch light on the entire night?
- Are some buildings lit up throughout the night?
- Can you see a tall building from your street that's being lit?

Soon, you can apply to be an ambassador [HERE](#). Shine a light on light pollution! The darker it is, the more stars we'll be able to see. Lights off, stars on!

Subjects that will be discussed:

Astronomy - Which stars can you see during a regular night in Leiden?

Dark Sky - How many stars can we count during a regular night in Leiden? Can we increase that amount?

Light pollution - Where's the most light pollution in Leiden?

Perception of safety - Do we feel safer with a lot of light? Are we truly safer with that light?

Our Bioclock - Does light influence our health?

Our Wellness - How do we experience the dark?

Nature's Bioclock - What kind of influence does artificial light have on nature? Is nature disturbed by the light we produce?

[Seeing Stars Citizen Science | Leiden2022](#)

- **Oude Sterrewacht Festival / Old Observatory**

Date: 25 September 2022

Organized by: the Old Observatory

Description: Dive into the universe!

Like every autumn, the Old Observatory opens to the public! All day on 25 September, you can enjoy workshops and demonstrations in the various rooms at the Old Observatory. You can take a tour of our historic telescopes, win prizes with pub quizzes, or visit our More-than-Planet exhibition. Every room in the building has an astronomical theme and something to experience, from gravity and light to astrophotography and aliens.

Whether you are young or old, already know a lot about the universe or not, there is something for everyone at the Old Observatory Festival!

The exact programme and how to buy tickets will be announced at the end of August.

Who knows

Leiden's Old Observatory is the oldest existing university observatory in the world. While Leiden University students receive lectures in most of the building, the visitor centre in the basement and telescopes on the building serve the general public. This website provides information on visits to the Old Observatory's visitor centre and telescopes, its history, guided tours, events and associations.

[Oude Sterrewacht Festival | Leiden2022](#)

- **SRON Open Day**

Date: 25 September 2022

Organized by: Stichting Ruimte Onderzoek Nederland (the Dutch Space Research Foundation) SRON

Description: Step into the world of space research!

Stichting Ruimte Onderzoek Nederland opens its doors. With telescopes in space, we investigate stars and planets, black holes, and the sky on our own planet Earth. There are lectures and fun learning activities for big people, but also for children.

At SRON's Open Day, you will learn a lot about telescopes in space and how they work with fun experiments and lectures. There are several types of light, but what can you actually do with them? For example, see what (different) you look like in infrared and also learn how to solder. Where and how are new stars born? Is there (too) life on other planets? How do you chase greenhouse gases moving through our skies? Or how do you measure an invisible gravitational wave? Come and find out in Leiden and/or Groningen.

We are getting to know more and more about the universe and everything in it, including Earth itself. Thanks to measuring equipment in space: clever telescopes or satellites. We make these at SRON in Leiden and Groningen, usually together with other researchers from all over the world. We also test everything very well. With the telescopes that are already in space, our scientists conduct research.

[SRON Open Dag | Leiden2022](#)

- **Space Expo**

Date: 25 September – 02 October 2022

Organized by: Space Expo

Description: Travel past stars and planets at the Netherlands' space museum.

At Space Expo, you will discover the world of space travel in all its facets. From designing and building space missions on Earth to launching into space. Touch a real meteorite, launch a hydrogen rocket and take a look inside André Kuipers' original Soyuz capsule. Over the years, the museum's collection has expanded with beautiful showpieces. There is also a lot of focus on the history of space travel and you can walk through a model of the International Space Station (ISS). Space Expo is a fun and educational trip for the whole family!

You can also visit Space Expo throughout Space Week.

[Space Expo | Leiden2022](#)

- **Webexhibit: Seeing Stars**

From: 25 September – 02 October 2022

Organized by: Rijksmuseum Boerhaave

Description: A small exhibition with special angle around Seeing Stars Leiden - only available online at the National Museum of Antiquities.

View the exhibition Astronomy in Ancient Egypt online.

Egyptian astronomy: Science in ancient Egypt mainly sought to gather facts and organise them systematically. In Egyptian astronomy, the emphasis was on the calculation of time and the calendar. Ancient Egyptian texts, for example, link the rise of star Sirius to the beginning of the annual flooding of the Nile.

[Webexpositie Seeing Stars | Leiden2022](#)

- **Historical Lecture**

Date: 25 September 2022

Organized by: 3 oktober vereniging / association of the 3rd of October

Description: Under the motto the Birth of the Netherlands, in 2022 Leiden, along with many other municipalities, will commemorate the events of the year 1572, the year the Sea Beggars captured Den Briel.

Leiden in 1572: Of course Leiden fought on the side of the Prince and the Sea Beggars. We take that for granted in Leiden just as natural as celebrating the Relief. We don't dwell on the fact that two years earlier, it was still a close call.

Under the motto the Birth of Holland, in 2022 Leiden, together with many other municipalities, will commemorate the events in the year 1572, the year the Sea Beggars captured Den Briel, and that Leiden and the cities of Holland decided to join forces with Orange. In this historical lecture, Judith Pollmann explores why the city actually took that controversial step. What did it mean for the Leiden people? Why did it lead to so much violence between and against the citizens? Who benefited, and who were the losers? And where was William of Orange?

Judith Pollmann is Professor of Early Modern History in Leiden and is a nationally and internationally recognised specialist on the Eighty Years' War. She is a member of the Royal Dutch Academy of Sciences and is a much sought-after advisor and speaker for national museums and media. In 2022, together with Raymond Fagel, she published the book 1572: Civil War in the Netherlands.

[Historische lezing | Leiden2022](#)

- **Meteor day Naturalis Biodiversity Center**

Date: 25 September 2022

Organized by: Naturalis and the Meteors Working Group

Description: Meteors, also called shooting stars, are short-lived, sometimes very bright objects in the sky. Naturalis and the Meteors Working Group have now organised something especially for you!

Have you always been interested in space? On 25 September 2022, you can see real meteorites! During the Meteorite Day Naturalis will let you view micro-meteorites under the microscope, but that's not the only thing you can do. There will also be 3 lectures where you can learn all about meteorites. You can also learn to recognise meteorites and rocks as real or fake yourself.

There will also be a dome tent planetarium by the NOVA and several interactive performances.

This activity is completely free!

Everything is in Dutch, but 1-on-1 activities are also available in English.

Everyone is welcome and the activities are suitable for all ages!

The NOVA's planetarium fits about 30 visitors. The show is repeated every 45 minutes.

[Meteorietendag Naturalis | Leiden2022](#)

- **Astronomy on Tap**

Date: 26 September 2022

Organized by: Leiden Observatory

Description: Around the world, Astronomy on Tap features games, talks, and quizzes by professional astronomers and educators in the informal setting of a local bar.

Astronomy on Tap Leiden is organized by professional astronomers connected to Leiden Observatory. We meet the last Monday of every month at Grand Cafe de Burcht at 8 pm. All events are in (simple!) English and free of charge. We welcome all ages and backgrounds – a passion for beer and/or astronomy is a bonus!

The talks in September 26 will be about planetary systems. More information will follow soon.

[Astronomy on Tap | Leiden2022](#)

- **ESO 60 year**

Date: 26 September 2022

Organized by: The ESO (European Southern Observatory)

Description: This year, ESO, the European Southern Observatory, celebrates its 60th anniversary. To mark this milestone, ESO will visit different member states to celebrate this beautiful anniversary with its partners.

On 26 September, ESO will celebrate its 'birthday' in Leiden with a mini-symposium. Senior delegations from both the Ministry of Education, Culture and Science and ESO will also be present this afternoon, including the minister, Prof Robbert Dijkgraaf, the ESO director general, Prof Xavier Barcons and the president of the ESO Council, Dr Linda Tacconi.

This is a private meeting. More info will follow soon.

The ESO (European Southern Observatory) is a European organisation dedicated to astronomical research. ESO was founded in 1962 and it has been headquartered in Garching bei Munich since 1980.

[ESO 60 jaar | Leiden2022](#)

- **Navigate to the future**

Date: 27 September 2022

Organized by: NL Space Campus and GNSS CoE, ESA and DotSpace

Description: Discover how space data impacts society and creates new business! NL Space Campus joins forces with GNSS CoE, ESA and DotSpace to organise Navigate to the Future: an energetic afternoon at Space Expo, located in the heart of the Space Campus in The Netherlands where we connect the curious.

Through panel discussions and business pitches we will explore the opportunities of the space sector for companies, governmental organisations and investors. It is an afternoon meant to facilitate a soft-landing for anyone who is new in the space sector and is interested in the possible use of space data (such as GNSS and EO) for innovations of their products and services. We will end the afternoon with the official opening and drinks with GNSS Center of Excellence.

Join this event if you are interested in what space data can do for you, what other possibilities may arise out of new innovations and grow your network in the space industry.

The programme includes:

- **Panel discussion: Explore opportunities of space data**

A talk with GNSS CoE and non-space related companies about how they benefit from applying space data in their field of work.

- **Panel discussion: From innovation to operation**

A discussion with three parties (commercial and governmental) who use space data and earth observation combined, to fuel innovation and fight climate change

- **Business pitches**

Discover the latest innovations in the space sector and find out how they can help you in your field of work

- **Networking**

[Navigate To The Future | Leiden2022](#)

- **Great Minds Exposed**

Date: 27 – 29 September 2022

Organized by: Heineken Prizes for Arts and Sciences

Description: Top scientists that change the world with their extraordinary discoveries

Meet the top international scientists who have been awarded the Heineken Prizes of 2020 and 2022

During Great Minds Exposed, a FREE two-day live event consisting of multiple inspiring lectures, you will have the opportunity to get a glimpse into the minds of the top international scientists of our time, like **Robert Zatorre**, who demonstrated that music acts on our reward system in the same way that food and sex do, or **Carl Folke**, who is at the forefront of influential concepts such as the ecological footprint.

What do their milestones mean for other scientists and for our society? What challenges did they face and what obstacles did they overcome? And what drives them to give their all every day for fundamental science?

Join this event and you will discover the answers to these questions!

[Great Minds Exposed | Leiden2022](#)

- **Demonstration James Webb Space Telescope**

Date: 28 September 2022

Organized by: Gallery LUMC

Description: During the exhibition 'Towards the beginning' in Gallery LUMC, staff of the Sterrewacht Leiden will give demonstrations with the scale model.

On Wednesdays and Fridays from 13:00 to 16:00, demonstrations will be given throughout September and there will be plenty of room for questions.

James Webb Space Telescope: The Webb space telescope is the new flagship of the ESA and NASA. It is the most advanced space telescope ever built. On Christmas Day 2021, it went into space. Now it circles the sun, just like Earth. On 12 July 2022, the first data arrived, the images of which can be admired in Galerie LUMC. The telescope, with its infrared eyes, gives a whole new view of the universe. In Galerie LUMC, you will go on a journey past the different objects and phenomena in the universe that the Webb Telescope focuses on. To areas where new stars and planets are forming to the very first galaxies formed just after the Big Bang. The Webb Telescope brings this into razor-sharp focus.

[Demonstratie James Webb Telescoop | Leiden2022](#)

- **ESA Commercial Gateway Networkevent**

Date: 28 September 2022

Organized by: ESA

Description: The first ESA Commercial Gateway Network event happening on Wednesday the 28th of September at Space Expo in Noordwijk in the Netherlands during the Space Week.

Dit evenement is Engelstalig

The Networking event, for the largest space business network in the world, brings together ESA BIC Startups from all 26 ESA BIC's, the ESA Commercialisation Gateway department and investors, to inspire, support and connect.

Find more information [here](#).

[ESA Commercial Gateway Network Event | Leiden2022](#)

- **Anniversary event SME4SPACE**

Date: 28 September 2022

Organized by: ESA

Description: Join ESA's seminar to celebrate "11 years of supporting SMEs in Europe's space industry".

For 10+ 1 years since its incorporation SME4SPACE has been supporting SMEs in the European space industry. To celebrate this anniversary, ESA is delighted to announce their anniversary event, a seminar held at the ESA Industry Space Day.

For more information please [click here](#).

- Invite only -

[Anniversary event SME4SPACE | Leiden2022](#)

- **Build the James Webb Space Telescope from lego**

Date: 28 September 2022

Organized by: LUMC

Description: During the exhibition 'Towards the beginning' in the LUMC Gallery, children can recreate the famous telescope in LEGO.

In September, on Wednesdays and Saturdays from 14:00 to 17:00, children aged 5 and up can recreate the scale model of the James Webb telescope with LEGO under the guidance of an astronomy student.

[Bouw de James Webb Telescoop van LEGO! | Leiden2022](#)

- **LDE NL Space Campus Summer School 2022 Reunion**

Date: 29 September 2022

Organized by: NL Space Campus

Description: During the The Space Week edition of Network&Drinks XL, you can meet these young talents and your potential future employee, and learn from their experience and key takeaways from the Summer School programme.

About the LDE NL Space Campus Summer School:

During the 1-week Summer School program, all students were placed into a project team to solve a specific challenge. Each team consisted of 6 students with the different backgrounds (Science, Law, Engineering and Business) that are needed to find a solution to your challenge. Each team worked on the challenge during the entire week starting on day 1 with a team building exercise.

For an entire week, the students learned about the various space programs, developments and research activities at the Leiden Delft and Erasmus universities and went on a tour of space agencies, institutes and industry in South-Holland, including (among others): ESA ESTEC, SRON, TNO, AirbusDS, SBIC, Galileo Reference Centre and ofcourse the three universities themselves. Starting at the NL Space Campus in Noordwijk at ESA-ESTEC, the technical heart of ESA, they toured the cities of Leiden and Delft before returning to Noordwijk. During the week, they met many experts, learned about the basics and recent developments. This way you can work on your team's challenge fully prepared.

[LDE NL Space Campus Summer School 2022 Reunion | Leiden2022](#)

- **NL Space Campus Network & Drinks XL**

Date: 29 September 2022

Organized by: Space Campus NL

Description: Every last Thursday of the month at 17:00 CET, NL Space Campus hosts a special Network and Drinks for everyone interested in Space, where multiple start-ups and innovative companies pitch their potential and ideas and visitors can grow their network.

Combined with The Space Week, this is an eXtra Large edition of our Network&Drinks. Expect extra programming, a bigger event space and more networking opportunities!

During the networking part you can also meet and talk to our partners such as SBIC, NSO, SpaceNed, NVR, ESA ESTEC, LDE universities, Spacefluencers and SGAC.

Together we make the campus a meeting place for the space (interested) community! A place and platform where entrepreneurs, education, research, government, and the environment meet. A place and platform where open innovation originates. This often starts with a chance encounter, a shared passion, a new idea. Bring colleagues we don't know yet, startups that want to meet other startups, young professionals that want to meet older professionals, and maybe even that curious potential

investor. Feel free and welcome to share this invitation with people in your network who are also curious to join our Network & Drinks and to join the growing space community of NL Space Campus.

[NL Space Campus Network & Drinks XL | Leiden2022](#)

- **BrAlnpower: Artificial Intelligence on the moon**

Date: 30 September 2022

Organized by: Rijksmuseum Boerhaave

Description: The new temporary exhibition BrAlnpower will open at Rijksmuseum Boerhaave on 8 September 2022. In collaboration with Rijksmuseum Boerhaave, Studium Generale has invited several scientists to talk about their research into artificial intelligence. All these lectures focus on the relationship between humans and artificial intelligence.

Doing research on the moon is not easy, but fortunately robots are increasingly offering a helping hand! At TU Delft, students led by Chris Verhoeven are working on the Lunar Zebros: small, six-legged lunar robots that can work together in a swarm, like bees or starlings do, for example. This swarm of lunar robots can independently explore the moon's tunnel and cave systems, helping humans to further map the lunar surface. In this lecture, Chris Verhoeven talks about the construction of Lunar Zebros, the challenges involved, previous missions in inhospitable areas on Earth, and future missions to the moon and Mars.

Dr.ir. Chris Verhoeven, associate professor of Electronic Circuits and Architectures and theme leader Swarm Robots at the Robotics Institute, TU Delft

[BrAlnpower: Kunstmatige intelligentie op de maan | Leiden2022](#)

- **Spacebuzz**

Date: 30 September 2022

Organized by: Space Expo

Description: Children are introduced to space through VR glasses! The SpaceBuzz is a more than 15-metre-long rocket vehicle equipped with the latest virtual reality and augmented reality technologies.

During The Space Week, the Space Buzz will be at various locations. On board, children will travel to space, where they will see Earth through the eyes of an astronaut! Our planet is impressive, special, an oasis of life in the black universe. From launch to spectacular landing - a mission with the SpaceBuzz feels life-like.

SpaceBuzz is an education programme for pupils in grade 7 and is based on the mission training of an astronaut. Pupils are prepared for their space journey as crew in class and gradually discover about space, the Earth, nature and technology. When this training is successfully completed, the SpaceBuzz comes to school. The SpaceBuzz is a more than 15-metre-long rocket vehicle equipped with the latest 4D Virtual Reality (VR) technology.

On board, pupils travel to space with commander André Kuipers. There, they experience the overview effect through the eyes of an astronaut. They see Earth as a blue oasis of life in a black, inhospitable universe. From the launch to the spectacular landing, the mission with the SpaceBuzz feels life-like.

[SpaceBuzz | Leiden2022](#)

- **Space Buzz: Introducing space to policy makers**

Date: 01 October 2022

Organized by: Space Buzz

Description: The Space Buzz opens her doors to the public during The Space Week, during multiple days and at various locations. The Spacebuzz will be located at Space Expo during the ESA ESTEC Open Day and open to visit by anyone who's curious.

About Space Buzz: creating ambassadors of planet Earth

The non-profit SpaceBuzz educational foundation is inspired by the 'Overview Effect', that - until recently - only astronauts in space were able to experience. We want every child in the world to follow in the footsteps of astronauts and experience this for themselves.

Harnessing the power of technology, we have created a VR-based education & outreach program that puts children in the footsteps of astronauts. We inspire and teach children through our experiential learning program about Space, planet Earth and Technology (STEM). Just as with astronauts, 21st century skills like communication, problem solving, cooperation and creativity are important elements within the program. The education program includes a real-life space mission in the SpaceBuzz rocket.

For more information, visit: <https://www.spacebuzz.nl/>

[Space Buzz: Introducing space to policy makers through VR | Leiden2022](#)

- **ESA ESTEC Open Day for people with a disability**

Date: 01 October 2022

Organized by: ESA ESTEC

Description: During this open day, ESA ESTEC focuses on accessibility for anyone with a disability.

It's a unique opportunity to pay a live visit to ESA ESTEC in Noordwijk, in a calm and accessible way! Check out for instance Space Expo Museum! Here you'll discover everything regarding space, space travel, and famous astronauts. Space Expo is part of ESA, the European Space Agency.

More information will follow soon [via this link](#).

[ESA ESTEC Open Day for people with a disability | Leiden2022](#)

- **Groene (school)pleinsafari: de big five voor kinderen! / Green (school)square safari: the big five for kids!**

Date: 5 October 2022

Organized by: Leiden University of Applied Sciences

Description: Join the walking safari through Leiden and discover what green (school) squares mean for children.

Are you a pedagogical or educational professional (in training), gardener, (landscape) architect or agricultural designer? Then join the Leiden walking safari. During the safari, we will visit various green (school) squares. And we will try to answer the question of the significance of the green (school) square for the environment and for the health, welfare and development of children.

Just like a real safari, we look for the big 5: landscape features for the child's physical development, social development, emotional development, cognitive development and moral development. What can nature do for the child and what can the child do for nature?

The safari is free and starts at 2pm. Starting point to be announced. There is room for 20 people so be quick!

More information and registration: Green (school) square safari | Lectoraat Natuur en Ontwikkeling Kind (hsleiden.nl)

[Groene \(school\)pleinsafari: De Big Five voor kinderen! | Leiden2022](#)

- **Opening of Crafting Cultures at oude UB building**

Date: 05 October 2022

Organized by: Art Committee of Oude UB and LeidenGlobal

Description: Opening of the Interdisciplinary photo exhibition on Crafts and Craftsmanship in different cultures, with an introduction by Fridus Steijlen on the Crafts of Tau-Tau Puppetry Arts in Sulawesi, Indonesia

Crafts and innovation have gone hand in hand for decades. A re-evaluation of craft and craftsmanship in different cultures becomes more and more visible. This is not a nostalgic return to an idealised past; It is a search for scenarios that offer a better life for future generations. Crafts can play a central role in different sciences and innovation. Across material disciplines, craft processes have driven breakthroughs that have passed into the other field. This exhibition shows photographs, affiliated to LeidenGlobal partners, that relate to the theme of craftsmanship, specifically where tradition and innovation are fused through craft.

Fridus Steijlen* will explain his submission to the exhibition named 'Tau Tau Puppetry'. While filming daily life in Tana Toraja (Sulawesi, Indonesia) with his colleagues for the project 'Recording the Future', Fridus Steijlen visited a sculptor specialised in Tau-Tau Puppetry Arts: "While sitting in his workshop, I turned around and saw this Tau-Tau of a deceased woman. It felt like there was a real person."

The programme will feature:

- Welcome by the Art Committee of Oude UB and LeidenGlobal

Fridus Steijlen* is a senior researcher at the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV) and Endowed Professor 'Moluccan Migration and Culture in a comparative perspective' at VU University Amsterdam. He researches postcolonial migration from Indonesia and daily life in present day Indonesia and coordinates the research project 'Recording the Future': an audiovisual archive on everyday life in Indonesia.

The exhibition will be on display in the context of Leiden2022, Leiden City of Science, at the Oude UB Building until November 30th 2022

[Opening of 'Crafting Cultures' at Oude UB Building | Leiden2022](#)

- **Identity cards, semiotic instability, and signs of state recognition for Indonesian warias**

Date: 06 October 2022

Description: Indonesia has a big population of transgender people who go by the name 'warias'. This population has seen their rights and place in society shift many times over. Learn more and attend this talk by Benjamin Hegarty!

In Indonesia, the period of exuberant democratization that followed the authoritarian New Order (1965-1998) saw the state-issued identity card transformed into a visual symbol available for reproduction by ordinary citizens. One Indonesian transgender population known as warias, whose gendered mobility and kinship challenges the fixity of bureaucratic fictions, used the card to engage with the terms of recognition offered by the state. Following the introduction of sweeping public nuisance regulations that excluded them from public spaces, in 2014, warias in Yogyakarta made cards that closely mimicked but did not copy the visual form of the original. Yet this was not a card that was designed to replace the authentic state identity card but reworked its powers of recognition to new ends. Warias use of cards prompted a reckoning with the hopeful and dangerous prospect that the state did not hold a monopoly over powers of recognition.

Based on research undertaken in fieldwork in Yogyakarta and Jakarta since 2014, this talk positions warias engagement with identity cards to theorize the broader semiotic instability of state citizenship.

A focus on bureaucratic citizenship as a visual medium helps to interpret the signs of the state as vulnerable to the open-ended meanings of things.

About Benjamin Hegarty

Benjamin Hegarty is an anthropologist and the author of Cornell University Press's *The Made-Up State: Technology, Trans Femininity, and Citizenship in Indonesia*.

His research interests span medical anthropology, transgender studies, and Southeast Asian studies. He is drawn to ethnographic research because of its experimental, collaborative, and interdisciplinary potential.

[Identity cards, semiotic instability, and signs of state recognition for Indonesian waria | Leiden2022](#)

- **OMICS met het LUMC / OMICS with the LUMC**

Date: 09 October 2022

Organized by: LUMC

Description: Dive into the world of Omics! With interactive activities, demonstrations and presentations, LUMC researchers will show you what Omics is all about.

A lot of things happen in the human body. Many of these processes are carried out by proteins. Proteomics is the study of proteins in an organism. Metabolism in the human body is important. It is the process of converting one substance into another. This is done to make building blocks for the cell, but also to provide energy for all the processes in the cell. The substances created during metabolism are called metabolites. The study of metabolites is called metabolomics. An important part of that study is looking for patterns and abnormalities in metabolites. Such a pattern or abnormality is called a biomarker and provides information about how the metabolites are expressed.

Within LUMC's Centre for Proteomics and Metabolomics (CPM), research is conducted on proteins and metabolites to map disease-related changes.

The CPM researchers will be happy to show you their work. With interactive activities, demonstrations and presentations, the researchers will get you involved, but most of all, they hope to inspire you! More details about the programme will follow soon. See you then, at the Omics-LUMC day!

[OMICS met het LUMC | Leiden2022](#)

- **Palynologendag 2022 / Palynologists' Day 2022**

Date: 10 October 2022

Organized by: Palynologische Kring

Description: Palynologists are archaeologists who study new and ancient pollen, tracks and other microfossils. Especially for them, there is a day of lectures in the middle of a park.

Palynologists' Day 10 October 2022-Leiden European City of Science

Location: Polderoase The garden of the blacksmith, Park Cronesteyn, Polderpad 8 -2322 LB Leiden, home -Meeting at the blacksmith -green and close to the city.

[Palynologendag 2022 | Leiden2022](#)

- **Opening exhibition 'Powers of Ten'**

Date: 10 October 2022

Organized by: Old Observatory

Description: The exhibition, organised by the Old Observatory and the artist collective ORBITAT*, highlights Boeke, Hulst and others as the Dutch historical influences behind Powers of Ten, as well as film's broader connections to scientific, artistic and social innovation into the 21st century.

[Opening Tentoonstelling Powers of Ten | Leiden2022](#)

- **Science Café: Self repairing concrete thanks to bacteria**

Date: 11 October 2022

Description: Interested in science in its broadest sense? Fancy finding out more and engaging in discussions on controversial topics in science? While enjoying a drink and in a friendly, informal atmosphere? In this edition of the Science Café: self-repairing concrete thanks to bacteria.

Concrete is the most widely used building material in the world but has one major drawback: under pressure, cracks can easily appear. If such cracks become too large, they lead to rust of the steel reinforcement. Such concrete rot is not only an unsightly sight but also affects the strength of the structure. Therefore, more reinforcement than necessary is often used in construction to prevent cracks in a structure from becoming so large that the load-bearing capacity of the concrete is compromised. However, this extra steel is of no structural use in undamaged concrete. It is a waste of raw materials and, with high steel prices, also an expensive solution.

Another solution is to repair the cracks. In underground or moisture-containing structures, however, this encounters major problems. It would be ideal if the concrete were self-repairing, and that is exactly what the researchers at TU Delft are working on. By incorporating calcium-producing bacteria into the concrete mix, it should be possible to make concrete with such self-healing properties. Prof Henk Jonkers of TU Delft went in search of bacteria suitable for this purpose. With his research, he found three species that can be used in self-repairing concrete.

[Science Café Leiden: Zelf-reparerend beton dankzij bacteriën | Leiden2022](#)

- **Urban Health**

Date: 13 October 2022

Organized by: Leiden European City of Science 2022, in collaboration with the New European Bauhaus

Description: Leiden European City of Science 2022, in collaboration with the New European Bauhaus initiative of the European Commission and the Urban Health Campus Almere Leiden, present a programme entitled 'Urban Health' on Thursday, the 13th of October 2022.

The multidimensionality of health in an urban environment serves as lead of the day. Urban health will, therefore, be presented in a context of environment, inclusiveness and business. The dimensions of urban health will be explored by way of 1) academic brainstorming; 2) turning academic ideas in applied research; and 3) implementation of scientific knowledge in daily practice. We will invite participants to share their own views on urban health. All together, we will arrive at a multi-faceted view on health in an urban environment.

[Urban Health | Leiden2022](#)

- **Avond van de Chemie / Night of Chemistry**

Date: 13 October 2022

Organized by: Jong Koninklijke Nederlandse Chemie Vereniging (KNCV)

Description: A wonderful programme with top speakers in chemistry, entertainment and exciting prizes that put young talents in the spotlight.

In 2022, another Avond van de Chemie (Evening of Chemistry) will take place. This year, Leiden will be host to this wonderful event. For the upcoming edition, Jong KNCV will organize the Spotlight prize once again, an award for the best pitch presented by a PhD student about his or her research.

It will be a wonderful night with a programme combining top speakers from the world of chemistry with entertainment and an exciting awards gala that will put talented student in the spotlight. Want to know more about the Avond van de Chemie or do you already have a pitch in mind? Click [here](#) for more information about the event and how to participate in the Spotlight prize.

Prepare for a wonderful evening
This year's edition will be another remarkable event. The Royal Dutch Chemical Society is more than proud to announce the first speakers of the evening: [Marthe Walvoort](#) (University of Groningen) en [Marc Koper](#) (Leiden University).

Besides these remarkable speakers, there is an entertainment programme and an awards ceremony, in which young talents will be in the spotlights. During the awards ceremony, a total of five prizes will be awarded: Gouden Vlam (mbo), Gouden Spatel (hbo), Golden Master Award (wo), Spotlight Prize (PhD) and the Van Marumpenning.

We will end a wonderful evening with drinks. Take a look at the [website](#) for more information.

[Avond van de Chemie | Leiden2022](#)

- **Fantasy with ADHD**

Date: 15 October 2022

Organized by: Impuls & Woortblind and ADHD Europe

Description: During 'FaNtAsY with ADHD', students will present their graduation thesis or project on the subject of ADHD.

During 'FaNtAsY with ADHD', a number of students will be given the opportunity to present their graduation thesis or project on the subject of ADHD in a creative manner. The day also coincides with the theme 'Fantasy' of 365 days of curiosity of Leiden2022.

This conference will be organised by Impuls & Woortblind and ADHD Europe. Impuls & Woortblind is an interest group for people with ADHD, ADD, dyslexia, or discalculatation. It supports them by providing information, promoting contact between members, and advocacy. ADHD Europe is a European organisation which exists to defend the rights and dignity of people with ADHD and their families. ADHD Europe contributes to research, policy and legislation, and practical initiatives.

[FaNtAsY with ADHD | Leiden2022](#)

- **Micro day by BioTech training facility**

Date: 24 October 2022

Organised by: biotech training facility

Description: A whole day of interactive information, activities and fun games with your family. Join the Micro-day!

Together with BioPartner Leiden and OVBSL Leiden, Biotech Training Facility is organising a Leiden2022 - European City of Science activity on Monday 24 October. The whole family is welcome! During this day, there are several activities you can participate in:

- Small but fine: Come and see what different micro-organisms look like under a microscope.
- Dress for success: In recent years, you have probably heard a lot about vaccines and vaccine production. The people involved in vaccine production put on special clothing. Find out why and experience what it is like to wear such clothes.
- PCR game: PCR here, PCR there! What exactly is PCR? Learn more and design your own reaction.
- Micro scavenger hunt: Challenge yourself on the scavenger hunt through our facility.

- Our little guests (under 8 years old) can show their creativity on fun micro-colouring sheets and create their own micro-organisms.

The events on this day are completely free of charge and will take place between 10.00 & 12.30 and 13.30 & 16.00.

[Micro Dag door Biotech Training Facility | Leiden2022](#)

- **Discover what you normally can't see**

Date: 24 October 2022

Organized by: Leiden University's Faculty of Science

Description: How can you see things that cannot be found with the naked eye? With a microscope! This Leiden University activity is all about microscopes.

Small, smaller, smallest. On the birthday of Antoni van Leeuwenhoek, inventor of the microscope, we will look at what you normally cannot see with the naked eye. How does a microscope work, and can you make one yourself? On this day, Leiden University's Faculty of Science will host an activity on the theme of microscopy.

[Bekijk wat je normaal niet kunt zien | Leiden2022](#)

- **Your bones ... for eternity?**

Date: 01 November 2022

Organized by: LUMC

Description: During this afternoon, doctors from LUMC and a bone archaeologist from Leiden University show that bone is alive.

Your bones... are alive! They renew every 10 years, our environment affects them, and despite being strong they can break. Come and see what can be read from your bones today?

Dr Sarah Schrader (osteoarchaeologist, Leiden University), Dr Natasha Appelman-Dijkstra and Dr Liesbeth Winter (internists LUMC) are ready for you. They will show with demonstrations and pop-up lectures that bone is alive. They will tell how bone is put together, what can go wrong, what you can learn from it, and how to examine bone. An afternoon where you can get to work with your bones yourself.

[Je botten... voor de eeuwigheid? | Leiden2022](#)

- **Meet & Mingle**

Date: 03 November 2022

Organized by: Expat Center Leiden

Description: Meeting other people can be difficult – that's why Expat Centre Leiden is organising a monthly Meet & Mingle, where you can meet other people in the Leiden region in a casual and cosy setting.

Join Expat Centre Leiden for the next [Meet & Mingle](#). In this special Leiden2022 themed edition, you can get to know other internationals in the region, while learning more about the day's them, press! Expand your network and your knowledge, and join this Meet & Mingle.

The event is free and some drinks and snacks will be provided. You need to register to reserve your spot as space is limited. Please visit [Expat Centre Leiden's website](#) to do so or fill in the [form](#) directly.

In case of any questions, please contact Claire via claire@leidenenpartners.nl

This activity is in English

[Meet & Mingle | Leiden2022](#)

- **Press: Dag van de Leidse Journalistiek / Press: Day of the Leiden Journalism**

Date: 03 November 2022

Organized by: Leiden University

Description: Leiden students and teachers from various programmes will present a year's worth of research on 'Journalism in Leiden: then, now and later' on the day.

Welcome to PRESS: the Day of Leiden Journalism.

On the 3rd of November, Leiden students and lecturers from various study programmes will present a year's worth of research into 'Journalism in Leiden: then, now and later'. Together they will write the building blocks for a new history of Leiden media: from city announcer to city broadcaster. Stories will be told about one of the oldest newspapers in the world, the Leydsche Courant, (1688-1992) and about the world-famous Gazette de Leyde but also about today's Leiden media landscape and its future. Where and how were and are newspapers made? Who wrote and write, read and read the news in this City of Knowledge? Who were those journalists and who was the first female journalist from Leiden? From which Leiden buildings and streets did they operate? What did and do local media contribute to democracy? Does Leiden journalism have a future?

All stories will come together on 3 November 2022, the Day of Leiden Journalism

[PRESS: Day of Leiden Journalism | Leiden2022](#)

- **Month of Tutankhamun**

Date: 04 – 25 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

Description: 100 years since the world-famous pharaoh: a month full of activities.

2022 is a special year for lovers of ancient Egypt: On November 4th, it will be 100 years since the world-famous pharaoh Tutankhamun was discovered beneath the sands. At the National Museum of Antiquities in Leiden, the Netherlands' foremost collection of Egyptian antiquities, we will be commemorating this find with the 'Month of Tutankhamun'. Starting our event series will be an Egyptian-themed party on Friday November 4th, with guided tours, performances and music. Throughout the month, we will also host a range of Egyptian-themed activities for young and old, including lectures, games and children's activities.

The activities are organised by the Leiden University Faculty of Archaeology and the Faculty of Humanities, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities.

[Month of Tutankhamun | Leiden2022](#)

- **Egyptian party**

Date: 04 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

Description: The festive kick-off to Tutankhamun Month!

Today, 4 November, marks 100 years since the first step into the tomb of the world-famous pharaoh Tutankhamun was found under the sand. So today, it is the start of Tutankhamun Month, commemorating this find at the National Museum of Antiquities. Throughout the month, Egyptian activities for young and old will take place at the museum, with lectures, games and children's activities.

Today: flash tours, performances and music in Egyptian atmosphere! Visit the website of Museum Volkenkunde [here](#) for more information.

The Tutankhamun Month activities are organised by the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

[Egyptian Party | Leiden2022](#)

- **The boy behind the death mask**

Date: 08 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

Description: This year marks 100 years since the discovery of Tutankhamun's tomb. Lecturer and archaeologist Diana de Wilde will give a lecture on this pharaoh on Tuesday 8 November.

Egypt's most famous pharaoh lived around 1400 BC and came to the throne when he was still a boy. His mother is unknown. His father could be Akhenaten. A pharaoh who turned the country upside down by banning most gods and moving the capital. Tutankhamun was probably ten when he came to the throne and nineteen when he died. Shortly after the burial, robbers invaded his tomb. They were disturbed and took only some of the gold jewellery. The tomb was resealed. When British archaeologist Howard Carter discovered the tomb in 1922, it was so full of treasures that it took him 10 years to empty it. A Toet craze broke out. Fashion, jewellery, perfume bottles and cigars were given an Egyptian twist. Hollywood ran with the story. But who was Tutankhamun?

This lecture will take place on 8 November at the National Museum of Antiquities from 3pm to 4pm.

[De jongen achter het dodenmasker | Leiden2022](#)

- **Science Café Leiden: Einsteins Telescope**

Date : 08 November 2022

Organized by : Science Café Leiden

Description: Interested in science in its broadest sense? Come to the Science Café Leiden!

Science Café Leiden organises evenings with accessible science for a wide audience in an informal setting.

This evening, Prof Stan Bentvelsen, director of Nikhef, will talk about the plans to build the Einstein telescope to measure gravitational waves.

After the break, there will be an opportunity to discuss this with him. Before the lecture and in the break between lecture and discussion, Pieter Pierrot will perform with instrumental guitar playing.

[Science Café Leiden: Einstein telescoop | Leiden2022](#)

- **Uitreiking Lorentz Medaille**

Date: 10 November 2022

Organized by: Koninklijke Nederlands Academisch van Wetenschappen (KNAW)

Description: The KNAW is pleased to invite you to the presentation of the Lorentz Medal 2022 to physicist Daan Frenkel. The presentation is part of a symposium on Frenkel's field of study. It will be concluded by a discussion with, among others, minister Robbert Dijkgraaf.

The Lorentz Medal is awarded every four years to a researcher who has made a significant contribution to the development of theoretical physics.

Laureate: Daan Frenkel is emeritus professor at the University of Cambridge. One of the driving forces behind a 'quiet revolution', Frenkel pioneered the use of creative computer simulations to mimic chemical and physical processes. His research underpins a large number of theoretical and experimental investigations into the behaviour of suspensions: liquids containing insoluble spherical, rod and plate-shaped particles.

Programme / Symposium

Marjolein Dijkstra, professor of Computational Condensed Matter Utrecht University

Andela Saric, associate professor of Computational Biological and Soft Matter Physics, Institute of Science and Technology Austria

Ali Alavi, director Max Planck Institute for Solid State Research, Stuttgart

Angelos Michaelides, professor of chemistry University of Cambridge

Bingqing Cheng, associate professor of Computational Materials, Institute of Science and Technology Austria

Wim van Saarloos, emeritus professor of theoretical physics, Lorentz Institute, Leiden University

The language of the symposium will be English.

Presentation: Presentation of the Lorentz Medal to Daan Frenkel by Marileen Dogterom, president of the KNAW and Detlef Lohse, professor of Physics of Fluids University of Twente and chairman of the Lorentz Medal jury.

Discussion between minister Robbert Dijkgraaf, Hester Bijl, rector magnificus Leiden University and Daan Frenkel.

The language of the ceremony is Dutch.

The moderators are physicists Detlef Lohse and Ivo van Vulpen.

[Uitreiking Lorentz Medaille | Leiden2022](#)

- **Tutankhamun on Tahrir square**

Date: 11 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

Description: Curator Daniel Soliman (Egyptian and Nubian collections) will chair a conversation with three Egyptian guests. What does ancient Egypt mean to Egyptians today? What significance does ancient culture have in contemporary Egyptian art and society?

What does ancient Egypt mean to Egyptians today? What significance does ancient culture have in contemporary Egyptian art and society? And how is the imagery from ancient Egypt put to strategic use, both by those in power and their opponents? Curator Daniel Soliman (Egyptian and Nubian collections) will chair a conversation with three Egyptian guests, each of whom approaches these questions from a different field.

Imperial powers

The conversation is an intervention in the museum's regular activities and focuses on the relationship between modern-day Egypt and its heritage. It also considers the role that Western Egyptology played in this: for much of the 19th and 20th centuries, imperial powers ensured that the study of ancient Egypt remained beyond the reach of most Egyptians. Partly as a result, museum galleries such as those of the National Museum of Antiquities rarely reflect on modern Egypt.

Contemporary Egyptian identities

As the speakers argue, ancient Egyptian heritage is integral to contemporary Egyptian identities in various ways: from everyday life to local festivities, and the close connection with ancient Egyptian art. In the 1920s and 1930s, the anti-colonial Egyptian nationalist movement used ancient Egypt to unite all Egyptians. The current Egyptian government frequently draws on the ancient past as a symbol of national unity, too. Viewed in this light, ancient Egyptian heritage is tightly bound to the Egyptian present.

Speakers

- [Basma Hamdy](#): assistant professor of Graphic Design at Virginia Commonwealth University in Doha, Qatar, and guest curator of the photo exhibition *Tutankhamun on Tahrir Square*
- [Heba Abd el Gawad](#): Egyptologist and researcher on the project *Egypt's Dispersed Heritage: Views from Egypt*, UCL Institute of Archaeology, London
- [Sara Sallam](#): artist, designer, writer, visual researcher, book maker and education specialist

Moderator

- [Daniel Soliman](#): curator of the Egyptian and Nubian collections at the National Museum of Antiquities

[Tutankhamun on Tahrir Square | Leiden2022](#)

- **Stokvislezing: oog in oog met je trauma; therapie met deepfakes / Stockfish lecture: face to face with your trauma; therapy with deepfakes**

Date: 11 November 2022

Organized by: Rijksmuseum Boerhaave

Description: The applications of artificial intelligence seem endless. For example, deepfakes; these are videos of people that seem eerily real, but have been generated with the help of A.I. - completely fake. Sometimes it is almost impossible to tell any difference anymore.

In Prof Dr Theo Gevers' research, deepfakes are getting a serious, and useful, application. He investigates whether these models can play a role in grief and trauma processing. For example, by letting bereaved families have a conversation with a lifelike deepfake of a deceased loved one. Or by letting victims of abuse have a conversation with the perpetrator. It could even teach trainee doctors how to conduct a bad-news conversation. The usefulness and risks of these techniques are currently under close scrutiny, Theo Gevers updates us in this Stokvis lecture.

About the speaker: Theo Gevers is professor of Computer Vision at the University of Amsterdam and specialises in artificial intelligence, deep learning and automatic face analysis in videos.

Stokvis Lecture: The Stokvis Lecture is named after Prof Dr B.J. Stokvis, first president of the Nederlandsch Natuur- en Geneeskundig Congres in 1887. In memory of this now defunct society, Rijksmuseum Boerhaave organises a special lecture every year.

[Stokvislezing: Oog in oog met je trauma; therapie met deepfakes | Leiden2022](#)

- **Fake News: from fact to fake**

Date: 11 November 2022

Organized by: Leiden University Faculty of Science Mathematical Institute

Description: Do you believe everything you read? Or do you effortlessly fish out all the fake news from your feed?

In our daily lives, we have to look more and more critically at the information we are presented with. How can we better defend ourselves against fake news?

On 11 November, scientific experts will give insights into the origins of fake news. Three lectures will examine fake news from different perspectives. Learn all about the importance of factchecking, the dangers of echo chambers, and the sociological effects of fake news.

[Fake news: from fact to fake | Leiden2022](#)

- **Fashion show: the wardrobe of Toetanchamon**

Date: 18 November 2022

Organized by: : the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities

Description: Textile archaeologist Gillian Vogelsang-Eastwood talks this evening about the clothing found in Tutankhamun's tomb. These were mainly linen garments, made for a young boy, a teenager and an adult man.

In the accompanying 'fashion show' of replica garments, you will see how and when they were worn.

Gold and wardrobe: Howard Carter's discovery of the three-thousand-year-old tomb of the young Egyptian king Tutankhamun in 1922 was an international sensation. The young pharaoh was prepared for his afterlife with an amazing array of objects, including the famous mask of gold and lapis. Less well known is that the glittering objects were accompanied by an elaborate wardrobe of textiles and accessories.

Clothing for every function: Textile archaeologist Gillian Vogelsang-Eastwood talks about the linen garments from the tomb in her lecture. They were made for a young boy, a teenager and an adult man. Moreover, many of the garments are directly linked to the pharaoh: they reflect different aspects of his life as king, diplomat, priest, warrior and perhaps even as a 'family man'. All these sides of Tutankhamun come to life in the demonstration of clothing reconstructions, made based on the actual clothes from the tomb.

[Modeshow: de garderobe van Toetanchamon | Leiden2022](#)

- **Antibiotica Scavenger Hunt**

Date: 18 November 2022

Description: Did you know that antibiotic resistance is a growing problem? And did you know that bacteria can produce antibiotics? Join your classmates in this scavenger hunt!

On November 18, a fun and educational scavenger hunt will take place especially for undergraduate high school students. Through the app ActionBound, students will receive a clue that leads them to hidden QR codes in Leiden. Once they arrive, students must answer a question about Antibiotics before getting the next hint.

Several researchers will be present on the day to support students in answering the questions. The goal of this activity is to teach students about the topic of Antibiotics and Antibiotic Resistance. Want to join? Sign up your class [right away!](#)

This activity is available in both Dutch and English.

[Antibiotica Scavenger Hunt | Leiden2022](#)

- **Lorentz Center Lecture: Women from Venus, Men from Mars.**

Date: 18 November 2022

Organized by: Rijksmuseum Boerhaave

Description: So how much do the brains of men and women actually differ? And does this also explain differences in the prevalence of psychiatric disorders and symptoms?

Marieke Bos and Lara Wierenga are researching this question and in their lecture they will tell us all about what we currently know about the brains of men and women. This scientific quest is not easy and the answers are not straightforward. Gender differences are sometimes oversimplified in science and its translation. This has harmful consequences argue the researchers. For instance, depression appears to be more often untreated in men than in women, and on the other hand, we know little about the effects of the menstrual cycle on stimulus processing. Therefore, it is important to properly understand which gender differences have a biological or a sociological cause. This requires a multidisciplinary view of the issue. With their research, the researchers hope to contribute to tailor-made diagnosis and treatment.

About the speakers:

Lara Wierenga is a neuroscientist at Leiden University and author of *Atlas of our Brain*. Her research focuses on understanding mutual differences in child and adolescent brain development. And she tries in her work, among other things, to find answers to the question why more boys than girls develop ADHD and autism.

Marieke Bos is associate professor of developmental psychology at Leiden University. Her research focuses on understanding why the adolescence phase is a vulnerable period for the development of mental problems, such as social anxiety and depression.

[Lorentz Center lezing: Vrouwen van Venus, mannen van Mars? | Leiden2022](#)

- **Toet-anch-kunstwerk / Tut-ach-artmon**

Date: 19 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities.

Description: Children's workshop by illustrator Djenné Fila Come colour, draw and tear and create your own Egyptian artwork! In one hour, illustrator Djenné Fila will show you how to make drawings using your own imagination from all kinds of techniques and materials.

She herself made the beautiful plates in *Shadow of Tut*, a book about the world-famous pharaoh and his sister Amany. In this workshop, you will also get to work with the drawings Djenné used for her own books. A pharaoh, goddess or animal: what will you make?

About Djenné Fila: Fila (Tilburg, 1995) studied illustration at the Academie voor Kunst en Vormgeving St. Joost in Breda and graduated cum laude (= with very high marks) in 2017. In 2018, she won the second prize and the audience award of the BoekieBoekie Start Award and one of her drawings appeared in the collection *Greek Heroes*. Djenné also did the illustrations for Linda Dielemans' children's book *Under the Waves*, which was published in 2021 to accompany the exhibition on Doggerland.

The illustration workshop is especially for children. Parents, grandparents and companions are welcome to visit the museum (tickets), or have a cup of coffee in the museum café.

[Toet-anch-kunstwerk | Leiden2022](#)

- **Toetanchamon Pubquiz**

Date: 25 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities.

Description: For Tutankhamun and Egypt connoisseurs: Who is the greatest Tutankhamun connoisseur of the Low Countries? Take part in The One and Only Tutankhamun Pub Quiz and win the coveted title in this special Tutankhamun anniversary year.

In this pub quiz, you will not only test your knowledge of the world-famous pharaoh, but also of ancient Egypt, 'Tutmania' and many more wonderful things. The Temple Hall is our pub and participation is free!

Prize package: The Egyptological level is monitored by an expert jury, the speed of answers by the clock. Enter individually, or come with friends and form a team. The winner(s) and biggest loser(s) of the quiz can count on a nice prize package.

[Toetanchamon Pubquiz | Leiden2022](#)

- **Orange the world: stop violence against women**

Date: 25 November – 10 December 2022

Organized by:

Description: Leiden turns orange again this year! More than 90 countries around the world will be taking action against violence against women from November 25 to December 10. Orange flags, buildings and joint actions will conquer the streets. Will you join?

Orange the World is back. Last year, Leiden was one of 230 municipalities from the Netherlands that participated in the action to stop violence against girls and women. Everyone from Leiden is called upon again this year to participate, in whatever way they can, as part of a solution. Thus, residents are encouraged to break the taboo on talking about violence and actively contribute to the safety of women and girls in public, at work, on the streets, in public transport or in cafes.

During the period from November 25 to December 10, illuminated signs with posters will be seen throughout the city and many buildings will be lit orange, such as the Turkish mosque, the Koornbeurs bridge, the Schouwburg, the Zeevaartschool, the Academieggebouw, the Burcht and the Heineken brewery.

The following activities will be organized as part of Orange the World:

- Kooiplein, November 25 at 4:30 p.m.

Alderman Abdelhaq Jermoumi will unveil an Orange the World Social Sofa, made by Soroptimist Club Leiden Aurora. Next, the mosque on this square will be lit up orange. Everyone is cordially invited to attend.

- Stadhuis, November 25 at 7:30 p.m.

After a welcoming speech by alderman Julius Terpstra, al drama group De Generator will take the stage with a short play. This will be followed by a panel discussion with the audience, on the importance of supporters to stop violence against women. Walk-in begins at 7 p.m. and the evening will last until approximately 10 p.m. For this activity, you are asked to sign up by email to otw.leiden@gmail.com

- Centre of Leiden, November 30

Throughout the day, MBO Rijnland will spray environmentally friendly street graffiti in the city center with the theme: Stop Violence Against Women

Want to participate or organize your own activity? Keep an eye on the website of www.orangetheworld.nl or www.vrouwennetwerkleiden.nl!

[Orange the World: Stop Geweld tegen Vrouwen | Leiden2022](#)

- **Geen vooruitgang zonder verbeelding / no progress without imagination**

Date: 26 November 2022

Organized by: Rijksmuseum Boerhaave

Description: Future predictions from the past often miss the mark in entertaining ways, but occasionally they are accurate. With their thinking and tinkering, scientists, inventors, futurologists, science fiction writers were often far ahead of their time.

In his book *Futurama*, journalist Fanta Voogd delves into the history of the future, sketching the capricious course of technological evolution. At Rijksmuseum Boerhaave, he recounts the ancient antecedents of robotics and artificial intelligence. And about how narrative art - from mythology to science fiction - has given direction to technological progress.

This lecture takes place as part of Letterlijk Leiden.

About the speaker: Fanta Voogd (1961) started as a journalist at daily newspaper *De Waarheid*. As a contributor to *De Ingenieur*, he specialised in engineering history. He also wrote technique history background stories for *Maarten!*, *Historisch Nieuwsblad*, *Kijk*, *Vrij Nederland*, *Elsevier Weekblad*, *De Groene Amsterdammer* and *NRC Handelsblad*, among others.

[Geen vooruitgang zonder verbeelding | Leiden2022](#)

- **The display of human remains**

Date: 28 November 2022

Organized by: the Faculty of Archaeology and the Faculty of Humanities of Leiden University, the Netherlands Institute for the Near East (NINO) and LeidenGlobal, in collaboration with the National Museum of Antiquities.

Description: A moderated panel discussion. Scientists from different disciplines share their ideas and thoughts about dealing with human remains. The central idea of this afternoon is: (how) should we display human remains at the National Museum of Antiquities?

Dr. Lara Weiss, RMO-curator collections Egypt and Nubia and Dr. Luc Amkreutz, Professor of Public Archaeology, Faculty of Archeology, Leiden University and RMO-curator Prehistory collections

Egyptian and Prehistoric human remains are important sources of information in studying past societies. Modern techniques such as isotope and DNA analysis have in recent years contributed hugely to the understanding of our deep past. At the same time human remains were and are also part of past human communities and, often, of burial rituals and distinct ethical principles should apply in their use and display. The curators will discuss the choices made in the Egyptian and Nubian permanent display as well as the permanent exhibition on Dutch archaeology and a recent case study from the *Doggerland* exhibition. These examples position and question why and how we use human remains in our displays and whether this is sustainable for the future.

Dr. Daniel Soliman, RMO-curator collections Egypt and Nubia: 'The tragic history of ancient Egyptian bodies: powders, museum objects and monsters'

This contribution discusses the history of Egyptian mummified bodies from the 19th century to modern popular culture.

Astrid Christiaens, Forensic pathologist in training

The autopsy is still considered the gold standard in determining the cause of death. Its determination is regarded an important primary objective in forensic casework. Because of this the forensic autopsy holds a special place. It is ordered by the magistrate, if need be against the wishes of the deceased and without consent from the relatives. This is accepted because society agrees that the knowledge obtained by the procedure outweighs possible objections made by relatives. The agreement implies that the human body is treated with dignity. But what does dignified handling of human remains entail?

Sara Sallam: Artistic Responses to the Artefication and Monstrification of My Ancestors (online streaming)

Sara Sallam presents a selection of her projects, taking us along on her journey of unlearning the exoticism of her ancestors and finding ways to decolonise her ancient Egyptian heritage. The performative reading is followed by the screening of Sallam's latest work, *I Prayed For the Resin Not To Melt*.

Moderator

Dr. Sarah Schrader, Assistant Professor, Faculty of Archaeology, Leiden University
Sarah Schrader is an osteoarchaeologist, specializing in the excavation and analysis of human skeletal remains. Her research focuses on the Nile Valley, which is the topic of her book, *Activity, Diet, and Social Practice: Addressing Everyday Life in Human Skeletal Remains*.

[The display of human remains | Leiden2022](#)

- **Wat, Water, ik? / What, water, me?**

Date: 28 November 2022

Organized by: New European Bauhaus Leiden2022

Description: What is water to you? Will we soon go from rain to drizzle? Have your say on the future of water in the Leiden region during the fourth edition of the Plekberaad.

During the Leiden Plekberaads, a diverse group comes together to work towards a more beautiful, sustainable and inclusive Leiden. At a secret location on the banks of the Rhine, we will discuss the future of our water on 28 November 2022. What? Water! Yes.

The agenda will be set by the participants together. What dreams, questions and concerns do you have about water? For instance, what do we do if the Rhine overflows its banks? Will the outskirts become spillways? Are the roads of the future the waterways and channels of today?

What is water to you? We make the future together, which is why it is important that everyone is heard. We would like to invite you to the fourth edition of the Leidse Plekberaden.

To keep the group as varied as possible, we ask people who want to participate to answer a question on the registration form. Share with us what water means to you and who knows, we might invite you to this special meeting.

[Wat? Water? Ik? | Leiden2022](#)

- **The future of technology – how do you envision it?**

Date: 28 November 2022

Organized by: Huygens Laboratorium

Description: A workshop about the future of technology with a tour through a lab and a free dinner.

Do you still leave the house without your smartphone sometimes? What kind of smart gadgets would you be taking with you in 30 years? We're curious about the future of technology! Are you curious too? If yes, join Leiden Physics Research at their workshop!

This workshop is a part of research regarding the ideas, feelings, and visions people have when we talk about up-and-coming technologies such as quantum technology. This is why they'd love to have you join them. And don't be afraid to bring a friend!

[The Future of Technology - How do you envision it? | Leiden2022](#)

- **Astronomy on tap: neutron stars & radio bursts**

Date: 28 November 2022

Organized by: Astronomy on Tap

Description: Games, quizzes, and talks where you can win cool science prizes!

Join us for a night of astronomy with two fantastic talks from Anna Watts and Jason Hessels who will tell us about neutron star and the mystery of fast radio bursts! As always, there will be fun games where you could win cool science prizes!

- **Anna Watts: "A NICER view of neutron stars"**

Anna is a Professor at the University of Amsterdam studying the dense nuclear matter within neutron stars and the thermonuclear explosions that happen on their surfaces. She does this using X-ray astronomy, relativity, large amounts of supercomputer time, and copious cups of tea. In her talk, she will tell us how a small X-ray telescope on the International Space Station is mapping the inside and outside of neutron stars.

- **Jason Hessels: "Pin-pointing fast radio bursts in space and time"**

Jason Hessels is Professor of Observational High-Energy Astrophysics at the University of Amsterdam and Chief Astronomer at ASTRON, the Netherlands Institute for Radio Astronomy. His research team focuses on studying astrophysical radio transients at the highest-possible time and spatial resolution. Fast radio bursts have had astronomers scratching their heads for the last 15 years. What is the source of these remarkably luminous radio flashes originating long-long ago in galaxies far-far away? To solve this mystery, we need to tune our radio telescopes to observe at the highest-possible resolution. We need to zoom-in in both space and time to pinpoint the lairs in which fast radio bursts are produced.

For more information check out <http://astronomyontap.nl/>

Logistical information: We start at 20:00 sharp, so please arrive earlier to enter the bar, save a seat, and grab a drink. We are not planning to stream the event live, but will be uploading a recording of the talks on our [YouTube channel](#) after the event.

[Astronomy on Tap: Neutron Stars & Radio Bursts | Leiden2022](#)

- **Climate game night IFMSA-NL x Leiden European City of Science 2022**

Date: 01 December 2022

Organized by: IFMSA-NL and Leiden European City of Science

Description: "Climate change is the biggest threat to global health of the 21st century" - The Lancet (2009), but in which ways are climate and health connected? Which people are most affected by this?

What role can we ourselves play to prevent the worst impacts? To find out, join us at the **Climate Game Night!** During this evening, organised by IFMSA-NL and Leiden European City of Science, we will learn together about the theme Climate Change & Health through a **new and interactive game**, based on the successful workshop The Climate Fresk.

[Climate Game Night - IFMSA-NL x LCOS | Leiden2022](#)

- **Heimwee: dort wo die blumen blüh'n / Home sick: where the flowers bloom**

Date: 24 November – 03 December 2022

Organized by: theatre group Domino

Description: Be surprised by extraordinary danced stories with a bit of magic. Let yourself be taken away to *Dort wo die Blumen blüh'n*, performed by theatre group Domino.

Homesickness is a modern dance performance in which personal stories of the actors play an important role. There is solo dancing, a duet and then together again. Memories are cherished and will put a smile on your face. A warm feeling inside is guaranteed.

What started with homesickness in the mother tongue of the originally Swiss choreographer Claudia Flaming, ended in a choreography of different stories by the players of theatre group Domino. All their stories in relation to homesickness were put into a 'black box', so to speak. A big black box on stage.

Theatre group Domino consists of 19 actors and actresses with disabilities and three directors. The group trains three days a week and performs regularly. Domino produces on average one major production a year, and sometimes even two. The performances rely on a combination of humour and drama. For Leiden European City of Science, together with Roos-Marijn Kinkel, filmmaker Michiel Keller and theatre makers Roggeveen & Olijerhoek, they made the successful 'Nieuw Licht', a TV programme about special scientific research.

[Heimwee: Dort wo die Blumen blüh'n | Leiden2022](#)

- **Leiden Science Café: the gap in society**

Date: 06 December 2022

Organized by: Leiden Science Café

Description: Interested in science in its broadest sense? Come to the Science Café Leiden!

The Science Café Leiden organises evenings with accessible science for a wide audience in an informal setting.

This evening, Gert Jan Geling will discuss these threats to liberal democracy, in particular the thesis that liberal democracy can above all be a threat to itself.

After the break, there will be an opportunity to discuss this with him. Before the lecture and in the break between lecture and discussion, Rob Gravelotte will perform with his own music and old pop from the 60s and 70s, old jazz, stomp, blues, jazz ballads, bossa nova and samba.

[Science Café Leiden - De kloof in de samenleving | Leiden2022](#)

- **Lorentz Lecture: can predicting the future help us to make better decisions about our health?**

Date: 06 December 2022

Organized by: Rijksmuseum Boerhaave

Description: It is expected that advances in artificial intelligence will make such predictions increasingly accurate. But what happens if we make decisions based on these predictions?

Many apps and websites provide calculators of our individual risk of developing a disease using information about our age, lifestyle, our current health etc. It is expected that advances in artificial intelligence will make such predictions increasingly accurate. But what happens if we make decisions based on these predictions? For example, what if we change our lifestyle or start to use certain medications? Most algorithms don't give reliable answers to this question. In this lecture we will discuss how we can develop new tools, in particular causal prediction algorithms, that use health data

in such a way that we are able to predict what our risk of a disease would be if we made certain decisions.

About the speakers

Daniela Weir is an assistant professor of real world evidence working in the Division of Pharmaco-epidemiology and Clinical Pharmacology at Utrecht University. She obtained her PhD in Epidemiology from McGill University and completed a Post-Doctoral Fellowship at the University of Toronto (Canada). Her work centers around improving the safety and effectiveness of medications for individuals living with multimorbidity using real-world data, with particular focus on patients with diabetes.

Nan van Geloven is an assistant professor working at the Department of Biomedical Data Sciences at the Leiden University Medical Center. Her work focusses on causal prediction of time-to-event outcomes using both observationally collected health data and data collected in randomized controlled trials. She has developed and applied statistical methods in multiple disease areas including reproductive medicine, neurology, kidney and liver transplantation.

Ruth Keogh is a professor of Biostatistics and Epidemiology working at the Medical Statistics Department of the London School of Hygiene and Tropical Medicine. The aim of her research is to apply and develop statistical methods for answering questions about the effects of treatments on health outcomes using 'observational' data collected about patients in the course of their usual care. She focusses on multiple disease areas including cystic fibrosis, organ transplantation, and Covid-19.

This public lecture is part of the workshop [Counterfactual prediction for personalized healthcare](#).

[Lorentzlezing: Can predicting the future help us to make better decisions about our health? | Leiden2022](#)

- **Science meets Business: the fermentation special**

Date: 08 December 2022

Organized by: Science meets Business

Description: Join an amazing evening filled with everything to do with the world of fermentation!

Every second Thursday of the month, the Science Meets Business event takes place. Thursday, the 8th of December 2022 won't be an exception. This time, the evening is dedicated to different kinds of topics to do with fermentation. You can attend the event free of charge. The event is accessible to everybody regardless of whether you know a lot about fermentation or not. [Register for the event here!](#)

The Speakers

- *Peter Rowe: Powering Fermentation for fish-feed*
Deep branch uses waste streams - including CO₂ - from huge factories to power fermentation that generates fish-feed. Founder/CEO Peter Rowe will break down this complex process into smaller parts and share how his company got to where it is today!
- *Jos Seegers: Fermentation in the human microbiome*
Jos Seegers has dedicated his entrepreneurial and academic life to healthcare involving fermentation processes in human microbiome. He will open the evening and enthusiastically share his knowledge of fermentation and the organisms that coexist with your body.
- *Daan Luining: Fermentation for animal-free meat*
Meatable makes use of fermentation processes to make sustainable, animal-free meat. Daan Luining, the founder/CSO of this cultured meat company, will nerd out with us and share his company's journey.

[Science Meets Business: The Fermentation Special | Leiden2022](#)

- **#Humanrightsweek: committee of minister council of Europe**

Date: 08 December 2022

Description: Experiences of a former ambassador

Between 2017 and 2021, Roeland Böcker was the Permanent Representative of the Netherlands to the Council of Europe. Together with his colleagues from the other 46 member states, he participated in the meetings of the Committee of Ministers, the organisation's main decision-making body. Thus, Ambassador Böcker played a key role in one of the most turbulent periods in the history of European cooperation, which eventually led to the decision to expel the Russian Federation from the Council of Europe.

In a special (English-language) guest lecture, Mr Böcker will talk about his practical experience in Strasbourg and the major challenges of the main organisation set up specifically to promote human rights, democracy and the rule of law in Europe.

Hosts: Prof Niels Blokker and Prof Rick Lawson.

[#HumanRightsWeek: Comité van Ministers Raad van Europa | Leiden2022](#)

- **Huizingalezing 2022: door Gunay Uslu, staatssecretaris van cultuur en media / Huizinga Lecture 2022: by Gunay Uslu, state secretary for culture and media**

Date: 9 December 2022

Organized by:

Description: On Friday 9 December 2022, Gunay Uslu will deliver the 51st Huizinga Lecture at the Pieterskerk in Leiden. The title of her lecture is: 'How the Netherlands values culture. From cultural nationalism to corona and beyond (1872-2022 and beyond)'.

About the lecture: In her Huizinga lecture, Uslu will reflect on the development of cultural policy in the Netherlands. She begins with the period of cultural nationalism in the last quarter of the 19th century, when the government took primary responsibility for cultural life and the 'elevation of the nation' became a benchmark of cultural policy. She considers the period up to and including the coronapanda, when the lack of culture revealed itself painfully. She does this from her background as a cultural historian and her responsibility as State Secretary. She ends her lecture with a look ahead: how are we going to value culture more together and do justice to the fundamental role culture plays in our lives?

About the speaker: Gunay Uslu (1972) has been State Secretary for Culture and Media in the Rutte IV cabinet since January 2022. She was previously director of Hotel Development & Design at Corendon Hotels & Resorts. Uslu studied Cultural Studies at the University of Amsterdam. After her master's, she obtained her PhD with the thesis Homer, Troy and the Turks: Heritage & identity in the Late Ottoman Empire 1870-1915. She then spent many years at the UvA as a researcher and lecturer in Cultural Studies. She also worked as a project manager, curator and curator in the museum world. As State Secretary, her portfolio includes cultural policy, heritage, libraries and media.

150th anniversary of Johan Huizinga's: On 7 December 2022, it will be 150 years since Johan Huizinga was born in Groningen. The lecture in his memory has been organised annually since 1972 by the Faculty of Humanities of Leiden University and the Society of Dutch Literature, and since 2014 also by opinion weekly EW. The lecture has a cultural-historical or cultural-philosophical topic.

[Huizingalezing 2022 door Gunay Uslu, staatssecretaris van Cultuur en Media | Leiden2022](#)

- **3D printed medicine**

Date: 09 December 2022

Description: Personalised quantities, tablets in the shape of teddy bears, or combining several medicines into one tablet; you can't think of anything crazy. Today, students at Visser 't Hooft Lyceum will be introduced to 3D printed medicines!

****This is a private activity; registration for this activity is not possible****

VWO 5 classes of the Visser 't Hooft Lyceum will have workshops on 3D printed medicines today. The workshop will explain the background of 3D-printing medicines and the matching of doses based on your genetic profile, followed by a demonstration of 3D-printing tablets. Afterwards, students will get to work themselves by devising their own experiment: what do you want to know before 3D-printed drugs are given to patients? And how do you find out?

[3D-geprinte geneesmiddelen | Leiden2022](#)

- **Winterfestival – Lekker Wollig! / Winter festival - Nice and Fluffy!**

Date: 17 December 2022

Organized by: Energiepark Leiden

Description: Music, workshops and tours and, of course, a winter market with a combination of food, drinks and products. Come meet the Energy Park and be inspired by this green place.

It promises to be a cold winter, but in the Energy Park we will be warm and cosy on Saturday 17 December.

From 13.00 - 18.00, the winter festival Lekker Wollig takes place there. The programme consists of a colourful collection of activities and provides inspiration for the future transformation of the Energiepark into a lively city neighbourhood with a mix of living, working, culture, urban nature, recreation, catering and sports. A real Leiden place where people and city come together. Come too!

For more information visit: www.energieparkleiden.nl or email info@energieparkleiden.nl

- Bread on a stick - suitable for children
 - o Bake your own bread at our cosy campfire
- Tea garden with medlar cake
 - o Leiden Art Hub opens its doors with a tea garden. Come for a cup of tea made of herbs from our own garden and cake made of medlars from the park.
- Interactive art action - suitable for children
 - o EST art foundation brightens things up with an interactive art action in the Energy Park that ends in a cool exhibition in their studio.
- Wool-filling or hole-punching workshop
 - o Bring your broken woollen garment and Leidse Deken will teach you how to stop or fill the hole with wool.
- Workshop wool weaving - suitable for children
 - o Learn to weave wool with a real loom at Leidse Deken.
- Workshop artisanal letter carving with Bambam Stonemasons (13.00 - 17.00)
 - o Children and adults are welcome to attend a workshop in traditional stone carving by Bambam. Learn to carve a letter or number out of natural stone yourself from a real stonemason!
- Winter coats action for the Binnenvest
 - o De Binnenvest provides a safety net for people who are homeless or at risk of becoming homeless. With winter approaching, they are urgently looking for warm winter coats. Turn in your old winter coat and you will get a hot chocolate as a thank you!
- Doing green - suitable for children
 - o Fancy rolling up your sleeves? Join the green team to make the park even greener. We will braid willows, plant trees and install insect hotels. Bring your own work gloves and spade.

- Rhythm roller skate jam
 - o Get out your roller skates and warm up at a jam by rhythm rollerskaters in the Leiden Art Hub.
- Craft winter market
 - o Join us for a tasty winter beer from Pronck Brewery with drinks board from Boerderij De Eenzaamheid by a cosy campfire and funky tunes from Leiden band 4 shots & a positive note!

[Winterfestival - Lekker Wollig! | Leiden2022](#)

- **Wood: what trees tell us**

Date: 21 December 2022

Organized by: Valeria Trouet

Description: Learn more about trees from home? Watch and listen to this webinar by Valeria Trouet, which she previously gave at Stadswerk.

Valeria Trouet is a dendrochronologist and wrote the book, '[What Trees Tell Us](#)'. Using annual rings, she studies past climate and its influence on ecosystems and societies.

In her book, she shows that dendrochronology has developed into one of the most important tools for studying the complex interactions between forests, people and climate. The common thread is the history of timber use and deforestation, which has allowed us to study the past and contribute to the viability of our planet in the future.

In this webinar, Valerie Trouet will guide you through human history and dendrochronology. Curious? [Send an email](#) and you will receive by return the link to watch for yourself at a convenient time!

Two [tree scavenger hunts](#) will also take place on Wood Day: at 10 a.m. and 11 a.m.. After the scavenger hunt, you can also participate in a [harvest afternoon](#), which starts at 1 p.m.

More information about the Day of the Wood can be found via [this link](#).

This activity is in Dutch.

[Wood: What Trees Tell Us | Leiden2022](#)

- **Wood: Tree scavenger hunt**

Date: 21 December 2022

Organized by: Ant Brandenburg

Description: Prior to harvesting tree saplings, Ant Brandenburg is hosting a tree scavenger hunt. Will you walk with us?

There are beautiful trees in Wijkbos Merenwijk, each unique in its own way. The importance of these trees is great for biodiversity, CO2, stress reduction and overall health. Ant Brandenburg, park and tree expert, takes you on a scavenger hunt along 22 different trees. During the first part of the walk, you will be guided by the creator. The scavenger hunt is suitable for all ages!

Two tree scavenger hunts will take place today: at 10 a.m. and at 11 a.m.. After the scavenger hunt, you can participate in the [harvest afternoon](#), which starts at 1 p.m. Can't make it to be there? Then enjoy the webinar "[What Trees Tell Us](#)" by Valeria Trouet at home.

More information about the Day of the Wood can be found via [this link](#).

This activity is in Dutch.

[Wood: Tree Scavenger Hunt | Leiden2022](#)

3. Activities during the Life Science & Health Week

- LS&H: Je eigen cellen als medicijn? / Your own cells as medicine?

Date: 28 May 2022

Organized by: Dutch Science Agenda (Nederlandse Wetenschaps Agenda)

Description: Discover the future at the Public Day Regenerative Medicine

On 28 May, the Public Day Regenerative Medicine will take place at the Stadsgehoorzaal in Leiden. This day is organised by the Regenerative Medicine route related to the Dutch Science Agenda (NWA). On this day, we will show you what the future of medicine holds. Could you be treated by your own cells? Will we be able to make drug development more efficient? How could your own genes be the solution to your health problem? But also: what are the societal implications of current developments in medicine? How do we pay for these expensive treatments? And who owns commercialised therapies derived from your cells?

All this will be discussed at a fair (open from 10:00-16:00) where you can read, experience, discuss, watch and listen to the story of the Dutch route Regenerative Medicine. Access to the day is free and registration is not required.

The day is organised by the Dutch Science Agenda (NWA) and provides a platform for anyone interested in this exciting topic.

Whether you know nothing at all about stem cells or are already familiar with regenerative medicine, are young or older, everyone is welcome. Bring your friends and family along too. There are activities for all ages.

[LS&H - Je eigen cellen als medicijn? | Leiden2022](#)

- LS&H: Museumnacht / Museumnight

Date: 29 May 2022

Organized by: various parties

Description: THE FOURTEENTH EDITION OF MUSEUMNACHT LEIDEN

Museum Night on Saturday 28 May is a perfect opportunity to discover Leiden's unique museums, including Rijksmuseum Boerhaave, Naturalis and CORPUS. There will be a special Leiden2022 LSH programme.

Location: Rijksmuseum Boerhaave

Time: 20.00 - 01.00 (from 28 May 20.00 - 29 May 01.00)

The Museum Night is dedicated to the exhibition Herman Boerhaave & the Golden Age of Science. At a time when professors hardly dared make sick visits, Boerhaave's practical approach was a breath of fresh air. Numerous activities will be organised within the theme of medical science this Museum Night. Learn all about piss watching, take part in beer yoga and make questionable cough syrup.

Location: Naturalis

Time: 20.00 - 01.00

Is it a meteorite or not? Is it a dinosaur or not? Are you also curious about the answers to such questions? Naturalis experts Hans Jorg Ahrends & Alice van Duijn, led by José de Wit, will shine their light on the most extraordinary finds made by visitors. From the entrants, we will draw someone to win an exclusive look inside the tower!

Location: CORPUS

Time: 20.00 - 01.00

Curious about the wondrous workings of your brain? But find neuroscience way too complicated? Nothing could be further from the truth! The films, music and art you enjoy every day are packed with interesting brain facts. For instance, did you know that techno is a feast for the brain because the repetition of sounds activates the reward system? And that the yellow glow in Van Gogh's 'Starry Night' is a side effect of psychiatric medication? In this interactive mini-pub quiz, you will see the world through the eyes of a neuroscientist. The neuroscience quizmasters of the Brain in the Picture Foundation will take you through brain research at a bird's eye view, with questions related to everyday life experiences.

[LS&H - Museumnacht | Leiden2022](#)

- **LS&H: TK Challenge Bio Sciencepark run**

Date: 29 May 2022

Organized by: Bio Sciencepark

Description: Run 5-6km through the Leiden Bio Sciencepark (LBSP) during the TL Challenge.

TK Challenge is a Leiden initiative and contributes to the connection within the Leiden region, provided that they contribute to Vitality. On Sunday, May 29, 2022 during the Life Sciences & Health (LSH) week the TK Challenge Bio Science Parkrun will take place. This run fits perfectly with the theme: Prevention and Lifestyle.

The run through the Leiden Bio Science Park is 5-6km and open to everyone. The proceeds of the run will go to the Willem Alexander Children's Hospital in Leiden.

[LS&H - TK Challenge Bio Science Park Run | Leiden2022](#)

- **LS&H: Opening event Life Science & Health Week: Global impact in health symposium**

Date: 30 May 2022

Description: The scientific part of the LSH week will be officially opened on Monday 30 May with the Global Impact in Health Symposium.

During this symposium we will discuss the importance of international academic, public and private partnerships in solving the greatest global health threats of our time.

Leiden is internationally recognized as an essential hub for Life Sciences & Health with its large concentration of companies in the Leiden Bio Science Park and several internationally acclaimed research institutes, among which key player the Leiden University Medical Center. How do we make sure that research and innovations from Leiden have real global impact? How can we create an environment that is conducive for interaction between academic, public and private partners here, and most importantly, around the world? How do newer research fields such as regenerative medicine and advanced therapy medicinal products (ATMPs) cope with these challenges compared to traditional global health fields such as infectious diseases and vaccines? These are some of the questions we will navigate through during a programme full of diverse inspiring speakers.

[LS&H - Global Impact in Health Symposium | Leiden2022](#)

- **LS&H: EUFEPS/FIGON DMD Annual Meeting**

Date: 01 – 03 June 2022

Description: The EUFEPS/FIGON DMD Annual Meeting will take place from 1 to 3 June with the theme "Boosting sustainable drug development in Europe: Top science below sea level".

[LS&H - EUFEPS/FIGON DMD Annual Meeting | Leiden2022](#)

- **LS&H: Opening NECSTGEN**

Date: 01 June

Opening / launch NECSTGen - By invitation only

NecstGen (Netherlands Centre for the Clinical Advancement of Stem Cell and Gene Therapies) has a state-of-the-art facility for development and GMP production. NecstGen also offers the option of renting clean rooms, allowing organisations to retain control over production while limiting the risk of the capital investment required to do so. The official opening will take place on Wednesday 1 June from 4pm (by invitation only).

- **LS&H: Life Science & Health career event**

Date: 01 June

Description: The Life Science & Health Career Event will consist of an information market, workshops and one-to-one interviews.

The event starts on 1 June 2022 at 19:00 at CORPUS and will be combined with the welcome reception for the FIGON Dutch Medicines Days & EUFEPS Annual Meeting 2022.

Are you a recent graduate looking for your first job? Or are you an experienced or young professional looking for the next step in your career? Or maybe you just want to broaden your perspectives. This event is the ideal opportunity to expand your network. Maybe you will find that special job you have been looking for for so long!

[LS&H - Life Science & Health Career Event | Leiden2022](#)

- **LS&H: Bridging Dutch biotech from bench to business**

Date: 02 June 2022

Description: Best practices on how to boost biotech innovation in the Netherlands will be discussed at the Bridging Dutch Biotech from Bench to Business event at Naturalis on 2 June.

About the event
Biotech innovations contribute to health and sustainability for consumers and patients in society as well as economic growth. Turning excellent biotech science into useable biotech innovation is a complex, expensive and challenging process. The Netherlands has excellent research and knowledge, but too often this knowledge is utilized in new inventions, this way a lot of potential is lost. It is important to further develop this knowledge into potential innovations that will contribute to health, sustainability and economic growth. In this way we maximize the impact of that knowledge. It is important to streamline this process to unlock the full potential of biotech.

This event highlights best-practices to bring ideas faster and better from bench to business.

[LS&H - Bridging Dutch Biotech from Bench to Business | Leiden2022](#)

- **LS&H: Life Sciences Café: LBSP x unlock livesciencesxeufeps/figon DMD**

Date: 02 June 2022

Description: Join us on 2 June after work at the Life Sciences Café at Naturalis. We are very excited to organise our monthly network drinks in collaboration with unlock LiveScience, HollandBio, EUFEPS/ FIGON DMD and Naturalis.

About Life Sciences Café

The Life Sciences Café is a monthly event to stimulate partnerships at the LBSP with challenging presentations and network possibilities. The Life Sciences Café welcomes employees of the Leiden

Bio Science Park and people working closely together with organisations at the Leiden Bio Science Park. Acquisition is not the goal of the Life Sciences Café events. We reserve the right to refuse your registration.

[LS&H - Life Sciences Café: LBSP x unlock LiveSciences x EUFEPS/ FIGON DMD | Leiden2022](#)

- **LS&H: Life Sciences Pubquiz**

Date: 02 June 2022

Organized by: PLNT and JPP

Description: Want to put your knowledge to the test? Then come to the Life Science Pubquiz! In the biggest science pub quiz in the country, you can prove yourself and learn all kinds of new facts.

As Leiden has been named European City of Science in 2022, PLNT and JPP have jointly organised a pub quiz. During Life Science & Health Week, you can participate in this quiz and learn about life sciences, biotech and pharma.

The quiz is meant for companies with several employees who want to compete against other companies. Thus, the quiz is a truly collegial event!

The quiz will consist of six rounds with short breaks in between. During these breaks, you can get a drink at the bar and chat about anything and everything.

[LS&H - Life Sciences Pubquiz | Leiden2022](#)

- **LS&H: The installation folding life from artist Ana Oosting**

Date: 03 June 2022

Description: The installation Folding Life from artist Ana Oosting will be opened on Friday 3 June at the LUMC Art Space. This artwork is inspired by protein structures and is produced in collaboration with the LUMC research group of Meindert Lamers.

Their research focuses on the relation between proteins and DNA replication. Commissioned by the LUMC, Ana Oosting created an immersive artwork in which visitors can experience the fusion of art and science while walking through the magical structures of proteins. The installation consists of folded colored shapes made by hand. Ana Oosting is specialized in this folding technique with which she folds complex shapes.

[LS&H - The installation Folding Life from artist Ana Oosting | Leiden2022](#)

- **LS&H: Internationaal symposium: het Leids hoofdpijncentrum een nieuw tijdperk in / International symposium: the Leiden headache center into a new era.**

Date: 04 June 2022

Description: The (inter)national symposium Leiden Headache Center into a new era on 4 and 5 June provides an overview of the latest findings and treatment options in the field of headache.

The symposium provides the latest insights into various important headache diagnoses, headache mechanisms, and the latest treatment options. Participants will go home with knowledge about the state-of-the-art research findings and treatments for headaches.

[LS&H - International symposium: 'The Leiden Headache Center into a new era'. | Leiden2022](#)

- **LS&H: Discover the microscopic world around you!**

Date: 04 June 2022

Description: Have you always wanted to count insect hairs, inspect porcupine quills or see live how sweat on your skin is produced and evaporates? Then join a microscopy workshop at Rijksmuseum Boerhaaveon

Don't forget to bring some fun things from home to investigate!

You can join whenever you want, no need to book or pay extra. Fun for 4 to 104 year olds.

[LS&H - Discover the microscopic world around you! | Leiden2022](#)

4. Activities during the Art Science Week

- Lecture: Humans in the Machine

Date: 16 September 2022

Organized by: Rijksmuseum Boerhaave and Studium Generale

Description: In the news, you read a lot about artificial intelligence operating independently, in ways that for ordinary people and scientists, are inimitable. Fortunately, a lot of work is being done to make artificial intelligence more transparent.

In collaboration with Rijksmuseum Boerhaave, Studium Generale has invited some scientists to talk about their research on artificial intelligence in the form of a lecture. All these lectures focus on the relationship between humans and artificial intelligence.

Today: Artificial Intelligence and creativity by Dr Maarten Lamers

This lecture takes place during Artscience Week and discusses whether computers are also capable of being creative. We increasingly see examples of so-called "artificial creativity". Computers compose music, invent recipes, create visual artworks and even tap jokes. But can we capture creativity in a computer programme?

This lecture will take place at Rijksmuseum Boerhaave between 16:30 and 18:00.

[Lezingen: Mens in de Machine | Leiden2022](#)

- Brave New World

Date: 12- 13 September 2022

Organized by: Alexander Mouret

Description: BRAVE NEW WORLD is an annual art and science conference for those who want to know what the future holds.

The 'BRAVE NEW WORLD' conference is for people who are innovative-minded and want to go beyond their own field of interest. The theme of the conference is how future technology will affect human life. There will be lectures on topics such as deepfakes, nature, and the anthropocene future.

This conference will be organised by Alexander Mouret. Alexander Mouret is Innovation Manager Artificial Intelligence at Leiden University

[Brave New World | Leiden2022](#)

- Nacht van Ontdekkingen / Night of Discoveries

Date: 17 September 2022

Organized by:

Description: In 2022, the focus of the Night of Discoveries will be on our youth. The night is a true journey through performances, exhibitions, debates, workshops, and inspiring lectures by young creators.

On Saturday, the 17th of September 2022, you can go on a journey full of new discoveries at the festival terrain near Leiden University, the Hortus Botanicus (botanical garden), the Academy Building, and the Old Observatory.

The festival has undergone a big change this year. There's still a focus on science and art, but young people are also taking centre stage. At many different spots in Leiden, you'll find young creators, researchers and artists.

This event is organized during the ArtScience Week.

[Nacht van Ontdekkingen \(Night of Discoveries\) | Leiden2022](#)

- **Brave Young Minds**

Date: 18 September 2022

Organized by: [Brave New World Conference](#)

Description: BRAVE YOUNG MINDS IN CONVERSATION WITH PROF. YUVAL NOAH HARARI IN NATURALIS LEIDEN

Young generation asks questions about who we are as humans

During the first edition of Brave Young Minds, on September 18 in Naturalis Biodiversity Center, writer, historian and philosopher Yuval Noah Harari will talk with hundred children about the history of mankind. Brave Young Minds is organised by [Brave New World Conference](#), especially for our youngest generation. Children from 10 years of age will be invited to ask their questions about the world and mankind to a very special guest. We are extremely honored that Prof. Harari will be our first guest in Naturalis in Leiden as one of the highlights of [Leiden European City of Science 2022](#).

In September Yuval Noah Harari will publish a new children's book – "How Humans Took Over the World". Harari will bring his talents to the page for young readers for the very first time to share how humans eventually came to dominate Earth. And how—through triumph and growth, but also relentless, destructive voracity—humans became truly unstoppable. From learning to make fire and using the stars as guides to inventing stories and cooperating in huge numbers, the secrets of how our ancestors evolved millions of years ago will be uncovered, revealing the superpowers that brought us to "now," and how they were used to make humans invincible . . . but also insatiable.

Do you have a question for prof. Harari?

Brave Young Minds is an English speaking event, based on invitations only. Youth between 10 and 18 years old that want to participate, can apply for an invitation through the application form. This requires filling in their name, age, contact details as well as a question (max. 3) in English. One hundred children will be selected from all applications to attend the event on September 18th at Naturalis in Leiden. They will be offered the chance to ask their question directly to prof. Harari. The event is free.

[Brave Young Minds | Leiden2022](#)

5. Activities during the Seeing Stars & Space Week

- Seeing Stars Leiden

Date: 25 September 2022

Organized by: Leiden European City of Science 2022, UNESCO and artist Daan Roosegaarde.

Description: See the stars from your own window! It sounds like a fairy tale, but Leiden is dedicated to stargazing on September 25th 2022.

In collaboration with UNESCO and artist Daan Roosegaarde, we'll try to make the stars visible for everyone and create a feeling of togetherness.

For 1 hour, all lights in and around the Leiden Observatory will be turned off. The more lights we turn off, the more stars we'll be able to see in the sky. **Will you join us?**

"Everyone's living in their own bubble, separate from each other", says Daan Roosegaarde. "I realised there's an impressive light show happening every night, but it's hidden. Seeing Stars brings the stars back to your street. The stars are only a lightswitch away."

Kathleen Ferrier, chairwoman of UNESCO Commission the Netherlands: "More than 80% of the world population lives under a sky that is polluted by artificial light; a barrier that withholds us from experiencing the beauty of the universe. Everyone should have the right to see the stars in a non-polluted sky. Looking at the stars makes you feel connected to each other, after all, we're all part of the same cosmos. This is the communal and universal legacy that I strive towards. Seeing Stars is an important step in the right direction."

[Seeing Stars Leiden | Leiden2022](#)

- Seeing Stars Citizen Science

Date: 25 September 2022 – January 2023

Organized by: Citizen Science Lab Leiden

Description: During the night of Seeing Stars Leiden, Citizen Science will try to answer many burning questions!

Seeing Stars Leiden is looking for project ambassadors within the range of the project area. What kind of light pollution is present in your street / your neighborhood?

- Does someone in your street leave the porch light on the entire night? A
- Are some buildings lit up throughout the night?
- Can you see a tall building from your street that's being lit?

Soon, you can apply to be an ambassador [HERE](#). Shine a light on light pollution! The darker it is, the more stars we'll be able to see. Lights off, stars on!

Subjects that will be discussed:

Astronomy - Which stars can you see during a regular night in Leiden?

Dark Sky - How many stars can we count during a regular night in Leiden? Can we increase that amount?

Light pollution - Where's the most light pollution in Leiden?

Perception of safety - Do we feel safer with a lot of light? Are we truly safer with that light?

Our Bioclock - Does light influence our health?

Our Wellness - How do we experience the dark?

Nature's Bioclock - What kind of influence does artificial light have on nature? Is nature disturbed by the light we produce?

[Seeing Stars Citizen Science | Leiden2022](#)

- **Oude Sterrewacht Festival / Old Observatory**

Date: 25 September 2022

Organized by: the Old Observatory

Description: Dive into the universe!

Like every autumn, the Old Observatory opens to the public! All day on 25 September, you can enjoy workshops and demonstrations in the various rooms at the Old Observatory. You can take a tour of our historic telescopes, win prizes with pub quizzes, or visit our More-than-Planet exhibition. Every room in the building has an astronomical theme and something to experience, from gravity and light to astrophotography and aliens.

Whether you are young or old, already know a lot about the universe or not, there is something for everyone at the Old Observatory Festival!

The exact programme and how to buy tickets will be announced at the end of August.

Who knows

Leiden's Old Observatory is the oldest existing university observatory in the world. While Leiden University students receive lectures in most of the building, the visitor centre in the basement and telescopes on the building serve the general public. This website provides information on visits to the Old Observatory's visitor centre and telescopes, its history, guided tours, events and associations.

[Oude Sterrewacht Festival | Leiden2022](#)

- **SRON Open Day**

Date: 25 September 2022

Organized by: Stichting Ruimte Onderzoek Nederland (the Dutch Space Research Foundation) SRON

Description: Step into the world of space research!

Stichting Ruimte Onderzoek Nederland opens its doors. With telescopes in space, we investigate stars and planets, black holes, and the sky on our own planet Earth. There are lectures and fun learning activities for big people, but also for children.

At SRON's Open Day, you will learn a lot about telescopes in space and how they work with fun experiments and lectures. There are several types of light, but what can you actually do with them? For example, see what (different) you look like in infrared and also learn how to solder. Where and how are new stars born? Is there (too) life on other planets? How do you chase greenhouse gases moving through our skies? Or how do you measure an invisible gravitational wave? Come and find out in Leiden and/or Groningen.

We are getting to know more and more about the universe and everything in it, including Earth itself. Thanks to measuring equipment in space: clever telescopes or satellites. We make these at SRON in Leiden and Groningen, usually together with other researchers from all over the world. We also test everything very well. With the telescopes that are already in space, our scientists conduct research.

[SRON Open Dag | Leiden2022](#)

- **Space Expo**

Date: 25 September – 02 October 2022

Organized by: Space Expo

Description: Travel past stars and planets at the Netherlands' space museum.

At Space Expo, you will discover the world of space travel in all its facets. From designing and building space missions on Earth to launching into space. Touch a real meteorite, launch a hydrogen rocket and take a look inside André Kuipers' original Soyuz capsule. Over the years, the museum's collection has expanded with beautiful showpieces. There is also a lot of focus on the history of space travel and you can walk through a model of the International Space Station (ISS). Space Expo is a fun and educational trip for the whole family!

You can also visit Space Expo throughout Space Week.

[Space Expo | Leiden2022](#)

- **Webexhibit: Seeing Stars**

From: 25 September – 02 October 2022

Organized by: Rijksmuseum Boerhaave

Description: A small exhibition with special angle around Seeing Stars Leiden - only available online at the National Museum of Antiquities.

View the exhibition Astronomy in Ancient Egypt online.

Egyptian astronomy: Science in ancient Egypt mainly sought to gather facts and organise them systematically. In Egyptian astronomy, the emphasis was on the calculation of time and the calendar. Ancient Egyptian texts, for example, link the rise of star Sirius to the beginning of the annual flooding of the Nile.

[Webexpositie Seeing Stars | Leiden2022](#)

- **Meteor day Naturalis Biodiversity Center**

Date: 25 September 2022

Organized by: Naturalis and the Meteors Working Group

Description: Meteors, also called shooting stars, are short-lived, sometimes very bright objects in the sky. Naturalis and the Meteors Working Group have now organised something especially for you!

Have you always been interested in space? On 25 September 2022, you can see real meteorites! During the Meteorite Day Naturalis will let you view micro-meteorites under the microscope, but that's not the only thing you can do. There will also be 3 lectures where you can learn all about meteorites. You can also learn to recognise meteorites and rocks as real or fake yourself.

There will also be a dome tent planetarium by the NOVA and several interactive performances.

This activity is completely free!

Everything is in Dutch, but 1-on-1 activities are also available in English.

Everyone is welcome and the activities are suitable for all ages!

The NOVA's planetarium fits about 30 visitors. The show is repeated every 45 minutes.

[Meteorietendag Naturalis | Leiden2022](#)

- **Gallerie LUMC 'op weg naar het begin' / LUMC gallery 'towards the beginning'**

Organized by: LUMC

Description: Exhibition in collaboration with Prof Ewine van Dishoeck and Prof Vincent Icke: science and art around the James Webb Space Telescope.

Since 1986, the ground floor of Building 1 of LUMC has been home to a gallery that hosts new exhibitions by contemporary artists five times a year. The exhibitions are often related to a particular theme. On 1 September, 'Towards the Beginning' opens here in collaboration with Ewine van Dishoeck and Prof Dr Vincent Icke.

Opening: 1 September by Dr Mark McCaughrean, senior advisor for science at ESA/ESTEC/JWST. [Click here for more info.](#)

Lectures:

On 6 September 7pm, Prof Vincent Icke will give a lecture on the young universe in lecture room 3 at LUMC.

On 13 September 7pm, Prof Ewine van Dishoeck will speak about astronomical observations with Webb at LUMC Boerhaaveplein.

After the lectures, there will be room to ask questions.

Demonstrations and children's corner: On Wednesdays and Saturdays from 14:00 to 17:00, children aged 5 and over can recreate the scale model with Lego under the guidance of an astronomy student. On Wednesdays and Fridays from 13:00 to 16:00, Sterrewacht Leiden staff will give demonstrations of the scale model and, of course, answer any questions.

James Webb Space Telescope: The Webb space telescope is the new flagship of the ESA and NASA. It is the most advanced space telescope ever built. On Christmas Day 2021, it went into space. Now it circles the sun, just like Earth. On 12 July 2022, the first data arrived, the images of which can be admired in Galerie LUMC. The telescope, with its infrared eyes, gives a whole new view of the universe. In Galerie LUMC, you will go on a journey past the different objects and phenomena in the universe that the Webb Telescope focuses on. To areas where new stars and planets are forming to the very first galaxies formed just after the Big Bang. The Webb Telescope brings this into razor-sharp focus.

Spaceships: Vincent Icke drew inspiration for this presentation from the idea of galactic spaceships. He wondered what an alien spaceship would look like. "A spaceship that can traverse the Milky Way is so different from terrestrial rockets that it is a good source for art for that reason," Vincent Icke said. "For humans, space is more dangerous than any place on Earth. For a galactic civilisation, space is their element, just as water is for a dolphin." Icke has depicted the variety of images this produces based on laws from astrophysics combined with his own imagination.

[Galerie LUMC : 'Op weg naar het begin' | Leiden2022](#)

- **ESA Commercial Gateway Annual Conference**

Date: 27 – 29 September 2022

Organized by:

Description: The event is a great opportunity to learn more about the progress of ESA and other members of the network, to share experiences and plan for new collaborations and activities.

The Annual Meeting is deployed in a three-days programme that includes networking, technical and social activities as well as parallel sessions of the ESA Business Incubation Centers, Technology Broker Network and ESA's Φ -labNET Network.

How can the ESA Commercialisation Gateway help you?

The ESA Agenda 2025 sets high priority in boosting commercialisation in the European space sector. Fostering commercialisation requires deep knowledge of markets, its actors as well as emerging needs

and technologies. Not only the space sector itself is undergoing revolutionary changes, space assets and technologies have major impacts on terrestrial markets.

The purpose of the ESA Commercialisation Gateway is to identify these opportunities and to create links between new businesses and ESA. By interacting and listening to the needs of industry and potential partners, the Gateway embraces a market driven approach while at the same time providing easy access to ESA's technical expertise and programmatic support.

The ESA Commercialisation Gateway provides visibility on space-related market trends and developments, innovative projects, programme activities, technical developments as well as networking and funding opportunities.

The ESA Commercialisation Gateway is open to requests and collaborations from interested parties including industry, academia or public organisations to jointly expand or develop new commercial space activities.

[Click here for more information.](#)

[ESA Commercial Gateway Annual Conference | Leiden2022](#)

- **Demonstration James Webb Space Telescope**

Date: 28 September 2022

Organized by: Gallery LUMC

Description: During the exhibition 'Towards the beginning' in Gallery LUMC, staff of the Sterrewacht Leiden will give demonstrations with the scale model.

On Wednesdays and Fridays from 13:00 to 16:00, demonstrations will be given throughout September and there will be plenty of room for questions.

James Webb Space Telescope: The Webb space telescope is the new flagship of the ESA and NASA. It is the most advanced space telescope ever built. On Christmas Day 2021, it went into space. Now it circles the sun, just like Earth. On 12 July 2022, the first data arrived, the images of which can be admired in Galerie LUMC. The telescope, with its infrared eyes, gives a whole new view of the universe. In Galerie LUMC, you will go on a journey past the different objects and phenomena in the universe that the Webb Telescope focuses on. To areas where new stars and planets are forming to the very first galaxies formed just after the Big Bang. The Webb Telescope brings this into razor-sharp focus.

[Demonstratie James Webb Telescoop | Leiden2022](#)

- **ESA Commercial Gateway Networkevent**

Date: 28 September 2022

Organized by: ESA

Description: The first ESA Commercial Gateway Network event happening on Wednesday the 28th of September at Space Expo in Noordwijk in the Netherlands during the Space Week.

Dit evenement is Engelstalig

The Networking event, for the largest space business network in the world, brings together ESA BIC Startups from all 26 ESA BIC's, the ESA Commercialisation Gateway department and investors, to inspire, support and connect.

Find more information [here](#).

[ESA Commercial Gateway Network Event | Leiden2022](#)

- **Anniversary event SME4SPACE**

Date: 28 September 2022

Organized by: ESA

Description: Join ESA's seminar to celebrate "11 years of supporting SMEs in Europe's space industry".

For 10+ 1 years since its incorporation SME4SPACE has been supporting SMEs in the European space industry. To celebrate this anniversary, ESA is delighted to announce their anniversary event, a seminar held at the ESA Industry Space Day.

For more information please [click here](#).

- Invite only -

[Anniversary event SME4SPACE | Leiden2022](#)

- **Industry Space Days**

Date: 28 – 29 September 2022

Organized by: The European Space Agency (ESA)

Description: The European Space Agency (ESA) invites members of the space community to attend the Industry Space Days (ISD) at ESA/ESTEC.

The ISD is organised by the SME Office in the ESA Commercialisation Department to foster cooperation between different actors in the entire space sector.

Key elements of this year's event include:

→ pre-scheduled 1-on-1 meetings to establish new contacts in an efficient and time-saving manner

→ an exhibition with ESA and industry booths and the possibility to engage with future partners

→ keynotes and panel discussions with contributions by ESA, industry, investors and institutional partners

→ ESA presentations and workshops about business opportunities and future activities

[Industry Space Days | Leiden2022](#)

- **Build the James Webb Space Telescope from lego**

Date: 28 September 2022

Organized by: LUMC

Description: During the exhibition 'Towards the beginning' in the LUMC Gallery, children can recreate the famous telescope in LEGO.

In September, on Wednesdays and Saturdays from 14:00 to 17:00, children aged 5 and up can recreate the scale model of the James Webb telescope with LEGO under the guidance of an astronomy student.

[Bouw de James Webb Telescoop van LEGO! | Leiden2022](#)

- **LDE NL Space Campus Summer School 2022 Reunion**

Date: 29 September 2022

Organized by: NL Space Campus

Description: During the The Space Week edition of Network&Drinks XL, you can meet these young talents and your potential future employee, and learn from their experience and key takeaways from the Summer School programme.

About the LDE NL Space Campus Summer School:

During the 1-week Summer School program, all students were placed into a project team to solve a specific challenge. Each team consisted of 6 students with the different backgrounds (Science, Law, Engineering and Business) that are needed to find a solution to your challenge. Each team worked on the challenge during the entire week starting on day 1 with a team building exercise.

For an entire week, the students learned about the various space programs, developments and research activities at the Leiden Delft and Erasmus universities and went on a tour of space agencies, institutes and industry in South-Holland, including (among others): ESA ESTEC, SRON, TNO, AirbusDS, SBIC, Galileo Reference Centre and ofcourse the three universities themselves. Starting at the NL Space Campus in Noordwijk at ESA-ESTEC, the technical heart of ESA, they toured the cities of Leiden and Delft before returning to Noordwijk. During the week, they met many experts, learned about the basics and recent developments. This way you can work on your team's challenge fully prepared.

[LDE NL Space Campus Summer School 2022 Reunion | Leiden2022](#)

- NL Space Campus Network & Drinks XL

Date: 29 September 2022

Organized by: Space Campus NL

Description: Every last Thursday of the month at 17:00 CET, NL Space Campus hosts a special Network and Drinks for everyone interested in Space, where multiple start-ups and innovative companies pitch their potential and ideas and visitors can grow their network.

Combined with The Space Week, this is an eXtra Large edition of our Network&Drinks. Expect extra programming, a bigger event space and more networking opportunities!

During the networking part you can also meet and talk to our partners such as SBIC, NSO, SpaceNed, NVR, ESA ESTEC, LDE universities, Spacefluencers and SGAC.

Together we make the campus a meeting place for the space (interested) community! A place and platform where entrepreneurs, education, research, government, and the environment meet. A place and platform where open innovation originates. This often starts with a chance encounter, a shared passion, a new idea. Bring colleagues we don't know yet, startups that want to meet other startups, young professionals that want to meet older professionals, and maybe even that curious potential investor. Feel free and welcome to share this invitation with people in your network who are also curious to join our Network & Drinks and to join the growing space community of NL Space Campus.

[NL Space Campus Network & Drinks XL | Leiden2022](#)

- BrAIpower: Artificial Intelligence on the moon

Date: 30 September 2022

Organized by: Rijksmuseum Boerhaave

Description: The new temporary exhibition BrAIpower will open at Rijksmuseum Boerhaave on 8 September 2022. In collaboration with Rijksmuseum Boerhaave, Studium Generale has invited several scientists to talk about their research into artificial intelligence. All these lectures focus on the relationship between humans and artificial intelligence.

Doing research on the moon is not easy, but fortunately robots are increasingly offering a helping hand! At TU Delft, students led by Chris Verhoeven are working on the Lunar Zebros: small, six-legged lunar

robots that can work together in a swarm, like bees or starlings do, for example. This swarm of lunar robots can independently explore the moon's tunnel and cave systems, helping humans to further map the lunar surface. In this lecture, Chris Verhoeven talks about the construction of Lunar Zebros, the challenges involved, previous missions in inhospitable areas on Earth, and future missions to the moon and Mars.

Dr.ir. Chris Verhoeven, associate professor of Electronic Circuits and Architectures and theme leader Swarm Robots at the Robotics Institute, TU Delft

[BrAlnpower: Kunstmatige intelligentie op de maan | Leiden2022](#)

- **Space Buzz: Introducing space to policy makers**

Date: 01 October 2022

Organized by: Space Buzz

Description: The Space Buzz opens her doors to the public during The Space Week, during multiple days and at various locations. The Spacebuzz will be located at Space Expo during the ESA ESTEC Open Day and open to visit by anyone who's curious.

About Space Buzz: creating ambassadors of planet Earth

The non-profit SpaceBuzz educational foundation is inspired by the 'Overview Effect', that - until recently - only astronauts in space were able to experience. We want every child in the world to follow in the footsteps of astronauts and experience this for themselves.

Harnessing the power of technology, we have created a VR-based education & outreach program that puts children in the footsteps of astronauts. We inspire and teach children through our experiential learning program about Space, planet Earth and Technology (STEM). Just as with astronauts, 21st century skills like communication, problem solving, cooperation and creativity are important elements within the program. The education program includes a real-life space mission in the SpaceBuzz rocket.

For more information, visit: <https://www.spacebuzz.nl/>

[Space Buzz: Introducing space to policy makers through VR | Leiden2022](#)

- **ESA ESTEC Open Day for people with a disability**

Date: 01 October 2022

Organized by: ESA ESTEC

Description: During this open day, ESA ESTEC focuses on accessibility for anyone with a disability.

It's a unique opportunity to pay a live visit to ESA ESTEC in Noordwijk, in a calm and accessible way! Check out for instance Space Expo Museum! Here you'll discover everything regarding space, space travel, and famous astronauts. Space Expo is part of ESA, the European Space Agency.

More information will follow soon [via this link.](#)

[ESA ESTEC Open Day for people with a disability | Leiden2022](#)

6. Congresses and Conferences

- 13^e Internationale SWAT4HCLS conferentie / 13th International SWAT4HCLS conference

Date: 10 – 13 January 2022

Description: Digital technology is used everywhere these days. During SWAT4HCLS, scientists discuss the goals, advantages and limitations of applying Web-based information systems and semantic techniques in healthcare and life sciences.

After an impressive tour - since the first edition in 2008 in Edinburgh - of many European cities (including Rome, Paris, London, Berlin and Cambridge), this conference is making its first stop in Leiden. Because of the pandemic, admittedly in an online edition. The conference will be held in English

- European Congress on orthoptera conservation

Date: 1 – 2 April 2022

Location: Naturalis Biodiversity Center

Organized by: EIS Kenniscentrum Insecten and Naturalis Biodiversity Center.

Description: The European Congress on Orthoptera Conservation is about grasshoppers, crickets and other right-winged insects and their conservation.

The European Congress on Orthoptera Conservation is the congress for specialists and those interested in the field of the right-winged/orthoptera. This congress is dedicated to the state and conservation of these insect species. Besides attending lectures, visitors will have the opportunity to work with Naturalis' orthoptera collection.

The organisers of this congress are the EIS Knowledge Centre Insects and the Naturalis Biodiversity Centre. The EIS Knowledge Centre Insects is a Dutch non-profit organisation dedicated to promoting knowledge about insects and better protection of these organisms. The Naturalis Biodiversity Center is a research institute and natural history museum in Leiden dedicated to describing, understanding, and conserving biodiversity.

[European Congress on Orthoptera Conservation | Leiden2022](#)

- NAVITEC 2022

Location: ESA-ESTEC

Date: 4 – 8 April 2022

Organized by: ESA-ESTEC and ATPI Corporate Events.

Description: NAVITEC 2022 is an international open forum where designers, users, developers, universities, and companies involved in Earth and space navigation technologies can come together. NAVITEC 2022 offers six challenging topics, each accompanied by an internationally recognised expert in that field. For each topic, there will be a technical session and a panel discussion.

The organisers of this congress are ESA-ESTEC and ATPI Corporate Events. ESTEC, also called European Space Research and Technology Centre, is the largest site and technical heart of the European Space Agency (ESA). ESA's 22 member states work together to realise a wide range of space goals, many of which projects are designed at ESTEC.

ATPI Corporate Events is an event management company with more than 25 years of experience. Among other things, ATPI arranges incentive travel, event production, business meetings and also provides strategic advice on these topics.

[NAVITEC 2022 | Leiden2022](#)

- **Leidse Weefsels Symposium / Leiden Tissues Symposium**

Date: 7 April 2022

Museum: de Lakenhal

Description: The Textile Committee is organising the symposium 'Leiden Tissues' on the history, restoration, and conservation of textiles and sheets.

The symposium on Leiden Fabrics will be divided into two parts; in the morning the focus will be on lectures on history, restoration and conservation, and in the afternoon on art and design. Participants have the choice of joining both parts, or one of the two. The symposium will be held at Museum De Lakenhal, a venue strongly associated with the subject of 'Leiden Weaving'.

The Textile Committee contributes to the preservation of textile heritage by offering a network and platform to members, organising excursions and symposia, and publishing Studies in Textiles.

[Leidse Weefsels | Leiden2022](#)

- **Symposium alfa & gamma: kansen en mogelijkheden in de taal-en zaakvakken / Symposium alpha & gamma: opportunities and possibilities in language and business subjects.**

Date: 8 April 2022

Organized by: Onderwijsnetwerk Zuid-Holland.

Description: The world is changing and education is changing with it. For language and business subjects too, this means adapting education to contemporary themes. This symposium focuses on developments in these subject areas.

Unfortunately, the society profile still often suffers from a bad image and more and more pupils choose a science profile. Students (and parents) are afraid that a science subject cluster will prevent them from getting far and from finding a good job. As a result, language studies are having an increasingly tough time. Time to tackle that mindset!

Onderwijsnetwerk Zuid-Holland is organising a symposium in which they will give stage to developments in the subject areas of language and business subjects. In the lectures and workshops, they will share ideas on how to deal with this in your lessons.

[Symposium alfa & gamma: kansen en mogelijkheden in de taal-en zaakvakken | Leiden2022](#)

- **Op onderzoek vanuit het verpleeghuis / Research from the nursing home**

Date: 13 April 2022

Description: 5 brand-new doctors discuss all kinds of things about geriatrics. What is needed to improve elderly care and how can geriatric patients be better served?

Our society consists of more and more elderly people. How should healthcare deal with this? In this private symposium, Betty Birkenhäger, Maartje Klapwijk, Anouk Kabboord, Annelore van Dalen-Kok and Bistra Veleva will discuss various aspects of geriatric care.

These will include discussions on the rehabilitation of elderly people with multiple conditions, coping with dementia and the effect of UV light on the mood of elderly people with dementia.

The 5 doctors will talk about their studies on quality of life and care for the elderly. They will also explain how their studies can contribute to society and care in practice.

The symposium will be held in the Buruma Room at the LUMC in Leiden. Interested parties will be welcomed with snacks and drinks from 16:30 and can also expect refreshments at 20:00, afterwards.

If you want to attend the symposium, it will cost you absolutely nothing! However, you must be part of one of the following companies: Argos Zorggroep, Florence, Laurens, Marente, Saffier, Topaz, WoonZorgcentra Haaglanden, Pieter van Foreest, Zonnehuisgroep Vlaardingen, Aafje, ActiVite, HWW Zorg or LUMC itself.

[Op onderzoek vanuit het verpleeghuis | Leiden2022](#)

- **Space Cryogenics**

Date: 13 – 15 April 2022

Organized by: European Space Agency (ESA) Conference Bureau and ATPI Corporate Events

Description: The 8th European Space Cryogenics Workshop offers an interesting workshop on general and future developments in cryogenic space missions.

The 8th European Space Cryogenics Workshop offers a workshop on cryogenic space missions, with a special focus on the cryogenic prospects of the Copernicus expansion missions. Participants will have the opportunity to share and expand technical knowledge and experiences through presentations and informal discussions.

The organisers of this conference are the ESA Conference Bureau and ATPI Corporate Events.

The ESA Conference Bureau organises courses, meetings, workshops, and symposia supported by the European Space Agency.

ATPI Corporate Events is an event management company with more than 25 years of experience. Among other things, ATPI arranges incentive travel, event production, and corporate meetings, as well as provides strategic advice on these topics.

[Space Cryogenics | Leiden2022](#)

- **Liveable planet congress: Lokaal beleid voor een leefbare planeet / Liveable planet congress: Local policies for a liveable planet**

Date: 14 April 2022

Description: Congress on local and integral policies for addressing sustainability goals. The Liveable Planet congress is about local and integral policies for addressing sustainability goals - such as the Global Goals and the climate agreement - and the opportunities and challenges involved.

Urgency: Time is ticking, and although the sustainable development goals are becoming more widely known and embraced, we have limited time to achieve them. The local playing field can go a long way in this by strengthening and facilitating local communities and making explicit the sustainability goals we need to move towards. In this conference, we bring together key players to discuss these issues and highlight both short- and long-term opportunities.

Integral and local: The leading question is: How do we tackle all the different sustainability goals in an integral way at the local level? This involves making the physical, social and economic domains more sustainable in a context where challenges include scarcity of budget, space and manpower.

Programme: Mayor of Leiden, Henri Lenferink, will open the conference, together with chairman Bart Krull. Alderman Paul Hofman and Professor Eefje Cuppen will elaborate on the theme. Using short pitches from the field, the do's and don'ts are highlighted. In two panel discussions with (former) civil servants and administrators we will go deeper into the subject matter. More information about the conference can be found on our website.

For whom: An interdisciplinary company is of great importance! This conference is intended for civil servants and administrators of decentralised authorities, and is equally relevant for scientists and other stakeholders in the transition to a sustainable society.

[Liveable Planet congress: Lokaal beleid voor een leefbare planeet | Leiden2022](#)

- **Quantitative systems pharmacology conference 2022**

Date: 20 – 22 April 2022

Organized by: Leiden University and the Federation for the Advancement of Systems Pharmacology.

Description: The Quantitative Systems Pharmacology Conference will focus on new computational and experimental approaches in quantitative systems pharmacology.

The Quantitative Systems Pharmacology Conference, also known as QSPC2022, will give young and established scientists the opportunity to share their knowledge and insights on emerging computational and experimental approaches in the field and discuss pharmacokinetics and codynamics. The conference will offer participants lectures, poster presentations, and networking opportunities, among other things.

Both young and established scientists gather to discuss emerging computational and experimental approaches in the field of quantitative systems pharmacology and mechanism-based or physiologically-based pharmacokinetics and pharmacodynamics.

This conference is organised by Leiden University and the Federation for the Advancement of Systems Pharmacology.

Leiden University is one of Europe's leading international research universities. Under the motto 'Fortress of Freedom', the university is committed to developing, disseminating, and applying scientific knowledge.

The Federation for the Advancement of Systems Pharmacology is a federation dedicated to the advancement of quantitative systems pharmacology.

[Quantitative Systems Pharmacology Conference 2022 | Leiden2022](#)

- **7th meeting of the nursing home and long term care research international working group**

Date: 13 – 14 May 2022

Organized by: the Nursing Home Research International Conference committee and Leiden University

Description: The Nursing Home Research International Conference aims to promote research and innovation in nursing home care and long-term care.

The seventh edition of the Nursing Home Research International Conference is aimed at anyone interested in scientific developments in elderly care. Participants will have the opportunity to network with other interested parties and listen to presentations and keynote speeches by international experts and researchers in the field of long-term care.

This conference is organised by the Nursing Home Research International Conference committee and Leiden University.

[7th Meeting of the Nursing Home and Long Term Care Research International Working Group | Leiden2022](#)

- **10th Life Science Symposium**

Date: 19 May 2022

Organized by: LIFE

Description: The tenth Life Science Symposium will kick off on 19 May! This year, it is all about personalised healthcare. Medication and therapy that works for one person may not work for another. But how do you find out?

Academics and researchers believe that personalised healthcare can be very valuable for both patients and practitioners in the future. In this symposium, they will explain why and what changes are taking place in healthcare. The theme of the symposium is therefore "Sailing away from one-size-fits-all: Technological Developments in Personalised Medicine".

Several topics will be covered during the symposium including: organ-on-a-chip models for investigating personalised drug targets, CAR T-cells and RNA therapeutics.

With the theme, LIFE, the symposium organiser, aims to inspire young researchers and academics to conduct their own research based on the new developments and opportunities within personalised healthcare.

The symposium starts at 9:00 in the morning and lasts until 18:00. So you really will be immersed in new developments for a day! The symposium will be organised at CORPUS.

[10th Life Science Symposium | Leiden2022](#)

- **Dutch Science Society Symposium 2022**

Date: 19 May 2022

Organized by: The Dutch Network Science Society

Description: The Dutch Network Science Society brings together researchers from all over the Netherlands. These researchers specialise in various disciplines including mathematics, computer science, social sciences, economics and health sciences

Network scientists and researchers from all over the Netherlands will come together during the Dutch Network Science Society Symposium. Researchers/scientists from all corners of the network science spectrum will speak about their research. In addition, scientists from many different fields can meet here, have drinks and discuss their own research.

[Dutch Network Science Society Symposium 2022 | Leiden2022](#)

- **Vereniging voor verslavingsgeneeskunde Nederland lustrumcongres 2022 / Dutch Association for Addiction Medicine lustrum congress**

Date: 19 – 20 May 2022

Organized by: Association for Addiction Medicine

Description: The lustrum congress of the Society for Addiction Medicine is a congress full of plenary sessions, parallel sessions and workshops.

The Society for Addiction Medicine is celebrating its 35th anniversary with a lustrum congress. The VVGN offers participants various sessions and workshops during this congress.

Who knows: This congress is organised by the Association for Addiction Medicine.

The Association for Addiction Medicine is the scientific professional association of addiction doctors in the Netherlands. It aims to promote knowledge in the field of addictions. To this end, the VVGN also cooperates with organisations such as the GGD, GPs, and hospitals.

[Vereniging voor Verslavingsgeneeskunde Nederland Lustrumcongres 2022 | Leiden2022](#)

- **Suicide and its Prevention Congress: Contemporary and Historical Perspectives in Nursing, 1880-2020**

Date: 19 – 21 May 2022

Organized by: Knowledge Centre of the Faculty of Nursing, University of Applied Sciences Leiden (Dr Cecile aan de Stegge, University of Applied Sciences Leiden, member of the EAHN) and the Impulse Network Medical Humanities of the Free University Amsterdam (Prof Manon Parry, professor of

Medical History, Free University Amsterdam). Supporting partners are: Sister Vernède Foundation; Vital Delta; 113 Suicide Prevention; GGzVS and V&VN, Netherlands.

Description: The conference focuses on the specific role of nurses in general and/or in mental health care who have had to deal with patients who have suicidal thoughts or engaged in self-harm.

The conference Suicide and its Prevention: Contemporary and Historical Perspectives in Nursing, 1880-2020 is organised on behalf of the European Association for the History of Nursing (EAHN), an international scholarly association dedicated to promoting the development and advancement of the history of nursing and related areas of historical research.

The organising partners are the Knowledge Centre of the Faculty of Nursing, University of Applied Sciences Leiden (Dr Cecile aan de Stegge, University of Applied Sciences Leiden, member of the EAHN) and the Impulse Network Medical Humanities of the Free University Amsterdam (Prof Manon Parry, professor of Medical History, Free University Amsterdam). Supporting partners are: Sister Vernède Foundation; Vital Delta; 113 Suicide Prevention; GGzVS and V&VN, Netherlands.

All speakers are asked to focus their contribution on the specific role of nurses in general and/or in mental health care, who have dealt with patients who have suicidal thoughts or engaged in self-harm. These experiences may also include working with relatives of patients who have committed suicide. The conference organisers hope that the conference will facilitate professional and academic debate on this challenging topic, through historical research or within contemporary practice, and result in a number of scholarly publications.

[Suicide and its Prevention: Contemporary and Historical Perspectives in Nursing, 1880-2020 | Leiden2022](#)

- **Annual Suum Cuique conference: the time of climate liability**

Date: 25 May 2022

Organized by:

Description: Suum Cuique's annual conference will take place on 25 May 2022. This year's theme is 'The Time of Climate Liability'.

The widely known Shell ruling by the Hague court, the accumulating IPCC reports and the political controversy surrounding our response to climate change highlight the importance of this topic for civil lawyers. What challenges does climate change bring from a legal perspective? To what extent can, may and should civil courts get involved in this debate? And how is civil intervention viewed from abroad?

Our speakers will explore and discuss these questions and more during the conference. The conference will take place at the Kamerlingh Onnes Building (KOG) in room C.131. Registration is from 12.45 pm. The congress will last until 5 p.m., followed by drinks at Café de Keyzer. The congress is open to master's and bachelor's students and other interested parties.

[Congres Suum Cuique: De tijd van Klimaataansprakelijkheid | Leiden2022](#)

- **LS&H: Opening event Life Science & Health Week: Global impact in health symposium**

Date: 30 May 2022

Description: The scientific part of the LSH week will be officially opened on Monday 30 May with the Global Impact in Health Symposium.

During this symposium we will discuss the importance of international academic, public and private partnerships in solving the greatest global health threats of our time.

Leiden is internationally recognized as an essential hub for Life Sciences & Health with its large concentration of companies in the Leiden Bio Science Park and several internationally acclaimed

research institutes, among which key player the Leiden University Medical Center. How do we make sure that research and innovations from Leiden have real global impact? How can we create an environment that is conducive for interaction between academic, public and private partners here, and most importantly, around the world? How do newer research fields such as regenerative medicine and advanced therapy medicinal products (ATMPs) cope with these challenges compared to traditional global health fields such as infectious diseases and vaccines? These are some of the questions we will navigate through during a programme full of diverse inspiring speakers.

[LS&H - Global Impact in Health Symposium | Leiden2022](#)

- **LS&H: EUFEPS/FIGON DMD Annual Meeting**

Date: 01 – 03 June 2022

Description: The EUFEPS/FIGON DMD Annual Meeting will take place from 1 to 3 June with the theme "Boosting sustainable drug development in Europe: Top science below sea level".

[LS&H - EUFEPS/FIGON DMD Annual Meeting | Leiden2022](#)

- **International Conference on Easter Island and the Pacific**

Date: 19 – 24 June 2022

Organized by: the Easter Island Foundation

Description: The theme of the 10th edition of the International Conference on Easter Island and the Pacific is 'Change and Resilience'.

The International Conference on Easter Island and the Pacific is a multidisciplinary conference with participants from all over the world. During the conference, essays on various related topics will be presented, including archaeology, tourism, and biodiversity on Easter Island. Roundtable discussions will also be held.

Who knows

This conference will be organised by the Easter Island Foundation.

The Easter Island Foundation has been organising multi-disciplinary conferences on Easter Island in different countries since 1984. The objective is to help the people of Easter Island and promote knowledge about Easter Island.

[International Conference on Easter Island and the Pacific | Leiden2022](#)

- **AESIS conference 2022: impact of science**

Date: 22 June – 24 June 2022

Organized by: AESIS

Description: Stimulating societal impact of science by building stronger, long-term structures for knowledge and data exchange, as well as Public-Private collaborations.

The need for science to tackle challenges our world faces is not a new phenomenon, but has increasingly grown on a global scale, with the world facing pandemics, environmental changes and societal struggles. Policymakers, businesses and other societal actors are increasingly aware of the value of scientific data and knowledge to support them in overcoming challenges, but in many cases the interaction between worlds is not structured or stable enough. For the 10th time in a row AESIS will be organising their annual conference on Societal Impact of Science, to bring together stakeholders in-and outside of the science eco-system to engage with each other on the most effective and approaches for implementing policies, strategies, methods and tools to optimise societal impact of science and evaluate success.

This conference will feature highly regarded and internationally recognised experts who will be discussing the contribution of research to the quality of life and well-being. The goals is sharing, evaluating, and discussing best practices around the world on: policy strategies for societal impact, creating (long-term alliances between stakeholders; regional, national and international instruments for evaluating and achieving impact; current issues on i.e. public engagement, evidence-based policy, interdisciplinary approaches, and, harmonising definitions and assumptions.

For R&D evaluators, University managers, Research councils, Policy makers, Funders & Other stakeholders of impact

[AESIS conference 2022: Impact of Science | Leiden2022](#)

- **43rd Veerstichting symposium: stuck in acceleration**

Date: 23 – 24 June 2022

Organized by: de Veerstichting

Description: The Veerstichting is holding its 43rd symposium with a focus on the theme 'Vast in Versnelling?' The aim is to find an answer to the question whether acceleration is the same as progress.

The theme of the 43rd symposium of the Veerstichting is 'Stuck in Acceleration?'. We live in a world in which we constantly experience acceleration. But is this the same as progress? During this symposium several generations will enter into discussion to answer this question. Interesting speakers and performances will also discuss this topic.

Who knows

This symposium will be organised by the Veerstichting.

Since 1979, the Veerstichting has brought together ambitious students and key players in society to promote intergenerational dialogue and discuss social and societal issues.

[43rd Veerstichting symposium: 'Vast in Versnelling?' | Leiden2022](#)

- **Conference: courts as an arena for societal change**

Date: 08 – 09 July 2022

Organized by: Research Group, Institutions for Conflict Resolutions (Conflictoplossende Instituties), a joint collaboration between Leiden University, Radboud University Nijmegen and Utrecht University.

Description: On the theme of Courts as an Arena for Societal Change, Leiden University brings together researchers and practitioners to discuss the evolving role of the judiciary in addressing difficult and contentious social and political issues.

With the decline of public confidence in some institutions, citizens and civil society organizations are increasingly turning to the courts for answers. This has challenged traditional ideas about the proper role of the judiciary and raised important questions. For example, what moves citizens to take socially charged issues to the judiciary? What kind of problems arise if judges rule in such politically charged contexts? How can concerns about judicial independence and impartiality be balanced with changing public expectations around the role of the courts? And what consequences does the evolving role of the courts have for the judiciary's self-perception and its legitimacy? The conference will elaborate on these questions within the context of specific areas that are of critical public importance, such as the environment, climate change, the pandemic, or the rule of law. Diverse perspectives based on geographical or cultural differences, as well as interdisciplinary approaches from various academic disciplines, will be presented.

The conference is an initiative of the Research Group, Institutions for Conflict Resolutions (Conflictoplossende Instituties), a joint collaboration between Leiden University, Radboud University Nijmegen and Utrecht University.

The conference will take place in person at Leiden University, in English (though there may be some sessions conducted in Dutch).

[Conference: Courts as an Arena for Societal Change | Leiden2022](#)

- **European conference of science journalism**

Date: 11 – 12 July 2022

Organized by: Dutch Association for Science Journalism and Communication.

Description: The 'European Conference of Science Journalism' is a conference for professional science journalists and related professions.

The 'European Conference of Science Journalism', or ECSJ 2022 conference, brings together professional science journalists to discuss their field. There will be sessions with multiple speakers on various topics, including diversity in science, COVID reporting, and fake news.

Who knows

This conference will be organised by the Dutch Association for Science Journalism and Communication.

The Vereniging voor Wetenschappsjournalistiek- en communicatie Nederland, also known as VWN, aims to improve the quality and quantity of communication about science and technology. It does this by maintaining a professional network and organising interesting activities.

[European Conference of Science Journalism | Leiden2022](#)

- **Brave New World**

Date: 12- 13 September 2022

Organized by: Alexander Mouret

Description: BRAVE NEW WORLD is an annual art and science conference for those who want to know what the future holds.

The 'BRAVE NEW WORLD' conference is for people who are innovative-minded and want to go beyond their own field of interest. The theme of the conference is how future technology will affect human life. There will be lectures on topics such as deepfakes, nature, and the anthropocene future.

This conference will be organised by Alexander Mouret.

Alexander Mouret is Innovation Manager Artificial Intelligence at Leiden University

[Brave New World | Leiden2022](#)

- **3rd International workshop on Klinefelter syndrome trisomy X, and XYY**

Date: 12 and 14 September 2022

Organized by: Leiden University

Description: We would like to invite you to participate in the 3rd International Workshop on Klinefelter Syndrome, Trisomy X, and XYY, that will take place in Leiden, the Netherlands, from 12-14 September 2022.

Previous international workshops were organised in Copenhagen (2010) and Munster (2016). The Third International Workshop will take place in Leiden in 2022, the year that Leiden will be the European City of Science. In this 3rd International Workshop we would especially like to share new insights from a 'life-course perspective', addressing the impact of an extra X or Y chromosome throughout life. The life-course approach focuses on a healthy start to life and targets the needs of individuals at critical

periods throughout their lifetime. It promotes timely investments to improve outcomes and quality of life.

Renowned experts have been invited to speak at the workshop, but the 3-day event will also give young scientists and clinicians an opportunity to present their recent work during oral presentations and poster sessions. The workshop will have a hybrid format, including both in-person and virtual attendees.

We are looking forward to welcoming you to this unique event to be held in Leiden in 2022!

On behalf the organising committee: Hanna Swaab, Martin den Heijer, Sabine Hannema, Kimberly Kuiper, Evelien Urbanus, Nienke Bouw, Lia ten Brink and Sophie van Rijn

[3rd International Workshop on Klinefelter Syndrome, Trisomy X, and XYY | Leiden2022](#)

- **15th International symposium on materials in the space environment (ISMSE + ICPMSE)**

Date: 18 – 23 September 2022

Organized by: ESA Conference Bureau and ATPI Corporate Events

Description: The 15th International Symposium on Materials in the Space Environment deals with the use and protection of different materials in space.

With the increase in space missions, it is important that the materials used are strong enough. The theme of the 15th International Symposium on Materials in the Space Environment is the better understanding and application of these types of materials. Participants will be able to attend lectures on various related topics ranging from atomic oxygen to space experiments by specialists in the field.

Who knows

This conference will be organised by the ESA Conference Bureau and ATPI Corporate Events. The ESA Conference Bureau organises courses, meetings, workshops, and symposia supported by the European Space Agency.

ATPI Corporate Events is an event management company with over 25 years of experience. ATPI arranges incentive travel, event production, and business meetings, but also provides strategic advice on these topics.

[15th International Symposium on Materials in the Space Environment \(ISMSE + ICPMSE\) | Leiden2022](#)

- **SANO Wetenschapsdag / SANO Science day**

Date: 22 September 2022

Organized: SANO

Description: The SANO Science Day is a symposium for and by researchers in elderly care aimed at inspiring each other.

The SANO Science Day focuses on elderly care, and brings together researchers from the field to answer questions such as: How do we conduct research? What does the research bring to elder care? And what fuels science in elder care?

Who knows

This conference will be organised by the SANO.

The Cooperating Academic Networks for Elderly Care, also known as SANO, is an alliance aimed at improving the quality of clients connected to care organisations. The cooperation leads to a greater availability of knowledge.

[SANO Wetenschapsdag | Leiden2022](#)

- Leiden Drug Development Conference

Date: 27 September 2022

Organized by: LUMC, Leiden University, Janssen, Galapagos and TNO

Description: On 27 September 2022 the second edition of Leiden Drug Development Conference (LDDC) will be organised by LUMC, Leiden University, Janssen, Galapagos and TNO.

Which technologies and innovations will radically change the research and development of medicines in the future? And how can we make medicines and vaccines, while the conditions within which we do this, are deteriorating? We want to discuss the complexity of the development, production and distribution of medicines.

Computational science, prevention, federated data networks and anti-infectives. The future of drug development is the main topic on the agenda. During this conference leading scientists and professionals will tell you the latest in their research field. And our keynote speaker Paul Stoffels (CEO Galapagos) will give his view on the topic.

The aim is to actively connect business and science, discover how we can reinforce each other, and work together on the future of life sciences and health.

LDDC 2022 invites scientists and professionals, from universities, knowledge institutes and industry with an interest in drug discovery, development and production, to register.

For more information: www.hyphenprojects.nl/lddc/

[Leiden Drug Development Conference | Leiden2022](#)

- ESA Commercial Gateway Annual Conference

Date: 27 – 29 September 2022

Organized by:

Description: The event is a great opportunity to learn more about the progress of ESA and other members of the network, to share experiences and plan for new collaborations and activities.

The Annual Meeting is deployed in a three-days programme that includes networking, technical and social activities as well as parallel sessions of the ESA Business Incubation Centers, Technology Broker Network and ESA's Φ -labNET Network.

How can the ESA Commercialisation Gateway help you?

The ESA Agenda 2025 sets high priority in boosting commercialisation in the European space sector. Fostering commercialisation requires deep knowledge of markets, its actors as well as emerging needs and technologies. Not only the space sector itself is undergoing revolutionary changes, space assets and technologies have major impacts on terrestrial markets.

The purpose of the ESA Commercialisation Gateway is to identify these opportunities and to create links between new businesses and ESA. By interacting and listening to the needs of industry and potential partners, the Gateway embraces a market driven approach while at the same time providing easy access to ESA's technical expertise and programmatic support.

The ESA Commercialisation Gateway provides visibility on space-related market trends and developments, innovative projects, programme activities, technical developments as well as networking and funding opportunities.

The ESA Commercialisation Gateway is open to requests and collaborations from interested parties including industry, academia or public organisations to jointly expand or develop new commercial space activities.

[Click here for more information.](#)

[ESA Commercial Gateway Annual Conference | Leiden2022](#)

- **Industry Space Days**

Date: 28 – 29 September 2022

Organized by: The European Space Agency (ESA)

Description: The European Space Agency (ESA) invites members of the space community to attend the Industry Space Days (ISD) at ESA/ESTEC.

The ISD is organised by the SME Office in the ESA Commercialisation Department to foster cooperation between different actors in the entire space sector.

Key elements of this year's event include:

- pre-scheduled 1-on-1 meetings to establish new contacts in an efficient and time-saving manner
- an exhibition with ESA and industry booths and the possibility to engage with future partners
- keynotes and panel discussions with contributions by ESA, industry, investors and institutional partners
- ESA presentations and workshops about business opportunities and future activities

[Industry Space Days | Leiden2022](#)

- **11th World Sponge Congress**

Date: 10 – 14 October 2022

Organized by: World Sponge Congress

Description: The World Sponge Conference is hosted every 3-4 years and brings together international scientists from all around the globe to meet up and have lively discussions.

Due to the pandemic the last conference was almost 5 years ago in Galway, Ireland, the organizers are thus very excited to invite you to Naturalis Biodiversity Center, Leiden, The Netherlands.

They will have a single session with a suite of international keynote speakers, normal presentations, speedtalks, poster sessions and a workshop on taxonomy.

The conference will be partly live streamed and key note presentations can be looked back during the week at the virtual platform. The organizers are very much looking forward meeting you in Leiden in October.

If you're excited to attend this Congress, you can do so by registering via [this link](#).
Note: there's a registering fee.

If you want to know more about the World Sponge Congress, please visit [their website](#). You can find the program there as well.

[11th World Sponge Congress | Leiden2022](#)

- **2nd FAIR convergence symposium**

Date: 24 – 26 October

Organized by: CODATA and GO FAIR

Description: The 2nd FAIR Convergence Symposium will explore the state of art in FAIR implementation across a range of research domains and initiatives

The **2nd FAIR Convergence Symposium** is organised by CODATA and GO FAIR on 24 – 26 October 2022, as part of the [Week Focused on FAIR](#).

This years' edition will concentrate on smaller, high-priority, strategic and working meetings to encourage convergence on and implementation of [FAIR Guiding Principles](#). The meetings are being organized as hybrid events, allowing for both in-person and online participation.

Workshops and sessions worthwhile highlighting include a workshop exploring the role of data policy in times of crisis; reports on the use of FAIR Implementation Profile methodology by the WorldFAIR project and ENVRI-FAIR communities; and a demonstration of the FAIR Connect open access publishing platform.

Detailed descriptions of the workshops and sessions, an overview of the 2nd FAIR Convergence Symposium programme and a link to registration are available at: <https://codata.org/events/conferences/fair-convergence-symposium-2022/>

[2nd FAIR Convergence Symposium | Leiden2022](#)

- **1st International Conference on FAIR digital objects**

Date: 26 – 28 October 2022

Description: Turning the Internet into a meaningful data space

Successful management, exchange and interpretation of knowledge in an ever-growing information tsunami will depend on highly automated methods dealing with combined data. This will require artificial intelligence but also robust and informative ways to store and disseminate data and metadata. Here is where one crucial concept shows up: FAIR Digital Objects (FDOs).

FAIR is about making data findable, accessible, interoperable and reusable both for humans and machines. FAIR digital objects have shown key capabilities to simplify and scale the use of data across domains, increase trust in data and ease the handling of high volumes of information.

The developments are there. Now we need widespread consensus.

The 1st International Conference of FAIR Digital Objects will bring together for the first time at this scale key technical, scientific, industry, and science-policy stakeholders with the aim to boost the development and implementation of FDOs worldwide and transform the Internet into more than just a data space: into a *meaningful* data space.

Data: 26-28 October 2022

More information on [the website](#).

[1st International Conference on FAIR Digital Objects | Leiden2022](#)

- **Medical Delta Conference 2022**

Date: 15 November 2022

Organized by: Medical Delta

Description: This year's Medical Delta Conference 2022 will take place in Leiden, Europe's 'City of Science 2022'. As GAMECHANGING is the daily theme of Leiden City of Science, the theme of the Medical Delta Conference is 'Technology: THE Gamechanger for Health'.

The health & technology ecosystem of the Delta region and beyond will come together at the Conference on 15 November. Besides an interesting programme of content, a new batch of Medical Delta professors will be inaugurated. New insights and gamechanging innovations can be seen and

experienced at the interactive information market. During the afternoon, there will be plenty of networking opportunities.

Be surprised, gain new insights and meet each other at the Medical Delta Conference 2022!

Technology: THE Gamechanger for Health

Medical Delta brings a lot of different parties together: 3 renowned universities, 2 medical centres, 4 universities of applied sciences, government, companies, healthcare facilities, and other parties within South Holland.

Medical Delta started a big scientific program in 2019. Over 360 scientists in 15 different sectors started working on innovations to aid sustainable and eco-friendly healthcare. Companies and healthcare facilities on the regional and provincial level are also involved with Medical Delta. Some of the innovations are being tested in practice via Living Labs.

[Medical Delta Conference 2022 | Leiden2022](#)

- **SIA Conference 2022**

Date: 17 November 2022

Organized by: Regieorgaan SIA.

Description: The SIA congress is the meeting place for all those involved in applied research at universities of applied sciences.

At the SIA congress, over 500 interested parties and others involved in applied research at universities of applied sciences come together to share knowledge, follow new developments and discuss applied research. Participants can listen to plenary speakers and sub-sessions on topics such as open science, policy developments and research methods.

This conference will be organised by Regieorgaan SIA.

The Regieorgaan SIA invests in practice-based research. They finance researchers and connect people, knowledge institutions and companies with the aim of promoting applied research at universities of applied sciences.

[SIA conference 2022 | Leiden2022](#)

- **Quantum Symposium**

Date: 24 November 2022

Organized by: Jonathan Pilgram & Mio Poortvliet

Description: The discovery of quantum mechanics changed the world. On the 24th of November you can learn all about it at the Stadsbouwhuis in Leiden. How does quantum mechanics impact you?

Quantum and society: how the second quantum revolution is impacting you
The device you are using to view this webpage is built using insights gained from quantum mechanics. From the 1920's on, humans are able to describe quantum mechanical systems. The behaviour of collections of particles can be predicted. This quantum revolution gave rise to LED lights, lasers, the transistor, atom clocks and more; these are the technologies that the internet, computers and global navigation systems are based on. Now, humans are able to control single particles. This opens the door to many new technologies, such as quantum computing and quantum sensing. The second quantum revolution - we bend single particles to our will - will have great applications for society.

Is quantum computing actually going to break encryption, cure cancer and revolutionize material science? Where does the money for research come from? Who will reap the benefits of this research? Will the technology go to the highest bidder, or to the greatest good? Come ponder these questions with us on the discussion evening about quantum and society.

The intended audience consists of anyone who is interested in quantum. You don't have to be an expert on quantum technologies to contribute to the discussion; we will pick topics that are not technical and have no clear answer.

There will not be a panel, because everyone should be on equal footing. Rest assured, there will be experts of the field in the audience of participants. So if you do have a background in quantum, we also very much want you to participate. Come ask some thought provoking questions!

If you want to know more about this event (like the program or which speakers will attend), [follow this link!](#)

[Quantum Symposium | Leiden2022](#)

- **Artificial intelligence: nanotechnology and robots in the service of humanity**

Date: 01 December 2022

Organized by:

Description: The massive amount of progress within the field technology has a lot of consequences for the industrial production processes, and for the world economy in general.

There's new machines and robots being developed all the time. Some newer machines need advanced mathematical algorithms and a massive variety of ways to insert information and products into them.

These machines don't have to lead to an apocalypse with destastrous consequences for workers, humans are the driving factor behind these machines after all. They're the ones who innovate and produce these technological advances for companies and organisations. This is called The Power of People.

Join a Spanish conference about this subject! This conference is mainly meant for students of the Visser't Hooft Lyceum, but visitors from outside of the school are also welcome if they send an email to cma@vhl.nl

The Speakers

- *Carles Sierra and João Valente*, researchers and experts in this field, will talk about how essential humans are despite the simple access and connection in this digital era. People's capability to imagine new products and new services, our curiosity to analyse the gaps within a system, our ability to discover new sources of information and creativity to understand those things that a machine cannot, are essential to understand and anticipate the concerns of people in the future.
- *Carles Sierra* (Barcelona, 1963) is a professor, researcher, and director of the Artificial Intelligence Research Institute (IIIA) of the National Research Directory of the CSIC. He is also a professor at the Western Sydney University and the head editor of the Journal of Autonomous Agents and Multiagent Systems. He has taken part in over 40 research projects financed by the European Union. He even received the ACM / SIGAI Autonomous Agents Research Award in 2019.
- *João Valente* (Lissabon, Portugal) studied computer and electro engineering at the Universidade Nova de Lisboa, and graduated cum laude in Robotics and Automatisation at the Universidad Politécnica de Madrid (UPM). He was also honored three times for the best thesis in the academic and industrial world. Right now, he is an Assistant Professor at the Information Technology Group (INF) of Wageningen University & Research (WUR), and the director of the Social Drones Lab.

[Artificial Intelligence: Nanotechnology and robots in the service of humanity | Leiden2022](#)

7. New European Bauhaus Activities

New European Bauhaus Leiden presents a program geared towards the future and focused on culture, science, and society from one central spot. The goal is to reinforce and accelerate the sustainable transition while listening to the concerns of future generations.

What will the future of Leiden look like? In the New European Bauhaus program by Leiden European City of Science 2022, people, institutes, and companies join hands to work on a more inclusive, more sustainable and more beautiful Leiden in creative ways. Extra attention is given to future generations because the project is spearheaded by a young team.

More information can be found via this link: [New European Bauhaus | Leiden2022](#)

- Through the Looking glass

From: 01 – 18 January 2022

Location: Het Energiepark

Description: Light in these dark days! An exhibition with light images that move, amaze and connect. Join us all month long for the exhibition 'Through the looking glass'. An exhibition for the dark days, for everyone. With light and video projections that move, amaze and connect.

The exhibition highlights the Energy Park in a special way. The Energiepark goes from Papegaisbolwerk 18 and 20, Langegracht 70A, Portiersloge Ambachtsplein near 70D and Maresingel off Twin Street. The exhibition is free of charge. Signs at the artworks will be in Dutch.

More information? Visit <https://est-art-foundation.org> or <https://est-art-foundation.org/09-through-the-looking-glass.php>

[Through the looking glass | Leiden2022](#)

- Leidse Inclusiviteitsbijeenkomst / Leiden inclusivity meeting

Date: 13 January 2022

Description: Thursday 13 January saw the first meeting between Leiden inclusivity-driven organisations. The 12 organisations met to exchange and share mutual knowledge.

Leiden European City of Science2022 (Leiden2022) provides the platform for this connection. "Inclusion is about open conversation and collaboration with everyone," explains Aya Ezawa (Diversity Officer Leiden University). "Often people come to us with questions and challenges related to diversity. We are not there to judge people but to find solutions together."

Connecting in diversity: More and more people and organisations are committed to making Leiden a more inclusive city. From LGBTQIA+ representation to equal opportunities in education, everyone is doing their bit. It was precisely in this context that the following key figures came together: COC Leiden, Leiden University Diversity Office, De LeidseTop 50, BuZz Leiden, Feminist Evolution Leiden, Municipality of Leiden, Ketu Koti Leiden/Black Lives Matter Leiden, National Institute of Dutch Slavery History and Heritage (NiNsee), The Platform Disabled People Leiden and Leiden European City of Science 2022. This wide range of organisations and networks are now linked to share know-how, expertise and experience. Leiden European City of Science 2022 provides the platform for this knowledge exchange as part of the New European Bauhaus programme. The aim of this programme is to use science, knowledge, art and expertise to contribute to a beautiful, inclusive and sustainable Leiden

[Leidse Inclusiviteitsbijeenkomst | Leiden2022](#)

- Interventie Den Haag / Intervention The Hague

Date: 14 February 2022

Description: On 14 February, MPs, Ministers and State Secretaries received a love letter with a gift from the Ministry of the Future.

Dennis Wiersma, Minister for Primary and Secondary Education, received his children's shoes on Monday. Besides being incredibly enthusiastic about the initiative and impressed that actually all MPs and Ministers get a pair of children's shoes, the minister also immediately shoots into action mode: "Shall I give the children's shoes to Dijkgraaf?". And grabs Minister Dijkgraaf's children's shoes from the van promising to hand them over personally.

The gift involves children's shoes, these are symbolic of generations to come. The Ministry of the Future's call is for politicians in The Hague to consider the next and coming generations in all the decisions they make.

[Valentijn: schoentjes voor Kamerleden, Ministers en Staatssecretarissen - Ministerie van de toekomst](#)

- **Markt tegen Snelle Mode / Market against Fast Fashion**

Date: 24 March 2022

Description: Upcycle your old t-shirts with a screen print while enjoying a beer, fresh pizza and live music! Or shop various slow fashion and vintage brands.

After the great success of the first edition, this year it is time for the sequel: the second edition of the Leiden Market against Fast Fashion! At the Wibar in Leiden, visitors can shop various slow fashion and vintage clothing brands while enjoying a cold beer and a fresh pizza from the stone oven. Upcycle your old t-shirts with art collective Roem's screen printing and give your clothes a second life! Or pimp clothes from the thrift store next to the Wibar. There will also be live music.

Who Knows: The Leiden Market against Fast Fashion was set up by Laura, Dieuwertje and Nina, three students from Leiden with a passion for fashion and the environment.

In 2020, they won the Snouck Hurgonje Prize with their initiative the Leiden Day against Fast Fashion. By doing so, they hope to create more awareness among students about the importance of sustainable clothing. They want to bring students together on this fun and interactive day. Today, they are organising the second edition of the Leiden Day against Fast Fashion, this time in the form of a market with all kinds of fun activities around slow fashion.

[Leidse markt tegen snelle mode | Leiden2022](#)

- **Persoonlijke verhalen door stichting Binnenvest / Personal stories by Binnenvest foundation**

Date: 03 April 2022

On Sunday, 3 April 2022, you are welcome to come to the Energy Park on Lange Gracht in Leiden for a storytelling session. The activities are free of charge and there is also a lot to do at the Stadsbauhaus

"Nobody needs to stand aside" is the slogan of De Binnenvest foundation. They offer a helping hand in case of (impending) homelessness. De Binnenvest supports people to (re)find their strength and rebuild their lives through meaningful daytime activities, among other things. Two experts by experience from the Energiepark branch share their life stories and answer questions from the audience. A counsellor will also be present to whom people can turn for personal advice.

The event will take place at two different times at the Stadsbouwhuis, Langegracht 72 Leiden.

[Persoonlijke Verhalen door Stichting De Binnenvest | Leiden2022](#)

- **NRC future affairs X Leiden European City of Science 2022**

Date: 29 April 2022

Description: Starting with groundbreaking ideas about the nature of our consciousness, to research showing the stunning intelligence of nature: buckle up for an event that might just change how you think about the future.

What if this is not merely an era of change, but the change of an era? Scientific ideas about our connection to nature, our deep entanglement with the rest of life on the planet, are fundamentally changing. Cutting edge insights from fields as diverse as ecology, philosophy, biology and physics increasingly show our deep and complex connections, rather than the story of individual separation that has been dominant for the last century. Is our current scientific and societal paradigm ready for a shift? Or is that wishful thinking?

Future Affairs x Leiden European City of Science 2022

brings together leading thinkers, artists, researchers, and pioneers to explore what's ahead in this time of disruption and change. How can we prepare for the mindshifts on the horizon? Starting with groundbreaking ideas about the nature of our consciousness, to research showing the stunning intelligence of nature, to quantum physics painting a deeply strange picture of reality. And indigenous wisdom that rings strikingly relevant in these modern times: buckle up for an event that might just change how you think about the future.

Together with world leading thinkers and pioneers like **Philip Goff** (Galileo's Error), **Chief Phil Lane** (Leader of the Ihanktonwan Dakota and Chickasaw Nations), **Cristiane de Morais Smith** (professor in theoretical physics), **Claudy Jongstra** (Guernica de la ecologia) and **Li An Phoa** (Drinkable Rivers Movement) we try to grasp the changes ahead.

About NRC Future Affairs

For the Dutch daily newspaper NRC philosopher Jessica van der Schalk and journalist Wouter van Noort interview leading pioneers and thinkers about systems change and our shifting relationship to nature and technology. We organize live events and host podcasts that reach up to 40,000 listeners, the weekly installments of the e-mail newsletter reach around 50,000 curious souls. Previous interviewees include Toby Ord, Jeremy Lent and Philipp Blom.

[NRC Future Affairs x Leiden European City of Science 2022 | Leiden2022](#)

- De Toekomstbouwers / The Builders of the Future

Organized by: New European Bauhaus Leiden (Roosmarijn van de Velde) and Da Vinci college Kagerstraat Leiden.

Date: 1 April 2022 – 30 april 2022

Description: "What will Leiden look like when I grow up?" is what the bridge class pupils of Da Vinci College Kagerstraat asked themselves in the project The Future Builders. Come and admire their City of the Future in the Stadsbauhaus!

For the exhibition The Future Builders, pupils of the 1st class of Da Vinci College Kagerstraat built the Leiden of the future! In collaboration with various organisations from all over the Netherlands, the pupils of all 11 bridge classes made a beautiful, inclusive and sustainable Leiden with a model or, of course, in Minecraft.

The ultimate goal? To win a place in the exhibition! From each class, only one can be the best... Curious about the winners? Come to the Stadsbauhaus and be inspired by the future through the eyes of classes 1H, 1I, 1K, 1L and 1M!

The Future Builders is part of the Leiden2022 programme 'Stadsbauhaus - New European Bauhaus Leiden', which uses science and art to work towards a sustainable, beautiful and inclusive future. Many thanks go to the Coaches: Foundation 2030, Dura Vermeer, Fontys University of Applied Sciences and the Leiden neighbourhood ambassadors. Interested in becoming a coach of one of the other bridge

classes? Contact Roosmarijn van de Velde (Chief New European Bauhaus Leiden) at r.vandavelde@leiden2022.nl.

[De Toekomstbouwers | Leiden2022](#)

- **Save the date: expositie "the invitation" ter afsluiting van master honours class leiden: stad van vluchtelingen?**

Date: 04 June 2022

Description: An exhibition in the Stadsbauhaus of artworks created by students of the university-wide Master Honours Class.

The exhibition titled 'The Invitation' will be curated from artworks created by the participating students of the Master Honours Class. It is a collaboration between the university-wide Master Honours Class Leiden: City of Refugees in collaboration with artist Anne Schaarschmidt and research and teaching assistant at the Van Vollenhoven Institute Anne Jonker Scientifically and artistically reflecting on the 'other'

This is the second year that the Master Honours Class "Leiden: City of Refugees?" is provided from the Van Vollenhoven Institute by Professor of Sociology of Law Maartje van der Woude and teaching assistant Nanou van Iersel. The course aims to make students think and reflect on the concept of "the other" and processes of exclusion, stigmatisation and discrimination from both scientific and artistic perspectives. The course consisted of interactive lectures that focused on the central scientific concepts and theories, as well as interactive workshops in which various artists talked to the students about their artistic practice and how they worked with these same concepts from their practice. At all the workshops, students were also given the opportunity to work and experiment with different art forms themselves.

During the exhibition on 4 June, students will present works they have created, in addition to the lectures and workshops, their fieldwork - interviews and observations - conducted in different neighbourhoods in Leiden. The works are intended as an invitation to bring an imaginary (group of) other(s) - and thus groups from different social spheres - closer together. The students are free to choose who 'the other' is to whom they want to address. The word 'invitation' is interpreted broadly and can be translated into an intervention, a performance or an usual/verbal/physical/written/ritual invitation. During the exhibition, students will explain their artistic piece and their choice of a specific format.

The aim of this Master Honours Class and the exhibition is to show how valuable combining different perspectives is in addressing societal challenges and problems. The combine of science and art as a potentially efficient way to plant a seed for an inclusive society. With the exhibition, the organisers together with the students also hope to plant a seed for more collaboration between science and art both inside and outside the walls of the academies!

Entrance: Entry to the exhibition is free and open to all - so be welcome and come take a look!

For questions, contact Maartje van der Woude at m.a.h.vanderwoude@law.leidenuniv.nl

[Save the date: Expositie "The Invitation" ter afsluiting van Master Honours Class Leiden: City of Refugees? | Leiden2022](#)

- **Werkconferentie Toekomstdenken / Workconference thinking about the Future**

Date: 10 June 2022

Description: How do the interests of children and future generations get a place in municipal politics?

Come to the working conference on Friday 10 June in beautiful Leiden. Discover how the long term can become tangible in your own living environment. Policymakers, futurologists and artists will share inspiring projects ideas and experiences.

Programme:

10:30 inspiration morning with stories, practical examples and in-depth sessions by:

Tessa Cramer: Future thinking in practice

Jan van de Venis (acting ombudsperson future generations): How do we decolonise the future?

Merlijn Twaalfhoven (The Turn Club): How do we break a spiral of polarisation?

Anne Graswinckel (Arcadia): A Lost Atlas as a guide through an uncertain world.

12:45 - 14:30 Lunch and time walk

Lunch with musical and poetic future experience, in which you take a sound journey through time in an interplay between art, science and your own imagination.

14:30 Work session

How do we organise an inclusive Place Council for the future of our municipality?

Can we give future generations a voice in the municipal council through a reflection on the future in which we look beyond self-interest? How do we bring together dialogue, substance and representative representation of the local community? Led by Miranda Willems, Roosmarijn van de Velde and Merlijn Twaalfhoven

[Werkconferentie Toekomstdenken | Leiden2022](#)

- **Tactile memory- the revival of analogue filmmaking**

Date: 11 June 2022

Description: Leiden European City Of Science, the Netherlands Institute for Sound and Vision and Leiden Shorts Film Festival are inviting film enthusiasts to celebrate the art of analogue film. Tactile Memory- The Revival of Analogue Filmmaking on Saturday 11 June.

The event consists of two sessions that can either be joined separately or together for the total experience. The morning session is an edit-a-thon with a focus on the ways we share and sustain knowledge about analogue filmmaking. In the afternoon there will be a lively panel discussion between filmmakers and archivists where they'll take a deep dive into the practice of working with analogue film in our current digital era. Our panellists will discuss their experiences and creative choices, and we'll connect those to a broader trend of the revival of analogue film in the last few years. We will round off the day with drinks and the space to reflect on analogue film with creators whose work is part of the festival.

Join us on Saturday 11 June at the Stadsbouwhuis in Leiden for an experience where new and old technologies meet.

[Tactile Memory- The Revival of Analogue Filmmaking | Leiden2022](#)

- **Plekberaad**

Date: 30 June 2022

Description: In the Plekberaad of Leiden 2022 at the 30th of June 2022, the young project team organises a dialogue about the future of Leiden.

At the Burcht of Leiden 30 young Leideners, local politicians and pioneers in sustainability and community come together. They discover what Leiden looks like in 6 generations, in the year 2112. What does life look like then, to the people that live in Leiden then?

For all participants Leiden is their 'plek', their hometown in a way. In this deliberation participants share the themes they encounter in their journey to the future. From this image of the future they map the challenges that are relevant to Leiden, and how these can be translated into solutions.

Together, the group takes responsibility for the long term of their 'plek', and advocates a switch from short term thinking to long term perspective. In the Plekberaad the Future Design Method. Read more about that here in the artikel of The Scientific Council for Government Policy: "Talking back to the present: giving voice to future generations" [<https://www.wrr.nl/publicaties/publicaties/2022/05/23/jongeren-en-het-zorgen-voor-hun-morgen>]. The method allows to incorporate both the interests of current generations and future generation in the making of long term policy. This is done by dividing the group into two halves. The one half focuses form the 'here and now' on the future. The other half envisions themselves being the Leideners of the year 2112 and looks for solutions from that point in time.

The results will be shared both locally and nationally. Locally the organisation hopes to contribute to the dialogue about the future, and the role that art and science can play in it. Nationally, in collaboration the the "Ministry of the Future" network [<https://www.ministerievandetoekomst.nl/>

[Plekberaad Leiden 2022 | Leiden2022](#)

- **De hoge raad / The high council**

Date: 3 July 2022

Description: An afternoon of innovative music and challenging art. On Sunday 3 July, Leiden will be conquered by art collective Modern People. This foundation, in collaboration with Leiden European City of Science, is organising an art event at the Stadsbauhaus where numerous artistic forms will come together.

From 3 p.m. onwards, it will celebrate the opening of the latest exhibition by the "Picasso of our generation": painter, philosopher and producer Lars Jurcka. Also on show will be designer and carpenter Lou Baudoin's design furniture, as well as concrete garden chairs by sustainable startup Concrete Seats. There will also be performances by DJ and producer Jasper van Ham, jazz band AvondUur and part Leiden hip-hop group De Hoge Raad. With this, De Hoge Raad will give its debut performance in the city of keys.

[De Hoge Raad | Leiden2022](#)

- **Exhibition: 9x9 imagined**

From: 09 September – 25 September 2022

Organised by: Ellen de Jong, Jaap de Raat, Karin van der Kooy, Saskia de Zee and Welmoed Schmidt

Description:

$3 \times 3 = 9$

$9 \times 9 = 81$

Simple calculations with many different meanings.

What can be found in the world of calculations depends on the viewer. For example, a mathematician will see a magic square, a chemist the 9th element Fluorine and a board game fanatic the board game Go. A Dutch scholar recognizes a palindrome in the word nine. And if there is a 9 in your date of birth, the numerologist will see a dolphin! But... how does an artist see this world of the number 9?

Five curious artists set to work and investigated how to represent the number 9 in form and content, resulting in an exciting group exhibition. It shows how you can represent the number 9 both in form by using 9 different media, 9 layers of material or simply the size 9x9 cm/inch and in content like the nine worlds in Norse mythology.

Curious too? Be welcome to watch and to be amazed! The exhibition can be seen in the Atrium of the Stadsbouwhuis, Langegracht 72 Leiden. As an opening act we will serve sandwiches for visitors on September 9 at 12.09, 9x9cm. Everyone from young to old is welcome at the exhibition! It does not matter whether you speak Dutch or not, because the exhibition is accessible regardless of which language you speak.

Take a virtual dive into the Kunstroute: [see more](#).

The exposition 9x9 imagined is on view until Sunday 25 September.

About the artists:

- **Ellen de Jong** zooms in on our everyday clothing and makes realistic drawings of it. For 9x9 she has explored new themes. Take a look at her website by clicking [here](#). On [this page](#) you will find a selection of her artwork.
- **Jaap de Raat** takes photos that he combines in collages and prints himself. He shows the atmosphere of the nine worlds from Norse mythology. Click [here](#) to go to his website and click [here](#) to see some of his works of art.
- **Karin van der Kooy** is a paper artist and researches different types of media and colours to fill in areas of 9 by 9 cm. On [this page](#) you will find more information about Karin van der Kooy's work and [here](#) you will find some of her artwork.
- **Saskia de Zee** was a costume and set designer and now upcycles second-hand fabrics into clothing. She makes patchwork art with different motifs and colours. Take a look at her website by clicking on [this link](#) or take a dive into her various works of art via this link.
- **Welmoed Schmidt** works with layers in photos and mixed media and investigates in a 9x9cm format how a connection can be created through lines and surfaces, minimal color and a variety of materials. Visit her website by clicking [here](#) or take a look at some of Welmoed Schmidt's artwork by clicking on [this link](#).

[Exhibition: 9x9 imagined | Leiden2022](#)

- **Plekberaad 3: wonen in de toekomst / Plekberaad 3: Local council for the future**

Date: 15 September 2022

Description: Plekberaad voor de Toekomst (Local Council of the Future) is a special meeting, in which young Leiden citizens, policy makers and pioneers will work on a better world. In this form of new democracy, we discover what the city will look like in three generations, in 2060.

Together, we will work on the future of this beautiful city.

Is Leiden your place? Then sign up now to join the Plekberaad. This edition, we focus on 'Together - Living'. To ensure that as many perspectives as possible are included, the organisation selects a diverse group of people from the applications.

The participants will set out a joint image of the future and map out the challenges of Leiden. We will also have a look at how these can be transformed into tangible solutions. The meeting is the kick-off for the National Week of Future Generations.

Extra special this edition: Eva Rovers will give a mini lecture! It promises to be a wonderful day, in which Eva shares her insights on her book 'Nu is het aan ons' (Now it's up to us) and her research during the citizens' consultation.

Curious what to expect during the plekberaad? Take a look at the report of the previous edition of 30 June 2022 in the Burcht [here](#). The meeting is part of the Leiden2022 programme New European Bauhaus, a future-oriented programme on sustainability and inclusiveness. The programme is a partner of an international movement within the EU Green Deal and draws inspiration from the Sustainable Development Goals (SDGs).

Outcomes will be shared both locally and nationally. Locally, the organisation hopes to contribute content to the dialogue about the future and the role that art and science can play in it. The Future Generations Lab, Ministry of the Future and The Turn Club are working on a scalable and replicable model for resident-driven and place-based long-term policies.

[Local Council for the Future | Leiden2022](#)

- Urban Health

Date: 13 October 2022

Organized by: Leiden European City of Science 2022, in collaboration with the New European Bauhaus

Description: Leiden European City of Science 2022, in collaboration with the New European Bauhaus initiative of the European Commission and the Urban Health Campus Almere Leiden, present a programme entitled 'Urban Health' on Thursday, the 13th of October 2022.

The multidimensionality of health in an urban environment serves as lead of the day. Urban health will, therefore, be presented in a context of environment, inclusiveness and business. The dimensions of urban health will be explored by way of 1) academic brainstorming; 2) turning academic ideas in applied research; and 3) implementation of scientific knowledge in daily practice. We will invite participants to share their own views on urban health. All together, we will arrive at a multi-faceted view on health in an urban environment.

[Urban Health | Leiden2022](#)

- I am Extraorbi+nary

From: 04 – 18 November 2022

Description: A campaign for the visibility of bisexual people in the Netherlands. Known mostly by the Dutch title "Ik ben bi+zonder".

In the Netherlands over 1 million people identify as bi+; they're attracted to more than one gender. That's a lot of people!

However, a lot of bi+ people don't feel at home in straight or queer communities. They don't feel seen: people assume other people are straight or gay and therefore can't be bi+ at all, or think bisexuality is a phase. Besides, the bi+ orientation still hasn't been added into the Dutch law: Algemene wet gelijke behandeling. Therefore the orientation isn't protected and people are technically allowed to discriminate based on bisexuality and biromanticism.

To make themselves more visible, bisexual people have decided to share their stories with you. A consequence of the invisibility and stereotypes surrounding bisexuality is an increased amount of sexual assault geared towards bisexual people. This amount isn't small either; almost 16% of all bisexual women in the Netherlands experienced sexual assault within the last year, varying from unwanted touch to rape.

Statistically, bi+ people also experience depression more often than other people, and bisexual women attempt suicide more often than people with other orientations.

With the campaign 'Ik ben bi+zonder' (I am extraorbi+nary), a collaboration between the young creators of The Rainbow Academy, The NJR, and Bi+Nederland, they want to share bi+ stories to show off their colourful and pluriform community, and ask for acceptance within society. Their stories will travel throughout the Netherlands in 2022.

The first location of the exhibition opens on Bi Visibility Day, the 23rd of September, in Amsterdam. On the 7th of October the exhibition will move to Goes, on the 21st of October it will move again to Utrecht, and from the 4th of November to the 18th of November it can be found on the Garenmarkt in Leiden.

If you want to know more, follow [this link!](#)

[Month of Tutankhamun | Leiden2022](#)

- **Quantum Symposium**

Date: 24 November 2022

Description: The discovery of quantum mechanics changed the world. On the 24th of November you can learn all about it at the Stadsbouwhuis in Leiden. How does quantum mechanics impact you?

Quantum and society: how the second quantum revolution is impacting you

The device you are using to view this webpage is built using insights gained from quantum mechanics. From the 1920's on, humans are able to describe quantum mechanical systems. The behaviour of collections of particles can be predicted. This quantum revolution gave rise to LED lights, lasers, the transistor, atom clocks and more; these are the technologies that the internet, computers and global navigation systems are based on. Now, humans are able to control single particles. This opens the door to many new technologies, such as quantum computing and quantum sensing. The second quantum revolution - we bend single particles to our will - will have great applications for society.

Is quantum computing actually going to break encryption, cure cancer and revolutionize material science? Where does the money for research come from? Who will reap the benefits of this research? Will the technology go to the highest bidder, or to the greatest good? Come ponder these questions with us on the discussion evening about quantum and society.

The intended audience consists of anyone who is interested in quantum. You don't have to be an expert on quantum technologies to contribute to the discussion; we will pick topics that are not technical and have no clear answer.

There will not be a panel, because everyone should be on equal footing. Rest assured, there will be experts of the field in the audience of participants. So if you do have a background in quantum, we also very much want you to participate. Come ask some thought provoking questions!

[Quantum Symposium | Leiden2022](#)

- **Wat, Water, ik? / What, water, me?**

Date: 28 November 2022

Organized by: New European Bauhaus Leiden2022

Description: What is water to you? Will we soon go from rain to drizzle? Have your say on the future of water in the Leiden region during the fourth edition of the Plekberaad.

During the Leiden Plekberaads, a diverse group comes together to work towards a more beautiful, sustainable and inclusive Leiden. At a secret location on the banks of the Rhine, we will discuss the future of our water on 28 November 2022. What? Water! Yes.

The agenda will be set by the participants together. What dreams, questions and concerns do you have about water? For instance, what do we do if the Rhine overflows its banks? Will the outskirts become spillways? Are the roads of the future the waterways and channels of today?

What is water to you? We make the future together, which is why it is important that everyone is heard. We would like to invite you to the fourth edition of the Leidse Plekberaden.

To keep the group as varied as possible, we ask people who want to participate to answer a question on the registration form. Share with us what water means to you and who knows, we might invite you to this special meeting.

[Wat? Water? Ik? | Leiden2022](#)

- **CLIMATE GAME NIGHT - IFMSA-NL X LCOS**

Date: 01 December 2022

Description: "Climate change is the biggest threat to global health of the 21st century" - The Lancet (2009), but in which ways are climate and health connected? Which people are most affected by this?

What role can we ourselves play to prevent the worst impacts? To find out, join us at the **Climate Game Night!** During this evening, organised by IFMSA-NL and Leiden City of Science, we will learn together about the theme Climate Change & Health through a **new and interactive game**, based on the succesful workshop The Climate Fresk.

Want to be there? Please let us know [via this link!](#)

When: Thursday 1 December 2022, 19.00

Where: Stasbauhaus, Langegracht 72, Leiden

Bonus: **free entrance, food & drinks**

For questions or more information, contact: act4health@ifmsa.nl

[Climate Game Night - IFMSA-NL x LCOS | Leiden2022](#)

8. Exhibitions and expositions in museums

Concept

Year of Events Activities are characterized by being part of the Leiden European City of Science 2022 year but not part of the Knowledge throughout the Neighbourhoods project. Several museums in Leiden organized activities during the European City of Science year that were meant to bring the public closer to science.

Some of the exhibitions were designed to intertwine with one the 365-day topics or event weeks (e.g. Spaceweek) of the year.

In this section all museum exhibitions that were part of the Leiden2022 Year of Events will be mentioned.

The Museums of Leiden

Museum Volkenkunde

Museum Volkenkunde, together with the Afrika Museum and Tropenmuseum, is part of the Nationaal Museum van Wereldculturen (NMVW, National Museum of World Cultures) since 2014. The Wereldmuseum in Rotterdam became a partner of the NMVW in May 2017 and shares both the collection and mission of the NMVW.

Address: Steenstraat 1, 2312 BS Leiden

Rijksmuseum van Oudheden

The Dutch National Museum of Antiquities brings archaeology and the ancient world to life. At the museum, everyone can explore the age-old civilisations of Egypt, the Classical World, the ancient Near East, and the Netherlands in prehistoric, Roman, and medieval times. In 2018 the museum celebrated its 200th anniversary.

Collection

The Dutch National Museum of Antiquities has some 180,000 objects in its collection, divided into four areas:

1. Egypt and Nubia
2. Classical Antiquity (Greeks, Romans, and Etruscans)
3. The Ancient Near East
4. The Netherlands (prehistory, the Roman period, and the Middle Ages)

Address: Rapenburg 28, 2311 EW Leiden

Rijksmuseum Boerhaave

Rijksmuseum Boerhaave is a science museum in the Dutch city of Leiden. The museum is named after Herman Boerhaave (1668-1738), a Dutch physician, anatomist, botanist, chemist and researcher.

The name of the museum was Museum Boerhaave from 1976 to 2016, Rijksmuseum voor de Geschiedenis der Natuurwetenschappelijk from 1947 to 1976, and it was founded in 1931 as Nederlandsch Historisch Natuurwetenschappelijk Museum.

Address: Lange St. Agnietenstraat 10, 2312 WC Leiden

Museum de Lakenhal

Museum De Lakenhal makes visual arts, applied art and Leiden's history accessible for as many people as possible, to inspire them and to contribute to their personal development.

Museum De Lakenhal is a classical, elegant museum from 1874 well on the way to becoming a contemporary, adventurous museum of the 21st century. Museum De Lakenhal has a long history, an outstanding collection and a motivated and competent staff. The museum stands out with the adventurous, scientific and visual quality of its exhibitions and collection presentations.

Adress: Oude Singel 32, 2312 RA Leiden.

Naturalis Biodiversity Center

Naturalis Biodiversity Center is a research institute and natural history museum in the South Holland city of Leiden. Naturalis, the Dutch Centre for Biodiversity was formed from a merger between the Zoological Museum Amsterdam, the National Herbarium Netherlands and Naturalis Natural History Museum

Adress: Darwinweg 2, 2333 CR Leiden

Japanmuseum SieboldHuis

To further express the long and historically unique ties between the Netherlands and Japan, in 1999 the SieboldHuis Foundation was established. The aim of this foundation was to reopen the SieboldHuis as a museum to house the collection that Siebold himself had once exhibited here. Franz Philipp von Siebold (1796-1866) lived in this house and displayed his collection of Japanese objects and artefacts to a captivated public. Today, after more than 150 years, his former residence is now the first official Japan centre in the Netherlands.

The return of the SieboldHuis in 2005 was generously supported by the Japanese and Dutch Governments, corporate commitment from both countries as well as the JCC (Japanese Chamber of Commerce and Industry) and the city of Leiden.

The Leiden Volkenkunde Museum (National Museum of Ethnology) and Naturalis (the National Museum of Natural History) both participate(d) in the realization and conservation of the SieboldHuis museum on the basis of their leading Japanese collections. The 19th century Japanese objects in these two museums are unique.

Leiden University cooperates closely with the SieboldHuis and has strong ties with Japan. The university has a Japanese language and culture department and in addition houses important Japanese collections at several academic institutions. The majority of these collections were originally brought to Leiden by Siebold or were compiled by him later.

The ethnographic objects in Japan Museum SieboldHuis all come from the National Museum for Ethnology in Leiden. The collection from this museum has been digitalized and is on its website.

The Flora and Fauna objects are from the Naturalis Biodiversity Center. This (national) collection has grown to over 40 million objects and forms the basis for worldwide research on biodiversity and geology. The Naturalis collection is one of the top 5 natural history collections in the world. This collection is also available online.

Adress: Rapenburg 19, 2311 GE Leiden

Oude Sterrewacht

The Old Observatory of Leiden is the oldest surviving university observatory in the world. While students of Leiden University receive lectures in the main part of the building, the visitor center in the basement and the telescopes on the building serve the general public. Here you will find information about visits to the Old Observatory's visitor center and the telescopes and its history, tours, events and societies.

Adress: Sterrenwachtlaan 11, 2311 GP Leiden

Exhibitions

- **Onder onze Hemel – Under our Sky**

From: 1st January 2022 – 15th May 2022

Museum: Oude Sterrewacht – Old Observatory

Description: Exhibition at the Old Observatory shows the night sky from a different perspective. With a cultural look at the night sky by Aboriginal Australian and South African artists.

From 16 October, the special exhibition 'Under our sky' can be visited at the Old Observatory in Leiden. Taking a cultural look at the night sky by Aboriginal Australian and South African artists, the exhibition features colourful artworks that explore how these indigenous cultures gave meaning to the appearance and position of familiar patterns in the sky.

- **Through the Looking Glass**

From: 01 January – 18 January

Museum: Het Energiepark

Description: Light in these dark days! An exhibition with light images that move, amaze and connect. Join us all month long for the exhibition 'Through the looking glass'. An exhibition for the dark days, for everyone. With light and video projections that move, amaze and connect.

The exhibition highlights the Energy Park in a special way. The Energiepark goes from Papegaaibolwerk 18 and 20, Langegracht 70A, Portiersloge Ambachtsplein near 70D and Maresingel off Twin Street. The exhibition is free of charge. Signs at the artworks will be in Dutch.

More information? Visit <https://est-art-foundation.org> or <https://est-art-foundation.org/09-through-the-looking-glass.php>

- **Besmet! – Infected!**

From: 2 January – 7 August 2022

Museum: Boerhaave

Description: Infected! shows an intriguing balance between health and real risk and between social exclusion and empathy. How did we deal with epidemics such as plague and smallpox in the past? What insights do historical epidemics offer for the future? And what solutions does science offer? With the exhibition and a stimulating fringe programme, a podcast and educational programmes, the museum aims to help the widest possible audience discover the importance of science for life today.

- **Shared Sky: Canvases of the Universe**

From: 2 January – 15 May 2022

Museum: Oude Sterrewacht – Old Observatory

Description: Met culturele blik kijken de Aboriginal Australische en Zuid-Afrikaanse kunstenaars omhoog en zien ze de sterrenhemel die zij delen, hun traditionele thuislanden overspannend. In de bijzondere expositie *shared sky* verkennen kleurrijke kunstwerken hoe deze inheemse culturen betekenis gaven aan de verschijning en positie van bekende patronen aan de hemel.

Aboriginal-kunstenaars uit het middenwesten van West-Australië en Afrikaanse kunstenaars van de San en afkomstig uit de centrale Karoo-regio in Zuid-Afrika hebben kunstwerken gecreëerd in het licht van de voorouderlijke verhalen over de nachtelijke hemel. De kunstwerken verkennen het ontstaan van mythen en verhalen en tonen een diepgaand begrip van de hemelmechanica.

Duizenden jaren lang zijn ze in beide culturen zorgvuldig doorgegeven van de ene generatie op de andere. Nu worden ze met de bezoeker gedeeld door citaten van de kunstenaars die bij elk schilderij te vinden zijn.

's Werelds grootste radiotelescoop

Het SKA Observatorium is een wereldwijde samenwerking om de nieuwste, meest geavanceerde radiotelescopen te bouwen en bedienen, om ons begrip van het universum uit te breiden. Met het hoofdkwartier in het Verenigd Koninkrijk zullen de twee reeksen telescopen in West-Australië en Zuid-Afrika gebouwd worden en uitgroeien tot de meest geavanceerde netwerken van radiotelescopen op aarde. Samen met andere moderne onderzoeksfaciliteiten zullen SKAO's telescopen de grenzen van de wetenschap verkennen en ons begrip van de belangrijkste processen verdiepen, zoals de vorming en ontwikkeling van sterrenstelsels en de oorsprong van leven. Eerder dit jaar werd het startschot gegeven voor de bouw van de SKA telescopen. Nederland is een van de grondleggers van deze telescoop en ASTRON leidt de Nederlandse bijdrage aan de bouw ervan. In de tentoonstelling is te zien welke bijdrage Nederland precies levert en is een van de telescoopantennes zoals die in West-Australië gebouwd zullen worden te bezichtigen.

Onder onze hemel

Onder onze hemel (Shared Sky) is ontwikkeld in samenwerking met Yamaji Art Centre, Geraldton, West-Australië en het First People Centre in het Bethesda Arts Centre in Zuid-Afrika. Onder onze hemel wordt gepresenteerd door het internationale SKA Observatory (SKAO), het South African Radio Astronomy Observatory (SARAO), het Australische Department of Industry, Science, Energy and Resources (DISER), in samenwerking met Curtin University's Institute of Radio Astronomy en de John Curtin Gallery. De Nederlandse editie van de tentoonstelling Shared Sky is een coproductie van de Sterrewacht Leiden en ASTRON, het Nederlands instituut voor radioastronomie.

- Misleiden – Fakes uit de Kunst en Wetenschap / Misleading - Fakes from Art and Science

From: 2 January – 12 June 2022

Museum: De Lakenhal

Description: Real or fake? That question is at the heart of Misleiden - Fakes from art and science. Walk offline and online past more than twenty objects from nine Leiden collections that put you on the wrong track. Do you dare to believe your eyes?

Every museum has fakes, mix-ups or misjudged objects. From various Leiden collections, over twenty objects with the most extraordinary stories are on display during the exhibition Misleiden - Fakes from art and science in Museum De Lakenhal. Offline, you can watch via Things That Talk.

What motivates forgers to do what they do? And if an object is indistinguishable from the real thing, is it not a work of art in itself? These questions are at the heart of the Misleiden exhibition, through which Leiden institutions offer a glimpse into the work of researchers and curators. For instance, the exhibition features a stingray disguised as a dragon, a forged relief tile and a very cleverly copied eye.

With works from the collections of Museum De Lakenhal, Rijksmuseum van Oudheden, Rijksmuseum Boerhaave, Naturalis, Museum Volkenkunde, Japanmuseum SieboldHuis, University Libraries Leiden, Erfgoed Leiden and the Netherlands Institute for the Near East (NINO).

- First Americans

From: 2 January – 28 August 2022

Museum: Museum Volkenkunde

Description: An exhibition focusing on the experiences, resilience and creativity of the indigenous people of North America. A mix of contemporary art, photography, fashion by indigenous artists and the historical museum collection.

From the arrival of European settlers, the language, art, lifestyles and religion of indigenous communities were under pressure. Thanks to their resilience and creativity, indigenous communities are still thriving. As many as 60 objects are displayed -through various themes- in First Americans. Themes in the exhibition are history, resilience and the future of the community with an emphasis on their own interpretation. The exhibition consists of a mix of contemporary art, photography, fashion by indigenous artists and the historical museum collection, including clothing, drawings, weapons, jewellery, ceramics, photography and utensils.

- **Sōsaku Hanga: creatieve prentkunst uit Japan / - Sōsaku Hanga: creative printmaking from Japan**

From: 2 January – 29 May 2022

Museum: Japanmuseum SieboldHuis

Description: In 'Sōsaku hanga. Creative printmaking from Japan' with some one hundred and fifty works from the sōsaku hanga movement shows the development of 'creative printmaking' in Japan. For the first time in Europe, an exhibition dedicated to this movement focuses on the creative autonomy of Japanese printmakers. The creative prints have surprising lines and show well-known and lesser-known Japanese themes and everyday subjects. Like Nakagawa Isaku's work where a young woman sits on the edge of a pool table with a cue at the ready, or Kamei Tōbei's print showing a lady in kimono cutting her toenails. Traditional Japanese print themes such as landscapes and beauties are also on display. This time, the iconic Mount Fuji with its snowy summit is modern and stylistically depicted in Kawabata Ryushi's print.

- **Pracht en Precisie / Splendour and Precision**

From: 2 January – 4 September 2022

Museum: Rijksmuseum van Oudheden

Description: Splendour and precision brings together the most beautiful and extraordinary 'carved stones' from the collection of the National Museum of Antiquities. With more than a hundred examples of these colourful and often precious little gems with engraved representations. They come from the ancient Near East, Egypt and classical antiquity. Often they are no bigger than a fingertip. On the stones are depictions of gods, animals, symbols, emperors and magic spells. Splendour and precision is an exhibition about the Rijksmuseum of Antiquities' rich collection of carved stones. It consists of some 6,300 cameos', intaglios, cylinder seals, stamp seals and seal prints. It is the Netherlands' largest collection in this field. Some stones are thousands of years old, while others were made only in the 17th century. After the Money Museum closed in 2013, some 4,300 pieces were transferred to the Rijksmuseum of Antiquities by the Ministry of Education, Culture and Science. The other part of the collection has been assembled by the museum itself since its establishment in 1818. This edition of Splendour and Precision is partly a repeat of a 2015 exhibition. New to the current exhibition are some extraordinary gems from a recent donation and some fine cameos from a private collection.

Stephen Sack

American contemporary photographer-artist Stephen Sack made a series of 16 photographs of gems from the collection. Sack was inspired by the multitude of colours and representations. The photographs adorn the walls of the exhibition hall.

- **Asteken / Aztec**

From: 2 January – 27 March 2022

Museum: Museum Volkenkunde

Description: The Aztecs: one of the iconic civilisations in world history. Exactly 500 years ago, the great Aztec empire came to an end by a handful of Spaniards and their indigenous allies. That is the reason for this major exhibition.

What do we know about this ancient culture and how do we get this knowledge? Impressive objects such as stone sculptures, refined jewellery and drawings from codices, enlivened with extraordinary stories and current insights: these are the ingredients of this exhibition. Moreover, this is an international cooperation project with leading archaeologists from Mexico and the Museo Nacional de Antropología in Mexico City. Unique because of the international loans and masterpieces, some of which can be admired outside Mexico for the first time. The expo takes you from the fringes of the Aztec empire ever closer to the interior and supreme sanctity of the Aztec capital: the sacred precinct and the Templo Mayor, the most important Aztec pyramid.

- **Indonesische bronzen / Indonesian bronzes**

From: 2 January – 28 August 2022

Museum: Museum Volkenkunde

Description: What can 200 small seemingly inconspicuous old bronze figurines teach us about Indonesia's history? A lot! The figurines, made between the 8th and 15th centuries, were found on metal-poor Java and are not originally from there.

With the small figurines of Hindu and Buddhist gods and ritual objects, from its own depot, Museum Volkenkunde sheds new light on the relationship between Indonesia and India. This is because the bronzes, made between the 8th and 15th centuries, were found on metal-poor Java and did not originally come from there.

Art historical research shows that some figurines probably came from India; a mirror from the exhibition from China. Through recent research on shipwrecks in the Java Sea, we know that metal bars were imported. The bronzes are a treasure trove of information on artistic developments, ritual meanings, material use, trade relations, economic developments and the colonial past.

Java was a centre of Hinduism and Buddhism between the 8th and 15th centuries. From the fifth century, Indian culture had great appeal in parts of Indonesia. Local rulers learned Sanskrit, India's elite language, and founded Hindu and Buddhist kingdoms. In Java, a flourishing culture emerged between the seventh and 15th centuries, leaving behind grand monuments such as the Buddhist Borobudur and the Hindu temple of Prambanan. Cultural connection and exchange of knowledge and trade contacts were commonplace in this area long ago.

With this exhibition, Museum Volkenkunde is exposing a piece of the special relationship between India and Indonesia. A cultural exchange with a rich history, of which far from all is clear.

- **Retourtje Verleden / Return to the past**

From: 2 January – 9 January 2022

Museum: Rijksmuseum van Oudheden

Description: Retourtje verleden takes you on a journey straight through the history of the Netherlands. The exhibition shows how archaeology and railways have been linked for over 180 years: from the excavation of prehistoric objects along the Betuweroute to the discovery of medieval masterpieces in Delft's city canals.

- **If Things Grow Wrong**

From: 2 January – 20 March 2022

Museum: Museum de Lakenhal

Description: We want faster, bigger, more. Is that always better, or do problems grow this way unnoticed? From minor stress about not enough storage space on your phone to global pollution... If things grow wrong, growing pains ensue,

We want faster, bigger, more. Is that always better, or do problems grow that way unnoticed? From minor stress about not enough storage space on your phone to global pollution... If things grow wrong, then growing pains of all shapes and sizes arise. This addiction to growth is the reason for a new exhibition at Museum De Lakenhal.

The exhibition stems from an open call, to which nearly 500 entries were received. The jury consists of Eva Rovers, Raki Ap, Liesbeth Staats and Wytse Visser. They selected 15 makers who will elaborate their solution for the exhibition.

- **Droomreis / Dream trip**

From: 2 January – 9 January 2022

Museum: Museum Volkenkunde

Description: What trip are you dreaming of? Where will that trip go? And what does it look like there? And who are you going there with? A trip to Cockaigne, ancient Greece or the Alps: anything is possible in the imagination of the young embroidery artists.

- **God op Aarde: Keizer Domitianus / God on Earth: Emperor Domitian**

From: 2 January – 22 May 2022

Museum: Rijksmuseum van Oudheden

Description: The exhibition God on Earth - Emperor Domitian explores the forgotten Roman emperor Domitian. Portraits, mosaics and luxury jewellery bring to life the imperial family's heyday. But daily life in Domitian's time is also brought into the imagination, with shoes of his soldiers and spectacular 3D reconstructions of Rome in the first century AD.

- **Het werk van een archeoloog / The work of an archaeologist**

From: 2 January – 30 April

Museum: Rijksmuseum van Oudheden

Description: What do chocolate, bitumen and milk have to do with each other? The archaeologist's work shows that this need not be a crazy question for a pottery specialist. Pottery is found in large quantities during excavations. A mini-exhibition.

In this mini-exhibition at the permanent exhibition The Dutch and the Ancient Near East, you can see how this is done, and above all, what this can yield in terms of knowledge about life in antiquity. The life and work of pottery specialist Olivier Nieuwenhuys (1966-2020) is at the centre of this. Specialists like him pay close attention to describing and categorising pottery during excavations.

This small exhibition is the first in a series on different specialisms within archaeology. Moreover, it is an ode to archaeologist Dr Olivier Nieuwenhuys (1966-2020), who died too soon and on whose work this story is based. Nieuwenhuys's work focused on the Ceramic Neolithic (7000-5300 BC), an often overlooked period, which follows after the first villages appear in the Middle East and agriculture emerges.

- **Open Atelier: van pulp tot papier / Open workshop: from pulp to paper**

From: 2 January – 20 February

Museum: de Lakenhal

Description: The history of paper as we know it today begins around 2,000 years ago in China. Via Arabs and Spaniards, the art of making paper came to the Netherlands. And now, in the Open Atelier, you can create your own paper! With a scoop comb and pulp from paper scraps, you make beautiful new sheets, which you can do all kinds of things with. Add flower seeds, for example, so that in a while beautiful things will grow from your own creations. Talk about If Things Grow RIGHT... And once you

have mastered the art of paper shovelling, you can easily get to work at home too, making the most beautiful things from the waste paper bin.

The Open Studio is especially for families, but suitable for anyone from 6 to 96. A professional workshop teacher will be present all afternoon to help you make and guide you to your own style. Drop in and dazzle yourself with your creative talent!

- **Spelen met wiskunde/ Playing with maths**

From: 14 February – 31 December 2022

Museum: Boerhaave

Description: Maths really is everywhere. Make your own whirlpool and build your own bridge. Discover what sound looks like and play with perspective like an artist. Come to the hands-on exhibition at Rijksmuseum Boerhaave!

What do photo models, Formula 1 drivers and musicians have in common? Mathematics!

Just before the opening, Leiden professor and mathematician Ionica Smeets visited the exhibition and did all the interactive games and experiments that are part of it. As far as she is concerned, Playing with Mathematics has passed the test and is ready for visitors. And those who think mathematics is only about complicated sums are wrong. After all, maths is everywhere and also a lot of fun.

Ionica's favourite? "The marble track with the probability calculation about the square where the marble ends up. The museum has made an improved version. They are perfectionists at Rijksmuseum Boerhaave."

- **Hanami 2022: Beleef het mee! / Hanami 2022: Experience it with us**

From: 1 March – 8 May 2022

Museum: Volkenkunde

Description: It is springtime! Nature is coming alive and also in the museum garden of Museum Volkenkunde Hanami stands for 'looking at blossoms' and specifically those of the Japanese cherry. In the museum garden of Museum Volkenkunde, you will find them too, a gift from Japan.

Anyone can visit the museum garden for the impressive sight offered by the flowering cherry trees. Weather, wind and temperature all determine the pace at which the bare trees turn into pink clouds. A favourite subject for lots of selfies every year. While you're at it: take a nice photo and submit it for the photo competition that is being organised! It can go fast because before you know it, the blossoms on the trees will turn into a pink carpet.

An outdoor exhibition in the museum garden this year features stunning images of Japanese prints, paintings and objects from the museum collection all to do with hanami.

In the museum café, you can visit the second part of the expo for free. The QR codes you find there will lead you to interesting background information. At Café ABEL, you can also grab a change of clothes with a picnic package.

Also worthwhile is the online lunch lecture on 10 March by curator Daan Kok and ikebana(Japanese floral art) specialist Noriki van Lit-Suzuki.

- **Technophilia**

From: 17 March – 29 June 2022

Museum: Gallery of LUMC Building 1

Description: What will our future look like when man uses technology to put everything at his service to live the most efficient and functional life possible? Technophilia shows the influence of advancing technology on humans and animals.

Margriet van Breevoort became internationally known with Homunculus Loxodontus when the sculpture was noticed at LUMC in 2016. The sculpture depicts a creature midway between a sea elephant and giant larva, patiently sitting on a bench. Its unsuspecting look and helpless appearance give it something very endearing. In this exhibition, Galerie LUMC puts Homunculus Loxodontus in context with new work and with a related relative: The Waiting, which Van Breevoort made in recent years.

Inspired by the anthropocene, an era in which nature has become increasingly subordinate and must adapt to humans, Margriet van Breevoort sketches new surreal and humorous images of the future in this exhibition. To do so, she draws on science and science fiction stories that give her freedom and encourage her to visualise a new future. For instance, she designed a pet formed into a square, functional pocket size: Tamagotchi #1 and #2. In which she asks the question: how far does our urge to adapt everything around us to our desires go?

The exhibition is free to visit.

- **Lifeless stars drifting above**

From: 04 May – 17 August

Location: Hooglandse Kerk

Description: This exhibition invokes different guises of darkness. She is usually elusive, but sometimes she is material, then it is as if we are able to catch her and hold her in our hands for a moment

Snake stars, stargazing, gunpowder trails, dark diseases and night bloomers the new edition of the annual exhibition Images in Leiden on Hooglandse Kerkgracht brings within the theme of Darkness new work by young artists Lisa van Casand, Robert Glas, Marit Westerhuis, Leandros Ntolas and Clémence Hilaire. New for this edition is the collaboration the Hooglandse Kamer where an indoor presentation will be provided. In a special lecture programme, artists and scientists will engage in public discussions, zooming in on the theme and the works on display from the fields of art, astronomy, ethics, theology, law, oceanography, biology, etc. New work by BiL artists Josua Wechsler and Lisa Sebestikova is on display at Rhijnhof Cemetery thanks to the support of two new patrons Ernst Bos and Kees Cools. Read more below.

The exhibition I feel the bleached bones of lifeless stars drifting above for this edition of Beelden in Leiden focuses on darkness, as a symbol and also as matter, and reaching from high in the sky to deep below the surface of the earth or skin. It takes as its starting point that darkness possesses competences that remain unseen in our Enlightenment-based societies. And that is at best. More often, darkness-and its related concepts such as opacity and blackness-are associated with obscurantism, barbarism, and decline. On several occasions in history, this has led to the subjugation or even destruction of the eras, beliefs, cultures and geographical locations that were labelled as such.

Participating artists Clémence Lollia Hilaire, Leandros Ntolas, Lisa van Casand, Marit Westerhuis and Robert Glas undermine the dominant, downright hostile attitude towards darkness by suggesting that it possesses hitherto underexposed qualities. Their work shows that it is sometimes even capable of unthinkable actions. For instance, it can provide a breeding ground for new life or maintain already existing ecosystems, and it also has the ability to generate freedom, offer protection and trigger resistance.

Developments in astronomy, and several other scientific disciplines, are central to I feel the bleached bones of lifeless stars drifting above. Not only because they make us realise that alternative viewpoints are possible, but also because thanks to astronomical -as well as botanical, historical, geological and philosophical- research, the realisation is dawning that alternative viewpoints are desirable in a literally and figuratively enlightened world that invariably suppresses the dark and the black. In recent decades,

for instance, astronomers have proved that darkness underlies our existence. Their calculations show that 85% of our universe is formed by black matter: this imperceptible, unlit substance plays a leading role in the formation and holding together of galaxies.

How can such findings in science contribute to alternative considerations of darkness? In what ways can artists depict cosmic developments and thus play a role in providing a more heterogeneous and complex perspective on darkness? Questions like these are raised through the various artworks on show for this edition of Images in Leiden.

[Lifeless stars drifting above | Leiden2022](#)

- **Born free – Mandela's Generation of Hope**

From: 12 May – 31 July 2022

Organized by: the African Studies Centre Leiden

Description : In 1994, South Africa held its first inclusive elections. These ended decades of white minority rule: a new constitution gave equal rights to all South Africans. As the first black president, Nelson Mandela focused on reconciliation and hope for the future. It was up to young generation to make his dream of a rainbow nation come true.

While working in South Africa, photojournalist Ilvy Njikiktjien became intrigued by these born-frees, born after the end of apartheid. She portrays them in her own personal and sometimes intimate style. "There is equality on paper now, but many still experience the effects of apartheid," she says.

The exhibition opening consists of a short documentary based on the photo series, an introduction by Prof Jan-Bart Gewald and a guided tour by Ilvy.

The African Studies Centre Leiden (ASCL) is the only multidisciplinary knowledge institute in the Netherlands dedicated entirely to the study of Africa. It has a research library open to the general public. The ASCL is an interfaculty institute of Leiden University.

- **Imaginary : de pracht & kracht van wiskunde / Imaginary: the splendour & power of mathematics**

From: 02 June – 25 July 2022

Museum: Old Leiden University Library

Description: Mathematics is not only a powerful tool, mathematics can also be very beautiful. This is what the IMAGINARY exhibition aims to show in the Netherlands and Flanders over the next two years.

From 2 June, the exhibition will be on show in Leiden, seize the opportunity and come along!

The venue will host free guided tours for school classes and other interested parties. The exhibition includes numerous top-quality posters, a series of 3D objects, puzzle set-ups and several interactive apps that visitors can engage with via large touchscreens.

The new exhibition in the Netherlands is organised by Platform Wiskunde Nederland in collaboration with Dutch universities and supported by partner organisations. The exhibition runs simultaneously in Flanders, where Platform Mathematics Flanders is the driving force.

The exhibition in Leiden can be visited from 2 June at the Old University Library, Rapenburg 70. The exhibition runs there until 25 July.

[IMAGINARY: De pracht & kracht van wiskunde | Leiden2022](#)

- **Shin Hanga**

From: 17 June – 11 September 2022

Museum: Japanmuseum Sieboldhuis

Description: Japanmuseum SieboldHuis shows the new prints of Japan in 'Shin hanga'. This exhibition presents a major overview of 20th-century printmaking with masterpieces from private collections. Shin hanga (new prints) can be seen as the 'rediscovery' of traditional printmaking, but with a new language of form. The over one hundred and thirty works are characterised by great technical perfection and exceptional quality.

Woodblock prints have been made in Japan since the 17th century. The aesthetically and qualitatively extraordinary prints in this exhibition are the result of the successful collaboration between the artist, publisher, block cutter and printer. The shin hanga artists and publishers were aware of the rich past of Japanese printmaking. They developed the print into a luxurious work of art, respecting tradition.

Atmospheric landscapes, breathtaking beauties, modern Japanese women, characteristic kabuki actors and detailed birds and flowers are shown. Major shin hanga artists such as Kawase Hasui, Takahashi Shotei, Torii Kotondo, Hashiguchi Goyō, Itō Shinsui and Ohara Koson are represented in this exhibition.

Who knows: Japanmuseum SieboldHuis is an independent foundation (Stichting Japanmuseum SieboldHuis), established in 1999 to express the special and long relationship between Japan and the Netherlands. The museum opened its doors in 2005. Besides temporary exhibitions with a variety of Japan-related subjects, the SieboldHuis offers the finest from old and new Japan with its permanent Siebold collection.

[Shin Hanga | Leiden2022](#)

- **Books that made history**

From: 22 June – 04 September 2022

Museum: Rijksmuseum van Oudheden Leiden

Description: The exhibition 'Books that made history' focuses on 25 remarkable books and their authors. The central theme is their strong connection with the academic history of the city of Leiden, from the founding of the university in 1575 to the present day. The influence of these books extends well beyond the city, however – and indeed continues to place its stamp on our thinking today. From Galileo Galilei to Albert Einstein, and from Anna Maria van Schurman to Anton de Kom: these authors, books and visions that still fill us with wonder. Contemporary experts and 'ambassadors' - some well know, others less so - breath new life into the books with their knowledge, anecdotes, and personal reflections. These are presented in the exhibition. The exhibition looks at 25 works from the perspective of the times in which they were wirtten, including the rise of universities and libraries, the role of printing presses, and the place of women and people of colour in this history.

Visitors are invited to vote for their favourite book and to suggest other titles that they believe merit inclusion in this list of 25.

- **More-than-Planet**

From: 02 July – 23 December 2022

Museum: Old Observatory

Description: Starting on the 2nd of July, you can view a new exhibition at the Leiden Observatory: More-than-Planet. How do we imagine our planet?

Discover the different answers to this question via a unique perspective during More-than-Planet. With artworks by 5 prominent international artists, we'll look at the balance between humans and their environment, technology and humanity, and satellites and planet Earth.

Starting on the 2nd of July, Leiden Observatory's visitor's centre will be open to the public during the following times:

Closed on Monday

Tuesday - Friday 13:00-17:00

Saturday & Sunday 11:00-17:00

Who knows

More-than-Planet is produced by the Waag Society and Leiden Observatory. The More-than-Planet exhibition is a part of the Leiden 2022: European City of Science program.

[More-than-Planet | Leiden2022](#)

- **Artscience: forms of symbiosis**

Date: 14 July – 21 August

Organized by: Gallery Leiden University Medical Center

Description: Galerie LUMC presents the exhibition ArtScience; forms of symbiosis from 14 July to 21 August. Guest curator Anastasia Loginova curated the exhibition from work by students and alumni of the ArtScience Interfaculty

The virtual exhibition Subcutaneous, created by students of the Honours class Looking is the (medicine) art, is also part of this exhibition.

With interactive installations, videos and performances, seven multidisciplinary artists explore the relationship between matter and the experience of the senses. These relationships, whether driven by curiosity, out of necessity or a deep desire, or for the sake of experimentation, are not always beneficial for both parties involved, but encourage relational thinking about their experience with themselves, with the other and with the outside world. It is through our engagement with 'the other' that we are able to fully experience the world we live in.

Forms of Symbiosis: Artist Bjarte Wildeman shows a performance inspired by the movement of the human body, the physical experience and change of the body through bio hacking (optimising the body through technology or experimenting with the body).

With the artwork Sensing Willow, Farah Rahman explores how a forest can be felt and experienced. Þórður Hans creates new possibilities of symbiosis with his installation and Jesus Canuto Iglesias creates sensory installations through which he wants to question the visitor's experience. He designed a bench that produces musical compositions based on physical contact that permeate the body.

Looking is the (medicine) art

This exhibition also features the unique virtual exhibition 'Subcutaneous'. An exhibition on empathy created by students of the Honoursclass Looking is the (healing) art. Leiden University's Honoursclass, in collaboration with LUMC, offers an education programme in which students learn to look more closely and broadly and develop their empathy skills through visual art.

The exhibition was developed on the occasion of Leiden European City of Science 2022.

The artists: Amos Peled, Jesus Canuto Iglesias, Þórður Hans Baldursson, Jacob Wallett, Valentin Kellein, Bjarte Wildeman, Farah Rahman.

- **Exhibition: Silk Road Cities**

From: 03 August – 23 September 2022

Museum: The Old University Library

Description: Some of the most unexpected cultural fusions have taken place alongside the Silk Road. The Silk Road, a term thought up by German geologist Baron Ferdinand von Richthofen in 1877, has intrigued scientists in the last few years. The artistic vivacity of the empires stretching from China to Byzantium is mirrored in their cultural production. Their artistic prowess, combined with their immaculate decorum, was the result of constant exchanges between and fusions of traditions.

This exhibition will show Islamic architectural monuments (mosks, madrasas, mausoleums) in the most important cities alongside the Silk Road. Special attention will be given to Herat (Afghanistan), Mashhad and Sultaniyya (Iran), Turkestan (Kazachstan), Marv and Anau (Turkmenistan), Samarqand, Bukhara and Shahr-i Sabz (Oezbekistan).

The exhibition is open to the public from the 3rd of August 2022 to the 23rd of September 2022. It can be viewed between 7:30 and 18:00 during all week-days.

The exhibition is closed during the weekends.

[Exhibition: Silk Road Cities | Leiden2022](#)

- **The Art of Theoretical Biology**

From 10 – 23 August 2022

Description: When mathematics and biology come together, something amazing happens.

Biology and mathematics can benefit a lot from each other. From modelling the development of organisms to predicting the future of ecosystems. This is not only interesting and enlightening, often it also produces very beautiful images.

In The Art of Theoretical Biology, 25 of these images are on display. Scattered through Leiden you will find beautiful images of, for example, blood vessel networks and the waves that make our hearts beat.

The exhibition can be seen from August 10 to August 23 on various billboards in Leiden.

[The Art of Theoretical Biology | Leiden2022](#)

- **Exhibition: Moving perspective**

From: 03 September – 08 October

Location: EST Art Foundation

Description: EST presents the exhibition Moving Perspective

The exhibition is partly based on the 2007 exhibition The Optical Edge at Patt Manhattan. It is an international art in the neighbourhood in collaboration with Leiden2022. It features work by the following artists: Linda Arts (nl), Edgar Diehl (de), Iemke Van Dijk (nl), Gabrielle Evertz (vs), Gilbert Hsiao (vs), Mark van Overeem (nl), Tonneke Sengers (nl), Debora Velowa (nl).

On display will be paintings and work created especially for the space. The exhibition is part of Leiden2022's Kunst in de Wijk programme. It will tie in with programmes of Open Monumentendag and Kunstroute Leiden. Special opening hours apply on those days.

[Tentoonstelling: Moving Perspective | Leiden2022](#)

- **Exhibition: 9x9 imagined**

From: 09 September – 25 September 2022

Organised by: Ellen de Jong, Jaap de Raat, Karin van der Kooy, Saskia de Zee and Welmoed Schmidt

Description: $3 \times 3 = 9$

$9 \times 9 = 81$

Simple calculations with many different meanings.

What can be found in the world of calculations depends on the viewer. For example, a mathematician will see a magic square, a chemist the 9th element Fluorine and a board game fanatic the board game Go. A Dutch scholar recognizes a palindrome in the word nine. And if there is a 9 in your date of birth, the numerologist will see a dolphin! But... how does an artist see this world of the number 9?

Five curious artists set to work and investigated how to represent the number 9 in form and content, resulting in an exciting group exhibition. It shows how you can represent the number 9 both in form by using 9 different media, 9 layers of material or simply the size 9x9 cm/inch and in content like the nine worlds in Norse mythology.

Curious too? Be welcome to watch and to be amazed! The exhibition can be seen in the Atrium of the Stadsbouwhuis, Langegracht 72 Leiden. As an opening act we will serve sandwiches for visitors on September 9 at 12.09, 9x9cm. Everyone from young to old is welcome at the exhibition! It does not matter whether you speak Dutch or not, because the exhibition is accessible regardless of which language you speak.

Take a virtual dive into the Kunstroute: [see more](#).

The exposition 9x9 imagined is on view until Sunday 25 September.

About the artists:

- **Ellen de Jong** zooms in on our everyday clothing and makes realistic drawings of it. For 9x9 she has explored new themes. Take a look at her website by clicking [here](#). On [this page](#) you will find a selection of her artwork.
- **Jaap de Raat** takes photos that he combines in collages and prints himself. He shows the atmosphere of the nine worlds from Norse mythology. Click [here](#) to go to his website and click [here](#) to see some of his works of art.
- **Karin van der Kooy** is a paper artist and researches different types of media and colours to fill in areas of 9 by 9 cm. On [this page](#) you will find more information about Karin van der Kooy's work and [here](#) you will find some of her artwork.
- **Saskia de Zee** was a costume and set designer and now upcycles second-hand fabrics into clothing. She makes patchwork art with different motifs and colours. Take a look at her website by clicking on [this link](#) or take a dive into her various works of art via this link.
- **Welmoed Schmidt** works with layers in photos and mixed media and investigates in a 9x9cm format how a connection can be created through lines and surfaces, minimal color and a variety of materials. Visit her website by clicking [here](#) or take a look at some of Welmoed Schmidt's artwork by clicking on [this link](#).

[Exhibition: 9x9 imagined | Leiden2022](#)

- **Exhibition: BrAIpower**

From: 09 September 2022 – 05 March 2023

Museum: Rijksmuseum Boerhaave

Description: From deepfakes, streaming services and dating apps to facial recognition, self-driving cars and medical applications, we can no longer ignore artificial intelligence. It is changing our lives,

just as steam engines once did at the time of the industrial revolution. The exhibition BrAlnpower shows where AI can be successfully deployed, how we are reaping its benefits, but also highlights its darker sides.

Guest curator Bas Haring is the guide in this exhibition, leading visitors past themes on free will, consistent reasoning, self-learning and: how special are we really? The various themes provide food for thought: how have computers and AI enriched our lives? And: what are its downsides? The exhibition focuses on discriminatory data: how biased are algorithms? But also on using AI to cope with post-traumatic stress disorder (PTSD) or to make a cancer diagnosis. Personal stories show how AI is everywhere and the impact it has on our lives.

The exhibition features historical, scientific and art objects, including Wunderman Thomson's Next Rembrandt, Gusz Eiben's Reprobots, healthcare robot Alice, artist Julia Janssen's project 0.0146 seconds and a deepfake of Alan Turing. BrAlnpower highlights include original letters from Alan Turing, the founder of artificial intelligence, which Rijksmuseum Boerhaave has on loan from King's College in Cambridge especially for this exhibition.

AI was used for the design of the exhibition and the design of the campaign image. For instance, the typography in the exhibition and for the campaign was generated and designed by AI.

The new exhibition BrAlnpower will be on display at Rijksmuseum Boerhaave from 9 September 2022 to 5 March 2023.

[Tentoonstelling: BrAlnpower | Leiden2022](#)

- **Exhibition: Everything under control**

From: 16 September – 15 October 2022

Organized by: TROEF

Description: TROEF is the exhibition space of the ROEM Foundation: From 16 September 2022, TROEF will host a new exhibition called "Everything Under Control".

The new exhibition consists of the work of four newly graduated artists: Sarah Fokke, Neža Kokol, Ben Maier and Bora Şekerci.

The grand opening of the exhibition will take place on Friday 16 September 2022 at 5pm

The exhibition will be on display until 15 October 2022.

In the 'Everything Under Control' TROEF exhibition, four young, newly graduated artists from different disciplines will exhibit their works. The works were selected while visiting the graduation exhibitions of different art academies (HKU, KABK and the Rietveld Academy) by curator Marissa Karl Karlas.

[Expositie: Everything Under Control | Leiden2022](#)

- **Traditie 2025 / Tradition 2050**

From: 16 September – 30 December 2022

Organized by: photographer Sanneke Fisser and videographer Sander Houwaart

Description: An audiovisual exhibition on the growth and development of the three October tradition in Leiden.

Change is always there. Everywhere. Some see it as something scary, some as a challenge. Sometimes the change catches up with reality and sometimes the change is already over without having thought about it. How bad is that? How do people deal with this continuous flow? Heraclitus (Philosopher, c 540 BC - 480 BC) described it so well in his conception of the river "On whoever steps into the same river, different water keeps flowing" In other words: you may step into the same river, but you never step into the same water.

In 'Tradition 2050', Sanneke Fisser, photographer (66) and Sander Houwaart, videographer (26), are curious about what traditions were like, what they are like and, much more importantly, how they are becoming. To answer this, they examine Leiden's 3 October tradition in this exhibition. Is there room for change/development? How do young and old go together (the water)? Plenty of questions they want to ask a select group in all age groups that celebrate the 3 October festival.

Through photography and film, you will be taken into a festive world in the Stadhuis, the living room of all Leiden residents. See life-size portraits and listen to city party sounds and interviews with those portrayed about the party. Young and old can come together here to let their curiosity run wild by searching for their own truth about then, now and the future of Leiden's 3 October tradition.

[Traditie 2050 | Leiden2022](#)

- **Wabi-sabi: Japanese aesthetics in photography and ceramics**

From: 23 September 2022 – 15 January 2023

Organised by: Japanmuseum SieboldHuis

Description: From 23 September to 15 January 2023, Japanmuseum SieboldHuis will show 'Wabi-sabi'. For the first time in Europe, an exhibition will be dedicated to this aesthetic concept in photography and ceramics.

Over a hundred works by seventeen national and international artists show the Japanese aesthetic concept of wabi-sabi, focusing on the beauty of imperfection and impermanence. Through photography and ceramics, this concept is made understandable, emphasising the splendour of imperfection. For example, a photograph of melting snow printed on handmade paper, or a simple asymmetrical tea bowl with a crack in the glaze. At a time when everything has to be prettier, faster and better, this exhibition offers the opportunity for peace and reflection and the personal experience of feeling wabi-sabi.

This exhibition is accompanied by a catalogue and a multifaceted programme of activities. More information about the exhibition, activities and tickets: www.sieboldhuis.org.

[Wabi-sabi. Japanse esthetiek in fotografie en keramiek. | Leiden2022](#)

- **Gallerie LUMC 'op weg naar het begin' / LUMC gallery 'towards the beginning'**

Organized by: LUMC

Description: Exhibition in collaboration with Prof Ewine van Dishoeck and Prof Vincent Icke: science and art around the James Webb Space Telescope.

Since 1986, the ground floor of Building 1 of LUMC has been home to a gallery that hosts new exhibitions by contemporary artists five times a year. The exhibitions are often related to a particular theme. On 1 September, 'Towards the Beginning' opens here in collaboration with Ewine van Dishoeck and Prof Dr Vincent Icke.

Opening: 1 September by Dr Mark McCaughrean, senior advisor for science at ESA/ESTEC/JWST. [Click here for more info.](#)

Lectures:

On 6 September 7pm, Prof Vincent Icke will give a lecture on the young universe in lecture room 3 at LUMC.

On 13 September 7pm, Prof Ewine van Dishoeck will speak about astronomical observations with Webb at LUMC Boerhaaveplein.

After the lectures, there will be room to ask questions.

Demonstrations and children's corner: On Wednesdays and Saturdays from 14:00 to 17:00, children aged 5 and over can recreate the scale model with Lego under the guidance of an astronomy student. On Wednesdays and Fridays from 13:00 to 16:00, Sterrewacht Leiden staff will give demonstrations of the scale model and, of course, answer any questions.

James Webb Space Telescope: The Webb space telescope is the new flagship of the ESA and NASA. It is the most advanced space telescope ever built. On Christmas Day 2021, it went into space. Now it circles the sun, just like Earth. On 12 July 2022, the first data arrived, the images of which can be admired in Galerie LUMC. The telescope, with its infrared eyes, gives a whole new view of the universe. In Galerie LUMC, you will go on a journey past the different objects and phenomena in the universe that the Webb Telescope focuses on. To areas where new stars and planets are forming to the very first galaxies formed just after the Big Bang. The Webb Telescope brings this into razor-sharp focus.

Spaceships: Vincent Icke drew inspiration for this presentation from the idea of galactic spaceships. He wondered what an alien spaceship would look like. "A spaceship that can traverse the Milky Way is so different from terrestrial rockets that it is a good source for art for that reason," Vincent Icke said. "For humans, space is more dangerous than any place on Earth. For a galactic civilisation, space is their element, just as water is for a dolphin." Icke has depicted the variety of images this produces based on laws from astrophysics combined with his own imagination.

[Galerie LUMC : 'Op weg naar het begin' | Leiden2022](#)

- **Sustainable Nature**

From: 14 October – 04 December 2022

Organized by: Gallery LUMC

Description: In the Sustainable Nature exhibition, artist Luuk Wilmering highlights the dubious way humans treat nature.

His three projects Sustainable Nature, Birds need Shelter and New Species from Mixed Genes: can you eat them? come together in this exhibition. The projects expressed in collage, photography, installation and painting give visitors to the exhibition an impetus for reflection.

Wilmering's surprising compositions and collages provide new insights about our influence on nature. The exhibition also includes a fragment from a study that invites the visitor to an almost interactive experience with the subject.

Birds need Shelter: For the Birds need Shelter project, the work of Dutch behavioural biologist Niko Tinbergen is a great inspiration for Wilmering. Tinbergen conducted research on bird behaviour. His passion for birds and the importance of understanding animal behaviour were the artist's starting point. In addition, Wilmering is fascinated by collectors, as they also reflect the human relationship with nature. Works depicting huge collections of bird eggs or an abundance of dusted stuffed animals leave the visitor critically reflecting. Although Wilmering also tries to show the humour of these pursuits.

[Sustainable Nature | Leiden2022](#)

- **Exhibition: Imagine Intuition**

From: 14 October 2022 – 15 January 2023

Museum: Museum de Lakenhal

Description: Experience the versatility, power and mystery of intuition through the eyes of several contemporary artists. Commissioned by Museum De Lakenhal, they created new work for this exhibition.

Commissioned by Museum De Lakenhal, contemporary artists created new work for the Imagine Intuition exhibition about intuition, also known as the sixth sense, which plays an intriguing role in both art and science.

With work by designer Lonneke Gordijn (Studio DRIFT), neuroscientist Suzanne Dikker and multimedia artist Matthias Oostrik (OOSTRIK + DIKKER), visual artist Kevin Osepa, choreographer Suzan Tunca (ICK Dans Amsterdam), visual artist and AI designer Bram Ellens, visual artist Kevin Osepa, architect and artist Janet Vollebregt, multimedia artist Jos Agasi.

Museum De Lakenhal is organising this exhibition as part of European City of Science Leiden 2022.

[Tentoonstelling Imagine Intuition | Leiden2022](#)

- **Kaarten: Navigeren en manipuleren / Maps: navigating and manipulating**

From: 21 October 2022 – 29 October 2023

Museum: at Museum Volkenkunde

Description: The exhibition Maps: navigating and manipulating will be on display at Museum Volkenkunde in Leiden from 21 October, showing the variety of maps from around the world. The work of contemporary artists throws added perspectives on the themes in the exhibition. On the occasion of Leiden European City of Science 2022, this exhibition has been put together by Museum Volkenkunde and Leiden University Libraries.

When we look at maps, we should always ask ourselves: Who maps what and why? There is always a reason for making a map. It could be to find your way from A to B or to establish that a football field of primeval forest has been lost. People use maps to shape the world, to imagine the world or to influence the world.

The exhibition consists of a collection of maps and work by contemporary artists. With this exhibition, we try to make visitors look more critically at maps. Are maps really that truthful or is there sometimes a different message behind them than you initially perceive?

Maps: navigating and manipulating can be seen from 21 October 2022 to 29 October 2023

[Kaarten: navigeren en manipuleren | Leiden2022](#)

- **I am Extraorbi+nary**

From: 04 – 18 November 2022

Description: A campaign for the visibility of bisexual people in the Netherlands. Known mostly by the Dutch title "Ik ben bi+zonder".

In the Netherlands over 1 million people identify as bi+; they're attracted to more than one gender. That's a lot of people!

However, a lot of bi+ people don't feel at home in straight or queer communities. They don't feel seen: people assume other people are straight or gay and therefore can't be bi+ at all, or think bisexuality is a phase. Besides, the bi+ orientation still hasn't been added into the Dutch law: Algemene wet gelijke behandeling. Therefore the orientation isn't protected and people are technically allowed to discriminate based on bisexuality and biromanticism.

To make themselves more visible, bisexual people have decided to share their stories with you. A consequence of the invisibility and stereotypes surrounding bisexuality is an increased amount of sexual assault geared towards bisexual people. This amount isn't small either; almost 16% of all bisexual women in the Netherlands experienced sexual assault within the last year, varying from unwanted touch to rape.

Statistically, bi+ people also experience depression more often than other people, and bisexual women attempt suicide more often than people with other orientations.

With the campaign 'Ik ben bi+zonder' (I am extraorbi+nary), a collaboration between the young creators of The Rainbow Academy, The NJR, and Bi+Nederland, they want to share bi+ stories to

show off their colourful and pluriform community, and ask for acceptance within society. Their stories will travel throughout the Netherlands in 2022.

The first location of the exhibition opens on Bi Visibility Day, the 23rd of September, in Amsterdam. On the 7th of October the exhibition will move to Goes, on the 21st of October it will move again to Utrecht, and from the 4th of November to the 18th of November it can be found on the Garenmarkt in Leiden.

If you want to know more, follow [this link!](#)

[Month of Tutankhamun | Leiden2022](#)

- **To breathe: Leiden Kimsooja**

From: 18 November 2022 – 18 November 2023

Organized by: the Lucas van Leyden Fund

Description: On the Oude Vest, the Lucas van Leyden Fund is realizing the public artwork To Breathe: Leiden by Kimsooja, winner of the Lucas Art Award.

To Breathe: Leiden consists of semicircles stretched over the canal like arches and emitting light as colored rings. The rings act as a thread connecting both banks of the moat. This symbolically expresses the connection between art and science, two values that together determine Leiden's DNA. The idea of the needle and thread also refers to the Leiden textile tradition. The work will be an eye-catcher in the city center and is planned to remain there for three years.

The LLF hopes to bring Leiden a work of art that is controversial, that gives the Cultuurkwartier a new stimulus and that connects the many different sides of our city - from the rich history and cloth production to the innovation at the Bio Science Park. More information about Kimsooja and the Lucas Art Award can be found [here](#).

The realization of To Breathe: Leiden is made possible thanks to Axel Vervoordt Gallery, which represents Kimsooja, and thanks to technical partner Anything Is Possible, who takes care of the practical realization of To Breathe: Leiden.

About the artist.

Kimsooja is a South Korean artist. Kimsooja approaches the world with a humanistic attitude in various media. Her work deals with migration flows, personal and global identity and personal awareness. Her work is poetic and penetrating at the same time.

[To Breathe \(leiden2022.nl\)](#)

- **Wat zegt jouw ketting? / What does your necklace say?**

From: 24 December 2022 – 08 January 2023

Museum: Rijksmuseum Boerhaave

Description: What does your necklace say? That might sound like an odd question, except if you used secret language when threading your necklace.

If each letter consists of five symbols - always a 1 or a 0 - we humans have a hard time reading it without a cheat sheet. Computers use these binary codes with complete ease! Come make yourself a beautiful necklace, key chain or bracelet and learn to decipher this secret computer language.

1010100 1101111 1110100 100000 1110011 1101110 1100101 1101100!

When: during the Christmas holidays from 24 December 2022 to 8 January 2023 from 10.30 - 16.30 (only not on 25 December and 1 January, the museum is closed then)

For whom: For children aged 4 and over (with a little help from parent/carer)

Where: at the museum

Cost: free with a valid admission ticket. Free entry, you can join if there is space available

[Wat zegt jouw ketting? | Leiden2022](#)

- **Versla de slimme doosjes /**

From: 24 December 2022 – 08 January 2023

Museum: Rijksmuseum Boerhaave

Description: Fancy playing a game? At Rijksmuseum Boerhaave, we will play the game hexapawn together. But what happens if we automate one of the two players?

Suddenly you are playing against a computer consisting of 24 boxes. Weird, isn't it? And tricky too, because just like you, this computer is learning to play this game better and better!

Will you manage to win in the end? Come and try it yourself and find out how artificial intelligence actually learns.

[Versla de slimme doosjes-computer! | Leiden2022](#)

9. Gulliver's Travel Agency

The Leiden World Walks are offered by the Faculty of Humanities - Leiden University and LeidenGlobal, in collaboration with the Africa Study Centre, the Royal Institute of Language, Land, and Ethnology and Leiden2022.

- **Leidse wereldwandelingen: sporen van het Midden-Oosten in Leiden / Leiden world walks: traces of the Middle East in Leiden.**

Date: 1st of April 2022

The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

The Middle East has been studied at Leiden University for more than 400 years. This walk will take you past special places, giving you a unique insight into the history of the long-standing relationship between Leiden and the Arab and Islamic world. For this walk, we use a broad definition of Middle East and include North Africa and parts of Central Asia. The connection between Leiden and the Middle East can be seen in all sorts of places in the city, but you have to know where to look, of course...

Duration: approx. 1.5 hours

Language: Dutch

[Leidse Wereldwandelingen: Sporen van het Midden-Oosten in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van Afrika in Leiden / Leiden world walks: traces of the Afrika in Leiden.**

Date: 10 April 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

This walk will introduce you to moments, people and buildings from Leiden's history with Africa. From the Lakenhal, where textiles were inspected that the Dutch used as a means of exchange for slaves from West Africa, to the awarding of an honorary doctorate to Nelson Mandela. The walk was put together by the Africa Study Centre Leiden.

[Leidse Wereldwandelingen: Sporen van Afrika in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van poëzie in Leiden / Leiden world walks: traces of poetry in Leiden.**

Date: 30 April 2022

Description: The Leiden World Walks let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

Traces of Poetry in Leiden: Anyone walking, cycling or driving through the streets of Leiden cannot overlook them: the more than 100 wall poems that proudly adorn Leiden's walls. It is a special project launched in the 1990s by the TEGEN-BEELD Foundation. With poems in all kinds of languages and in a beautiful design, the project is making a big impression on residents and visitors of Leiden.

For this walk, a small selection has been made of the poems and the unique stories attached to them. You will be taken through the city past these poems and reflect on the stories created over the years.

[Leidse Wereldwandelingen: Sporen van Poëzie in Leiden | Leiden2022](#)

- **Leidse Wereldwandelingen: Sporen van Indonesie in Leiden / Leiden world walks: traces of Indonesia in Leiden**

Date: 21 May 2022

Description: *Discover the world in Leiden with these guided walking tours that are brought to life for Leiden 2022, City of Science. Learn about the city of Leiden, learn about the languages and cultures that have been studied here for ages and learn about the important footprints of the past.*

Traces of Indonesia in Leiden

From 1900 onwards, more and more Indonesian students came to the Netherlands to study in Leiden. Several of these students also played a role in their country's nationalist movement and the building of an independent Indonesia. This walk takes you to some important places in their lives and introduces a number of the students.

The guides on the tours include members of the Association of Indonesian Students, Perhimpunan Pelajar Indonesia (the PPI) in the Netherlands, the successor to the Indische Vereniging, which was founded in 1908. This walking tour is compiled by the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV) and the Faculty of Humanities - Leiden University, in collaboration with LeidenGlobal for Leiden2022.

[Leidse Wereldwandelingen: Sporen van Indonesië | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van het Midden-Oosten in Leiden / Leiden world walks: traces of the Middle East in Leiden.**

Date: 21 May 2022

The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

The Middle East has been studied at Leiden University for more than 400 years. This walk will take you past special places, giving you a unique insight into the history of the long-standing relationship between Leiden and the Arab and Islamic world. For this walk, we use a broad definition of Middle East and include North Africa and parts of Central Asia. The connection between Leiden and the Middle East can be seen in all sorts of places in the city, but you have to know where to look, of course...

Duration: approx. 1.5 hours

Language: Dutch

[Leidse Wereldwandelingen: Sporen van het Midden-Oosten in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van poëzie in Leiden / Leiden world walks: traces of poetry in Leiden.**

Date: 28 May 2022

Description: The Leiden World Walks let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

Traces of Poetry in Leiden: Anyone walking, cycling or driving through the streets of Leiden cannot overlook them: the more than 100 wall poems that proudly adorn Leiden's walls. It is a special project launched in the 1990s by the TEGEN-BEELD Foundation. With poems in all kinds of languages and in a beautiful design, the project is making a big impression on residents and visitors of Leiden.

For this walk, a small selection has been made of the poems and the unique stories attached to them. You will be taken through the city past these poems and reflect on the stories created over the years.

[Leidse Wereldwandelingen: Sporen van Poëzie in Leiden | Leiden2022](#)

- **Leidse Wereldwandelingen: Migratie in Leiden / Leiden world walks: Migration in Leiden**

Date: 01 June 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

In the 16th and 17th centuries, Leiden welcomed a large influx of refugees: French Protestants (Huguenots) who were not welcome at home, and inhabitants of the Southern Netherlands (Antwerp, Ghent, Bruges) who had fled the violence of the Eighty Years' War.

This walk takes you past places related to migrants who have been significant to the city of keys.

[Leidse Wereldwandelingen: Migratie in Leiden | Leiden2022](#)

- **Leidse Wereldwandelingen: Sporen van Indonesie in Leiden / Leiden world walks: traces of Indonesia in Leiden**

Date: 04 June 2022

Description: *Discover the world in Leiden with these guided walking tours that are brought to life for Leiden 2022, City of Science. Learn about the city of Leiden, learn about the languages and cultures that have been studied here for ages and learn about the important footprints of the past.*

Traces of Indonesia in Leiden

From 1900 onwards, more and more Indonesian students came to the Netherlands to study in Leiden. Several of these students also played a role in their country's nationalist movement and the building of an independent Indonesia. This walk takes you to some important places in their lives and introduces a number of the students.

The guides on the tours include members of the Association of Indonesian Students, Perhimpunan Pelajar Indonesia (the PPI) in the Netherlands, the successor to the Indische Vereniging, which was founded in 1908. This walking tour is compiled by the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV) and the Faculty of Humanities - Leiden University, in collaboration with LeidenGlobal for Leiden2022.

[Leidse Wereldwandelingen: Sporen van Indonesië | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van Afrika in Leiden / Leiden world walks: traces of the Afrika in Leiden.**

Date: 06 June 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

This walk will introduce you to moments, people and buildings from Leiden's history with Africa. From the Lakenhal, where textiles were inspected that the Dutch used as a means of exchange for slaves from West Africa, to the awarding of an honorary doctorate to Nelson Mandela. The walk was put together by the Africa Study Centre Leiden.

[Leidse Wereldwandelingen: Sporen van Afrika in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van het Midden-Oosten in Leiden / Leiden world walks: traces of the Middle East in Leiden.**

Date: 15 June 2022

The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

The Middle East has been studied at Leiden University for more than 400 years. This walk will take you past special places, giving you a unique insight into the history of the long-standing relationship between Leiden and the Arab and Islamic world. For this walk, we use a broad definition of Middle

East and include North Africa and parts of Central Asia. The connection between Leiden and the Middle East can be seen in all sorts of places in the city, but you have to know where to look, of course...

Duration: approx. 1.5 hours

[Leidse Wereldwandelingen: Sporen van het Midden-Oosten in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van poëzie in Leiden / Leiden world walks: traces of poetry in Leiden.**

Date: 25 June 2022

Description: The Leiden World Walks let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

Traces of Poetry in Leiden: Anyone walking, cycling or driving through the streets of Leiden cannot overlook them: the more than 100 wall poems that proudly adorn Leiden's walls. It is a special project launched in the 1990s by the TEGEN-BEELD Foundation. With poems in all kinds of languages and in a beautiful design, the project is making a big impression on residents and visitors of Leiden.

For this walk, a small selection has been made of the poems and the unique stories attached to them. You will be taken through the city past these poems and reflect on the stories created over the years.

[Leidse Wereldwandelingen: Sporen van Poëzie in Leiden | Leiden2022](#)

- **Symposium & Rondwandeling: Leiden stad van Migranten / Symposium & Tour: Leiden city of migrants**

Date: 25 June 2022

Description: Leiden is a city of immigrants. In the 16th and 17th centuries, many refugees from France and the Southern Netherlands settled in the city of Leiden: Huguenots from France and refugees from the Southern Netherlands.

In two short lectures, we highlight these migrations, and discuss their importance for the city. The refugees often brought a wealth of knowledge with them and functioned as focal points of cultural and knowledge transfer between different countries.

The lectures will be given in the Walloon Church, where French-speaking migrants held their services from the 17th century onwards. Afterwards, there will be a short city walk of about an hour, taking you past central places in Leiden's migration history.

[Symposium & rondwandeling: Leiden, stad van migranten | Leiden2022](#)

- **Leidse Wereldwandelingen: Sporen van Indonesië in Leiden / Leiden world walks: traces of Indonesia in Leiden**

Date: 2 July 2022

Description: *Discover the world in Leiden with these guided walking tours that are brought to life for Leiden 2022, City of Science. Learn about the city of Leiden, learn about the languages and cultures that have been studied here for ages and learn about the important footprints of the past.*

Traces of Indonesia in Leiden

From 1900 onwards, more and more Indonesian students came to the Netherlands to study in Leiden. Several of these students also played a role in their country's nationalist movement and the building of an independent Indonesia. This walk takes you to some important places in their lives and introduces a number of the students.

The guides on the tours include members of the Association of Indonesian Students, Perhimpunan Pelajar Indonesia (the PPI) in the Netherlands, the successor to the Indische Vereniging, which was

founded in 1908. This walking tour is compiled by the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV) and the Faculty of Humanities - Leiden University, in collaboration with LeidenGlobal for Leiden2022.

[Leidse Wereldwandelingen: Sporen van Indonesië | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van poëzie in Leiden / Leiden world walks: traces of poetry in Leiden.**

Date: 30 July 2022

Description: The Leiden World Walks let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

Traces of Poetry in Leiden: Anyone walking, cycling or driving through the streets of Leiden cannot overlook them: the more than 100 wall poems that proudly adorn Leiden's walls. It is a special project launched in the 1990s by the TEGEN-BEELD Foundation. With poems in all kinds of languages and in a beautiful design, the project is making a big impression on residents and visitors of Leiden.

For this walk, a small selection has been made of the poems and the unique stories attached to them. You will be taken through the city past these poems and reflect on the stories created over the years.

[Leidse Wereldwandelingen: Sporen van Poëzie in Leiden | Leiden2022](#)

- **Leidse Wereldwandelingen: Migratie in Leiden / Leiden world walks: Migration in Leiden**

Date: 31 augustus 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

In the 16th and 17th centuries, Leiden welcomed a large influx of refugees: French Protestants (Huguenots) who were not welcome at home, and inhabitants of the Southern Netherlands (Antwerp, Ghent, Bruges) who had fled the violence of the Eighty Years' War.

This walk takes you past places related to migrants who have been significant to the city of keys.

[Leidse Wereldwandelingen: Migratie in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van Afrika in Leiden / Leiden world walks: traces of the Afrika in Leiden.**

Date: 11 September 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

This walk will introduce you to moments, people and buildings from Leiden's history with Africa. From the Lakenhal, where textiles were inspected that the Dutch used as a means of exchange for slaves from West Africa, to the awarding of an honorary doctorate to Nelson Mandela. The walk was put together by the Africa Study Centre Leiden.

[Leidse Wereldwandelingen: Sporen van Afrika in Leiden | Leiden2022](#)

- **Leidse wereldwandelingen: sporen van Afrika in Leiden / Leiden world walks: traces of the Afrika in Leiden.**

Date: 09 October 2022

Description: The Leiden World Walks will let you discover even more about the city of Leiden: about the many languages and cultures studied here and the historical footsteps made here.

This walk will introduce you to moments, people and buildings from Leiden's history with Africa. From the Lakenhal, where textiles were inspected that the Dutch used as a means of exchange for slaves from West Africa, to the awarding of an honorary doctorate to Nelson Mandela. The walk was put together by the Africa Study Centre Leiden.

[Leidse Wereldwandelingen: Sporen van Afrika in Leiden | Leiden2022](#)

10. More detailed summary of specific highlights during Leiden2022

Leiden European City of Science 2022 Opening

Abbreviation: L22 Opening, ECoS Opening, ECS Opening,

From: 14:00 – 15:00 on the 22nd of January 2022

Organized by: Leiden European City of Science 2022

Description:

To celebrate the start of the science year, Leiden2022 hosted an opening event. Minister Robbert Dijkgraaf opened the event and a special movie was released. This opening event was almost completely online due to the Covid-19 pandemic. The movie was livestreamed between 14:00 and 15:00 on the 22nd of January 2022.

In this movie, biologist Auke Florian travels through Leiden while meeting scientists, artists, and other special people. The movie features appearances by Nynke Laverman, Ewine van Dishoeck, Ferry Breedveld, Ton Rabelink, and Jan van IJken. The movie ends with a mini lecture about quantum theory by Carlo Rovelli and a speech by Mariya Gabriel from the European Commission. The movie was followed by a special edition of the New Scientist magazine and a massive article in the Volkskrant in the following week.

Evaluation:

Leiden2022 expected to have a big opening event with many attendees. But due to the pandemic this wasn't possible, so instead the company opted for an online opening and a movie. For what it was, the opening can be considered successful. Many important Dutch scientists and artists appeared in the movie and Leiden2022 is thankful for their additions to the movie. Thanks to the livestream, New Scientist, and Volkskrant many people could be reached although we aren't sure of how many exactly.



Image 1: singer Nynke Laverman during the shooting of the opening film of Leiden European City of Science 2022.



Image 2: Behind the scenes of the openings film of Leiden European City of Science 2022.



Image 3: Auke Florian Hiemstra (the face of the Leiden2022 openings film) with the Leiden2022 tuktuk.

Life Sciences & Health Week

Abbreviation: LS&H, LSH, LSHW

From: Saturday 28 May to Sunday 5 June

Organized by: The Leiden Bio Science Park, the LUMC, Leiden2022, and Rijksmuseum Boerhaave

Description:

The Life Sciences & Health Week consisted of multiple events for experts and the general public. These events all focused on subjects surrounding the life sciences and healthcare. The event started off with the Public Day of Regenerative Medicine in the Stadsgehoorzaal on the 28th of May. This Public Day consisted of dozens of smaller activities. Highlights of the event consisted of the TK Challenge on the 29th of May, the Global Impact in Health Symposium on the 30th of May, the workshop microscopics in Rijksmuseum Boerhaave on the 4th of June, and the opening of Folding Life: an artwork by Ana Oosting which could be seen in the LUMC Gallery from the 3rd of June onwards. The Museum Night also played a crucial role in the event.

Number of events: 51

Evaluation:

The Life Sciences & Health Week seems to have been a success. Stichting Museumnacht Leiden claims their event was attended by 4700 people. And that was just one of the events that was a part of the Life Sciences & Health Week.

The Space Week of Leiden European City of Science 2022

From: 25 September - 2 October 2022

Organized by: NL Space Campus in cooperation with the European Space Agency – European Space Research and Technology (ESA ESTEC).

Description:

In the design of the year-long European City of Science festival it was decided that major themes would be included into the programme. In the autumn of 2022, space and stars were focused on.

From 25 September – 2 October 2022 the first edition of the Space Week took off. During the 8-day space extravaganza the Dutch space region opened its doors for anyone interested in space. The Space Week was an initiative of NL Space Campus in cooperation with ESA ESTEC, Leiden2022 and supported by many space partners.

On September 25 the Space Week was kicked off with the Seeing Stars event. Artist Daan Roosegaarde and UNESCO in cooperation with Leiden & Partners, brought back the stars in Leiden. By darkening the streets of Leiden the event shone light on the issue of light pollution of the modern world. The Seeing Stars functioned as a citizen science project for Leiden University. More than 400 measurements for light pollution research through special apps by residents and visitors.

Leiden is home to 80% of Dutch space travel and astronomy and therefore the perfect place for the first edition of the Space Week that was full of events: the Old Observatory of Leiden opened its doors and its historic telescopes to the public; in the basement of the Old Observatory the More-than-Planet exhibition focused on the question of how scientists study our planet through Earth observations; an open day of the Netherlands Institute for Space Research (SRON); display of the James Webb Space Telescope. The week ended with a two-day spectacle in Noordwijk. There was an exclusive open day of ESTEC – the largest research centre of the European Space Agency (ESA) – for people with disabilities. Followed by an event of NL Space Campus and ESA who transformed the entire campus into a festival. The festival boasted everything from meet-and-greets with ESA astronauts to live music on the 'Space Rocks' stage.

The Space Week was yet another example of a large-scale event created specifically for Leiden European City of Science 2022. The week contained approximately 68 unique events organised by Leiden European City of Science 2022, NL Space Campus, European Space Research and

Technology of the European Space Agency (ESA ESTEC), Leiden University, Leiden & Partners and Studio Roosegaarde.

The programme of the Space Week 2022 can be found here: [The Space Week | Leiden2022](#). The events of the Space Week that were open to the public can be found in the detailed section mentioning the Space Week activities on page 117.

Evaluation:

Overall the Space Week can be seen as a success. With approximately 68 activities organized by various parties the week really opened its doors for the public, demystifying space according to Torben Hendriksen, Director of ESA ESTEC: "Space week has been very dynamic and it is the opportunity for us, working with space daily, to showcase to the public what we do in space, what space is and how space is an integral part of our daily life and an integral part of everybody's daily life".

Ester Peters, the director of NL Space Campus also emphasized on the importance to open the doors of space institutes: "We set up the Space Week because it's so important to reach out, to share the knowledge that's available and to make sure that students, scientists, businesses and government meet and exchange knowledge. This week that all comes together".



Image 4: picture taken during one of the lectures at the NL Space Campus.



Image 5: Daan Roosegaarde in the Old Observatory in Leiden. Shot by Dirk van Egmond.

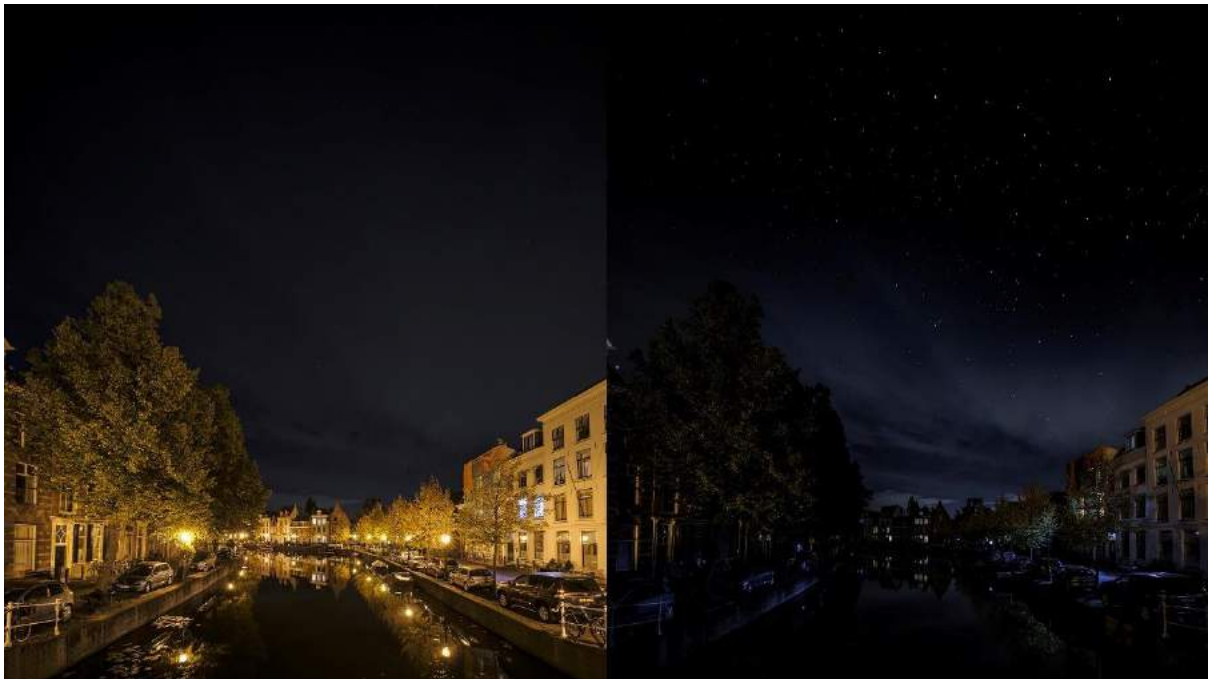


Image 6: The Rapenburg in Leiden with and without light pollution. Photo taken during the Seeing Stars event on September 25 2022. Photo credits: Studio Roosegaarde

New European Bauhaus Leiden

Abbreviation: NEB

From: Tuesday 29 June 2021 to Saturday 31 December 2022

Organized by: Leiden European City of Science 2022, Ministerie van de Toekomst, de Turnclub, and Bureau Burgerberaad

Description:

New European Bauhaus Leiden was a program geared towards the future of Leiden and its citizens. The goal of the program was to accelerate the sustainable transition for future generations. Highlights of the program include the 5 Local Deliberations (Plekberaden) and the establishment of the Ministerie van de Toekomst. Besides that, there were several other events related to New European Bauhaus at the Stadsbauhaus in Leiden. Those events consisted of meet-ups, art exhibitions, and pilots with a shared goal to shape the future in some way.

Number of events: 61



Image 7: still of the first New European Bauhaus activity of Leiden2022 in June 2021. On the image Roosmarijn van de Velde (chief New European Bauhaus) and Rob Zwijnenberg are walking down from the Burgt in Leiden. Image is a still of the New European Bauhaus video made by Pepe.



Image 9: The exterior of the Finale Festival of Leiden2022, showing the grand entrance. Photo taken by Robert van Koolbergen.



Image 10: Planetarium of the Leiden University on the first floor of the Leiden Stadsgehoorzaal. In the planetarium visitors of the finale festival could participate in a journey trough space.



Image 11: On the main stage of the finale festival visitors could participate in the 'silent disco talks'.

Community Bonus of Leiden European City of Science 2022

From: the whole year of 2022

Organized by: various parties.

Description:

The organization of Leiden2022 laid the foundation for a series of large-scale European events, such as the EuroScience Open Forum (ESOF), EU Contest for Young Scientists (EUCYS), and the very first edition of the EU TalentOn. In addition, the local programme Knowledge throughout the Neighbourhoods was developed. Through this initiative, numerous examples of co-creation and participation grew into one powerful example of successful public engagement with science. However, Leiden2022's biggest success was the unexpected 'Community Bonus': an explosion of spontaneous initiatives that took place throughout the city.

By not gatekeeping and instead letting everyone participate in the City of Science year, unforeseen target groups were reached. The organisation of Leiden2022 sometimes lacked the necessary eyes and ears to oversee the many initiatives. In this section a couple of examples are given to provide a general feeling and view of the Community Bonus.

For example, the theatre group Domino – largely consisting of actors with disabilities – developed a television program titled Nieuw Licht. The six episodes played directly into the daily topics of Leiden2022. Another captivating example of a Community Bonus is the Wijscokar (Wisecream Truck) of Emeritus professor of Science Communication Jos van den Broek and theatre director Danny Molenaar. The two cycled past primary schools and through Leiden neighbourhoods to develop a fun way to talk with children about science subjects

The Pronck brewery in Leiden introduced a specially-brewed beer, Sip of Science, with a series of unique labels – all in the style of the Leiden2022 QR logo. Large, previously existing public events also decided to recognise and celebrate the year of science. That's why thousands of participants in the Leiden Marathon each received a medal with the visual identity of Leiden2022, and the huge annual

celebration of the Siege and Relief of Leiden was completely dedicated to Leiden2022. “By freely translating our overarching narrative of Who Knows? to Echt Waar?! (Really?!) they hit the nail on the head. For example, during the traditional Grand Parade, there was a whole procession of children wearing Pinocchio noses to refer to fake news.”, according to Lucien Geelhoed, intendant of Leiden2022.

Evaluation:

By designing the year-long programme of Leiden2022 in a playful and inviting way, the team of Leiden2022 hoped that people would feel welcome to contribute to it actively. Concluding from the numerous community activities that were organized it can be said that the design had a pull on members of society. “We soon noticed that this European year of science was taken on and enjoyed by all kinds of communities. It came to life in the city”, says Lucien Geelhoed. This shows how inspiring it can be if science and society know how to find and engage with each other.



Image 12: Emeritus professor of Science Communication Jos van den Broek with the Wijsco-kar (Wisecream Truck) during the Science in the City Festival of ESOF. Photo by Jelle Draper.



Image 13: The cast of Nieuw Licht. Photo and edit by Roos-Marijn Kinkel



Image 14: Children during the 3 October Parade were dressed up as Pinocchio to refer to fake news
Photo credits: Ton Laven

11. 365 day topic texts

All topics were first made in Dutch and afterward translated. In this section the Dutch version of the text is first presented, followed by the English translation.

January

0101 Euro

Twintig jaar geleden werd de EURO in Leiden een fysiek feit. In de eerste jaren na de intrede van de munt in '99 werd de gulden in Leiden nog geaccepteerd, maar in 2002 werd de gulden voor altijd verleden tijd. Het ezelsbruggetje DING FLOF BIPS werd trending topic en de muntmeesters maakten overuren om iedereen van nieuwe valuta te voorzien. Niet langer was de gulden een daalder waard. Weg was de joet en het geeltje verleden tijd. De allereerste dag van 2022 gaat over numismatiek, verdwijnend chartaal verkeer, de opkomst van plastic geld en de toekomst van de euro. Kortom, het veelzijdige verhaal achter dat alledaagse ronde muntje in je portemonnee en in je spaarpot.

0101 Euro

Twenty years ago, the Euro became a reality in Leiden. After the introduction of the coin in '99, the guilder was still accepted in the first years, but since 2002 the guilder became ancient history. "DING FLOF BIPS", a mnemonic device used to remember which countries initially joined the Eurozone, became a trending topic, and the employees at the mint worked overtime to provide everyone with the new currency. The Dutch gulden and the geeltje became coins and notes of the past. Today, the very first day of 2022 is about numismatics (the study of coins), disappearing cash, the rise of plastic money, and the future of the Euro. In short, the versatile story behind those coins jingling around in your wallet and piggy bank.

0201 Robot

De dansmove die iedereen nadoet of de schattige afvalopruimer uit die ene Disney-film. Robots; komen ze onze banen inpikken? Kun je er verliefd op worden? Is de buurman straks een Robo-cop? Wetenschappers zoeken momenteel tot op het bot - sorry, tot op het bit - uit hoe technologie ons kan ondersteunen in de ruimte, in noodsituaties of in het dagelijks leven. Hoe werken robots eigenlijk en wat doen ze? En nog belangrijker: wat als ze doorslaan? Wat als de werkelijkheid meer in de buurt komt van films als The Terminator of Detroit: Become Human?

0201 Robot

The iconic dance move that everyone breaks out at some point during the party or the cute garbage collector from that one Disney movie: robots. Are they coming to take our jobs? Can you fall in love with one? Will Robocop become your neighbour? Scientists are currently figuring out how technology can support us in space, in emergencies, and in everyday life. But how do robots actually work? And what do they do? And more importantly, what if they fail? What if reality starts to look more and more like movies such as The Terminator in 'Detroit: Become Human'?

0301 Archieven

Kasboek. Vakantiefoto. Archiefkast. Verzamelen en bewaren zit ons in het bloed. Van stambomen tot brieven uit oorlogen van lang, lang geleden: mensen zijn gek op geschiedenis bewaren en categoriseren. Maar het bijhouden en bewaren van geschiedenis is een relatief nieuw concept. De middeleeuwse horige gaf niets om de prechristelijke artefacten die hij soms tijdens het ploegen in de grond tegenkwam. Tegenwoordig wordt op grotere schaal bepaald welke geschiedenis belangrijk is om te bewaren. Archieven: inmiddels een onuitputtelijke bron van kennis en wetenschap...

0301 Archieven

Cash book. Holiday photo. File cabinet. Collecting and preserving is in our blood. From family trees to letters from wars long, long ago, people love to preserve and categorise history. But keeping and preserving history is a relatively new concept. The medieval serf did not care about the pre-Christian

artefacts he sometimes came across while ploughing in the ground. Today, there is more widespread determination of what history is important to preserve. Archives: now an inexhaustible source of knowledge and science

0401 Braille

Ken je dat moment, dat je op gevoel de juiste sleutel pakt bij de voordeur? Of dat je op de tast je lievelingspen uit je tas vist? Deze vaardigheid, kijken met je handen, hebben braillelezers tot kunst verheven. Louis Braille, zelf van kinds af aan blind door een ongeluk, kwam met een taal op de tast: een logisch systeem van zes puntjes. Nog steeds wereldwijd het meest gehanteerde schrift voor blinden – en dat zijn er een kleine 40 miljoen. Kwestie van in de vingers krijgen. Overigens lees je nu het zwartschrift. Zo noemen blinden het schrift der zienden.

0401 Braille

Do you know that moment when you feel for the right key at the front door? Or when you fish your favourite pen out of your bag simply using touch? Braille readers have turned this skill of seeing with their hands into an art form. Louis Braille, blinded in an accident during his childhood, invented braille: a language of touch. Consisting of a logical system of six dots, braille remains the most commonly used script for blind people worldwide — a number that stands at 40 million strong. Fun fact, Louis Braille based his system on an earlier system used by the French army to communicate at night!

0501 Aanstekelijk

Gaap, spreek, gebaar, lach. Aanstekelijk zijn mag! Een zachte grinnik of een schaterlach die tegen het randje van hyperventileren aan zit: de functie is vaak hetzelfde. We kopiëren taalpatronen en gebaren en steken mensen ermee aan. De vraag is wel waarom gapen zo aanstekelijk is. Is het empathie? Komen onze spiegelneuronen in actie? Wat is de functie van dit aanstekelijke gaapgedrag? Onderzoek onder primaten geeft ons nieuwe inzichten: ook orang-oetans gapen als ze apen zien gapen. Dus probeer die geeuw nu maar eens te onderdrukken...

0501 Aantekselijk

Sometimes, someone yawns, speaks, gestures, or laughs — and it's infectious! Be it a soft chuckle or a burst of laughter that's on the brink of hyperventilation: the effect is often the same. We copy each other's language patterns and gestures and infect other people with them. The question is, why yawning is so contagious? Is it empathy? Is our need to mirror kicking in? What is the purpose behind the infectious yawn? Research among primates has brought us new insights: for example, orangutans also yawn when they see monkeys yawning. Now go on: try to suppress that yawn in your throat...

0601 Calimero

"Zij zijn groot en ik ben klein en da's niet eerlijk!": de catchphrase van Calimero. Het zwarte kippenkuiken is dit jaar exact 5 decennia op de Nederlandse beeldbuis te zien en heeft meer teweeggebracht dan diens maker ooit had kunnen weten. Het idee dat je niet serieus genomen wordt vanwege je kleine grootte is namelijk niet alleen een probleem voor kuikentjes. De eierdop-dragende vogel heeft een grote bijdrage geleverd aan de hedendaags psychologie. De simpele catchphrase is een complex geworden.

0601 Calimero

"They are big and I am small and that's not fair!": the catchphrase of Calimero. The black chicken chick has been on Dutch television for exactly five decades this year and has caused more than its creator could ever have known. After all, the idea of not being taken seriously because of your small size is not just a problem for chicks. The egg-cap-wearing bird has made a major contribution to contemporary psychology. The simple catchphrase has become a complex one.

0701 Europa

8 januari 1610 werd Europa ontdekt. Het was Galileo Galilei die Europa als eerste waarnam door zijn telescoop. Vandaag hebben we het over de fascinerende glow-in-the-dark maan van Jupiter, Europa genaamd; een van de grootste manen in ons zonnestelsel. Europa staat de laatste jaren vol in de belangstelling. De ene ontdekking na de andere haalt het nieuws: waterdamp, geisers, een oceaan die meer water bevat dan alle oceanen op aarde tezamen. En er valt nog meer te ontdekken. In Noordwijk wordt daarom hard gewerkt aan de JUICE (Jupiter Icy Moons Explorer) die in mei gelanceerd gaat worden richting Europa. Observeer je mee?

0701 Europa

Galileo Galilei discovered Europa after observing the moon through his telescope. Today we're talking about Jupiter's fascinating glow-in-the-dark moon, Europa, one of the largest moons in our solar system. Europa has remained in the spotlight in recent years with discovery after discovery making the news: water vapour, geysers, and even an ocean that contains more water than all the oceans on Earth combined. And there's still more to learn. That's why at the European Space Agency ESTEC in Noordwijk, we are working hard on the Jupiter Icy Moons Explorer (JUICE). The explorer will be launched towards Europa in May. Will you be watching?

0801 Journaal

"Als ik de baas zou zijn van het journaal... dan werd het nieuws meteen een heel stuk positiever." Iedereen weet: nieuws is flink deprimerend. Elke ochtend en avond stroomt de ellende linea recta je huiskamer of auto in. Inmiddels weten we: de negatieve uitzondering is voer voor journalisten. Als iets gewoon goed gaat, dan is het helemaal geen nieuws. Maar wie bepaalt dat eigenlijk? Wie bepaalt wat nieuwswaardig is? En waarom horen we amper iets positiefs uit de monden en pennen van onze anchor(wo)men?

0801 Journaal

"If I were in charge of the news, I'd make sure to keep it more positive." Everyone says it: the news is quite depressing. Every morning and evening, the misery is broadcast directly into your living room or car. And it's well-known that negativity is food for journalists. If something's going well, it's simply not newsworthy. But who decides that? Who decides what's newsworthy and what isn't? And why do we hardly ever hear anything positive from the mouths and pens of our journalists?

0901 Statisch

Een feestje! Ballonnen, muziek, dansen op het tapijt. Oeps... Geen signaal! Welke kortsluiting ontstaat hier? Waar slaat de vonk over? Statische effecten, die kennen we allemaal. Wrijf die ballon maar eens over je hoofd: zo krijg je een goeie party-outfit! Raak daarna eens je deurknop aan en PATS! Je staat onder stroom: een kleine bliksemschicht door jouw lichaam. Zeker in wintertijd kan een onschuldige zoen al een ontladende wending nemen. Is statisch stilstaan? Of juist beweging? Wie het weet, mag het zeggen.

0901 Statisch

You're at a party. There's balloons, music, dancing, and a carpet, when suddenly — blackout. What causes this? And where does the electricity go? We're all familiar with the effects of static electricity. Just rub a balloon over your head, and you've got yourself a fancy new hairdo. Then touch a doorknob and ZAP! You're electrified when a small lightning bolt shoots through your body. This is especially common during wintertime when an innocent kiss can take a, well, shocking turn. Is static electricity standing still? Or indeed moving? We've gotta know!

1001 Metropolis

Stel je voor: er wordt aan je gevraagd tot in detail te laten zien hoe de wereld er over 100 jaar uitziet. Dat is precies wat de Duitse cineast Fritz Lang met zijn filmklassieker Metropolis doet. Het laat een fictieve stad zien in 2026, een paar jaar van nu. Alleen heeft hij deze al bedacht in 1924, bijna honderd

jaar geleden. Ervaar zelf hoeveel van zijn ideeën werkelijkheid zijn geworden of hoe juist de plank is misgeslagen. En daag vervolgens jezelf uit met een gedachtenexperiment: schets 2126!

1001 Metropolis

Imagine: you are asked to show in detail what the world will look like in 100 years. That is what the German filmmaker, Fritz Lang, did with his classic film, Metropolis. It tells the story of a fictional city in 2026, just a few years from now. Only he created the movie in 1924 — almost 100 years ago. Experience for yourself how many of his ideas have become a reality and how many are far from the truth. You can then challenge yourself with a thought experiment: try drawing 2126!

1101 Morse

Bleep bleep bleep bleeep bleeep bleeep bleep bleep bleep. Dit ritme heeft in de loop der tijd vele levens gered. Het is het noodsignaal SOS in morse. Drie keer kort, drie keer lang, drie keer kort en de reddingsploegen schoten je direct te hulp. Het was op een 11e januari dat Samuel Morse voor het eerst aan het publiek demonstreerde hoe zijn uitvinding werkte. Het is daarom goed gebruik om vandaag te leren hoe je je eigen naam in morsecode kunt vertalen. Heb je je vergist? Bleep er gewoon zeven tot tien keer kort op los!

1101 Morse

Beep beep beep, beeeep beeeep beeeep, beep beep beep. This rhythm has saved countless lives throughout time. It's the distress signal, SOS, in Morse code. Three times short, three times long, three times short, and the rescue teams will immediately come to your aid. On January 11, 1838, Samuel Morse first demonstrated to the public how his new invention worked. Even today, it's a fun exercise to learn how to translate your own name in Morse code. Are you unsure of what it is? Just give seven to ten short bleeps!

1201 Vaccin

Gepokt, gemazeld en gevaccineerd? Vaccin staat deze maand centraal op de Nationale Wetenschapsagenda. De arts Edward Jenner overleefde eind 18e eeuw ternauwernood variolatie, het pokkenvirus. Hij gebruikte dat als motivatie om een oplossing te vinden en die vond hij bij melkmeisjes die immuun bleken te zijn voor koepokken. Hij noemde zijn oplossing vaccinatie, naar vacca, het Latijnse woord voor koe. In Leiden heeft stier Herman uiteindelijk ook geholpen bij de ontwikkeling van het Jansen en Janssen vaccin. Snap je de grap?

1201 Vaccin

Tried, tested, and vaccinated? Vaccines are the focus of this month's National Science Agenda. In the late 18th century, physician Edward Jenner discovered that milkmaids rarely got smallpox because they instead got cowpox. He then hypothesised that by infecting someone with cowpox, they would be protected from smallpox in the future — and it worked! Jenner named his solution vaccination, after vacca, the Latin word for cow. Funnily enough, Herman, the world's first genetically-engineered bull from Leiden, later also aided in developing the Jansen and Janssen coronavirus vaccine. How about that?

1301 Divers

Die zijn vers! Of zijn ze divers? Groot, klein, dik, dun, ovaal, rond of vierkant, verschillen zijn er en mogen er wezen. Of het nou over bananen of je buurman gaat: divers zijn maakt ons uniek. Maar zijn we wel zo verschillend? In een wereld waarin we gelijkheid willen nastreven én diversiteit willen koesteren, hoe doen we dat? Hoe houden we het fresh? Willen we met een frisse blik naar diversiteit kijken, of mogen we juist geen appels met peren vergelijken?

1301 Divers

Big, small, thick, thin, oval, round or square, differences exist between everything. Whether you're talking about noses or your neighbour: diversity makes things unique. But are we as people really that

different? In a world in which we strive for equality and cherish diversity, how do we achieve it? How do we keep our approach fresh? Do we want to take a new look at diversity, or should we not compare apples with oranges?

1401 Logica

Lekker logisch. Toch? Soms zijn dingen gewoon zo, dat is dan vanzelfsprekend. Zoals bijvoorbeeld dat we het vandaag over logica hebben. Maar soms hebben dingen helemaal geen reden, dus waar is de logica dan gebleven? Moet er logischerwijs een logische reden zijn voor alles? Of werkt het in de praktijk juist vaak niet zo en moeten we juist leren om voorbij te gaan aan die logica? Mensen spenderen soms hun hele leven aan het bedenken van verklaringen voor datgene wat niet gelijk logisch is. Des te meer reden om samen met de wereld vandaag logica te vieren!

1401 Logica

We love a bit of logic. Right? Sometimes things are exactly as they are: self-evident, simple. For example, it's completely logical to say that we are talking about logic today. But sometimes things have no reason behind them at all, so where's the logic? Does there have to be a logical reason for everything? People sometimes spend their whole lives coming up with explanations for what doesn't immediately make sense. But should we perhaps ignore the logic that everything has a logical explanation? All the more reason to celebrate logic with the world today!

1501 Wikipedia

Even snel iets Googlen. We doen het allemaal. Al snel popt Wikipedia op als de alwetende bron voor antwoorden op van alles en nog wat. Hoe betrouwbaar is de informatie die de honderdduizenden wikipedianen ons voorschotelen eigenlijk? Hoe sterk is het zelfcorrigerend vermogen van zo'n grote community? Studenten zullen weten dat Wikipedia niet als officiële bron mag worden gebruikt, maar ja... het is juist zo makkelijk en ogenschijnlijk oh zo betrouwbaar. Wikipedia weet alles, het is de Wisdom of the Crowd. Check wiki...

1501 Wikipedia

Go ahead and Google something quickly. We all do it. Wikipedia will quickly crop up as the all-knowing source of answers to anything and everything you may ask. But just how reliable is the information supplied to us by hundreds of thousands of Wikipedians? And how strong is the self-correcting capacity of such a massive source of information? Any student will know that they should never use Wikipedia as an official source, but it's just so easy to find — and even easier to believe.

1601 Sneeuw

Spiegeltje, spiegeltje aan de wand, wie is de mooiste van het land? Misschien ben jij het wel, sneeuwvlokje. Of voel je je ondergesneeuwd door een ander? We zijn allemaal uniek of toch niet? Jarenlang heeft men geloofd dat elke sneeuwvlok uniek was. Nu weten we echter dat dat slechts een fabeltje is, niet heel anders dan Sneeuwvitje. De wetenschap is constant in beweging. Een lawine aan informatie wordt constant uitgepluisd en geüpdate. Dat betekent dat daarvoor bekende informatie vaak fout blijkt te zijn. Maar laat het je niet in de koude kleren gaan zitten. Leren doen we ons hele leven.

1601 Sneeuw

Mirror, mirror on the wall, who is the prettiest in the land? Maybe it's you, snowflake. Or do you feel snowed under by someone else? We are all unique or are we? For years, people believed that every snowflake was unique. Now, however, we know that is just a fable, not very different from Snow White. Science is constantly evolving. An avalanche of information is constantly being churned out and updated. That means that previously known information often turns out to be wrong. But don't let it get you down. Learning is something we do all our lives.

1701 Blue Monday

Vandaag – wat ons betreft zeker geen blauwe maandag – debunken we de blauwe maandag. Blue Monday kwam zo'n 15 jaar geleden overwaaien uit Engeland en zou de dag in het jaar zijn waarop we ons het somberst en ongelukkigst voelen. Het is een verzinsel van een reisorganisatie die hoopte daarmee meer zonnige vakanties te verkopen en er een wetenschapper bij heeft gelapt om het te onderbouwen. Deze psycholoog, Cliff Arnall, heeft zich er inmiddels van gedistantieerd en verzet zich nu tegen zijn wetenschappelijke onderbouwing. Laten we blauwe maandag vooral vieren!

1701 Blue Monday

Today – as far as we are concerned — is certainly not Blue Monday. In fact, we refuse to accept the whole concept! Blue Monday is a term that came across the pond in England about 15 years ago. It's said to be the day of the year when we feel our gloomiest and most unhappy. However, in reality, this concept is the invention of travel companies that hoped to sell more sunny holidays. They even brought in a scientist to back it up! This psychologist, Cliff Arnall, has since distanced himself from his findings on the matter and has refuted his scientific arguments on it. So, let's celebrate Blue Monday instead!

1801 Colosseum

Een kolossaal stukje machtsvertoon, zo kun je het Colosseum in Rome wel samenvatten. Toneel van strijd, zweet en ingewanden. Al sinds het begin van de mensheid zijn we gek op geweld als entertainment. Van gladiatoren tot de kickboksers van vandaag. Ook al is het Colosseum verworden tot een toeristische attractie uit de oudheid, nog altijd consumeren we graag gewelddadige evenementen. The Hunger Games, Battle Royale of Squid Game: mensen die tegen elkaarCompeteren terwijl hun leven op het spel staat blijken onze favoriete vorm van entertainment. Waarom?

1801 Colosseum

A colossal display of power, that's how you could sum up the Colosseum in Rome. A scene of struggle, sweat, and guts. While the Colosseum has become a tourist attraction from ancient times, the drive behind its purpose remains. Since the dawn of humanity, we've loved violence as entertainment, from gladiators to today's movies, video games, and television series: The Hunger Games, Battle Royale, or Squid Game. The concept of people competing against each other, fighting with their lives on the line, has proven to be our favourite form of entertainment. Why?

1901 Neon

De ontdekking van neon, atoomnummer 10 in het periodiek systeem, leidde tot nieuwe fluoriserende toepassingen. Honderd jaar geleden, in 1922, importeerden vader en zoon Haaxman in een doodskist de eerste neonbuizen uit Parijs. Op de golven van de modern times werd neon uitermate populair. Philips produceerde in haar hoogtijdagen met gemak tientallen kilometers buis per jaar. Het straatbeeld in de jaren zestig van de vorige eeuw werd gedomineerd door neonverlichting. En nu lijkt neon in Nederland aan zijn zoveelste jeugd te zijn begonnen.

1901 Neon

The discovery of neon, atomic number 10 in the periodic table, has led to fluorescent applications. One hundred years ago, the Haaxmans, a father and son duo, imported the first neon tubes to the Netherlands from Paris in a coffin. Moving with the waves of modern times, neon became extremely popular. In its heyday, Philips churned out dozens of kilometres of neon pipes per year. The street scene in the 1960s was dominated by neon lighting. And now, neon seems to be enjoying its umpteenth youth in the Netherlands once again.

2001 Neologisme

“Babe, ga jij effe langs de A-say-tie-on?” “Ja, ik ben skeer”. Neologismen. We gebruiken ze vaak zonder dat we het weten. Taal is veranderlijk en via onze multiculturele samenleving zijn steeds meer nieuwe woorden onze volkstong binnengeslopen. “Appen”, “yeet” en “Brexite”. Bedachte woordjes gebaseerd op evenementen, straattaal of handelingen die langzaam onze woordenschat hebben geïnfiltreerd. Of ze nou uit andere talen komen of volledig nieuw zijn: neologismen komen steeds vaker

voor. "Taalverloedering!": gilt de een. "Natuurlijke verandering!": roept de ander. Ach wat, alle woorden zijn tenslotte ooit bedacht.

2001 Neologisme

"Where are you going for your holiday?" "We're taking a staycation instead!" Neologisms. We often use them without even realising. Language is ever-changing, and thanks to our multicultural society, more and more new words have made their way into our vocabulary. "Webinar," "yeet," and "Brexit". These are made-up words based on events, slang or actions that have slowly infiltrated our everyday language. Whether they come from other languages or are entirely new, neologisms are becoming more common. Some may shout "language degradation!" whilst others chalk it up to natural change. After all, all words were invented at some point, right?

2101 Gewoontes

Hoeveel van jouw goede voornemens voor dit jaar zijn al een gewoonte geworden? Het schijnt 21 dagen te duren om tot een nieuwe gewoonte te komen. Hoe werkt dat? En hoe kom je ervan af? Goed of slecht, gewoonlijk denken we niet echt aan onze gewoontes. Maar rond het nieuwe jaar en tijdens een therapie sessie staan we er juist vaak bij stil. Hoe zet je de knop om van ongewoon naar gewoon? Wanneer wordt te gewoon, weer ongewoon? Ontdek het vandaag, gewoon omdat het kan.

2101 Gewoontes

How many of your New Year's resolutions actually became a healthy new routine? Fun fact: forming a new habit takes about 21 days. How does this happen? And how do you shake a bad one? Good or bad, we usually don't think about our habits. But around the new year and during a therapy session, they can become an important topic of interest. How do you determine which habits are normal and which aren't? When does the ordinary become unusual again? Make a habit of finding the answer today!

2201 Geluid

Het vertrouwde gekraak van die ene traptrede. Het zachte ritmische tikken van het stoplicht bij je voordeur. De razende snelweg in de verte of weer een laagvlieger voor de Polderbaan. Elke ochtend blaft de hond van de burens je uit je slaap. En anders zijn het de klokken wel die worden geluid. Wordt wakker! Open je ogen en sta klaar voor een nieuw geluid. Zet je slakkenhuis aan het werk en luister. Vandaag begint een dag vol verrassende decibellen. Luid en duidelijk!

2201 Geluid

The familiar creaking of that one step, the soft rhythmic tapping of the traffic light near your front door, the raging highway in the distance, and every morning, your neighbour's barking dog rudely awakening you from your sleep. Or, of course, the numerous church bells. Wake up! Open your eyes and get ready for new sounds. Put your ears to work and listen. Today will be a day full of surprising new decibels. Come hear them loud and clear!

2301 Handschrift

Wat zegt je handschrift over jou als mens? En kunnen we daardoor ook meer te weten komen over de makers van grottekeningen? Wil je dat iemand iets tekent? Pas op voordat je voor een ander tekent bij het kruisje. De forensisch schriftdeskundige kan zorgen dat de rechter jou veroordeelt voor valsheid in geschriften. En waarom hebben dokters eigenlijk een doktershandschrift?

2301 Handschrift

What does your handwriting say about you as a person? And can we therefore also learn more about the creators of cave drawings? Would you like someone to sign something? Beware before you sign at the cross for someone else. The forensic writing expert can make sure the judge convicts you of forgery. And why do doctors have doctor's handwriting anyway?

2401 Omics

DNA, cellen, weefsels en organen. Alles werkt samen om jouw lijf zo goed mogelijk functioneel te houden. Maar hoe werkt dat alles eigenlijk samen? En wat gebeurt er als een of meerdere delen van je lichaam niet echt teamspelers zijn? “Omics” is een neologisme uit de 90s. Ooit begonnen als achtervoegsel van “genoom” en nu de uitweg van allerlei velden binnen de biologie, denk bijvoorbeeld aan genomics, proteomics en metabolomics. Het is een manier om de samenhang tussen systemen en stelsels te duiden. Net als bij een groepsproject moet duidelijk zijn wie wat doet. Want anders loopt alles in de soep. It's all about the Omics, stupid!

2401 Omics

DNA, cells, tissues, and organs. Everything works together to keep your body as functional as possible. But how? And what happens if one (or more) parts of your body decide they don't want to be a team player anymore? “Omics” is a neologism from the 90s. It started as a suffix for “genome” and is now found within the names of all kinds of biological fields — think genomics, proteomics, and metabolomics. It's a way of interpreting the relationship between different systems. Just like in a group project, it must be clear who does what. Because if not — as we all know — everything will go wrong.

2501 Tegenstelling

Tegenstellingen spelen een grote rol in onze levens. Vuur en ijs, links en rechts, noord en zuid, voor- en tegenspoed. Wanneer verandert voor jezelf opkomen in een felle ruzie? Polariseren! Waarom vinden we tegenstellingen zo boeiend en tegelijkertijd zo frustrerend? Wie mateloos geïnteresseerd is in de paradox, komt vandaag aan zijn trekken. Tegenstellingen in alle soorten en maten: boeiend maar ook bloed-onder-je-nagels-vandaan-trekkend.

2501 Tegenstelling

Contradictions play a significant role in our lives. Fire and ice, left and right, north and south, good and bad. When does standing up for yourself turn into a fierce argument? When someone comes along to contradict you! Why do we find contradictions so fascinating and frustrating at the same time? Anyone who is immensely interested in the paradox will find the answers they are looking for today. Contradictions come in all shapes and sizes: fascinating but also enough to drive you crazy.

2601 Monsters

Hoe noem je Godzilla op een crashdieet? Een monster dat afneemt! – Monsters afnemen doen we veel en vaak. Gemiddeld worden er bij mensen met een baarmoeder bijna 400.000 monstertjes per jaar afgenomen en dat gaat dan alleen om uitstrijkjes. Happende schepsels in holtes komen zowel binnen als buiten het lichaam voor. Zo zou er in de grotten onder Kaunas een waterdraak leven die de stad beschermt. Kaunas? Ja, de Europese Culturele Hoofdstad van 2022. Zij gaan via de kunsten afrekenen met de demonen uit hun verleden. Een fascinerend idee.

2601 Monsters

We take samples a lot and often. On average, almost 400,000 samples are taken per year from people with a uterus, and that only concerns PAP smears. But did you know that in the Netherlands, the Dutch word for 'sample' is the same as the word for 'monster'? Just like a needle pierces the skin to draw blood, a monster also can pierce flesh with its teeth. But, like medical tests, not all monsters are evil. For example, in the caves below Kaunas, there is said to be a water dragon that protects the city. Kaunas? Yes, the European Capital of Culture in 2022. They will deal with the demons from their past through the arts — a fascinating idea.

2701 Natuur

De aard van het beestje. Wat is natuur en wat is aangeleerd? Natuurlijke kleur en geurstoffen in je eten, organische eieren en biologische varkenssaucijsjes. Een zakje 'naturel' chips. Van supermarkt tot boswandeling, wij houden van natuur in ons dagelijks leven. Van een vakantie naar natuurwonderen tot het beschermen van panda's en bijen: de schoonheid van de natuur voedt onze passies. Natuur is alomtegenwoordig, en lijkt tegelijkertijd soms zo ver weg. Zeker vandaag.

2701 Natuur

The nature of the beast: nature has developed humanity, and we've created artificiality. Yet, it's still possible to find natural colours and flavours in your food, organic eggs, and organic pork sausages. From supermarkets to forest walks, we love to see nature in our daily life. From natural wonders to protecting pandas and bees, the beauty of nature fuels our passions. Nature is omnipresent and, at the same time, something that often seems so far away. Especially today.

2801 Privacy

Big Brother is watching you. 1984: een bittere satire over een overheid die ons constant op allerlei verschillende manieren in de gaten houdt en controleert. Dystopie? Who cares? Privacy-vragen zijn tenslotte onderdeel van ons leven geworden. Via de Sleepwet kunnen onze moves online worden bewaard en geanalyseerd door overheidsinstanties. De cookie-popup die je altijd zo snel wegklikt, doet vrijwel hetzelfde maar dan voor de Big Tech. Drones, Find My iPhone, je medische EPD en camera's in het openbaar. Wie gluurt er mee en wat maakt het ons uit?

2801 Privacy

Big Brother is watching you. 1984: a bitter satire about a government that constantly watches and controls its population in a variety of different ways. Are we living in a similar dystopia? Who cares? After all, privacy questions have become part of our lives. Through legislation, our moves can be stored online and analysed by government agencies. Those annoying cookie popups that you instantly click away do much the same, but for the Big Tech. Drones, Find My iPhone, your electronic health records, and cameras in public. Who is watching? And do we even care?

2901 Puzzel

"Do you wanna play a game?" Mensen zijn gefascineerd door hetgeen wat zij niet onmiddellijk kunnen zien of begrijpen. Als we willen weten of een papegaai, een olifant of een chimpansee slim is, dan laten we hen een puzzel oplossen. Velen kijken naar Lingo en vullen met hersenpijn en moeite een kruiswoordpuzzel of sudoku in. Waarom is het zo boeiend om de intelligentie van iemand (inclusief jezelf) getest te zien worden: om de stukjes zoals bij een goede thriller in elkaar te zien vallen? Waarom peuzelen wij van een goede puzzel?

2901 Puzzel

"Do you wanna play a game?" People are fascinated by what they cannot immediately see or understand. If we want to know whether a parrot, an elephant or a chimpanzee is smart, we make them solve a puzzle. Many watch Lingo and fill in a crossword puzzle or sudoku with brain pain and effort. Why is it so fascinating to see someone's intelligence (including yourself) tested: to see the pieces fall together like in a good thriller? Why do we savor a good puzzle?

3001 Croissant

"Do you wanna play a game?" Mensen zijn gefascineerd door hetgeen wat zij niet onmiddellijk kunnen zien of begrijpen. Als we willen weten of een papegaai, een olifant of een chimpansee slim is, dan laten we hen een puzzel oplossen. Velen kijken naar Lingo en vullen met hersenpijn en moeite een kruiswoordpuzzel of sudoku in. Waarom is het zo boeiend om de intelligentie van iemand (inclusief jezelf) getest te zien worden: om de stukjes zoals bij een goede thriller in elkaar te zien vallen? Waarom peuzelen wij van een goede puzzel?

3001 Croissant

As delicious as a freshly baked croissant is on a Sunday morning, today, we're talking about something completely different: an ode to the moon. The lune croissante, or the crescent moon to be precise, is the phase where the moon takes the form of, well, a croissant. But what exactly is this phase? Oh, and by the way, did you know that the croissant (the buttery kind) is almost 500 years old? Legend has it that Viennese bakers caught a group of tunnel-digging Turks and saved the city from invasion. How

did they celebrate? The bakers baked bread rolls in the shape of the Turkish crescent — and voila! The croissant was born.

3101 Groei

leorg Igur. Rudi Groei! Roald Dahl's kinderverhaal over de alsmaar groter wordende schildpadden is inmiddels een klassieker geworden. (Fictieve) schildpadden zijn echter niet het enige wat groeit. De bloemetjes en de bijtjes. Slungelige pubers en zwangere buiken bedekt met striae. De groeiende druk op de vleesindustrie en de groeiende hoeveelheid gigabytes aan RAM in je pc. Groei is mooi, maar laat altijd sporen achter en brengt soms zelfs schade aan. Honderden schildpadden in je flatje. Aan elk voordeel zit een nadeel.

3101 Groei

“Esio trot”. Grow Alfie! Roald Dahl's childhood story about the ever-growing turtle has become a classic. However, (fictional) turtles are not the only things that grow. Think of flowers and bees. Lanky teenagers and pregnant bellies covered in stretch marks. Or perhaps the growing pressure on the meat industry or the growing amount of gigabytes of RAM in your PC. Growth is beautiful, but it also leaves its marks and sometimes causes damage — like hundreds of turtles in an apartment in Dahl's story. After all, every advantage has a disadvantage.

February

0102 Hotz

Hatseflats! Een ding! Angst, oorlog, ziektes; iets kan schijnbaar plotseling ontstaan. Zo ook creativiteit en muziek. Vandaag is de geboortedag van de Oegstgeest-Leidse schrijver en jazzmuzikant F.B. Hotz. Tijdens zijn leven liet hij op verscheidene plekken in Zuid-Holland zijn muziek klinken. Creativiteit komt vaak voort uit ellende. Zowel Hotz als Hotze de Roos lieten hun pennen als scat over het papier glijden en creëerden zo magische hotseflatsen. Musician, auteur, kunstenaar, chef of artiest: laat je creativiteit vandaag swingen!

0102 Hotz

Hatseflats! A made-up word. Fear, war, diseases; some things can appear suddenly. Such as creativity and music, as an example. Today is the birthday of the Oegstgeest-Leidse writer and jazz musician F.B. Hotz. During his life, he played his music in various places in South Holland. Creativity often comes from misery. Both Hotz and Hotze de Roos (the famous Dutch children's book author) let their pens slide across the paper, creating magical worlds out of nothing. Musician, author, artist, chef or performer: whoever you are, let your creativity swing today!

0202 Virus

Toiletpapier! Nu, slechts 25 euro per rol! McAfee, Dettol, Norton en UniCura. Antivirale namen. Het overlijden van John McAfee vorig jaar was heel even wereldnieuws, maar al snel viel het nieuws weer in het oude patroon. Corona virus dit. Corona virus dat. Niemand kon er omheen. Maskers werden een steeds normaler beeld op straat. Virale deeltjes in de lucht of in de online atmosfeer: ze boezemen ons angst in. Een antivirus-zeep hier, een antivirussoftware daar. Gestolen data en de anderhalve-metersamenleving. Maar viraal gaan hoeft niet eng te zijn. Van PewDiePie tot Tiger King. Snelle verspreiding is niet altijd een ramp.

0202 Virus

“Toilet paper: now, only €25 per roll!” McAfee, Dettol, Norton, and UniCura — all antiviral names. The death of John McAfee last year was briefly in the headlines, but the news soon fell back into the old pattern. Coronavirus this. Coronavirus that. We couldn't talk about anything else. Masks have become a common sight on the streets. Viral particles in the air or online: they instill fear in us. Antiviral soap here, antiviral software there. Stolen data and the one and a half metre society. But going viral doesn't have to be scary. From PewDiePie to Tiger King: rapid spread is not always a disaster.

0302 Verleiden

We worden er elke dag aan blootgesteld: verleiding. Het is zelfs tot een kunst verheven. Hoe doen ze dat toch? Fabrikanten en hun (hele slimme) reclamemakers die ons proberen te verleiden en te nudgen om vooral hun product te kiezen. Verkeerskundigen verleiden ons letterlijk hun wegen te volgen. Stedenbouwkundigen spelen met de lokroep van de stad. En onderling kunnen we er als 'aangeklede aap' ook wat van, alhoewel we de paradijsvogel - kampioen in verleiding - niet snel zullen evenaren. Laat je vandaag dus verleiden door verleiding.

0302 Verleiden

We are exposed to it every day: temptation. In fact, it has even been elevated to an art form. How do those manufacturers and their (very clever) advertisers who try to seduce and nudge us to choose their product succeed? And they're not the only ones. Traffic engineers tempt us to follow their roads. Urban planners play with the city's lure. Even the average human, a monkey dressed in nice clothing, also knows a thing or two about seduction — although we will never equal birds of paradise, the real champions of seduction. So let yourself be tempted by temptation today!

0402 Oncologie

Pakjes Lucky Strike liggen te zonnebaden op de stoep. De geur van zwartgeblakerde plakjes ontbijtspek stroomt uit het pannenkoekenhuis. Een laken aan smog verschijnt in het ochtendlicht. Een zesletterig woord ontsnapt uit de strot van een chagrijnige tiener. Een normale ochtend in elke Nederlandse stad. Oncologie wordt steeds belangrijker in onze samenleving. Het gebruikte bikini-lichaam uit de jaren 80 is overgenomen door een dikke laag zonnebrand. Maar wat is kanker exact? En hoe bestrijden we het wanneer zonnebrand niet genoeg blijkt te zijn?

0402 Oncologie

Packets of Lucky Strike cigarettes sunbathe on the curb. The smell of blackened slices of bacon wafts from the pancake house. A sheet of smog appears in the morning light. The word "kanker" (cancer) escapes from the throat of a swearing, moody teenager. A normal morning in any Dutch city. Oncology is becoming increasingly important in our society. The tanned bikini body of the 80s has been taken over by a thick layer of sunscreen. But what exactly is cancer? And how do we fight it when it turns out that sunscreen simply wasn't enough?

0502 Doppelgänger

Is je kopieerapparaat eng? Cyclopien: monsters met 1 oog. De Graai: monsterlijke zussen die allen 1 oog en 1 tand delen. "One is the loneliest number." Enkelvoud is monsterlijk. Mensen houden van symmetrie; houden van twee. Maar het idee dat er een exacte kopie van onszelf ergens rondloopt? Dat staat de meeste mensen niet aan. Meerlingen worden als eng gezien. Kijk maar naar de tweeling uit *The Shining* of *American Horror Story*. Doppelgänger beangstigen en fascineren ons tegelijkertijd. Voor elke horror-doppel is er een schattige Ditto. Oneven en even kan allebei even eng zijn. Je digitale dubbel al helemaal.

0502 Doppelgänger

Is your photocopier scary? Cyclops: monsters with one eye. The Graai: monstrous sisters who all share one eye and one tooth. Singularity is monstrous, and one is the loneliest number. People like symmetry; we like seeing things in pairs of two. But the idea that there's an exact copy of ourselves out there somewhere? Most people don't like that. They find multiple births frightening: just look at the twins from 'The Shining' or 'American Horror Story'. Doppelgängers frighten and fascinate us at the same time. But for every horror doppelgänger, there's a cute Ditto. Which means odd and even can both be equally scary. Your digital double especially.

0602 Heelal

"To infinity and beyond!", Buzz Lightyear. De favoriet uit *Toy Story*. Maar wat betekent zijn catchphrase eigenlijk. Wat is 'infinity'? En is het heelal überhaupt wel oneindig? Vandaag is de dag van het universum. Het heelal staat centraal. Heel-al. Alles in het geheel. Kunnen we dat ons voorstellen?

Sciencefiction à la Star Trek doet haar best, maar de meesten hebben hier nog moeite mee. Men berouwt nog steeds het feit dat Pluto niet langer als planeet geclassificeerd wordt en het hebben van een existentiële crisis (een interne crisis hebben over je functie in deze grote massa aan ruimte en sterrenstof) als twintiger is een ware meme geworden. Alles tussen de sterren inspireert ons. James Webb, bevrijd ons!

0602 Heelal

"To infinity and beyond!" Buzz Lightyear is a beloved character from 'Toy Story.' But what does his catchphrase actually mean? What is "infinity"? And is the universe infinite at all? Today is the day of the universe. The universe is central. Uni-verse. Everything in existence. Can we imagine that? Science fiction à la 'Star Trek' does its best — but most still struggle with this. People still dislike the fact that Pluto is no longer classified as a planet, and having an existential crisis (an identity crisis about one's function in this great mass of space and stardust) in your twenties has become a veritable meme. Everything between the stars inspires us. James Webb, set us free!

0702 Humor

Always look on the bright side side of life... tudu tudududu. Vandaag staat humor centraal in de Wetensgrappelijke hoofdstad van Nederland. Hoezo is lachen gezond? Humor verlicht en het brengt samen. Maar we gebruiken humor ook als we heel verdrietig of gestrest zijn; om dingen te verwerken en te begraven. We lachen om dingen die objectief niet grappig zijn. Soms voor onze eigen bestwil, soms om een ander zich beter te laten voelen. Tegelijkertijd vindt de een iets grappig waar de ander ineenkrimpt van plaatsvervangende schaamte. Humor is subjectief.

0702 Humor

"Always look on the bright side of life... doo doo, doo doo doo doo doo doo." Today humour takes centre stage in the scientificalamusing capital of the Netherlands. Why is laughing healthy? Humour illuminates and brings people together. But we also use humour when we are very sad or stressed to process and bury things. We laugh at things that are objectively not funny. Sometimes for our own good, sometimes to make someone else feel better. At the same time, one person can find something funny while the another cringes with shame on their behalf. Humour is subjective.

0802 447

Als je op 4 april 2007 bent geboren ben je nu alweer 15 jaar oud. Een wild idee, toch? Christiaan Huygens, Rembrandt van Rijn, Freek Vonk en Mark Rutte. Wat zijn de overeenkomsten tussen deze mannen? Behalve dat ze alle vier Nederlanders zijn, zijn zij ook allen alumni van de Universiteit van Leiden. Huffend en puffend gaan er vandaag leraren door de stad heen fietsen om gastlessen te geven op scholen. 15 en in Leiden? Misschien krijg je ze dan wel te zien of spreken. Waarschijnlijk zullen ze niet bijten.

0802 447

If you were born on April 4, 2007, you're already 15 years old. A wild idea, right? Christiaan Huygens, Rembrandt van Rijn, Freek Vonk, and Mark Rutte. What are the similarities between these men? Besides the fact that all four of them are Dutch, they are all alumni of Leiden University. Huffing and puffing, teachers today cycle through the city to give guest lessons at schools. Are you 15 and living in Leiden? You might even get to see or speak to them. They won't bite, probably...

0902 Hoogbouw

Op welke hoogte is er sprake van hoogbouw? De definities willen nogal eens verschillen: met meer dan tien bouwlagen, hoger dan 70 meter, of zodra er een lift aan te pas komt. En wanneer mag een hoog gebouw zich wolkenkrabber noemen? In Nederland leggen we die lat bij 100 meter. Dat is best bescheiden in vergelijking met de Burj Khalifa in Dubai die mondiaal de kroon spant met haar 828 meter. De aantrekkingskracht van steden is onverminderd groot, de woningopgave hoog. Is wonen op (grote) hoogte de toekomst en wat doet dat met ons?

0902 Hoogbouw

Just how high does a building have to be to qualify as a highrise? The definitions often vary: for some, it's more than 10 storeys, for others, higher than 70 metres, and for the more dramatic, as soon as the building has an elevator. To take it a level further, when can a tall building call itself a skyscraper? In the Netherlands, we set that bar at 100 metres. That is relatively modest compared to the Burj Khalifa in Dubai, the world's champion standing at 828 metres. The appeal of cities seems to be undying and inner-city housing is often in huge demand. Is living at a (high) altitude the solution to this problem? And what effect would that have on us?

1002 Peul

Van apennoot tot doperwt: peulvruchten zijn een belangrijk onderdeel van het menselijk dieet. Een witte boterham met een dikke laag pindakaas. Een makkelijker ontbijt kan niet toch? Een peulenschil! De hoeveelheid vegetariërs en veganisten neemt steeds meer toe. Zo wordt ook het imago van peulvruchten steeds vaker gebolsterd. "Peul" is populair. De huidige president van Nigeria is zelfs een Peul. En nee, hij is geen sperzieboon. In West-Afrika of op je bord, peulen zijn globaal. En de klassieker "Is de pinda een noot?" weet je nu ook te beantwoorden.

1002 Peul

From peanuts to peas, legumes are an important part of the human diet. A white bread sandwich with a thick layer of peanut butter; there's no simpler breakfast, right? It's easy-peasy! The number of vegetarians and vegans is increasing, and the image of legumes is being bolstered. For example, the word "pod" in English is becoming increasingly popular. Think of sleep pods in the airport or AirPods from Apple. And no, you don't put a green bean in your ears. In technology or on your plate, pods are global. And now you know how to answer the classic question, "Is the peanut a nut?"

1102 Onderzoekster

Zoek je ergens onder? Maakt dat je dan een onderzoeker? Een ster die onderzocht wordt is een onderzoekster, en degene die dat doet dan een ster onderzoeker. Onderzoek je goed, ben je zowel ster onderzoeker als onderzoekster. Als vrouw ben je dat sowieso. Een onderzoekster bij NASA was Mary Winston, de eerste vrouwelijke Afro-Amerikaanse ingenieur daar. Zij begon haar carrière als menselijke computer. Van Margaret Hamilton tot Maria Curie: vandaag focussen we op de sterren.

1102 Onderzoekster

Are you researching something? Does that make you a researcher? A star being explored is the subject of research, and the person who does this is a star researcher. Research well, and you are both a researcher of stars and a star researcher — especially if you're a female. One researcher at NASA was Mary Winston, and she was the first female African-American engineer to work there. Fun fact: she started her career as a human-computer. From Margaret Hamilton to Maria Curie, today we focus on superstar researchers — who also happen to be women!

1202 Darwin

Een oranje vis op het droge: de simpelste omschrijving van Darwin Watterson in De Wonderlijke Wereld van Gumball. Lopend, lachend en goedgegelovig beweegt Darwin door zijn kleurrijke wereld. Ongeveer 200 jaar geleden schreef Darwin over zijn eigen wereldreis. Zwemmend in informatie publiceerde hij paradigmatisch werk en evolueerde in een van de bekendste onderzoekers van de 19e eeuw. Hem werd zelfs een eredoctoraat toegekend door de Universiteit van Leiden. Als je op zoek wil naar bewijs van zijn aanwezigheid in de stad, vis je echter achter het net. Leiden werd tijdens Darwins wereldreis niet als haven geselecteerd.

1202 Darwin

An orange fish on dry land: Darwin Watterson's easiest description about 'The Amazing World of Gumball.' Walking, smiling, and gullible, the cartoon character, Darwin, moves through his colourful world. About 200 years ago, a different Darwin wrote about his own world trip. Swimming in

information, he published paradigmatic work and evolved into one of the best-known researchers of the 19th century. The University of Leiden even awarded him an honorary doctorate. However, if you're looking for evidence of his presence in the city, you're fishing in a dry lake. Leiden was not selected as a port during Darwin's world trip.

1302 Complot

Geen plot, maar een complot. Het plot achter het plot. Het leven is een puzzel, maar soms hebben we niet alle stukjes en dan proberen we die zelf in te vullen. Aliens hebben de piramides gebouwd, de Illuminatie regeert over de wereld en ons drinkwater maakt kikkers homoseksueel. Bielefeld en België zouden in werkelijkheid niet bestaan. Om nog maar te zwijgen van Roswell. We horen complottheorieën steeds vaker. Sommigen klinken aannemelijker dan anderen, maar wat is het appeal eigenlijk? Mensen vinden het geweldig om hun meest paranoïde gedachten tot leven te brengen. Maar is het paranoia en fantasie of is er een druppel aan werkelijkheid ingeslopen?

1302 Complot

Not a plot, but a conspiracy. The plot behind the plot. Life is a puzzle, but sometimes we don't have all the pieces, and then we try to fill it in ourselves. Aliens built the pyramids, the Illuminati rules the world, and our drinking water makes frogs homosexual. Bielefeld and Belgium do not exist in reality, not to mention Roswell. We hear conspiracy theories more and more. Some sound more plausible than others, but what exactly is the appeal? People love to bring their most paranoid thoughts to life. But is it all just paranoia and fantasy, or has a drop of reality crept in?

1402 Dada

Da-da. D-ada. Dad-a. Tadaa! Een dadaïstisch gedicht. Dada? Is dat baby-praat of hobbelpaard? Nee, hoor. Of, nou ja. Misschien wel. Elitaire kunst en pretentieuze kunstcritici? Dat slaat nergens op! Je hoeft verschrikkingen en ellende niet poëtisch of mooi te maken. De mens is afschuwelijk en de wereld kan zomaar vergaan: dat laat oorlog op dagelijkse basis zien. Dada is anarchisme als een kunstbeweging. Tegen verhevenheid en tegen positieve esthetiek. Alles is kunst en iedereen is een kunstenaar. Open je oren en ogen en houd je vast aan het stokpaardje van het surrealisme!

1402 Dada

Da-da. D-ada. Dad-a. Tadaa! A Dadaist poem. Dada? Is it baby talk or a rocking horse? No, of course not. Or, well, maybe. Elite art and pretentious art critics? They make no sense! You don't have to make horrors and misery poetic or beautiful. Humans are horrible, and the world can end just like that: war shows us this daily. Dada is anarchism as an art movement. Against loftiness and positive aesthetics. Everything is art, and everyone is an artist. Open your ears and eyes and hold on to the hobbyhorse of surrealism!

1502 Dodo

De dodo is misschien wel de meest tot de verbeelding sprekende uitgestorven vogel. De vogel die het vliegen was verleerd leefde op Mauritius en werd eind 16e eeuw voor het eerst beschreven en nog geen 100 jaar later voor het laatst gezien. Er zou zelfs een levend exemplaar naar Amsterdam zijn gebracht. Zijn populariteit heeft de afgelopen jaren een nieuwe boost gekregen sinds zijn intrede als mob in Minecraft. De Walghvogel, zo werd de vogel ook wel genoemd, speelde daarvoor al gastrollen in Alice in Wonderland en Harry Potter.

1502 Dodo

The dodo is perhaps the most imaginative extinct bird. First described in the late 16th century and last seen less than 100 years later, the dodo was found in Mauritius and became known as the bird that forgot how to fly. Supposedly, a live dodo was even brought to Amsterdam at one point! The dodo's popularity has received a new boost in recent years since his entry as a creature in Minecraft. The walghvogel, as Dutch explorers initially called the bird, has also previously played guest roles in Alice in Wonderland and Harry Potter.

1602 Gelijk

"Schrap het drama. Blijf bij mama. Mams heeft gelijk!" Als een drammen kind zingt Moeder Gothel dit naar Rapunzel. Gelijk hebben. We willen het allemaal. Nu, nu, nu. En snel een beetje. Eventjes vlug een kleffe boterham naar binnen dauwen en weer door. Wij vechten voor ons gelijk. Wij willen die gelijkheid eigenlijk stiekem ook nog eens gelijk. Maar je kan niet alles haasten. Strijden voor gelijkheid kost energie. En ontbijten moet je tijd voor nemen. Is gelijk hetzelfde?

1602 Gelijk

"Skip the drama. Stay with mama. Mother knows best!" Like a nagging child, Mother Gothel sings this to Rapunzel. Being right: something we all want to be. And step on it! Quickly chow down a soggy sandwich and continue. We fight to be right. We secretly want to be right, right away. But you can't rush everything. Fighting to be right costs energy. And you have to take time for breakfast. Is equal the same?

1702 Eureka!

"Eureka! Ik heb het!" Dit schreeuwde Archimedes poedelnaakt en druipend van het badschuim door de straten van Syracuse. 18 eeuwen later glinsterde Eureka erop los in RuPaul's Drag Race All Stars Seizoen 6, maar helaas: "All that glitters is not gold". De denkbeeldige kroon ging naar een andere dragqueen. Met een volumineuze coupe en een oceaanblauwe jurk werd Eureka tweede. Water en volume. Eureka's look paste schitterend in de geschiedenis van haar naam. Heb jij het ook?

1702 Eureka!

"Eureka! I've got it!" Shouted a stark-naked Archimedes as he ran through the streets of Syracuse, dripping in suds from his bath. A mere 18 centuries later, Eureka sparkled in 'RuPaul's Drag Race All Stars Season 6', but alas: "All that glitters is not gold". The imaginary crown went to another drag queen. Eureka came in second with a voluminous haircut and an ocean blue dress. Water and volume. Eureka's look fitted beautifully into the history of her name. Have you had a Eureka moment too?

1802 Pollen

Huisje, boompje, beestje. Alleen wenst je lichaam dat het boompje nog de kunstkerstboom van het tuincentrum was. Soepballetjes verdwijnen langzaam via de pollepel in de groentesoep. Winter gaat heel langzaam over in lente. De lucht ruikt naar bouillonpoeder, koude wind en hooikoorts. Alles groeit, bloeit en vermenigvuldigt. De bloemetjes en de bijtjes. En zo ook de hoeveelheid vloeistof die bij velen uit hun neus en ogen komt. Ja, het is weer zover. Het pollenseizoen is aangebroken. Tot aan de herfst zijn bijtende wondjes op je neus en brandende oogjes de norm.

1802 Pollen

Houses, trees, animals. Only your body wishes that the tree was still the classic artificial Christmas tree made from plastic. Winter is slowly turning into spring. The air smells of bouillon powder, a fresh breeze, and hay fever. Everything grows, blooms, and multiplies. The flowers and the bees. And for many, the amount of liquid running out of people's noses and eyes is also increasing. Yes, it's that time again. Hay fever season has arrived. Until autumn, a raw nose and burning eyes will be the norm.

1902 Meteoriet

BAM! Een grote hete klap, een kuil in de aarde en een lucht vol met stof en rook. En toen waren er geen dinosaurussen meer. Extreem oude ruimtestenen die door onze kosmos heen zweven. Meestal doen ze niets, maar zodra ze door onze atmosfeer heen komen gevlogen worden ze meteorieten genoemd. Tenzij een meteoriet heel groot en heel zwaar is, zien wij echter niet meer dan een klein flitsje in de lucht. Dan doe je een wens en ga je door met je dag. Maar soms bereiken de stukjes geschiedenis de aarde wel. Gaan wij dezelfde kant op als de dinosaurussen?

1902 Meteoriet

BAM! There was a big, fiery collision, a hole in the earth, and a sky full of dust and smoke. And then there were no more dinosaurs. Ancient space rocks float through our cosmos. Usually, they don't do anything, but as soon as they pass through our atmosphere, they are called meteorites. However, unless a meteorite is very large and heavy, we see no more than a small flash in the sky. You make a wish and continue to go about your day. But sometimes, history repeats itself. Are we going in the same direction as the dinosaurs?

2002 Escape

De mens is creatief, zo bewees Hugo de Groot met zijn iconische boekenkast-ontsnapping. Vierhonderd jaar later kon op slot Loevestein de geschiedenis worden nagespeeld in een escaperoom. In Europees onderzoek bleek dat escaperooms ook uitstekend voor leerdoeleinden kunnen worden ingezet. Verstop jij je liever in Shawshank Redemption of Casa de Papel? Dan zijn psycholoog en filosoof het erover eens: een duidelijk geval van escapisme. Maar of het nu noodzaak, plezier, leren of escapisme is: vandaag is er geen ontsnappen aan, je binnenste escapist komt (hopelijk voor jou) naar buiten.

2002 Escape

Humans are creative, Hugo de Groot proved this with his iconic bookcase escape from Loevestein Castle. Four hundred years later, the same castle recreates history for tourists. European research shows that escape rooms can also be used excellently for learning purposes. Would you rather hide in Shawshank Redemption or La Casa de Papel? Psychologists and philosophers alike can agree: it's a clear case of escapism! (Wink) But whether it's necessity, pleasure, learning, or escapism itself: today, there is no escape, so your inner escapist will (hopefully) come out.

2102 Moedertaal

"Radio goo goo! Radio ga ga!" Zo luidt het refrein van een van Queen's bekendste liedjes. Simpele woordjes die makkelijk blijven hangen. Dat is hoe iedere ouder vaak tegen hun baby begint te praten. De baby leert en imiteert en langzaam (heel langzaam) begint er iets nuttigs uit te komen. Brabbelen en babbelen stuntelen de meeste mensen de wereld door. Dit leidt soms tot verwarring van Babylonisch niveau. Zolang je niet in tongen spreekt komt het meestal echter wel goed. Mimiek en gebaren leiden vaak tot verduidelijking. Meertaligheid is echter nog mooier.

2102 Moedertaal

"Radio goo goo! Radio ga ga!" This is the chorus of one of Queen's most famous songs. Simple words and sounds that stick easily. That's how every parent often starts talking to their baby. The baby learns and imitates, and slowly (very slowly) something useful begins to come out. Babble and chatter, most people bumble through the world. This sometimes leads to a Babylonian level of confusion. As long as you don't speak in tongues, though, you'll usually be fine. Mimicry and gestures will get you far. However, multilingualism is even better.

2202 Palindroom

Als je Reinier heet ben je een palindroom. Of je Reinier nu van voren naar achteren of van achter naar voren leest, je blijft Reinier. Woorden, maar ook getalreeksen, die je zowel van links naar rechts alsook achterstevoren kunt lezen en dan hetzelfde blijven zijn palindromen. De datum van vandaag is ook een palindroom: 2202 2022. Zelfs de enige van het jaar. Sterker nog, de eerstvolgende is pas over acht jaar (0302 2030). Alle reden dus om juist nu weg te dromen bij keerwoorden, spiegelreeksen en palindromen.

2202 Palindroom

If your name is Hannah, you are a palindrome. That means that regardless of whether you read Hannah from front to back or back to front, the letters still spell the name Hannah. Words can be palindromes, but so can a series of numbers! You can read from left to right as well as backwards, and they remain the same. For example, today's date is also a palindrome: 2202 2022. It's the only date that is a

palindrome in 2022. In fact, the next one won't occur for another eight years on 0302 2030! All the more reason to mesmerise yourself today with these "wow" backwards words.

2302 Like

Likes geven is makkelijk, maar likes krijgen is moeilijk. Je tante heeft een nieuwe kat? Like! Eventjes een video op YouTube kijken? Like! Die subtweet over Lil Nas X? Like! Internet en leuk. Als je eventjes snel wilt reageren op een update of post hoef je het alleen maar even te liken. Geen diep nadenken of ongemakkelijke conversatie voor nodig. En hoe goed voelt het om een like te krijgen? Of duizenden likes? Als je het internet moet geloven zijn we allemaal constant lachebekjes. Memes, Netflix, die foto van die schattige hond. De dingen die we leuk vinden zijn online.

2302 Like

Giving likes is easy, but getting likes is hard. Your aunt has a new cat? Like! Enjoyed watching a video on YouTube? Like! That subtweet about Lil Nas X? Like! The internet is fun. If you want to respond to an update or post quickly, all you have to do is like it. No deep thought or awkward conversation required. And how good does it feel to get a like? Or thousands of likes? If you are to believe the internet, we're all smiley faces all the time. Memes, Netflix, that cute dog photo. The things we like are online.

2402 Gen.

Baby's op maat. Je kind ontwerpen alsof je The Sims 4 speelt. Dat kan! Van geslacht tot aanleg voor bepaalde ziektes. Genetisch gemodificeerde kinderen zullen in de toekomst net zo normaal zijn als genetisch gemodificeerd voedsel. Een grote stap binnen de geneeskunde. Er zijn echter dingen die genen niet kunnen bepalen. Gender en seksualiteit bijvoorbeeld of wanneer je kind wordt geboren. De generatie waarin mensen leven vormen hun persoonlijkheid. Genoeg om over na te denken dus!

2402 Gen.

Customised babies. Design your child as if you're just playing Sims 4. It's possible! From gender to predisposition to certain diseases. Genetically modified children will be as normal as GM food in the future. It's a big step in medicine. However, there are things that genes cannot determine. Gender and sexuality, for example, or when your child is born. The generation in which people live shapes their personalities. There's plenty to think about!

2502 Blauwe Plekken

Je ziet eruit als de protegee van Yves Klein of de tweeling van Blue van Blue's Clues. Blauwe plekken; meestal zijn ze normaal. Maar soms verschijnen ze ook als je je helemaal niet hebt gestoten. Dan is opletten geraden. Pesthuis, dolhuis of anatomisch theater. Hoe behandel je een ziekte en hoe behandelt je cultuur de zieken? Wanneer ben je eigenlijk ziek? Steden stoten zich al eeuwen aan plagen. Fictief of anders. Wat betekent blauw voor jou?

2502 Blauwe Plekken

Maybe you look like Yves Klein's protégé, or perhaps you could be mistaken for a Smurf. Bruises: usually, they are normal. But sometimes, they also show up when you haven't bumped yourself at all. Then it's time to pay attention. How do you treat disease, and how does your culture treat the sick? And when are you actually sick? Cities have been plagued by plagues for centuries, fictional or otherwise. What does blue mean to you?

2602 Carnaval

Naar links! Naar rechts! Snollebollekes, kleurrijke verkleedkleding en Brabantse 'carne': worstenbroodjes. Christelijk of niet, zo vieren we hier carnaval. Oorspronkelijk een heidens feest voor het vereren van voorouders en het verjagen van de winter, maar nu voor velen een katholieke uitspatting totdat het vasten aanbreekt. Van Venetiaanse maskers tot de sambaparades in Rio de

Janeiro. Waar wij op maximaal volume Andre Hazes aan hebben staan, maakt de rest van de wereld er op een andere manier een feestje van.

2602 Carnaval

Naar links! (to the left!) Naar Rechts! (To the right!) Snollebollekes, colourful outfits and Brabant's 'carne': sausage rolls. Christian or not, that's how we celebrate Carnival here. Originally a Pagan festival for venerating ancestors and warding off winter, for many, it's now a Catholic splurge until it comes time to fast. From Venetian masks to the samba parades in Rio de Janeiro. Where we have Andre Hazes on at maximum volume, the rest of the world makes it a party in a different way.

2702 Spiritualiteit

Wat gebeurt er als we doodgaan? Een belangrijke vraag waar iedereen een ander antwoord op heeft. Een belangrijkere vraag is misschien nog wel: wat gebeurt er terwijl we leven? Ook daar zijn verschillende antwoorden voor te bedenken. Sommigen zoeken hun antwoorden in een God. Anderen geloven in energievelden of een geestenwereld die om ons heen bewegen. Leven en dood: ze gaan binnen spiritualiteit eigenlijk altijd hand-in-hand. Hoe voel je je vanbinnen? Wie zorgt daarvoor en kan je zelf iets doen om je beter te voelen?

2702 Spiritualiteit

What happens when we die? It's an important question — and everyone has a different answer. Perhaps a more important question is this: what happens while we are alive? There are also many different answers to this. Some seek their answers in a God. Others believe in energy fields or a spirit world that surrounds us. Life and death: they actually always go hand-in-hand within spirituality. How do you feel inside? Who takes care of that and can you do something yourself to feel better?

2802 Levensloop

Loopt het leven zoals jij wilt of neemt het leven soms een loopje met je? We begrijpen steeds beter hoe we zelf invloed op ons leven kunnen hebben. Niet dat het ons dan ook gelijk lukt om toe te passen. We blijven immers mens. Een op het oog kleine beslissing vandaag blijkt later sluipende gevolgen te kunnen hebben. Dat zit vaak in onze (verkeerde) leefgewoontes. Hoe weten we wat nu al goed is voor onze latere levensloop? Welke investeringen kunnen we doen in onszelf om die marathon van het leven te blijven lopen – in goede gezondheid, ook op hoge leeftijd?

2802 Levensloop

Does life go the way you want, or does life sometimes take you for a ride? We're gaining an even better understanding of how we can influence our own lives. Of course, we're not always successful in doing so. After all, we're still human. A seemingly small decision today can turn out to have lingering consequences later on. This is often part of our (wrong) lifestyle. How can we possibly know what is good for ourselves later in life? And what investments should we make in ourselves to keep running the marathon of life — in good health and old age?

March

060 Compliment 0103

Dankjewel voor het compliment! Een compliment krijgen geeft een heel fijn gevoel. Alhoewel complimenten soms ook verkeerd kunnen vallen, en sommige mensen überhaupt moeite hebben ze te ontvangen. Wie wanneer welk compliment waarover geeft speelt een grote rol. Complimenten kennen een wereld van ongeschreven wetten, vol culturele invloeden en onzekere interpretaties. Maar toch - zo bewijst de wetenschap - wie ze weet te incasseren is gelukkiger mens. En wie ze op juiste wijze weet uit te delen ook. Goed gedaan, jochie!

060 Compliment 0103

Thanks for the compliment! Getting a compliment feels great. However, compliments can sometimes go wrong, and some people have trouble receiving them. Who gives which compliment about what

and when? All this plays a major role. Compliments know a world of unwritten laws, full of cultural influences and uncertain interpretations. But still — as science has proven — whoever manages to collect compliments will be a happier person. And anyone who knows how to distribute them in the right way, too. Well done, you!

061 Multatuli 0203

'Ik heb veel leed gedragen'. Multatuli is in zijn betekenis al veelzeggend. De meeste mensen denken nu echter alleen aan Max Havelaar als ze een pak koffie in een winkelwagen gooien. Slavernij en corruptie. Je wilt er eigenlijk niet aan denken, aan wat er kleeft aan die koffieboon, terwijl je multitaskend je vers gezette macchiato verorberd. Eduard Douwes Dekker dacht daar anders over en bracht met zijn Max de overzeese realiteit in Nederland aan het licht. En met zijn Woutertje liet hij ons meedromen van een betere wereld.

061 Multatuli 0203

'I have endured a lot of suffering'. The words of Dutch writer, Multatuli, hold a significant meaning. However, most Dutch people now only think of his novel, 'Max Havelaar', when they throw a bag of coffee into a shopping cart. Slavery and corruption. You don't want to think about how that coffee bean got to your kitchen while you scroll on your phone and drink your freshly brewed macchiato. Eduard Douwes Dekker (a.k.a Multatuli) thought otherwise, and through the character of Max, he brought the reality of the Netherlands' actions overseas to light. And with his other book, 'Woutertje Pieterse', he let us dream of a better world.

062 Oor 0303

Hamer. Aambeeld. Stijgbeugel. Een hoefsmid? Nee, drie kleine botjes in je oor! Flap- of bloemkooloor. Vaste of losse oorlel. Oren om te horen komen in veel verschillende soorten en maten, maar ze zijn niet allemaal even functioneel. 1,5 miljoen mensen in Nederland zijn doof of slechthorend. Gehoorapparaten worden daarnaast steeds sociaal acceptabeler en steeds meer mensen spreken openlijk over de alsmaar aanwezige piep of brom in hun oor. Zet je muziek dus maar wat zachter en doe je oortjes in tijdens een concert. Je (geh)oor moet je koesteren.

062 Oor 0303

Hammer. Anvil. Stirrup. A farrier? No, three little bones in your ear! Whether yours stick out or you have a 'cauliflower ear' or if your earlobes are solid or stretched. Ears come in many different shapes and sizes, but not all are equally functional. In fact, 1.5 million people in the Netherlands are deaf or hard of hearing. Hearing aids are also becoming more common, and more and more people are talking openly about the ever-present beep or hum (tinnitus) in their ears. So turn your music down a bit and put in your earbuds during a concert. You must ch(ear)ish your hearing.

063 Gewicht 0403

Een blikje spinazie en bam je bent klaar om de wereld aan te kunnen. Dat is als je Popeye's theorie volgt natuurlijk. Iedereen heeft spieren en vet in meer of mindere mate. Samen met je botten en je organen bepalen die dingen je gewicht. En onafhankelijk van wat je gewicht was kwam je tot 2018 toch een beetje aan. Le Grand K is namelijk een aantal microgram lichter geworden door de eeuwen. Een gewicht wat jouw gewicht bepaalde.

063 Gewicht 0403

A can of spinach and BAM — you are ready to take on the world. That is if you follow Popeye's theory, of course. Everyone has muscle and fat to a greater or lesser extent. Together with your bones and your organs, these things determine your weight. And regardless of what your weight was, you still gained a bit until 2018. Le Grand K (the kilogram) has become a few micrograms lighter over the centuries. A weight that determines your weight.

064 Regeneratie 0503

Als een salamander een pootje kwijtraakt heeft hij binnen een paar weken weer een nieuwe. Regeneratie is voor sommige wezens makkelijker dan anderen. Ook de mens maakt constant nieuwe cellen, maar het vernieuwen van een afgezet been? Daarbij vangen we nog steeds bot. Al generaties lang proberen we effectievere manieren te vinden om ernstige wonden te helen en ouderdom tegen te gaan. Opnieuw en opnieuw. Maar mensen zijn nog geen salamanders. Volgen wij de axolotl?

064 Regeneratie 0503

Regeneration is easier for some creatures than others. If a salamander loses a leg, it will grow a new one within a few weeks. Humans are constantly making new cells, but regrowing a bone that has been lost? For that, our skillset is bone dry. We've been trying to find more effective ways to heal serious wounds and fight old age for generations. Again and again. But humans are not salamanders yet. Do we follow the axolotl (a salamander that never undergoes metamorphosis)?

065 Grensgevallen 0603

I can go the distance! Ga je mee op avontuur, grenzen verleggen? Grenzen zijn er om scheidingen aan te geven, om af te bakenen, om te categoriseren. Om iets of iemand erin of erbuiten te laten vallen. Grenzen verleggen of overschrijden kan een herculische taak zijn. Over de grens gaan heeft consequenties, soms zelfs strafrechtelijk. Word je beperkt en val je over een grens? Dan ben je een grensgeval. Weet jij waar de grens ligt, waar jouw grens ligt? Vandaag zoeken we de grens(gevallen) op.

065 Grensgevallen 0603

I can go the distance! Are you going on an adventure, pushing boundaries? Boundaries are there to indicate divisions, to restrict, to categorise. To let something or someone fall inside or outside its borders. Pushing or crossing boundaries can be a Herculean task. Crossing the border has consequences — sometimes even criminal ones. Are you hitting or passing over a limit? Then you are walking the line. Do you know where the limit is, where your limit is? Today we are looking at where the boundary is for borderline cases.

066 Hoogbegaafdheid 0703

Snelle slimme denkers die complexe zaken makkelijk doorgronden. Nee, hoogbegaafd zijn betekent niet dat je speciale gaven hebt. Het betekent slechts dat je op cognitief en/of intelligent vlak beter scoort dan gemiddeld. Maar wat is dan gemiddeld? En wanneer ben je hoogbegaafd? Een IQ van 130 of hoger. Of 136. Of 140. Of 142. De meningen over de grens van hoogbegaafdheid zijn verdeeld, ook volgens het orakel van Delphi. Laten we zeggen: 'een paar procent' onder ons is meerbegaafd.

066 Hoogbegaafdheid 0703

Fast, smart thinkers who can easily understand complex matters. No, being gifted doesn't mean you have special gifts. It just means that you score better than average on a cognitive and/or intelligent level. But what is average then? And when are you gifted? Technically, it's when you have an IQ of 130 or higher. Or 136. Or 140. Or 142. Opinions about the limit of when someone is gifted are divided; even the oracle of Delphi agrees with this. Let's just say "a small percentage" among us are more gifted than others.

067 Donor 0803

Ben jij donor? Een donor is feitelijk een donateur die iets geeft van zijn of haar eigen lichaam, in leven of bij dood. Honderdduizenden Nederlanders staan periodiek bloed af om de bloedbanken op peil te houden. Bij niertransplantaties is de donornier vaak afkomstig van een levend familielid. Er is best veel dat je kunt afstaan: organen, placenta, moedermelk, beenmerg, ei- en zaadcellen, weefsel... en aan het eind van de rit kun je je hele lichaam in dienst stellen van de wetenschap of van anderen: veel stukjes die jij niet meer nodig hebt kunnen de puzzel van iemand anders compleet maken.

067 Donor 0803

Are you a donor? A donor is someone who gives something of their own body, living or dead. Hundreds of thousands of Dutch people periodically donate blood to keep the blood banks stocked. In the case of kidney transplants, the donor kidney often comes from a living relative. There is quite a lot you can donate: organs, placenta, breast milk, bone marrow, eggs, sperm, tissue... and at the end of the day, you can donate your whole body to serve science or others: many pieces that you no longer need can complete someone else's broken puzzle.

068 Waterstof 0903

Waarom heeft iedereen het over waterstof? Waterstof (H₂) is het meest voorkomende element in het universum. Er worden ook grote kansen aan toegedicht in de energietransitie. Het aantal transportmiddelen dat met een brandstofcel op waterstof rijdt zal toenemen. Of waterstof ook zijn intrede in het huishouden zal doen is nog een vraag. Het blijft een gas. Eerst maar eens proberen grijze, blauwe en turquoise waterstof te vervangen door groene waterstof. Alhoewel het element zelf geheel kleur- en reukloos is.

068 Waterstof 0903

Why is everyone talking about hydrogen? Hydrogen (H₂) is the most abundant element in the universe. It also offers great opportunities in the case of the energy transition. The number of vehicles that run on hydrogen fuel will increase in the coming years. Whether hydrogen will also make its way into households is still a question. It remains a gas. We must first replace grey, blue and turquoise hydrogen with green hydrogen. By the way, the 'green' only means it's sustainable: the element itself is completely colourless and odourless.

069 Nieren 1003

"Nier". Misschien heeft je autocorrect het woord "niet" hier wel eens in veranderd. We praten vaker over nieren dan we denken. Door en door doorgronden of met volle overtuiging ergens voor staan: hart en nieren. Nieren staan symbool voor passie. Ze zijn verbonden aan je buikchakra, maar wat doen ze eigenlijk precies in je buik? En wat gebeurt er als ze hun werk niet goed (meer) doen? Wat doet bepaald eten of drinken met je nieren? Je nieren zijn de grondslag van je lichaam. Drink genoeg water. Koop vandaag een blikje kidneybonen of draag een steentje bij aan de Nierstichting.

069 Nieren 1003

"Kidney". We talk about kidneys more often than we think. To truly get to the core of things or stand for something with full conviction: heart and kidneys. Kidneys symbolise passion. They are connected to your belly chakra, but what exactly do they do in your belly? And what happens if they don't do their job properly (anymore)? What does certain food or drink do to your kidneys? Your kidneys are the foundation of your body. Drink enough water. Buy a can of kidney beans or contribute to the Kidney Foundation today.

070 Propaganda 1103

Propaganda is een pauselijke uitvinding. Nu 400 jaar geleden zag Paus Gregorius XV zich geconfronteerd met afbrokkelende invloed en macht. Zijn antwoord daarop was in 1622 het instellen van een Congregatiō dē Propagandā Fide. Etymologisch was propaganda geboren. Propaganda is van alle tijden gebleken. Het speelveld is wel drastisch veranderd. In het huidige digitale tijdperk is er nauwelijks nog aan te ontkomen. Nep nieuws op sociale media of halve onvolledige quotes in clickbait-artikelen. Weet jij waar jouw meningen vandaan komen?

070 Propaganda 1103

Propaganda is a papal invention. Just 400 years ago, Pope Gregory XV was faced with crumbling influence and power. His response to this was the establishment of a Congregatiō dē Propagandā Fide in 1622. Etymologically, propaganda was born. Propaganda has proven itself to be of use throughout many historical periods. However, the playing field has changed drastically. In today's digital age, it is

almost impossible to escape. Fake news on social media or half incomplete quotes in clickbait articles. Do you know where your opinions come from?

071 WWW 1203

Hiep hiep hoera! Het World Wide Web is vandaag jarig. 33 jaar geleden bedacht de Britse natuurkundige Tim Berners-Lee het prefix `http://www` om aan te geven dat een document 'online' stond. Het duurde nog een paar jaar alvorens Netscape als eerste internetbrowser het licht zag en het mogelijk maakte door het WWW te navigeren. En alles daarna is cache of cash geworden. Overigens is de bundeling van computers die we internet noemen al van oudere datum. Het militaire ARPANET, dat later via universiteiten voor iedereen toegankelijk werd gemaakt, valt die eer te beurt.

071 WWW 1203

Hip hip, hooray! Today is the World Wide Web's birthday. Just 33 years ago, British physicist Tim Berners-Lee coined the prefix `http://www` to indicate that a document was 'online'. It took a few more years before Netscape became the first Internet browser and made it possible to navigate the WWW. And everything after that has become cache or cash. Incidentally, the bundling of computers that we call the internet is older. The military ARPANET, later made accessible to everyone through universities, enjoys that honour.

072 Apneu 1303

Ongewilde eenzijdige kussengevechten. Het overkomt elke nacht honderden mensen wiens partner ze met hun kussen om de oren slaat om te zorgen dat ze ophouden met snurken. Superirritant natuurlijk. Zowel voor de snurker als de slapeloze. De meeste mensen storen zich dan ook aan het ademhalingsritme van hun bomen-doorzagende partner. Maar wat als snurken in apneu evolueert? 10 seconden lang gebruik je je ademhalingsspieren niet. En de meeste mensen weten niet eens dat ze het doen

072 Apneu 1303

Unwanted, one-sided pillow fights. It happens every night to hundreds of people whose partners whack them with pillows to make them stop snoring. It's super annoying, obviously, for the snorer and the insomniac. Many people are frustrated by the breathing rhythm of their window-rattling partner. But what if snoring evolves into apnea: not using your breathing muscles for 10 seconds? Even worse, most people don't even know they're doing it!

073 π 1403

Haal de deegrollers en taartvormen maar uit de kast! Vandaag is het Pi Day! Van de Limburgse vlaai tot Schwarzwälder Kirschtorte, het draait vandaag om baksels. Maar niet alleen fysieke baksels staan vandaag in de spotlight. Ook de breinbaksels van de meest getalenteerde wetenschappers zijn vandaag belangrijk. Een echte taart is meestal rond. Cirkelvormen en wiskunde. Een kleine Griekse letter. 3,14... en wat was het toen ook alweer? Ook al wil je de omtrek van je taart niet exact weten, smul vandaag van pi, ook achter de komma.

073 π 1403

Get the rolling pins and cake tins out of the cupboard: today is Pi Day! From Limburgse vlaai to a steaming apple pie on a windowsill, today is all about baking. But not just physical baked goods are in the spotlight. The brains of the most talented scientists are also important today. A real pie is usually round. Circular shapes and mathematics. A lowercase Greek letter. 3.14...and what was it again? Even if you don't want to know the exact circumference of your cake, enjoy pi today — even after the decimal point.

074 Zout 1503

Zout met mate! Dat is het devies dat je steeds vaker hoort en niet met een korreltje zout genomen moet worden. Onze zoutinname zou steeds verder toenemen terwijl onze werkelijke behoefte zich

beperkt tot een snufje van een paar gram per dag. Het speelt onder meer een rol in onze vochtbalans. Een teveel aan zout maakt al snel dorstig. Een slok zeewater helpt daar niet bij. Zout, een letterlijke smaakmaker die ook figuurlijk onder de microscoop tot de verbeelding spreekt. Het witte goud met haar vele toepassingen.

074 Zout 1503

“Salt in moderation!” That’s the motto that you hear more and more and one that you should not take with a grain of salt. Our salt intake continues to increase, but our real need is limited to a pinch of a few grams per day. This grainy white substance plays a role in our fluid balance, among other things. Too much salt quickly makes you thirsty, and a sip of seawater won’t quench that thirst. But salt not only tastes good, but it also looks good too. When viewed under a microscope, the white-gold looks good enough to eat — in moderation, of course.

075 Kies 1603

Lachen als een boer met kiespijn. Maar waarom doet kiezen soms eigenlijk pijn? Keuzestress: velen van ons ervaren het. Of je nu moet kiezen tussen twee kwaden of twee goede dingen die helaas niet samen kunnen: kiezen is lastig. Verstandskies of kiezen met gezond verstand? Helaas is er geen arts om je te adviseren over welke keuzes je – ook vandaag – moet maken. Een democratie zonder kiespijn bestaat niet.

075 Kies 1603

Making a choice can be like pulling teeth. But why does choosing sometimes hurt? It’s common to get stressed while making choices. Whether you have to choose between two evils or the greater of two goods, making a decision is difficult. Should you flip a coin or choose with your common sense? Unfortunately, there is no ‘choice expert’ that can help you out even in today’s world. Choosing may be painful, but remember: no pain, no gain.

076 E-health 1703

Ons lichaam is een vat vol data en de stand van onze gezondheid laat zich steeds duidelijker uitlezen in nullen en enen. Welkom in de wereld van de digitale zorg. Welkom in de wereld van de wearables in het tijdperk van de IoT (Internet of Things). Terwijl de gyroscoop in je mobieltje op volle toeren draait, je smartwatch je transpiratie monitort en je heart rate geen geheimen kent voor je hart device, wordt de balans opgemaakt. Je score: een nul of een één. Alles draait om connectiviteit. Dat je het weet!

076 E-health 1703

Our body is a barrel full of data, and the state of our health can be read more and more clearly in zeros and ones. Welcome to the world of digital healthcare! And welcome to the world of wearables in the era of IoT (Internet of Things). While the gyroscope in your mobile is running at full blast, your smartwatch is monitoring your sweat, and your heart rate has no secrets. Your score: a zero or a one. It’s all about connectivity. Just so you know!

077 Afval 1803

Iets wat de mens wel heel gemakkelijk af gaat om te produceren is afval. Vanuit archeologische blik prijzen we er ons gelukkig mee: het is een onschatbare bron van kennis over voorbije samenlevingen. Voor de huidige samenleving ligt afval wel wat problematischer. Dat is natuurlijk een eufemisme. Alleen al onze plastic soep en kerntroep zijn bittere ernst. En ruimtepuin gaat van zichzelf al circulair om de aarde. Tegelijkertijd groeit het inzicht dat afval waarde heeft zodra het in een circulaire keten wordt gebracht met het streven te komen tot maximaal hergebruik. De best practices beginnen zich op te stapelen. De ketens beginnen zich te sluiten.

077 Afval 1803

Humans produce waste extremely easily. From an archaeological point of view, we consider ourselves lucky: waste can be an invaluable source of knowledge about past societies. But for today’s society,

waste is a bit more problematic. That is, of course, a euphemism. Our plastic soup tastes bittersweet, nuclear waste is hidden in the bowels of the earth, and space debris circles the planet. At the same time, we are starting to recognise that waste can have value when introduced into a circular system to achieve maximum re-use. The best practices are starting to become clear. The circle is becoming complete.

078 Schelp 1903

Een scheermesje, water en een zwierende hand. Voor velen een vastgekalkte routine. Schuimkoppen vol met haar. Op het strand of in je badkamer. Het geluid stroomt door je slakkenhuis. Als je een schelp tegen je oor houdt hoor je het lispelen van de zee. Een waanbeeld: een schelp is niets meer dan een akoestisch filter dat de geluiden om je heen in een ruis verandert. De realiteit is niet altijd wat hij lijkt. De helft van de schelpen op het strand zijn fossielen en al miljoenen jaren oud.

078 Schelp 1903

Snails, turtles, hermit crabs: all living things with shells. But an empty shell sometimes appears to be alive too — like when you hold it up to your ear and hear the echo of the ocean. It's an illusion, of course: the shell is nothing more than an acoustic filter, transforming the sounds around you into a mimicry of waves crashing on a beach. Reality is not always what it seems. After all, that shiny, new shell you picked up on the beach? Chances are that it's a million-year-old fossil.

079 Geluk 2003

Nederland valt nog steeds in de top tien meest gelukkige landen ter wereld. "Nou, mij hebben ze het niet gevraagd hoor!" Pessimist, optimist of realist: je instelling lijkt te maken te hebben met hoe gelukkig je bent. Waar komt het geluk van Nederlanders dan vandaan? En waarom lijken sommige mensen altijd pech te hebben? Geur, kleur, textuur, een hapje lekker eten. Geluk zit soms ook in een klein hoekje of heeft een eendensnavel. Wat is geluk eigenlijk? Is het heel gewoon?

079 Geluk 2003

The Netherlands continues to be one of the top 10 happiest countries globally. But whether you're a pessimist, optimist, or realist: your attitude seems to influence how happy you are. So, where does the happiness of the Dutch come from? And why do some people always seem to be unlucky? Smell, colour, texture, a bite of good food. Often happiness is found in the little things. So what exactly is happiness? Is it very common?

080 Haiku 2103

'het wordt weer warmer - is de eenentwintigste - lente of zomer' is een Haiku, een van oorsprong kort Japans niet-rijmend gedicht. Poëzie slaat vandaag wereldwijd de klok. a b a b of a b b a, de kwatrijnen en klassieke jambe's vliegen ons om de oren. Volgens het Guinness Recordboek schreef Vondel het kortste gedicht ter wereld, waarmee hij in 1620 een dichtwedstrijd won. Het gedicht is tevens een palindroom en gaat als volgt: "U, Nu!" Die uitnodiging staat!

080 Haiku 2103

The weather's warmer - It's the twenty-first of March - so spring or summer? This is a Haiku, originally a short Japanese non-rhyming poem. Poetry is all over the world today. 'a b a b' or 'a b b a', the quatrains and classical iambs fly around our ears. According to the Guinness Book of Records, Dutch poet Joost van den Vondel wrote the shortest poem in the world, winning a poetry competition in 1620. The poem is also a palindrome and goes like this: "U, Nu!" (You, now!) Who are we to disagree?

081 Water 2203

Twee liter per dag. Menig mens komt er niet aan, maar eigenlijk hebben we allemaal zoveel water nodig. Slechts 1% van al het zoete water op aarde is echter drinkbaar. Hoe zorgen we dat er genoeg water voor iedereen blijft? Dat is nog niet de enige van onze zorgen. Een dalend grondwaterpeil,

overstromende rivieren en deinende dijken. Nederlanders zijn experts in waterhuishouding. Riool, polder, regenton: water omringt ons en is zowel last als noodzaak.

081 Water 2203

Two litres a day. Many people don't touch it, but we all need to drink water. However, only 1% of fresh water on Earth is drinkable. How do we ensure that there is enough water for everyone? That's not the only one of our concerns. A falling groundwater level, overflowing rivers, and heaving dikes. The Dutch are experts in water management. Sewer, polders, and rain tanks: water surrounds us and is simultaneously a burden — and a necessity.

082 Meteo 2303

Als er iets de reputatie heeft onvoorspelbaar te zijn, is het wel het weer. Toch wagen we ons er elke dag weer aan. Zeker nu. Maart roert zijn staart, aldus boerenwijsheid. En april doet (over een paar dagen) wat ie wil. Die grilligheid heeft geleid tot de wetenschap van de meteorologie, oftewel weerkunde. Eerlijk is eerlijk, weerkunde gaat al terug tot Aristoteles (340 v Chr.) met zijn boek Meteorologica. Van onvoorspelbaar naar onvoorstelbaar: we kunnen het weer inmiddels wel degelijk voorspellen. Nog even los van de gevoelstemperatuur. Die blijft van jezelf.

082 Meteo 2303

If anything has a reputation for being unpredictable, it's the weather. Yet we try to predict it every day. Especially now: March comes in like a lion, and goes out like a lamb, claimed our ancestors. This volatility has led to the science of meteorology. To be fair, meteorology goes back to Aristotle (340 BC) with his book Meteorologica. From unpredictable to unimaginable: we can now predict the weather. However, we cannot predict whether you live in shorts in the winter or a jacket in the summer — that's up to you.

083 Mode 2403

Pose and strut! Vertoon van rijkdom of thuishoren in een subcultuur. Mode heeft meer betekenis dan mooi zijn. Onmodieus zijn is soms modieus. Appeltaart à la mode draagt geen jurk en trendy interieurdesign bevat meestal geen roomijs. Mode is meer dan alleen kleding. Het is gedrag, kunst, cultuur en meer. Wie de mode bepaalt is echter ingewikkeld. Beïnvloed de tijdsgeest de mode of andersom? In de mode!

083 Mode 2403

Pose and strut! A display of wealth or a subculture? Fashion has more meaning than being beautiful. Being unfashionable is sometimes fashionable. Apple pie à la mode doesn't wear a dress, and cornbread is both delicious and a trendy paint colour. Fashion is more than just clothes. It's behaviour, art, culture, and more. However, who sets the fashion is complicated. Does the zeitgeist influence fashion, or vice versa? Today, we're in the mode of talking about fashion.

084 Biologische Klok 2503

Dat er ochtend- en avondmensen bestaan weten we wel, maar waar komt dat verschil vandaan? Dat ligt aan je biologische klok; een mini stukje van je hersenen dat allerlei dag- en nachtritmes in ons lichaam bestuurt. Onder invloed van zonlicht weet de klok dat het dag is, en zet ons lichaam dan in de wakker-stand. De biologische klok beïnvloedt ons gedrag maar ook de werking van allerlei processen in ons lichaam. Het zorgt ervoor dat er een dag- en nachtritme ontstaan, bijvoorbeeld in ons slaapgedrag. Maar helaas luisteren we niet altijd naar wat die klok ons te vertellen heeft en verstoren we ons biologisch ritme. Bijvoorbeeld als we in de nacht werken, op reis gaan naar een ver land of de klok verschuiven naar de zomertijd. En dat heeft gevolgen voor onze gezondheid.

084 Biologische Klok 2503

We know that there are morning and evening people, but where does that difference come from? From your biological clock! This mini part of your brain controls the day and night rhythms in our body.

Sunlight tells the clock that it is daytime, and puts our body into wake-up mode. The biological clock influences our behaviour but also the functioning of all kinds of processes in our body. It ensures a day and night rhythm, for example in our sleeping behaviour. Unfortunately, we do not always listen to what that clock has to tell us and we disrupt our biological rhythm. For example, when we work at night, travel to a distant country or shift the clock to daylight saving time. And that has consequences for our health.

085 Sudoku 2603

Sudoku lijkt voor de leek op een onoverzichtelijk Excel-sheet. Op de vraag waar de sudokurage begin deze eeuw in Nederland vandaan kwam zullen velen zeggen Japan. En dat klopt. In 2004 was het aldaar een rage die ons ook bereikte. Maar de puzzel kwam in Japan al veel eerder overwaaien uit de Verenigde Staten. Van de 81 vakjes die allen met een cijfer van 1 tot 9 gevuld moeten worden, moeten er bij het begin minimaal al 17 zijn prijsgegeven om de puzzel te kunnen maken. En daar komt geen hogere wiskunde kijken. De getallen in het magisch vierkant betekenen namelijk niets.

085 Sudoku 2603

Sudoku looks like a cluttered Excel sheet to the average person. When asked where the Netherlands' 'sudoku rage' came from at the beginning of this century, many would say Japan. And that's correct. The craze reached the Netherlands in 2004, but the puzzle came to Japan from the United States much earlier than that. Of the 81 boxes that must all be filled with a number from 1 to 9, at least 17 must be shown at the beginning to complete the puzzle. There's no higher mathematics involved. The numbers in the magic square mean nothing.

086 Chaos 2703

Vlinders en orkanen; veel mensen hebben wel eens van het butterfly-effect gehoord. De vleugelslag van een vlinder zou uiteindelijk een orkaan kunnen worden. Chaos en wiskunde. De meeste mensen vinden ze niet prettig om mee te maken of over na te denken. De chaostheorie claimt echter dat chaos veel natuurlijker is dan stabiliteit. Ritme en routine? Dat is pas onlogisch. En wiskunde? Dat kan veel onvoorspelbare factoren tegenwoordig verklaren. Wiskunde scheidt dus orde in de chaos. Doet het dat ook in ons fladderende brein?

086 Chaos 2703

Butterflies and hurricanes; many people have heard of the 'butterfly effect'. The flap of a butterfly's wings could turn into a hurricane. Chaos and maths: most people don't like to experience or think about these. However, chaos theory claims that chaos is more natural than stability. Rhythm and routine? They're illogical. And maths? That could explain many unpredictable factors nowadays. Mathematics thus creates order out of chaos. Does it do that in our fluttering brains too?

087 Gebaren 2803

Weet jij hoe je je naam moet spellen in gebarentaal? In Nederland leven er ongeveer 1,5 miljoen doven en slechthorenden. Velen van hen zijn afhankelijk van gebarentaal om de wereld te interpreteren. Maar of je nu kunt horen of niet, ook jij maakt vaker gebruik van gebarentaal dan je denkt! Duimpje omhoog! Goed hoor! Maar gebruik je je middelvinger, dan bedoel je opeens iets heel anders. En dan verschillen sommige gebaren ook nog eens qua betekenis per regio of cultuur. Van hamsteren tot peace, gebaren doen we allemaal.

087 Gebaren 2803

Do you know how to spell your name in sign language? About 1.5 million deaf and hard of hearing people live in the Netherlands. Many of them rely on sign language to interpret the world. But whether you can hear or not, you too use sign language more often than you think. Thumbs up? All good! But if you use your middle finger, you suddenly mean something completely different. The meaning of some gestures also differs per region or culture. From the Dutch 'lekker' wave to 'peace', we all use gestures.

088 Crypto 2903

Cryptocurrency. Bitcoins en ethereum. Van die vervelende pop-ups en mailtjes met de foto van Ali B tot de tweets van Elon Musk. Crypto is hot and happening. Maar de echte cryptoboorn is alweer over. Duizenden online coins die sinds 2016 niets meer waard zijn zweven nu rond op het internet. Dus hoe weet je nou wanneer een cryptocurrency iets waard gaat worden? Gaan we in de toekomst in de supermarkt betalen met bitcoins? Wordt ethereum straks ook buiten NFTs de manier om voor kunst te betalen?

088 Crypto 2903

Cryptocurrency. Bitcoin and Ethereum. From those annoying pop-ups and emails with Harry and Meghan's photo to Elon Musk's tweets. Crypto is hot and happening. But the real crypto boom is already over. Thousands of online coins that have been worth nothing since 2016 are now floating around the internet. So how do you know when a cryptocurrency will be worth something? Will we use Bitcoin to pay for our supermarket shop in the future? Will Ethereum also become the way to pay for art, NFTs aside?

089 Astro 3003

Als je de definitie van astronomisch opzoekt kun je direct al in immensiteit overweldigd worden. Iets zo astronomisch groot dat het eigenlijk voor ons brein niet te bevatten is. Hoe relativiseren we dat? We creëren eenheden om het kolossale te overbruggen. De eerstvolgende ster (na onze zon) in onze buurt is Proxima Centauri, en zweeft op ongeveer 38 000 000 000 000 km van ons vandaan. Dat is zeg maar om de hoek. Om er met je supersonische raket te komen doe je er slechts 75.000 jaar over. Dan heb je 4,2 lichtjaren afgelegd. Astro cool!

089 Astro 3003

If you look up the definition of astronomical, you may be left feeling immediately overwhelmed. Something so astronomically large that it's incomprehensible to our brains. How do we put that into perspective? We create units to bridge the gap of the incomprehensible. The next star in our vicinity (after our sun) is Proxima Centauri, and it is about 38,000,000,000,000 kilometres away from us. According to the big picture, that's just around the corner. It takes only 75,000 years to get there with your supersonic rocket. Then you'll have travelled 4.2 light-years. Astronomi-cool!

90 Trek 3103

Let op! Bevat een tranentrekker. De voorjaarsstrek van de grutto is in volle gang, de nationale vogel keert terug uit Senegal. Eenmaal geland in het eigen weiland, begint het broedseizoen. De grutto broedt haar eieren uit en door trek gedreven verlaten de kuikens het veilige nest. Door een steeds vroeger mooier voorjaar maait de boer steeds vroeger; aan de trekker weet het kuikentje niet te ontkomen... Partijen hebben de handen ineengeslagen om dit noodlot te vermijden. Aanvalsplan Grutto steekt dit jaar van wal. Slagen ze erin om de grutto te redden?

90 Trek 3103

Warning: tearjerker incoming. The spring migration of the black-tailed godwit is in full swing with the national bird returning from Senegal. Once they have landed in their meadow, the breeding season begins. The black-tailed godwit incubates her eggs, and the chicks are driven by their appetite to leave the safe nest. But, spring is coming sooner, and the farmer is mowing earlier and earlier; the chick cannot escape the blades of the tractor... Thankfully, parties have joined forces to avoid this fate. Operation Black-tailed Godwit was launched this year. Will it manage to save the godwit?

April

091 Tulp 0104

De Keukenhof en het Bloemencorso: Nederland is gek op bloemen. Ironisch wanneer je bedenkt dat de bloem officieel uit Turkije komt. Het woord "tulp" is zelfs afgeleid van het Turkse woord voor

“tulband”! Tulpen staan niet alleen voor tulbanden, maar ook voor liefde. Vaderlandsliefde in het geval van Nederland natuurlijk. De tulpenbol heeft menig gezin gevoed tijdens de oorlog en men heeft genoten van De Zwarte Tulp op televisie. De kleurrijke bloem heeft een bonte geschiedenis.

091 Tulp 0104

Keukenhof and the Flower Parade: The Netherlands loves tulips. It's a little ironic considering that the flower is officially from Turkey. “Tulip” is even derived from the Turkish word for “turban”! Tulips not only stand for turbans but also for love — and patriotism, in the case of the Netherlands. The tulip bulb fed many families during the war, and ‘De Zwarte Tulp’ was a television favourite. The colourful flower with a colourful history.

092 Autisme 0204

Briljante artsen en mensen die de skyline van New York uit hun hoofd kunnen natekenen. Rain Man of The Good Doctor: Autisme wordt vaak op een eenzijdige manier in de media gepresenteerd. Niet iedere autist is een savant of gevoelloos en niet iedereen is “een beetje autistisch”. Oude en problematische benamingen zoals “Asperger syndroom” of het idee dat vaccins autisme op kunnen wekken gaan ook nog vaak rond. Waar komen deze ideeën vandaan? Wat is autisme echt en hoe ervaren autisten hun levens?

092 Autisme 0204

Brilliant doctors and people who can recreate the New York skyline by heart. Rain Man or The Good Doctor: autism is often presented in a one-sided way in the media. Not everyone on the autism spectrum is a savant or numb — and not everyone is “a little bit autistic”. Old and problematic terms such as “Asperger's syndrome” or the idea that vaccines can induce autism still linger in society. Where do these ideas come from? What really is autism? And how do people with autism experience their lives?

093 Verhalen 0304

Sommige mensen zijn goede verhalenvertellers. Verhalend een sprookje overbrengen of rond een kampvuur iedereen de stuipen op het lijf jagen. Sommigen verhalen doen al eeuwen de ronde. Mond op mond worden oudewijvenpraat en broodje-aapverhalen rondverteld. Nu zet die traditie zich op het internet voort. Maar ook nieuwe verhalen worden constant de wereld ingebracht. Boeken, fanfiction, creepypasta, podcasts en hoorspellen. Kom weer op verhaal en lees je in!

093 Verhalen 0304

Some people are good storytellers. Telling a fairy tale or raising goosebumps around a campfire; there are stories that have been doing the rounds for centuries. Word of mouth, old wives' tales and urban legends are circulated through societies. Now, that tradition continues on through via internet. But new stories are also constantly being introduced into the world: books, fanfiction, creepypasta, podcasts, and radio shows. Jump back into storytelling and read up!

094 Placebo 0404

Vijf jaar geleden kreeg Leiden ter gelegenheid van het eerste wereldwijde placebocongres – dat hier werd gehouden – de bijnaam Placebocity. Een fijne geuzennaam als je bedenkt dat placebo in het latijn ‘ik zal je behagen’ betekent. En dat Leiden dit jaar weet te behagen laten we nu al 94 dagen op rij zien. Wat dat betreft is er zeker geen sprake van een placebo-effect: proefpersonen die een placebo krijgen (een nepmedicijn zonder werkzame stoffen) willen nog wel eens ervaren dat er toch iets ‘werkt’. Hoe dat precies werkt is nog niet duidelijk en intrigerend onderwerp van onderzoek.

094 Placebo 0404

Five years ago, during the first worldwide placebo conference held here, in Leiden, our city was nicknamed ‘Placebocity’. A nice nickname when you consider that placebo in Latin means “I will please you”. For the past 94 days, Leiden has proven to be very pleasing! In that respect, there's no question

of a placebo effect: test subjects who receive a placebo (a fake medicine without active substances) sometimes experience that the "medicine" works after all. The science behind this is not yet clear, making it an intriguing research subject.

095 Paaseiland 0504

Verstopt de paashaas zijn eieren op dit eiland? Niet zover wij weten. Paaseiland heeft haar naam te danken aan een Nederlander die het eiland toevallig gewaar werd op eerste paasdag. Het land van de mysterieuze moai en grote rotsen werkt bij velen op de verbeelding. Gigantische figuren die al sinds de middeleeuwen naar de hemel kijken en een bijna-uitgestorven bevolking: het lijkt wel iets uit een sci-fi boek van Hank Green.

095 Paaseiland 0504

Does the Easter Bunny hide his eggs on this island? Not as far as we know. Easter Island actually owes its name to a Dutchman who accidentally spotted the island one Easter Monday. The land of the mysterious Moai and large rocks awakens the imagination of many. With gigantic figures that have gazed at the sky since the Middle Ages and a nearly extinct population: it looks like something out of a sci-fi book by Hank Green.

096 Geheugen 0604

Je rent de trap op. Tree voor tree. En dan sta je boven en weet je niet meer waarom je daar bent. Hoe goed is jouw geheugen? Boodschappenlijstjes en reminders op je telefoon voor die ene afspraak. Vergeten is menselijk, maar soms ook heel vervelend. Maar weinig van ons hebben een fotografisch geheugen. Anders waren al die nachtjes blokken op school misschien niet nodig geweest. Ook niet iedereen's collectief geheugen is even best. Furby's? Gangnam Style? De val van de Berlijnse muur? Wat weet jij nog?

096 Geheugen 0604

You run up the stairs, step-by-step — and then you don't remember why you're up there. How good is your memory? Shopping lists and reminders on your phone for that one appointment. Forgetting is human, but it can sometimes be very annoying. Very few of us have a photographic memory. Otherwise, pulling those all-nighters might not have been necessary. Not everyone's collective memory is equally good either. Furbies? Gangnam Style? The fall of the Berlin Wall? What do you remember?

097 Gezondheid 0704

"Proost! Op je gezondheid!" En dan giet je een glas alcohol achterover waarvan je weet dat het eigenlijk niet zo goed voor je is. Eet jij twee stuks fruit op een dag? Drink je 2 liter water? Loop je 10.000 stappen? Voor veel mensen is het antwoord nee. Gezondheid is belangrijk, maar weinig mensen zijn er constant mee bezig. Tenzij zij bijvoorbeeld al chronisch ziek zijn. Kan mijn rolstoel deze helling op? Is er hulp dichtbij als er iets misgaat? Is jouw gezondheid een bijzaak na een borrel of neusverkoudheid of bepaalt het je leven?

097 Gezondheid 0704

"Cheers! To good health!" And then you pour back a glass of alcohol that you know isn't very good for you. Do you eat two pieces of fruit a day? Do you drink two litres of water? Do you walk 10,000 steps? For many people, the answer is no. Health is important, but few people are constantly occupied with it. Unless, for example, they are already chronically unwell. "Can my wheelchair go up this slope?" "Is there help close by if something goes wrong?" Is your health just an afterthought after a drink or a bad cold — or does it determine your life?

098 Supergeleiding 0804

Voor even was Leiden het koudste puntje op aarde. Het Klondike van het Westen, met een kwik kouder dan op de Zuidpool. Het was het resultaat van een experiment van Heike Kamerlingh Onnes, dat hij

vandaag op de kop af 111 jaar geleden zou herhalen. En ditmaal leidde het tot de ontdekking van supergeleiding. Het verschijnsel waar bij een zeer lage temperatuur – tegen het absolute nulpunt aan – de elektrische weerstand van zuivere metalen helemaal verdwijnt. Heike ontving er de Nobelprijs voor de Natuurkunde voor. En wij vloeibaar helium en vele andere nuttige toepassingen.

098 Supergeleiding 0804

For just a while, Leiden was the coldest point on earth. The Klondike of the West, with mercury colder than the South Pole. It was the result of an experiment by Heike Kamerlingh Onnes, which he repeated for a second time exactly 111 years ago today. And this time, it led to the discovery of superconductivity. At an extremely low temperature – close to absolute zero – the electrical resistance of pure metals disappears completely. Heike received the Nobel Prize in Physics for his discovery. And we make use of his findings. Think of liquid helium, for example!

099 Poedermelk Melkpoeder 0904

Er zijn meer dan 6000 verschillende soorten zoogdieren. Voor velen is er geen tepel aanwezig die goede melk kan geven. Poedermelk. Of is het toch melkpoeder? Allerlei soorten baby's zijn hun eerste maanden van dit poeder afhankelijk. Fabrikanten verscheppen het product tegenwoordig van Beijing tot Brasilia, maar dat was lang niet altijd zo. Vroedvrouwen en zakjes aardappelpuree. Melkpoeder of poedermelk: een levensredder voor kinderen en kant-en-klaar maaltijden.

099 Poedermelk Melkpoeder 0904

There are more than 6,000 different species of mammals on Earth. For many, their nipples can't produce good milk. Enter powdered milk. Or is it milk powder? All kinds of babies depend on this powder during their first months of life. Manufacturers now ship the product from Beijing to Brazil, but that was not always the case. Midwives and bags of mashed potatoes. Milk powder or powdered milk: a lifesaver for children and ready meals.

100 C 1004

Apps en appels. C volgt je totdat je honderd bent. Of het nou als vitamine in je smoothie zit of onderdeel uitmaakt van de apps op je laptop en smartphone, C maakt onderdeel uit van je hele leven. C, de taal, vormt de basis van menig programmeertalen waaronder C++ en Java. Een app tegen de verveling en een (sinaas)appel voor je gezondheid. Je moet die 100 natuurlijk wel vrolijk kunnen behalen! Hoe zorg je dat alle kooltjes in je hoofd blijven branden?

100 C 1004

Apps and apples. C follows you until you're 100 years old. Whether it's a vitamin in your smoothie or part of the apps on your laptop and smartphone, C is part of your whole life. C forms the basis of many programming languages, including C++ and Java. An app against boredom and an apple (or orange) a day to keep the doctor away. With these, you should be able to reach your 100th birthday with a smile on your face! How do you keep your engines running?

101 Filosofie 1104

Een ouderwets sofinummer omwikkeld met een dun laagje bladerdeeg. Filosofie! Al sinds het begin van de mensheid streeft de mens naar kennis en wijsheid. Denken over denken, en overdenken. Maar wat er als 'slim' of als belangrijke kennis wordt gezien is over de eeuwen veranderd. Zelfs de definitie van het woord 'filosofie' zelf is door je jaren heen betwist. Van Plato tot Confucius, filosofer over filosofen en hun filosofieën.

101 Filosofie 1104

Filo pastry? No, philosophy! Since the beginning of humankind, we have strived for knowledge and wisdom. Thinking about thinking and overthinking. But what is seen as 'smart' or important knowledge has changed over the centuries. Even the very definition of "philosophy" has been disputed throughout the years. From Plato to Confucius, philosophise about philosophers and their philosophies today.

102 Meten = weten 1204

Een keer zagen, twee keer meten. Meten = weten. Kledingmaker, bouwvakker of wetenschapper, meten is nodig bij veel vakken, expertises en onderzoek. Meten geeft zekerheid...of toch niet? Waarom weegt een ton in de Verenigde Staten minder dan hier? Waarom is een zeemijl langer dan een gewone mijl? Is de natuurkunde zo vast als we denken? Van LIS tot lisdodde. Word jij de volgende Kamerlingh Onnes?

102 Meten = weten 1204

Measure twice, cut once. To measure is to know. Clothes maker, construction worker, or scientist, measuring is necessary in many subjects, expertise, and research. Measuring provides certainty — or does it? Why does a ton weigh less in the United States than here? Why is a nautical mile longer than a regular mile? Is physics as solid as we think? From scales to rulers and everything in between. Will you be the next Kamerlingh Onnes?!

103 Vacuüm 1304

Katten op roomba's en instructievideo's die je uitleggen hoe je eten langer kunt bewaren. Het internet staat vol met interessante en humoristische dingen. Jammer genoeg komt men door algoritmes ook al snel in een bubbel terecht. En dan leer je dus niets nieuws meer. Een stuk minder grappig dan een huisdier op een stofzuiger! Veel internetgebruikers surfen in een vacuüm. Zonder ruimte voor discussie en zonder druk van de mensen die zich in hetzelfde vacuüm begeven. Pop de bubbel en vind stof tot nadenken!

103 Vacuüm 1304

Cats on Roombas and instructional videos explaining how to keep food longer: the internet is full of interesting and humorous things. Unfortunately, algorithms are quick to keep you trapped in a bubble, and then you learn nothing new — which isn't as funny as a pet on a vacuum cleaner! But many internet users surf the web in a vacuum, reading information and communicating with others in the same space. Pop the bubble and find food for thought!

104 Quantum 1404

In 2008 lag er veel druk op Marc Forster. Casino Royale was een hit en de volgende James Bond-film, Quantum of Solace, moest dus net zoveel konten bioscoopstoelen in trekken. En het lukte! Een grote overwinning voor een naam die van hele kleine deeltjes is afgeleid. Sub-atomische en atomische deeltjes. Alles wat we niet kunnen zien bepaalt wat we wel kunnen zien. Zonder camera, geen film. Zonder licht, geen camera. En zonder fotonen, geen licht. Zonder kwantumdeeltjes had Quantum of Solace dus nooit kunnen bestaan.

104 Quantum 1404

In 2008 there was a lot of pressure on Marc Forster. 'Casino Royale' was a hit, and the next James Bond movie, 'Quantum of Solace', had to pull just as many butts into cinema seats. And it worked! It was a big win for a movie named after very small particles. Subatomic and atomic particles, to be exact. Everything we cannot see determines what we can see. No camera, no film. No light, no camera. And no photons, no light. Without quantum particles, 'Quantum of Solace' could never have existed.

105 Menu 1504

Als er iets misgaat met je computer kom je al snel bij een menu waarop nulletjes en eentjes de enige ingrediënten zijn. Ze vormen gerechten die niet iedereen begrijpt en zeker niet iedereen lust. Toch gebruiken de meesten van ons computers ook al weten we niet hoe ze werken. Weet jij of je computer malware heeft? Op diezelfde manier weten velen eigenlijk niet wat er in ons eten zit. Wat betekenen de e-nummers op de verpakkingen in de supermarkt? Wat staat er op het menu? Of beter: wat zit er eigenlijk in?

105 Menu 1504

If something goes wrong with your computer, you might end up on a menu screen where zeros and ones are the only ingredients. They form dishes that not everyone understands and certainly not everyone likes. Yet most of us use computers even though we don't know how they work. Like how many of us don't know what's in the food we eat, many of us don't know whether or not our computer contains malware. What do the codes on the packaging in the supermarket mean? What's on the menu? Or better: what's in it?

106 Stem 1604

Je gitaar stemmen of je stem uitbrengen met een rood potloodje. Het een zorgt voor geluid in een kamer. Het ander zorgt voor geluid in De Kamer. Elke vier jaar mag iedere burger boven de 18 een stem op een politicus uitbrengen, maar dat is lang niet altijd zo geweest. Wie mag er stemmen en wat is een goede stem? De antwoorden op die vragen verschillen per cultuur en tijdperiode. Sopraan of bas? Zing je mee of blijf je toondoof?

106 Stem 1604

Cast music to a speaker or cast your vote with a red pencil. One creates noise in a room while the other creates noise in Parliament. Every four years, every Dutch citizen over 18 can vote for a politician, but that hasn't always been the case. Who can vote, and what is a good vote? The answers to those questions differ through cultures and time periods. Do you sing along, or do you remain tone deaf?

107 Flacking 1704

Nee, zoek maar niet naar dit woord op Urban Dictionary. Met flacking bedoelen we kunst, ook al zijn er tevens gaten bij betrokken. Losliggende stoeptegels en scheuren in het wegdek zijn de nachtmerrie van menig stratenmaker en minder mobiele mensen. Het letterlijk en figuurlijk creatief vullen van deze gaten en scheuren met mozaïeken is tot een kunst verheven. Wat je noemt street art! Spot zelf flacking in je omgeving. Je komt het op de meest verrassende plekken tegen.

107 Flacking 1704

No, don't search for this word on Urban Dictionary. By flacking, we mean art, even though repeated movements are also involved in this. Loose paving stones and cracks in the surface of roads are a nightmare for many road workers and less mobile people. Filling these holes and cracks with mosaics, literally and figuratively, has been elevated to an art form. What you call street art! Spot flacking in your area yourself. You can come across it in the most surprising places.

108 Magneet 1804

Aantrekkingskracht. Van datingsapp tot koelkastmagneet: aantrekking speelt een grote rol in onze levens. MRI-scans, kompassen, magnetische nepwimpers en maglev-treinen. Magneten zijn op meer plekken dan je denkt. Maar wist je dat de plek waar een kompas naartoe wijst veranderd? Het magnetisch noorden is niet het noorden. En over een paar honderd jaar is het magnetisch noorden in het zuiden. Verwarrend? Misschien. Magnetisme lijkt wel magie.

108 Magneet 1804

Attraction. From dating apps to fridge magnets, attraction plays a big part in our lives. MRI scans, compasses, fake magnetic eyelashes and Maglev trains. You can find magnets in more places than you think. But did you know that the direction a compass points to changes? Magnetic north is not north. And in a few hundred years, magnetic north will be south. Confusing? Perhaps. Magnetism is like magic.

109 USA 1904

Hoeveel staten waren het ook alweer? 52? 50? Dat ligt maar aan wie je het vraagt. De Verenigde Staten zijn dit jaar alweer 246 jaar oud. Popcorn met boter, mierzoete pindakaas en de Superbowl. Supersized maaltijden, en ook wapens en school-shootings. De USA schrijft lang niet altijd op de goede pagina geschiedenis en soms is het 'verenigde' in de Verenigde Staten ver te zoeken. Toch zien wij Uncle Sam als een goede vriend, zeker vandaag op de Nederlands-Amerikaanse vriendschapsdag.

109 USA 1904

How many states was it again? 52? 50? That depends on who you ask. This year, the United States is turning 246 years old. It's brought the Netherlands popcorn with butter, microwaves, and the Super Bowl. Supersized meals, as well as weapons and school shootings. The USA has not always found itself on the right side of history, and sometimes the 'united' in the United States is hard to find. Yet we see Uncle Sam as a good friend, especially today: Dutch-American Friendship Day.

110 Chinees 2004

Feit of fictie? Het beeld van China wat de meeste Nederlanders hebben is erg gemixt. Babi-pangang, draken, kinderarbeid en Mao Zedong. Een combinatie van feiten, vragen en fictie. De Chinese geschiedenis is een muur aan informatie waar velen buiten China niet aan wagen. "Chinees" bestaat niet, maar Mandarijn en Kantonees worden aan rijstafels gekoppeld in plaats van volkeren. China heeft een gevarieerde en grootse cultuur en achtergrond. Klederdracht, kunst, wetenschap en filosofie. Je bent niet te min om te leren over een Chinese dynastie.

110 Chinees 2004

Fact or fiction? The image of China that most Dutch people have is very mixed. Babi-pangang, dragons, child labour and Mao Zedong. A combination of facts, questions and fiction. Chinese history is a wall of information that many outside China do not venture into. "Chinese" does not exist, but Mandarin and Cantonese are associated with rice tables rather than peoples. China has a diverse and grand culture and background. Costumes, art, science and philosophy. You are not too shabby to learn about a Chinese dynasty.

111 Nano 2104

De iPod Nano kwam ietsjes minder dan 17 jaar geleden op de markt en de nano-bots uit Big Hero 6 verschenen alweer 8 jaar geleden op het grote doek. Het woord "nano" verschijnt om de zoveel jaar in popcultuur en betekent altijd "klein". Nanodeeltjes zijn dan echter een heel stuk kleiner dan een iPod. Echte nano-bots zijn ook veel kleiner. Ze kunnen onze oceanen en lichamen helpen, maar voor nu zijn het slechts minuscule robotjes met gigantisch potentieel.

111 Nano 2104

The iPod Nano hit the market a little less than 17 years ago, and the nano-bots from Big Hero 6 hit the big screen eight years ago. The word "nano" appears in pop culture every few years and always means "small". However, nanoparticles are a lot smaller than an iPod. Actual nano-bots are also much smaller. They have the potential to help our oceans and bodies, but for now, they're just tiny robots — with huge potential.

112 Dosereren 2204

Een snufje zout, een scheutje melk en een handjevol rozijnen. Dosereren gaat soms op instinct. Oma's recepten zijn niet precies en een bakker weet op het oog exact hoeveel bloem hij nodig heeft. Maar, slechts een enkele druppel afwasmiddel in je kom en je eiwitten stijven niet meer op. Soms is doseren een kwestie van leven of dood. Hoeveel insuline moet je inspuiten na een maaltijd? Hoe bepaalt een anesthesist hoeveel narcosemiddel je krijgt tijdens een operatie? Dosering is van levensbelang. Of het nou gaat om makarons, medicatie of een marathon.

112 Dosereren 2204

A pinch of salt, a splash of milk and a handful of raisins. A measurement is sometimes based on instinct. Grandma's recipes are not precise, and a baker seems to know exactly how much flour he needs. But, just a drop of dishwashing liquid in your bowl and your egg whites won't stiffen. Sometimes a tiny amount of something is a matter of life or death. How much insulin should you inject after a meal? How does an anaesthetist determine how much anaesthetic you should be given during an operation? The measurement of some things is vital, whether it's macarons or medication.

113 Aarde 2304

De aarde: een grote rots gevuld met gesmolten steen die al draaiend om een nog grotere bol gas heen beweegt in een alsmaar groeiende massa. Het klinkt bizar als je het zo zegt of niet? De aarde zit verdraaid lastig in elkaar. Te veel van dit element of te weinig van dat element en het hele systeem valt uit elkaar. Leven, plantaardig of dierlijk, kan alleen ontstaan en aarden wanneer er een perfecte balans is. Rozen doen het goed in een bekalkte bodem met een hoge ph. Schimmels zoals paddenstoelen hebben dan weer liever een lagere ph. Balans houdt onze Blue Dot draaiende.

113 Aarde 2304

Earth: a large rock filled with molten rock that revolves around an even larger ball of gas in an ever-growing expansion of space. It sounds bizarre when you say it like that, doesn't it? The earth is insanely particular. Too much of this element or too little of that, and the whole system falls apart. Life, plant or animal, can only arise and grow when there is a perfect balance of multiple elements. Roses do well in limestone soil with a high pH. On the other hand, fungi such as mushrooms prefer a lower pH. Balance keeps our floating 'Pale Blue Dot' going.

114 DHZ 2404

DHZ? Huh? Ken je het wel als DIY? Do-it-yourself oftewel doe-het-zelf. Een kastje opknappen, een muur schilderen of toch zelf die gootsteen repareren. Je kan meer dan je denkt! Waar je vroeger iets moest vragen aan een expert of een handige buur, nemen nu steeds meer mensen het heft in eigen handen. Gaat dat voor DIY-Science ook op? Steek je handen uit de mouwen en doe (het) zelf, mee met de wetenschap!

114 DHZ 2404

DIY? huh? Do-It-Yourself! Refurbish a cupboard, paint a wall, or repair that sink independently. You're capable of more than you think! While you used to have to ask an expert or a handy neighbour, more and more people are now taking matters into their own hands. Does that also apply to DIY Science? Roll up your sleeves and do it yourself, be one with science!

115 DNA 2504

Een helix aan genetische informatie. Je DNA bepaalt deels wie je bent en waar je goed in bent. 'Nature and nurture'. Maar wat als jij of je ouders je DNA konden aanpassen? Geen erfelijke ziektes of mankementen meer! Designer baby's en CRISPR: ergens klinkt het ideaal. Maar zou jij willen dat je identiteit volledig door je ouders en wetenschappers in een lab wordt bepaald? DNA is ingewikkeld en doet meer dan je misschien denkt. Daarom wordt het ook hevig onderzocht.

115 DNA 2504

A helix of genetic information. Your DNA partly determines who you are and what you're good at. 'Nature and nurture' — but what if you or your parents could modify your DNA? No more hereditary diseases or defects! Designer babies and CRISPR: sounds ideal, right? But would you want your identity to be entirely determined by your parents and some scientists in a lab? DNA is complex and does more than you might think. That's why it's also heavily researched.

116 IP 2604

Als je iets post op het internet is die foto dan nog van jou? Ja! Meestal wel. Het is jouw "intellectual property", jouw IP. En als het bijzonder genoeg is mag je er zelfs een patent over aanvragen. Dan mag niemand jouw "iets" kopiëren. Superbelangrijk als je een bedrijf hebt natuurlijk. Zo staat er een patent op vrijwel elk medicijn dat je ooit hebt ingenomen. IP op het internet is echter ingewikkelder. NFTs worden verkocht, maar ook gekopieerd en verspreid. Vooralsnog zonder consequenties. Is je IP wel veilig?

116 IP 2604

If you post something on the internet, is that photo still yours? Yes! Most of the time it's your "intellectual property," your IP. And if it's special enough, you can even apply for a patent. This means that no one is allowed to copy "your thing." Of course, this is super important if you have a business. For example, there's a patent on almost every medicine you have ever taken. However, IP is a more complicated matter when it comes to the internet. NFTs are sold but also copied and distributed. So far, without consequences. Is your IP really safe?

117 Teek 2704

En cut! Take 2! In de film van het leven verwacht je meestal niet ziek te worden. Zeker niet van zoiets kleins als een boswandeling. Bloedzuigende parasieten die je ziek maken wanneer je je het meest een voelt met de natuur. Het lijkt wel een horrorfilm. De schapenteek die ons met de ziekte van Lyme, FSME en alfa-galsyndroom lastigvalt is duidelijk de slechterik van het verhaal, maar alle soorten teken zijn kwaadaardige handlangers. 8-potigen die iedereen met minder poten zien als eten: een teek is om van te gruwelen.

117 Teek 2704

Hiking boots? Tick! Water? Tick! Bloodsucking parasite? Tick! You usually don't expect to get sick, and certainly not due to something as small as a walk in the woods. Ticks: tiny parasites who suck your blood and make you sick when you feel most at one with nature. It sounds like a horror movie. The sheep tick that plagues us with Lyme disease, FSME and alpha-bile syndrome are all clearly the story's villains, but ticks are the evil henchmen. They're eight-legged creatures that see everyone with fewer legs as food: a tick is an abomination.

118 Bijl 2804

Kloven, hakken en vellen. Hoort dat bij een houthakker of een moordenaar? Bijlen zijn op meer plekken dan je denkt. Zo is de labrys van de Minoërs de afgelopen 22 jaar een lesbisch pride teken geworden en denkt men bij het woord 'tomahawk' inmiddels aan steak. Strijdbijlen voeren nu dus een heel ander soort gevecht als in het verleden en de hakbijl die bij velen in de schuur hangt heeft meer geschiedenis dan je misschien denkt. Over oorlogshelden en wetenschappers...

118 Bijl 2804

Splitting, chopping, and felling. Does that sound like something you'd associate with a woodcutter or a murderer? Axes can be found in more places than you'd think. For example, the labrys of the Minoans has become a lesbian pride sign over the past 22 years, and the word 'tomahawk' now brings a steak to mind. Battle axes are now fighting a completely different kind of battle compared to the past — and the hatchet that hangs in many sheds has more history than you'd think. A history of war heroes and scientists.

119 Oerknal 2904

BAM! En toen was er... Nou ja. Alles eigenlijk. Een grote klap in de oertijd, vliegend sterrenstof en rondwalende atomen. Ruimte. Tijd. Ons hele universum. Alles ontstond plotsklaps en alles heeft geleid tot waar we nu zijn. Of niet? Wetenschappers staan op ontploffen om je te vertellen over het begin. Radiometrische datering en religieuze teksten. Is het miljarden jaren geleden al bepaald dat er ooit een tv-show naar de oerknal vernoemd zou worden?

119 Oerknal 2904

BANG! And then there was, well, everything. A big blast in prehistoric times, spraying stardust and wandering atoms. Space. Time. Our entire universe. Everything came about suddenly, and all the events that followed have led to where we are now. Or did they? Scientists are so excited to tell you about the beginning that they could explode. Radiometric dating and religious texts. Was it predetermined billions of years ago that a TV show would eventually be named after the Big Bang?

120 Maori 3004

Doe eens even normaal! Politici vol met gezichtstatoeages en een sportwedstrijd beginnen met de haka. Voor de gemiddelde Nederlander klinkt dat alles verre van normaal. Het woord "Maori" betekent echter niets minder dan "gewoon persoon". Wat normaal is verschilt dus aan de andere kant van de wereld! Nederlanders zijn misschien de reden voor de naam "Nieuw" Zeeland, maar Aotearoa, zoals het land in de taal van de Maori wordt genoemd, is een land bomvol (kunst)geschiedenis en eigen cultuur.

120 Maori 3004

Just act normal! Politicians with facial tattoos and sports matches that start with the Haka. To the average Dutch person, this all sounds far from normal. However, "Maori" means nothing less than "ordinary person". What is normal therefore differs on the other side of the world! The Dutch may be the reason for the name "New" Zealand (Zeeland), but Aotearoa, as the country is called in the Maori language, is brimming with (art) history and its own culture.

May

121 Willie Wortel 0105

Een kraanvogel die voorbij komt in zijn vliegende pufmobiel. Willie Wortel is een excentrieke uitvinder uit de de wereld van Donald Duck. Sierlijk zoals een echte kraanvogel is hij niet; zijn uitvindingen lopen nog wel eens in de soep. Soms komen zijn uitvindingen echter wel goed van pas. Inventief is hij dus zeker. De Willie Wortels van onze eigen wereld staan vaak net zo hard te springen om hun nieuwste uitvindingen te laten zien. Wie denk jij aan bij de menselijke Willie Wortel?

121 Willie Wortel 0105

GYRO GEARLOOSE

A chicken who tinkers with his mechanical little "helper." Gyro Gearloose is an eccentric inventor from the world of Donald Duck. He's not exactly the smoothest of chickens; his inventions sometimes go wrong. However, he perseveres, and there are times when his creations do come in handy — meaning he has earned the badge of inventor. The Gyro Gearlooses of our world are often just as eager to create something new. Who do you think of when you think of the human Gyro Gearloose?

122 Reanimeren 0205

"It's alive! It's ALIVE!". Dat zijn de woorden van Victor Frankenstein uit de film van 1931. Het laten bewegen van iets dat niet bewoog. Het tot leven wekken van iets dat al is overleden. Voor Frankenstein was het een lijk, voor velen is het een hart wat nog maar net gestopt is met kloppen. Een massage die je meestal niet in de spa krijgt, maar die wel van levensbelang is. Weet jij hoe je moet reanimeren? Masseer voor het leven!

122 Reanimeren 0205

"It's alive! It's ALIVE!". These are the famous words of Victor Frankenstein from the 1931 film. Making something that didn't move before. Bringing back to life something that had already died. For Frankenstein, it was a corpse. For many, it is a heart that just stopped beating. A vital massage that you can't find on any spa menu. Do you know how to resuscitate someone? It's a massage for life!

123 Empathie 0305

Kun jij je voorstellen hoe het is om iemand anders te zijn? De meesten van ons hebben empathie. Het vermogen om je even te verplaatsen in iemand anders. Om de emotie te voelen die zij voelen. Aangezien we duizenden jaren geleden al in groepen leefden, is het logisch dat de meesten van ons dit kunnen. Maar hoe komt het dan dat sommigen het niet (zo goed) kunnen? Waarom wordt er vaak gezegd dat miljonaars geen empathie hebben? En wanneer heeft iemand teveel empathie?

123 Empathie 0305

Can you imagine what it's like to be someone else? Most of us have empathy: the ability to momentarily put ourselves in someone else's shoes. To feel the emotion they feel. Seeing as we have lived in groups

for thousands of years now, it makes sense that most of us can. But how come some people can't feel it (or at least not so well)? Why is it often said that millionaires lack empathy? And when does someone have too much empathy?

124 Laika 0405

De Inca's vereerden de zon en de maan. Zij hadden al een interesse in de ruimte om ons heen en de sterren in de lucht. De laatste der Inca's, een Inca-tribe, verkondigden in de jaren 50 van de vorige eeuw hun ideeën over de aarde en dromen. Wie had toen kunnen dromen dat er in 1957 een Laika de ruimte in zou gaan? Een Russische zwerfhond die van de straten van Moskou was geplukt om het eerste dier dat rond de aarde cirkelde te worden. Soms komen bijzondere momenten uit onverwachte hoeken.

124 Laika 0405

The Incas worshipped the sun and the moon. They already had an interest in space and the stars in the sky. The last of the Inca, an Inca tribe, proclaimed their ideas and dreams about the earth in the 1950s. Who could have dreamed that a Laika would go into space in 1957? A stray Russian dog, plucked from the streets of Moscow, would become the first animal to orbit the Earth. Sometimes special moments arise from unexpected corners of the globe.

125 Vrijheid 0505

Wat betekent vrijheid voor jou? Kunnen gaan en staan waar je wilt? Je kunnen kleden en gedragen zoals je wilt zonder dat iemand daar iets van zegt? Vrijheid is subjectief. Waar de een oorlog voert voor de vrijheid van diens land, lijdt de ander onder datzelfde gezag zonder vrijheid te kennen. Vrijheid komt vaak met een prijs. Maar als er een prijs aan verbonden zit is het dus niet echt gratis, niet echt vrij. Waar Leiden nog elk jaar haar overwinning viert van de Spanjaarden, weet er niemand beter wat vrijheid is dan Kaunas: onze mede-wetenschapsstad van Europa.

125 Vrijheid 0505

What does freedom mean to you? Is freedom the ability to go where you want? To dress and act the way you want without anyone saying anything? Freedom is often subjective. Where one person may wage war for the freedom of his country, another person may suffer under the same authority without realising they are doing so. Freedom often comes with a price. But if there is a price to be paid, it is not really free. While Leiden still celebrates its victory over the Spaniards every year, no one understands freedom better than Kaunas: our fellow City of Science in Europe.

126 De Sitter 0605

Vandaag staat in het teken van Willem de Sitter. De Sitter is vader van de hemelmechanica. Met zijn wiskundige achtergrond werd hij de babysitter van modellen over het ontstaan van de kosmos. Maar dat was niet het enige waar hij zich mee bezighield. Jupiter en zijn satellieten werden jarenlang door hem in de gaten gehouden. De Sitter zat dus zeker niet stil.

126 De Sitter 0605

Today is all about Willem de Sitter. De Sitter is the father of celestial mechanics. Armed with his background in mathematics, he became the babysitter of mathematical models surrounding the origin of the cosmos. But that wasn't all he was concerned with. He studied Jupiter and its moons for years. You could say that 'De Sitter' certainly did not sit still.

127 Drone 0705

Een zoemend geluid in de lucht. Een aanhoudende toon die voorbij raast. Is het een vliegtuig? Is het een vogel? Is het Mega Mindy? Nee! Het is een drone! Drones zie je steeds vaker. Of het nou draait om die gave beelden van de Amazone of je pakketje van Amazon. Het wordt steeds makkelijker om je eigen drone te bemachtigen. Even een UAV bestellen bij de Mediamarkt of te hard luisteren naar de muziek in je koptelefoon en BAM: je hebt een drone. Of je die je hele leven bij je houdt of slechts totdat hij tegen een muur aanknalt, tja. Dat verschilt per drone.

127 Drone 0705

A buzzing sound in the air. A persistent tone that whizzes past your ears. Is it a bird? Is it a plane? No, it's a drone! You see drones in the sky more and more these days, whether it's a stunning bird's eye view of the Amazon or a method of receiving your package from Amazon. It's becoming easier and easier to get your own drone. Simply order a UAV at the Mediamarkt or listen to the music in your headphones too loud, and BAM: you have a drone — however one is much more desirable than the other. Either you have it for the rest of your life, or, well, it hits a wall. Depends on the drone.

128 Moeder Natuur 0805

De aarde geeft ons alles wat we nodig hebben. Het is dan ook logisch dat menig volk haar bij uitstek als moeder zien. Zij zorgt voor ons zoals een ouder voor een kind zorgt. Maar de mens is een opstandige puber. Velen van ons lijken helemaal niet zo dankbaar te zijn voor Moeder Natuur en maken de aarde (soms zonder het te weten) langzaam kapot. Misschien is onze moeder ook wel een beetje laks. Ziektes, geweld en het recht van de sterkste zijn tenslotte ook onderdeel van de natuur. Zonder Moeder Natuur zouden we echter nergens zijn. Zelfs als zij sommigen van ons benadeeld.

128 Moeder Natuur 0805

The earth gives us everything we need. It's therefore logical that many people see it like a caring mother. She takes care of us the same way a parent takes care of a child. But we humans are like rebellious teenagers. Many of us don't seem to be all that grateful towards Mother Nature, and we're slowly destroying the Earth (sometimes without knowing it). Maybe our mother is a little unforgiving too. After all, illness, violence, and survival of the fittest are also part of nature. However, without Mother Nature, we would be nowhere. Even if some of us are left at a disadvantage.

129 Europa 0905

Het is vandaag de dag van Europa. Vandaag staan we stil bij het feit dat de Europese Unie ooit is opgericht om de vrede in Europa te bewaren, en om alle burgers een goede levensstandaard te kunnen garanderen. Gefeliciteerd!

129 Europa 0905

Today is the day of Europa. Today we reflect on the fact that the European Union was created to keep peace in Europe and to guarantee a good standard of living for all citizens. Congratulations!

130 Beroerte 1005

Mond. Spraak. Arm. Beroertealarm. Je arm niet omhoog kunnen krijgen, een scheef hangende mond en verwarde spraak. Drie signalen die bij velen van ons alarmbellen oproepen. Soms rinkelen de bellen echter niet hard genoeg. Stille beroertes zonder tekenen. Beroertes voel je vaak niet aankomen en soms ziet je omgeving het dus ook niet. Een ongelukje met bloedvaten in je hersenen. Een wond die je niet kan zien, maar wel je leven kan veranderen. Wat zijn de minder bekende signalen waar je op kunt letten? En wat moet je doen als iemand in je omgeving een beroerte krijgt?

130 Beroerte 1005

Mouth. Speech. Arm. Stroke alert. An inability to raise your arm, a slanted mouth and confused speech. Three signs raise alarm bells for many of us. Sometimes, though, the bells don't ring loud enough. There are also silent strokes without symptoms. You often don't feel strokes coming, and sometimes your environment doesn't recognise it either. An accident involving the blood vessels in your brain. A wound you can't see, but it can change your life nonetheless. What are the lesser-known signs to watch out for? And what should you do if someone close to you has a stroke?

131 Muziek 1105

Geluiden die in een bepaalde volgorde een ritme vormen wat voor sommige mensen aantrekkelijk klinkt. Muziek is een bijzonder fenomeen. Instrumenten, zang of ritmisch gestamp op de grond. Muziek

bestaat al sinds de mens op de aarde rondloopt. Het beïnvloedt ons humeur, onze dansmoves en culturele gebruiken. Muziek klinkt heel anders op verschillende plekken in de wereld. Hoe kan iets voor de een mooi klinken en voor de ander afgrijselijk? En waarom is de één een ware virtuoso waar de ander nog geen ritme kan tikken?

131 Muziek 1105

Sounds that form a rhythm in a certain order that sounds enticing to some people. Music is a unique phenomenon. Instruments, vocals, or even just rhythmically stomping on the floor. Music has been around since humans walked the earth. It influences our mood, our dance moves, and cultural customs. Music also sounds very different in different places across the world. How can something sound beautiful to one person and hideous to another? And how come one person can be a true virtuoso whereas another can't even keep a rhythm?

132 Nightingale 1205

Een vliegenvangend vogeltje met een heldere stem en een man die op sterven ligt. De Chinese Nachtegaal is een bijzonder verhaal. De nachtegaal houdt in het sprookje de keizer in leven. Een vogel als verpleegster. Zoals die nachtegaal het licht in de duisternis was, was Florence Nightingale de vrouw met de lamp. Een verpleegster tijdens de Krimoorlog en de grondlegger van de moderne verpleegkunde. Maar wist jij dat ze ook de uitvindster is van het pooldiagram? Nightingale was een alleskunner. Zonder haar geen Rode Kruis of liedje bij je ochtendwandeling.

132 Nightingale 1205

A fly-catching bird with a recognisable voice and a man who is dying. The Chinese Nightingale is a special story. In this fairy tale, the nightingale keeps the emperor alive. A bird acting as a nurse. Just as that nightingale was the light in the darkness, Florence Nightingale was the woman with the lamp. A nurse during the Crimean War and the founder of modern nursing. But did you know that she is also the inventor of the polar diagram? Nightingales are all-rounders. Without them, there would be no Red Cross — and no whistling tune on your morning walk.

133 Bijgeloof 1305

Niet onder een ladder doorlopen. Geen zwarte katten aaien en vooral geen spiegels breken. Ook al brengen scherven geluk. Een handje zout over je schouder gooien. Wacht... welke schouder was het ook alweer? Bijgeloof komt in vele soorten en maten. Vaak komen ze al generaties voor in je familie. Dingen die je gelooft, ook al staan ze in geen enkele religieuze tekst en bestaat er geen wetenschappelijk bewijs voor. Geloof wat je gelooft ondanks je geloof. Maar waarom geloof je het?

133 Bijgeloof 1305

Whatever you do, don't walk under a ladder. No petting black cats and especially no breaking mirrors. Even though some tiny shards bring good luck. Throw a handful of salt over your shoulder. Wait... which shoulder was it again? Superstitions come in many different shapes and sizes. They often run in your family for generations. They're something you believe in, even though they're not in any religious texts and there's no scientific evidence for them. You believe what you believe in spite of your faith. But why do you believe it?

134 Aqua 1405

"I'm a Barbie girl, in a Barbie world." Aqua is nog heel populair. Het water waar je van leeft of een herinnering aan de jaren 90. Ons leven draait om aqua. Van de aquaducten in Rome tot de Aqua-omgeving op je Mac. Blauwgroene tinten en vloeiende bewegingen. Nederland worstelt al eeuwen met water. Nog meer dan 65+ers doen met iPhones. Water geeft en water neemt weg. Zonder water, geen leven. Maar zonder leven hadden wij ook nooit het water kunnen vormen naar onze wil. Stiekem is al het water aqua vita.

134 Aqua 1405

"I'm a Barbie girl, in a Barbie world." Aqua is still very popular. The water you survive on — or a memory from the 90s. Our life revolves around aqua. From the aqueducts in Rome to the Aqua interface on your Mac. Blue-green hues and fluid movements. The Netherlands has been fighting against water for centuries — even more than senior citizens struggle with their iPhones. Water gives and water takes away. Without water, there's no life. But without life, we could never have bent the water to our will. Secretly, all water is aqua vita.

135 Familie 1505

Je hoort wel eens dat bloed dikker is dan water, maar velen zien mensen die niet bloed-gerelateerd zijn als hun familie. Geadopteerde kinderen, pleegouders en drag families. Er zijn honderden situaties te bedenken waarin bloed niets te maken heeft met je familie. Als je genen je niet verbinden, waarom voelt iemand dan toch als familie? Wat maakt iemand een familielid? Het antwoord is ingewikkeld. Er staat slechts 1 ding vast: familie, in welke vorm dan ook, is belangrijk.

135 Familie 1505

You sometimes hear that blood is thicker than water, but many still view people not blood-related to them as their family. Adopted children, foster parents and drag families. There are hundreds of situations where blood has nothing to do with your family. If your genes don't connect you, why do people still feel like family? What makes someone a family member? The answer is complicated. Only one thing is certain: family, in whatever form, is important.

136 Licht 1605

Licht, camera, actie! Licht is essentieel in het leven voor alles wat kan zien. Zonder licht tenslotte geen kleur, schitteringen of zicht. Licht schept helderheid, zowel letterlijk als figuurlijk. De Verlichting is tenslotte niet alleen een afdeling bij de IKEA. De menselijke fascinatie met licht komt in allerlei vormen. Van een stralende witte glimlach tot de dunste televisie. In deze wereld van licht en verlichting zijn de lasten niet voor iedereen even zwaar. Licht je brein uit bed en denk samen over dingen na. Vele handen maken tenslotte licht werk.

136 Licht 1605

Lights, camera, action! To be able to see anything in life, light is essential. After all, without light, there is no colour, twinklings, or sight. Light creates clarity — both literally and figuratively. After all, 'Lighting' is not just a department at IKEA. As humans, our fascination with light comes in many forms, from a radiant white smile to a super-thin television screen. In this world of light and illumination, burdens are often heavy. Let's think about these things together. After all, many hands make 'light' work.

137 5G 1705

Twee-en-een-halve theelepel staat gelijk aan 5 gram olie. 5G. Er was wel meer brandstof nodig om alle telecommasten in de fik te zetten in 2020. Op het internet gaan met je oude Nokia klapteléfono kostte vaak een rib uit je lijf. Met je iPhone 4 de straat doorspeuren op zoek naar een openbaar wifinetwerk is voor veel mensen ook al lang verleden tijd. De meeste mensen maken gebruik van data: 4G. Oh, nee! 5G alweer! Het nieuwe mobiele netwerk zou sneller moeten zijn en grotere gegevensdoorvoer aan moeten kunnen dan 4G. Waarom moesten die telecommasten dan in de fik?

137 5G 1705

Two-and-a-half teaspoons of oil is equal to five grams: 5G. However, much more fuel than that was needed to set Dutch telecom masts on fire in 2020. Using your old Nokia folding phone to access the internet used to cost a lot of money. Searching the street for public Wi-Fi using your iPhone 4 is also a thing of the past for most people. Most of us now use data: 4G. But oh no, 5G! The new mobile network is faster and able to handle more data input than 4G. So why did those telecom masts have to burn?

138 Dracula 1805

Christopher Lee, Bela Lugosi of Bram Stoker's originele roman: Dracula is nog altijd populair. De recente hype rondom Castelvania en Hotel Transylvania bewijst dit voor de zoveelste keer. Bloedzuigende wezens die zorgen dat de mens niet langer aan de top van de voedselketen staat of charmante aristocratische zombies? Een charismatische acteur of de duivelachtige Vlad de Spietser uit Roemenië? Wat een vampier laat schitteren in onze geheugens verschilt per land en mediavorm, maar de geschiedenis van Dracula blijft duister.

138 Dracula 1805

Christopher Lee, Bela Lugosi, or the original novel by Bram Stoker: Dracula is still a popular concept. The recent hype surrounding Castlevania and Hotel Transylvania proves this. But are vampires bloodsucking creatures that knock humans off the top of the food chain or charming aristocratic zombies? A charismatic actor or the devilish Vlad the Impaler from Romania? What makes a vampire sparkle in our memories depends on the country and media form, but Dracula's history remains dark.

139 Levend Geheugen 1905

Elke dag leer je weer nieuwe dingen. Groot of klein. Je geheugen is dus een levend iets: een levend geheugen. Het is tenslotte constant in verandering. Je leert, je weet, je vergeet. Dat hoort nou eenmaal bij het leven. Vergeten is menselijk, maar leuk is anders. Daarnaast kan iets vergeten niet alleen invloed hebben op jouw leven, maar soms ook op de geschiedenis en het collectief geheugen in het algemeen. Af en toe gaat herinneren heel plotseling. Gebeurtenissen of objecten in je dagelijkse leven kunnen je opeens aan iets laten denken. Het leven heeft dus invloed op je geheugen en je geheugen heeft invloed op je leven. Je geheugen leeft op meer dan één manier.

139 Levend Geheugen 1905

You learn new things every day, big or small. As a result, you could say that your memory is a living thing: a living memory. After all, it's constantly changing. You learn, you know, you forget. That's just part of life. To forget is to be human (but that doesn't make it fun). In addition, forgetting something can not only affect your life but sometimes also history and collective memory in general. Occasionally you remember something very suddenly. Events or objects in your daily life can suddenly remind you of something. This means that life affects your memory and your memory affects your life. Your memory is alive in more ways than one.

140 Bij 2005

Was jij erbij? Waarbij? Aardbei! De grap van iedere basisschoolleerling die inspeelt op het woord "bij". Bijeen. "Bij" gaat om gemeenschap. Ook de zoemende beestjes die bijna al onze bloemen bevruchten leven bij elkaar in bijenkorven. Zonder bijen ook geen aardbeien. Dus het kinderlijke grapje is niet incorrect. Zonder gemeenschap geen fruit. De gestreepte, pluizige werkers doen meer dan waar je bij stilstaat. Zonder bijenwas geen kaarsen, lippenstift of poetsmiddelen. Zonder honing geen baklava of kopje muntthee. Bijen zijn bijzonder.

140 Bij 2005

What did the bee say to the flower? Hey, bud! Bees: the buzzing insects that fertilise almost all our flowers and — much like us — also live together in communities. Specifically, beehives. Without bees, there would be no buzz. The striped, fuzzy workers do more than you think. Think about it! Without beeswax, there would be no candles, lipstick, or polishes. Without honey, there'd be no baklava or cups of mint tea. Bees are un-bee-lievable.

141 Grenzeloos 2105

"Imagine there's no countries. It isn't hard to do." Zo luidt het begin van het tweede couplet van John Legend's 'Imagine'. Een wereld die grenzeloos is. Volgens Lennon is het niet moeilijk om je dat voor te stellen, maar menig mens vindt het toch nog best lastig. Grenzen bepalen niet alleen welk land waar begint en eindigt, maar ook wat je wel niet kunt doen. Durf jij uit een vliegtuig te springen? Rauwe

kogelvis te eten? Een witte haai van dichtbij te bekijken? Grenzen verschillen per persoon. Wordt grenzeloos en verleg vandaag je grenzen! Mentaal of fysiek.

141 Grenzeloos 2105

"Imagine there are no countries. It isn't hard to do." This is how the start of the second verse of John Legend's 'Imagine' goes. A world without borders. According to Lennon, it's not difficult to imagine, but many people still find it quite difficult. Borders determine not only where a country starts and ends but also what you can't do. Do you dare to jump out of a plane? Eat raw pufferfish? Want to see a great white shark up close? Limits differ per person. Become borderless and push your limits today! Mentally or physically.

142 Biodiversiteit 2205

Heb je als kind wel eens naar slootwater gekeken? Naar de schrijvertjes die over het water schaatsen, de glibberige kikkerdril en de glimmende visjes? De gemiddelde Nederlandse sloot zit vol met verschillende insecten, vissen, planten en micro-organismen die samen leiden tot een diverse waterflora en fauna. Maar niet alleen de sloot is divers. Om een goed werkzame wereld te behouden moet de hele natuur uit allerlei verschillende planten en wezens bestaan. Biodiversiteit houdt de wereld gezond. Slootwater is boeiender en belangrijker dan je denkt.

142 Biodiversiteit 2205

Did you ever look at ditch water as a child? To the insects who skate on the water, the slippery frogspawn and the shiny fish? The average Dutch ditch is full of various insects, fish, plants and micro-organisms that together lead to a diverse aquatic flora and fauna. But not only the ditch is diverse. In order to maintain a well-functioning world, all of nature must consist of all kinds of different plants and creatures. Biodiversity keeps the world healthy. Ditch water is more fascinating and important than you think.

143 Schildpad 2305

Tortuga: een voormalig pirateneiland voor de Haïtiaanse kust. Van Pirates of the Caribbean tot A'Tuin uit Schijfwereld, schildpadden in de ene vorm of de ander inspireren onze verhalen en mythologieën. Schildpadden zijn echter (nog) geen fantasiedieren. Een fascinerend beestje wat wel honderd jaar oud kan worden. Als we Finding Nemo en meerdere wetenschappelijke onderzoeken moeten geloven tenminste. Een schattig reptiel wat naar een cherrytomaat hapt of een edit van een Taylor Swift liedje. Schildpadden zijn ook onderdeel van de internet mythos, maar hoe lang kan dat schild hen nog beschermen?

143 Schildpad 2305

Tortuga: a former pirate island off the Haitian coast. From Pirates of the Caribbean to Great A'Tuin from Terry Pratchett's 'Discworld' fantasy novels, turtles in one form or another inspire our stories and mythologies. However, turtles are not (yet) fantasy animals. A fascinating creature that can live up to a hundred years, at least if we believe Finding Nemo (and multiple scientific studies). A cute reptile that munches on a cherry tomato or an edit of a Taylor Swift song. Turtles are also part of the internet's mythos, but how much longer can their shields protect them?

144 Hooikoorts 2405

Hatsjoe! Ja, het is weer zover. Brandende ogen en een constant druppelende neus. Hooikoorts is maar een lastpost. De een is allergisch voor dit soort pollen, de ander voor dat soort pollen. Het resultaat is echter hetzelfde. Niezen en jeuk. Hoewel hooi misschien wel kriebelt, heeft hooikoorts er echter niet mee te maken. Hooikoorts komt meestal hoi zeggen in het hooiseizoen, maar dit betekent dus niet dat je allergisch bent voor gedroogd gras. Ook al kan het stuifmeel van gras je misschien wel flink aan het niezen maken.

144 Hooikoorts 2405

Achoo! Yes, it's that time again. Burning eyes and a constantly running nose. Hay fever is a nuisance for many of us. Some of us are allergic to this type of pollen, others to that type of pollen. However, the result is the same; sneezing and itching. While hay may itch, hay itself has nothing to do with hay fever. Hay fever usually comes in the hay season, but this does not mean that you are allergic to dried grass. That being said, the pollen from grass might make you sneeze a lot.

145 Afrika 2505

"I bless the rains down in Africa!" Toto's nummer was een hit en is nog steeds vaak op de radio te horen. Het nummer, vernoemd naar een geheel continent, schetst een beeld van een droog gebied met savannes en luipaarden. Gedeeltelijk waar, maar Afrika is veel meer dan dat. Afrika is een gebied bomvol met geschiedenis, talen en verschillende culturen. Van Tunesië tot Zuid-Afrika, alle landen zijn verschillend. Afrika is dus geen eenheid, maar de Afrikaanse Unie brengt de landen samen. Leer vandaag over de AU in plaats van de EU.

145 Afrika 2505

"I bless the rains down in Africa!" Toto's song was a hit and is still played often on the radio. Named after an entire continent, the song paints a picture of a dry region of savannas and leopards. This is partly true, but Africa is much more than that. Africa is an area brimming with history, language, and different cultures. From Tunisia to South Africa, all countries are different. So Africa is not united in how it looks, but the African Union brings the countries together. Learn about the AU instead of the EU today.

146 Know How 2605

"Ik weet niet hoe" is niet alleen een liedje van Benny Neyman. Weten is je bewust zijn van bepaalde gegevens. Know How is net iets specialer dan gewoon weten. Know How is iets soepel kunnen doen omdat je het zo goed weet; een expert zijn op een bepaalde manier. Hoe je iets moet doen is natuurlijk belangrijk om te weten. Maar waarom is er geen Know What, Know Who en Know Why? Is weten waarom je iets doet of wie iets doet tenslotte niet net zo belangrijk?

146 Know How 2605

'To know' is to be aware of certain details. However, 'Know-How' is more than just knowing something. Know-How is being able to do something smoothly because you know it so well; to be an expert in some way. It is, of course, important to know how to do something. But why is there no 'Know-What', 'Know-Who', and 'Know-Why'? After all, isn't knowing why you're doing something or who's doing it just as important?

147 Copernicus 2705

Copernicus heeft een diameter van 96 kilometer. De inslagkrater op de maan is een stuk groter dan de aardse astronoom. Zijn fysieke postuur doet echter niet af aan zijn invloed. Die invloed is namelijk gigantisch. Hij is een ster in Kreeft en kijkt op ons neer vanaf een Europees programma bedoeld voor aardobservatie. Copernicus zweeft niet alleen door de ruimte. Zijn naam is niet alleen verbonden aan een krater op de maan, maar ook aan een heel tijdperk en het 112e element uit ons periodieke systeem. Copernicus lijkt overal aanwezig, maar ligt toch echt begraven in Polen.

147 Copernicus 2705

Copernicus has a diameter of 96 kilometres. However, when we talk about Copernicus in this sense, we mean an impact crater on the moon. It is much larger than the terrestrial astronomer. That being said, his physical stature does not diminish his influence. That influence is enormous. His name is a star within the Cancer constellation, looking down on us from a European Earth observation program. Copernicus doesn't just float through space, either. Its name is associated with a crater on the moon and an entire era — and the 112th element of our periodic table! Copernicus seems to be everywhere, however, he's actually buried in Poland.

148 Deja Vu 2805

“Déjà Vu! I have been in this place before!” Nee, het is niet alleen een catchy liedje uit Initial D. Het idee dat je iets al eerder hebt meegemaakt of ergens al eerder bent geweest. Stiekem weet je echter dat het niet zo is. Een onechte herinnering. Net zoals bij een auto gaat er soms wel eens iets mis in je interne systeem. Bij een déjà vu ontstaat er een soort kortsluiting in je hoofd. Waarom? Dat weten we niet. Maar het déjà vu gevoel kan alsnog erg sterk zijn. Zet je vandaag schrap voor een race door herinneringen!

148 Deja Vu 2805

“Deja vu! I've been in this place before!” No, it's not just a catchy song from Initial D. It's the feeling that you've experienced something before or been somewhere before. In reality, however, you know that this likely isn't the case. Just like with a car, sometimes something goes wrong in your internal system. Deja vu creates a kind of short circuit in your head. It's a false memory. Why? We do not know. But the feeling of deja vu can be very strong. Brace yourself for a race through (real or fake?) memories today!

149 Homonculus Loxodontus 2905

Een geduldig zittende zeeolifant voor een ziekenhuis. Een onverwacht beeld wat je moet laten lachen. De eerste grap? De naam. De Homonculus Loxodontus is eigenlijk een Mirounga. De mythische olifantachtige is vaste bewoner van het Leids Universitair Medisch Centrum, maar het kunstwerk is de hele wereld over geweest. Van Ganesh tot de Afrikaanse mythes over olifanten: gigantische dieren spreken tot onze verbeelding. De Afrikaanse olifant staat echter op het punt om de mammoet te achtervolgen. De Loxodonta Africana wordt een Homonculus Loxodontus. Een stuk minder grappig dan een zittende zeeolifant.

149 Homonculus Loxodontus 2905

A patiently seated elephant seal sitting in front of a hospital. An unexpected image that's meant to make you smile. The first joke? The name. The Homonculus Loxodontus is actually a Mirounga. The mythical elephant-like statue is a permanent resident of the Leiden University Medical Center, but the work of art has been all over the world. From Ganesh to the African myths about elephants, gigantic animals capture our imagination. However, the African elephant is about to follow in the footsteps of the mammoth. The Loxodonta Africana becomes a Homonculus Loxodontus. Sadly, a lot less funny than a seated elephant seal.

150 Cancelled 3005

Uitgestelde concerten, voetbalwedstrijden zonder publiek en eten afhalen bij je favoriete restaurant. Veel dingen waren vorig jaar en dit jaar gecancelled. Maar ook mensen worden dit steeds vaker. Shane Dawson, Marilyn Manson, J.K. Rowling: allen mensen die in de ogen van de meeste Twittergebruikers het niet langer verdienen om aandacht te krijgen via hun platformen. Maar heeft deze zogenaamde “cancel culture” een effect op hun offline leven? Dat valt te betwisten. Being cancelled is not the end of the world.

150 Cancelled 3005

Postponed concerts, football matches without an audience, and takeaway orders from your favourite restaurant. Many things have been cancelled over the past few years. But more and more people are also being cancelled. Shane Dawson, Marilyn Manson, J.K. Rowling: in most Twitter users' eyes, all of these people no longer deserve attention on their platforms. But does so-called “cancel culture” have an effect on their offline lives? That's debatable. Being cancelled is not the end of the world.

151 Kweken 3105

De binnenkant van thermometers, een babbelaar en een mini-reiger. Kwik, kwek en kwak. De drie neefjes van Donald Duck zijn onze cultuur ingegroeid. Maar de groei van onze popcultuur is niet het enige waar we vandaag je aandacht voor vragen. Het woord “kweken” betekent meer dan je misschien denkt. Van kweekjes in een laboratorium tot het Nederlandse soft-drugsbeleid. Crispr en kraaieneieren.

GGO en gorillaverblijven. Wordt het kweken van genetisch gemodificeerde flora en fauna normaler of blijft het een vreemde eend in de bijt?

151 Kweken 3105

From when we're kids, we're all working toward being "grown-ups". But the word "growing" means more than you might think. From cultures in a laboratory to Dutch soft drug policy. Crispr and crow eggs. GMO and gorilla enclosures. Will the cultivation of genetically modified flora and fauna become the norm, or will it continue to be a step too far?

June

152 Kaas 0106

Of je nou aan Frankrijk, Italië of ons eigen koude kikkerlandje denkt bij kaas, één ding is zeker: Europa heeft van kaas wel kaas gegeten. Kaas is in vele culturen een begrip. Het wordt gegeten als ontbijt, lunch, diner en dessert. Geen wonder dus dat de gemiddelde Nederlander wel 17 kilo kaas per jaar eet. Denen en Fransen eten respectievelijk 28 en 26 kilo kaas per persoon per jaar. Maar ook de Aziatische paneer en jakkaas kunnen natuurlijk niet vergeten worden. Nu steeds meer mensen boeren oproepen om vegetarische of zelfs veganistische kaas te produceren is het nog maar de vraag of die kaascultuur nog lang zal blijven bestaan.

152 Kaas 0106

Whether you think of cheese in France, Italy, or our own cold little country, one thing is certain: Europe is the land of cheese. Cheese is beloved in many cultures. It's eaten for breakfast, lunch, dinner, and dessert. So it's no wonder that the average Dutch person eats 17 kilograms of cheese every year. If you think that's impressive, the Danes and French eat a whopping 28 and 26 kilograms! Let's not forget the Asian paneer and yak cheeses. However, with more and more people calling on farmers to produce vegetarian or even vegan cheeses, will cheese culture continue to exist in the future?

153 Watervlo 0206

Als je een vlo in een beek gooit is het niet opeens een watervlo. Watervlooien zijn niet eens echt vlooien! Het zijn kleine kreeftachtige beestjes waarvan de oudste fossielen stammen uit de Jura. Watervlooien leefden dus samen met dinosauriërs! Ze vervullen al eeuwen een belangrijke functie: ze eten (slechte) algen en vormen een belangrijke voedselbron voor veel vissen en salamanders. Daarnaast zijn ze genetisch heel boeiend. Sommige watervlooien hebben wel 31.000 verschillende genen. Een mens heeft er maar 20.000. Wat er omgaat in een watervlo is dus niet zo nietig als je denkt...

153 Watervlo 0206

If you throw a flea into the water, it doesn't suddenly become a water flea. In fact, water fleas aren't even real fleas! They're small crustaceans called Daphnia which can be traced all the way back to the Jurassic period. This means that, yes, water fleas coexisted with dinosaurs! For centuries, water fleas have played an important role in ecosystems: they eat (bad) algae and are an important food source for many fish and salamanders. In addition, they have some wicked genetics. Some water fleas have as many as 31,000 different genes. To put that into context, a human has only 20,000! Water fleas aren't as insignificant as you'd think...

154 Techniek 0306

Sommige mensen hebben een speciale techniek voor lastige handelingen. Het ontpitten van een mango, luiers verschonen van spartelende baby's of wijnflessen openen zonder kurkentrekker: overall is wel een techniek voor. Toch is dit vaak niet wat we onder "techniek" verstaan. Sleutelen aan hoogspanningsstations, F16s en robotarmen. Dat is pas techniek. Technische wetenschappen worden steeds belangrijker in onze maatschappij. Binnen technische wetenschap komen allerlei soorten techniek en wetenschap bij elkaar. Wat als een robot binnenkort de luier van een baby kan verschonen?

154 Techniek 0306

Some people have a special technique for performing difficult tasks. Removing the pit from a mango, changing the nappies of kicking babies, or opening wine bottles without using a corkscrew: there's a technique for everything. However, it's often more about the "technique" than the "technology", even though the words are similar. Tinkering with high-voltage substations, F16s, and robotic arms — now that's technology! However, technical sciences are becoming increasingly important in our society. Within technical science, all kinds of techniques and sciences come together. What if a robot could eventually change a baby's diaper?

155 Plant 0406

Als je een plant plant, wat plant je dan precies? Planten zijn er in vele vormen en maten. Ze komen vrijwel overal op de aardbol voor en hebben allemaal net eventjes iets anders nodig om optimaal te groeien en te bloeien. Waarom groeien er geen cactussen in de zee? Hoe komt het dat sommige planten vlees eten en anderen genoeg hebben aan de zon en de lucht? Plant nog maar een idee in je hoofd, want planten lijken soms meer op mensen dan je misschien denkt. Zo proberen sommige planten elkaar werkelijk te doden en stelen sommige planten de voedingsstoffen van anderen om te leven.

155 Plant 0406

When you plant a plant, what precisely do you plant? Plants come in many shapes and sizes. They can be found almost everywhere in the world, and they all need a little something special to bloom to their full potential. Why don't cacti grow in the sea? Why do some plants eat meat and others exist from the sun and air? Allow us to plant an idea in your head: sometimes plants are more like people than you may think. Some plants try to kill each other, and others steal nutrients from their neighbours to live!

156 Japan 0506

Het land van de rijzende zon, anime, samurai-zwaarden, kimono's, sushi en matcha-thee. Het is allemaal waar, maar wel een beetje kort door de bocht. Japan is meer dan alleen haar exports en stereotiepen. De wonderlijke cultuur van Japan zoekt balans tussen moderniteit en traditie. Robots kunnen je rondleiden door Tokyo, maar staan wel stil bij de shinto-schrijnen (jinja) die nog altijd gebruikt worden. Voel je zo gelukkig als een kat en verdiep je vandaag in Nihon.

156 Japan 0506

The land of the rising sun, anime, samurai swords, kimonos, sushi, and matcha tea. This is all true — but a bit short-sighted. Japan is much more than just its exports and stereotypes. The wonderful culture of Japan seeks a balance between modernity and tradition. Robots can show you around Tokyo, but they don't dare to stop at the Shinto shrines (jinja) that are still in use. Feel as happy as a cat and immerse yourself in Nihon today.

157 Buiten 0606

Bijna 60% van alle Nederlanders heeft in de winter een vitamine D tekort. Niet zo heel gek, want naar buiten gaan in de winter? In de stromende regen en de ijzige kou? Dat doen de meesten liever niet. Toch is buiten zijn belangrijk. Kinderen spelen steeds minder vaak buiten, maar hoe moeten zij dan een waardering krijgen voor alles wat zich buiten afspeelt? Of geen vitamine D tekort? Schuif je stoel dicht bij het raam of trek erop uit. Vandaag vind je het leven buiten.

157 Buiten 0606

Almost 60% of all Dutch people have a Vitamin D deficiency in the winter. This isn't surprising when you think of going outside in the Netherlands' cold months. Walking around in the pouring rain and icy chill? No thanks, we'd rather stay inside. Still, being outside is important. Children play outside less and less these days — but how are they supposed to enjoy all the outdoors has to offer? Or avoid a Vitamin D deficiency? Slide your seat closer to the window or step outside your door. Today you'll find life outside.

158 Klimaat 0706

Het klimaat is iets van de toekomst. Of toch niet? Waar er vroeger veel over het klimaat in het Cambrium of het weer van vandaag werd gesproken, denken wetenschappers steeds vaker vooruit. Over het weerbericht van volgende week? Nee. Over de weersvoorspelling van 10, 25 of zelfs 100 jaar! Het klimaat bepaald meer dan je lief is. Het is alsmat veranderend, maar loopt nu wel heel hard van stapel. Hoeveel kunnen wij als mens daar aan doen? Ligt het allemaal aan de grote bedrijven of is het al te laat?

158 Klimaat 0706

The climate is an issue for the future. Or is it? While there used to be a lot of talk about the Cambrian climate or today's weather, scientists are increasingly looking ahead. Towards next week's weather forecast? Not exactly. Towards the weather forecast for the next 10, 25, or even 100 years! The climate determines more than you'd think. It's constantly changing, but the shifts are now becoming a priority for many scientists. What can we, as humans, do about climate change? Does it all come down to big companies? Or are we already too late?

159 Oceaan 0806

Er wordt geschat dat er 100 tot 150 miljoen ton plastic afval in onze oceanen en zeeën rondrijft op dit moment. De oceaan is vies en dat is een probleem. Visjes happen plasticdeeltjes op en zodra wij vis eten of een dier eten wat vis gegeten heeft krijgen wij die deeltjes ook binnen. Daarnaast kunnen steeds minder oceaandieren en -planten goed groeien en bloeien, wat slecht is voor het hele milieu in het algemeen. Warm of koud? Zout of brak? Kalm of snel? Trekken we snel genoeg aan de bel?

159 Oceaan 0806

It's estimated that there are between 100 to 150 million tons of plastic waste in the world's oceans right now. Meaning that yes, the ocean is polluted — and that's a major problem. Fish eat plastic particles, and as soon as we eat fish, we also ingest those particles. In addition, fewer and fewer ocean animals and plants can grow and thrive in these polluted ecosystems, which is bad for the environment as a whole. Hot or cold? Salty or sweet? Calm or fast? Are we sounding the alarm soon enough?

160 Koraal 0906

Dit is een koraal verhaal. Waar velen van jullie waarschijnlijk weten dat koraal een dier is (en dus geen plant!), is er over de functie van koraal wat minder bekend bij de gemiddelde persoon. Hoewel er al eeuwen sieraden worden gemaakt van het dier, is haar functie in de oceaan nog veel mooier. Koraal is echter fragiel. Het bestaat uit honderden poliepies die vrij makkelijk uit balans worden gebracht. Een kleine opwarming of afkoeling van het zeewater of de afname van bepaalde soorten algen; klimaatverandering in alle vormen kan het koraal verstoren. Hoe lang nog voordat duizenden vissen dakloos worden?

160 Koraal 0906

This is a story about coral. While many of you probably know that coral is, in fact, an animal (not a plant), much less is known about the role that coral plays in the life of the average person. Although jewellery has been made from this animal for centuries, its function in the ocean is even more beautiful. Unfortunately, coral is fragile. It consists of hundreds of polyps that can be easily thrown out of balance. Whether it's a slight drop or rise in the temperature of seawater or a decrease in certain types of algae, climate change can majorly disrupt the growth of coral. How long before thousands of fish become homeless?

161 Relativiteit 1006

Alles is relatief. Wat in jouw ogen misschien een goede dag is, is voor iemand anders misschien een slechte. Relativiteit is belangrijk om gelukkig te zijn en met anderen te kunnen sympathiseren, maar speelt natuurlijk ook een grote rol in de natuurkunde. Equivalentieprincipe, ruimtekrommingen en

zwaartekracht. Als dat wat ingewikkeld klinkt, is vandaag het moment om je te verdiepen in Einstein. Zowel speciaal als algemeen. Of sta anders even stil bij wat je al wel hebt en weet.

161 Relativiteit 1006

It's all relative. What may be a good day for you could be a bad day for someone else. Relativity is important to be happy and to be able to sympathise with others, but of course, this concept also plays a large role in physics. Think of the equivalence principle, curvatures of space, and gravity. If these sound a bit complicated, now is the time to delve into the works of Albert Einstein. Check out his academic or more accessible work. Alternatively, you could stop and think about what you already have and know.

162 Kiek 1106

Eventjes kijken of efkes kieke. Kiek is eigenlijk gewoon kijk. Maar een kiekje maken heeft natuurlijk met foto's te maken. En een kiek heet niet alleen een kiek omdat je ernaar kunt kijken. Wie wel veel door een camera keek was Israël Kiek. De Groninger kwam op zijn 44ste naar Leiden en maakte van fotografie zijn hoofdberoep. Kiek maakte veel portretfoto's, maar werd vooral bekend met zijn groepsfoto's van studenten. Hier stonden de studenten altijd op spontane wijze op. Leuk vond Kiek deze foto's zelf echter niet. Vandaar dat een kiekje maken nog steeds snel hoort te gaan.

162 Kiek 1106

In Dutch, to 'have a look' or 'take a look' is written as 'Eventjes kijken' or 'efkes kieke.' Why are we telling you this? Funnily enough, it's very similar to the name of the famous Dutch photographer, Israël Kiek. The Groninger came to Leiden at the age of 44 and made photography his main profession. Kiek took many portrait photos but became especially known for his photos of groups of students. The students always posed spontaneously, and Kiek wasn't such a fan of these photos himself. That's why taking a picture should be fast, like a snapshot (or 'kiekje', as they say in Dutch.)

163 Sport 1206

'It's pretty, isn't it, old sport?' De term "old sport" komt 45 keer in The Great Gatsby voor. Best veel voor een verhaal wat officieel maar 208 pagina's heeft! "Old sport" refereert bij Jay Gatsby naar gentlemen en oud geld. Waar sommige sporten zeker nog met die twee geassocieerd kunnen worden, is sport soms veel meer dan dat. Polo heeft tenslotte niet hetzelfde imago als voetbal. Hoewel het imago van sport zeker niet betekenisloos is, is het natuurlijk het belangrijkste dat sport je gezond en in beweging houdt. Of het nou om schaken, curlen, hockey of rolstoelbasketbal gaat.

163 Sport 1206

"It's pretty, isn't it, old sport?" The term "old sport" appears no less than 45 times in The Great Gatsby. Pretty often for a story that's only 208 pages long! For Jay Gatsby, "old sport" refers to gentlemen and old money. While some sports are still associated with posh men and money, sport is often about much more. After all, polo does not have the same reputation as football. While a specific aesthetic associated with sport isn't meaningless, the most important thing is that sport keeps you healthy and moving — whether it's chess, curling, hockey, or wheelchair basketball.

164 Hik 1306

Krijg toch de hik! We wensen de hik nogal graag anderen toe. Maar wat is "de hik" eigenlijk? Hik is een onomatopoeie. Hik heet dus hik omdat het geluid van de hik klinkt als "hik". Bij de hik trekt je middenrif spontaan en onwillekeurig samen. Meestal is dit volledig onschuldig, alleen een beetje vervelend. Te snel eten, pittig eten, alcohol, roken en lachen: de hik kan door van alles veroorzaakt worden. Soms duurt de hik echter langer dan 2 dagen. Dan is het oppassen geblazen. Misschien dat je dan wel tegen een ziekte aanhikt.

164 Hik 1306

In Dutch, one way to cuss at someone is to tell them to “krijg toch de hik!” or “get the hiccups!” But what exactly are ‘the hiccups’? If you think about it, ‘hiccup’ is an onomatopoeic word. That means that hiccups are called hiccups because the sound of the hiccups sounds like ‘hiccups’. During hiccups, your diaphragm contracts spontaneously and involuntarily. This is completely harmless and just a little annoying most of the time. Hiccups are caused by eating too quickly, spicy food, alcohol, smoking, and laughing. However, sometimes hiccups can last longer than two days! Then you have to be careful — you might be suffering from a disease.

165 Bloed 1406

Met bloed, zweet en tranen. Bloed is vaak representatief voor iets zwaars. En dat terwijl je meestal helemaal niet merkt dat je het hebt! Bloed kan symbool staan voor familie of een belangrijke afspraak. Zo uniek is bloed echter niet. A, AB, B of O. Dat zijn de opties. En dan kunnen ze ook nog eens een positieve of negatieve rhesusfactor (Rh) hebben. Maar een rhesus is natuurlijk ook een makaak. Er zweven echter geen aapjes door je bloedbaan. Ook al hebben we wel een gemeenschappelijke voorouder. De aap zit misschien niet in je bloed, maar er zitten dus wel aapjes in jouw DNA.

165 Bloed 1406

Blood, sweat, and tears. Blood is often representative of something heavy — and yet, many of us don't even notice that it flows through our veins! Blood can symbolise family or be discussed during doctors' appointments. However, blood is not that unique because we all fall under one of four categories: A, AB, B, or O. Your blood can also have a positive or negative rhesus factor (Rh). A rhesus is also a type of macaque monkey; however, no monkeys float through your bloodstream. That being said, we do have a common ancestor. Monkeys may not be in your blood, but they are certainly in your DNA.

166 Zien 1506

Ik zie, ik zie, wat jij niet ziet en het is... Onscherp. Ongeveer 20 a 25 procent van de bevolking is verziend of bijziend. Wakker worden en gelijk de wereld om je heen scherp kunnen zien is een privilege waar niet veel mensen bij stilstaan. En dan hebben we het nog niet eens over 76.000 Nederlandse blinden die nog minder zien. Of de 8% van de mannen en de 0,5% procent van de vrouwen die de kleuren van de wereld volledig anders beleven dan de gemiddelde persoon. Wat jij ziet is misschien helemaal anders dan wat iemand anders ziet. Je zult het nooit weten, want zien door de ogen van een ander? Dat kan (nog) niet.

166 Zien 1506

I see what you mean, and it's ... out of focus. About 20 to 25 percent of the Dutch population are farsighted or nearsighted. Waking up and immediately seeing the world around you with complete clarity is a privilege that not many people think about. And that's not to mention the 76,000 blind people in the Netherlands who see even less. Or the 8 percent of men and the 0.5 percent of women who experience the world's colours completely different from the average person. What you see may be very different from what someone else sees. However, you'll never know because seeing through another person's eyes? That's not (yet) possible.

167 Urban 1606

Getto's, graffiti en gangsters. Letterlijk betekent ‘urban’ stedelijk. Figuurlijk wordt het woord echter vaak gebruikt om te refereren naar straatcultuur. Muziekgenres, modestromingen, straattaal-en-dialect: alles kan urban zijn. De term is in de V.S. echter steeds meer geëvolueerd van stedelijk naar niet-wit en wordt vaak gebruikt om naar zwarte en latinx mensen te refereren, onafhankelijk van of zij werkelijk uit een stedelijk gebied of straatcultuur komen. Dit wordt door mensen uit die groepen meestal dan ook niet gewaardeerd. Taal is soms meer dan wat het lijkt.

167 Urban 1606

Ghettos, graffiti, and gangsters. 'Urban' literally means a city environment. Figuratively, however, the word is often used to refer to street culture. Music genres, fashion trends, slang, and dialect: many

things can be considered urban. However, in the US, the term has evolved more and more to refer to something non-white and is often used to refer to Black and Hispanic people — regardless of whether they actually come from an urban area or follow street culture. Understandably, this is often not appreciated by people from these identity groups. Language is sometimes more than what it seems.

168 Dr. Jones 1706

Vandaag moest officieel de nieuwste Indiana Jones uitkomen. Maar helaas, vandaag kunnen we niet van die Dr. Jones genieten, maar gelukkig wel van een hoop andere dingen. De archeologie heeft prachtige vondsten naar boven weten te halen die in menig musea te bewonderen zijn. Die vondsten hebben ons ook veel geleerd. Maar hoe komen ze in musea? Sommige stukken zijn tenslotte niet zomaar door bevolkingen of landen afgestaan. Hebben musea wel recht op de kunstwerken en geschiedenis die zij daar vertonen? Denk vandaag na over de oorsprong van archeologische stukken. Opzoek naar een vrolijker onderwerp? Zet dan gewoon even “Dr.Jones” van Aqua aan.

168 Dr. Jones 1706

Today, the latest Indiana Jones film was supposed to be released. Alas, we can't offer you Dr Jones — but thankfully, plenty of other things! Archaeology has led to the discovery of many beautiful finds that can be admired in museums worldwide. These finds have taught us a lot about the past. But how do they wind up in museums? After all, not all pieces were simply handed over by populations or certain countries. Do museums have a right to the works of art and history they exhibit? Today, we'll think about the origin of archaeological pieces. Are you looking for a happier subject? Then just play “Doctor Jones” by Aqua.

169 Kaiser & Kapteyn 1806

Keizer, koning, kapitein. Vandaag wordt de admiraal eventjes vervangen door een astronoom. Frederik Kaiser en Jacobus Cornelius Kapteyn: beiden sterrenkundigen die plekken hebben gesticht waar men het heelal kan bestuderen. Kapteyn is precies honderd jaar geleden overleden, maar zijn invloed kan nog steeds overal in Nederland worden gevoeld. Kaiser heeft zijn bijdrage gedaan aan de sterrenwacht in Leiden. Daarnaast schreven ze ook allebei over de sterren en behaalde internationale faam. Kaiser en Kapteyn kunnen allebei dus koningen binnen hun vak worden genoemd.

169 Kaiser & Kapteyn 1806

Kaiser, king, captain. Today, let's replace the titles with two astronomers: Frederik Kaiser and Jacobus Cornelius Kapteyn (meaning captain in Dutch). These were no army men; instead, both men were astronomers who founded institutions that today allow people to study the universe. Kapteyn passed away exactly 100 years ago, but his influence is still felt all over the Netherlands. Kaiser contributed to the observatory in Leiden. In addition, the two also wrote about the stars and achieved international fame. So Kaiser and Kapteyn can both be called kings of their trade.

170 Fusie 1906

Kernfusie. De fusie van twee bedrijven. Het fusielassen van een glaskabel. Waar je ook aan denkt bij fusie, het heeft altijd iets te maken met samensmelten. Maar wat is een fusie eigenlijk? Is het niet gewoon de overname van bedrijf A door bedrijf B? Ja en nee. Het ligt allemaal wat ingewikkelder. Ook andere vormen van fusie zijn zeer complex. Op aarde zijn omstandigheden waarbij atoomkernen fuseren namelijk niet zo makkelijk na te bootsen. Kernfusie en fusie-energie blijven dus nog even in de breinen van wetenschappers smelten.

170 Fusie 1906

Fusion refers to merging two things that were once separate — like an Asian Fusion restaurant that cooks up a uniquely delicious blend of Chinese, Japanese, and Thai food. But what exactly is a fusion? To explain it is complicated — much like the process of fusion itself. For example, the complex conditions in which atomic nuclei fuse are not so easy to replicate on Earth. You could say that nuclear fusion and fusion energy will continue to melt scientists' brains for another while.

171 Handshake 2006

Handenschudden. Veel mensen doen het. Maar het is eigenlijk een beetje raar. Wat als je handen vies zijn als je iemand ontmoet? Wat als je geen handen hebt? En waarom doen we het eigenlijk alleen bij een eerste ontmoeting, sportevenementen en andere belangrijke evenementen? Handshakes zijn er al eeuwen. De traditie rondom het schudden van handen verschilt per cultuur en tijd. Waar, wanneer en met wie wel en wie niet? Dat zijn de vragen rondom handshakes waar iedereen binnen hun eigen cultuur een antwoord op heeft. Zeker als je een eigen handshake ontwikkelt met iemand anders.

171 Handshake 2006

A handshake: it's a typical way to introduce yourself to someone. But if you think about it, it's actually a bit weird. What if your hands are dirty? What if you don't have hands? And why do we only do it when meeting for the first time, at sporting events, or other important events? Handshakes have been around for ages, but the tradition of shaking hands differs depending on time and culture. Where, when, and with whom should we shake hands? The answers to these questions vary depending on the culture or person you ask. Especially if you develop your own secret handshake with a friend.

172 Boerhaave 2106

"Simplex sigillum veri - Eenvoud is het kenmerk van het ware". Boerhaave's motto lijkt veel op een leus die je nu nog vaak binnen de geneeskunde hoort: "Denk paarden, geen zebra's". Vaak is de simpelste conclusie bij een medisch probleem de juiste. Die conclusies kunnen we nu alleen stellen omdat menig arts uit het verleden veel onderzoek heeft gedaan. Levende mensen of lijken. Vrijwillig of onvrijwillig. Ethisch of onethisch. Herman Boerhaave was een van die artsen en deed in Leiden onderzoek wat in de hele wereld een verschil zou gaan maken. Verdiep je vandaag in zijn leven of onderzoek of ga op een tripje naar het Leidse museum dat zijn naam draagt.

172 Boerhaave 2106

"Simplex sigillum veri - The great seal of truth is simplicity." Hailed as a Dutch Hippocrates, Herman Boerhaave's motto is very similar to a slogan that you still often hear in medicine: "When you hear hooves, think of horses, not zebras." Often, the simplest conclusion to a medical problem turns out to be the correct one. The reason why we can now make so many medical diagnoses is thanks to the doctors of the past who carried out research on both living people and corpses. Voluntarily and involuntarily. Ethically and unethically. Boerhaave was one of these doctors, and the research he carried out in Leiden has had a huge impact on the world. Today, you can immerse yourself in his life and research — wander through the Leiden museum named after him!

173 Exoten 2206

Wat is exotisch? De meesten van ons denken waarschijnlijk aan een tropisch paradijs of de mango-smoothie die je in de supermarkt kan halen. Het begrip 'exoot' is echter breder dan dat. Alles wat niet van origine ergens groeit of leeft is een exoot. De standaard huismus is in Australië bijvoorbeeld een indringer die daar pas sinds de 19e eeuw rondvliegt. Een mus is dus exotisch! Exoten zijn soms echter heel handig. Zo worden sommige exoten gebruikt om planten-en-dierenplagen te bestrijden. Andere exoten zijn echter lastposten. En dan bedoelen we niet je smoothie flesje die niet open wil.

173 Exoten 2206

What do we mean when we say something is exotic? Most of us probably think of a tropical paradise or a delicious mango smoothie. However, the term 'exotic' is much broader than you'd think. Everything that grows or lives in an area from which it didn't originate is considered an exotic species. The standard house sparrow in Australia, for example, is an invader that has only been flying around the country since the 19th century — meaning a sparrow is exotic in Australia! However, exotic species are sometimes very useful. For example, some exotic species are used to combat plant and animal pests. However, others can be nuisances — and we don't mean your smoothie bottle that won't open.

174 Boek 2306

Ja, het is makkelijk om uit te beelden tijdens Hints. Twee opengevouwen handen en je weet het: het is een boek! Boeken zijn er al eeuwen en waren heel lang dé manier om verhalen vast te leggen en ideeën te verspreiden. Menig religie is er op gebaseerd en veel legendes en mythen zijn nog in omloop dankzij boeken en geschriften. Maar papieren boeken? Dat is een relatief nieuw fenomeen en tegelijkertijd ook al weer ouderwets. E-readers en audioboeken nemen in populariteit toe. Kan je binnenkort nog leesvoer halen bij je lokale bieb of boekhandel?

174 Boek 2306

It's easy to guess during a game of charades: two open hands and, you know it, a book! Books have been around for centuries. They're a great way to record stories and spread ideas. Many religions base their ideologies around the content of books, and many legends and myths are still circulating thanks to being recorded in books. But paper books? They're actually a relatively new phenomenon — and yet, at the same time, old-fashioned. Nowadays, e-readers and audiobooks are becoming increasingly popular. How much longer will public libraries and local bookstores last?

175 Glesum 2406

Een klein mugje in een grote druppel oranje-gele boomhars. Vies? Nee hoor, dat maakt volgens velen een mooi sierraad. Barnsteen, ook wel bekend als amber, wordt al sinds de prehistorie gebruikt om het menselijk lichaam te versieren. Maar het heeft lang niet altijd barnsteen geheten. Volgens de Romeinse politicus Tacitus werd de steen in de Baltische staten 'glesum' genoemd en glesum werd in grote delen van de wereld als erg waardevol gezien. Het Griekse woord voor de hars is 'elektron' (ηλεκτρον). Dit is waar het woord elektriciteit vandaan komt! Als je een stukje glesum tegen een dierlijke vacht aan wrijft, wordt het namelijk statisch.

175 Glesum 2406

A small mosquito in a large drop of solidified amber tree resin. Sounds kind of nasty, right? If you ask people, some would say it actually makes a pretty nice piece of jewellery. Amber has been used to decorate the human body since prehistoric times. But it hasn't always been called amber. According to the Roman politician Tacitus, this gorgeous stone was once called 'glesum' in the Baltic States. Glesum was considered to be very valuable in many parts of the world. The Greek word for the resin is "electron" (ηλεκτρον). Funnily enough, this is where the word electricity comes from! Why? If you rub a piece of glesum against animal fur, it becomes static.

176 Bier 2506

Het woord "bier" betekent in een hoop talen hetzelfde. Van het IJslandse "bjór" tot het Japanse "bīru", bier is wereldwijd een begrip. En wij als Nederland zijn aan bier verbonden, net zoals de meeste Noord-Europese landen. Van Heineken tot Hertog Jan, heel Holland houdt van bier. Maar wat is bier eigenlijk? En hoe zorgt men dat het drankje allerlei verschillende smaken heeft? Proost vandaag op het leven en borrel mee in de wereld van bier.

176 Bier 2506

The word "beer" means the same thing in many languages. From the Icelandic "bjór" to the Japanese "bīru", beer is loved and recognised worldwide. And just like most Northern European countries, the Netherlands has a strong connection to beer. From Heineken to Hertog Jan, the lowlands loves its brews. But what exactly is beer? And how do you give it that delicious variety of flavours? Raise a glass today and have a drink to the world of beer.

177 Drezels 2606

"In de Ligusterlaan, op nummer 4, woonden meneer en mevrouw Duffeling." Zo luidt de eerste zin van de Harry Potter reeks. Zeven boeken en acht films en J.K. Rowling is nog niet uit verteld. Nog steeds worden er boeken gepubliceerd die zich afspelen in de wereld van Harry en Hij-Die-Niet-Genoemd-Mag-Worden. Hoe konden de verhalen zo'n fenomeen worden? In boekenreeks worden de "gewone" non-magische mensen in het Nederlands drezels genoemd. Maar wie en wat er gewoon is volgens

J.K. Rowling is natuurlijk erg subjectief, zoals maar blijkt uit haar recente transfobe uitspraken. Is de magie er voor jou af?

177 Drezels 2606

"Mr and Mrs Dursley of number four, Privet Drive, were proud to say that they were perfectly normal, thank you very much." This is the very first sentence in the Harry Potter series. Seven books and eight movies later, J.K. Rowling is still enjoying financial success. Books based in the world of Harry and He-Who-Must-Not-Be-Named continue to be published by the thousands. How have these stories become such an extraordinary cultural phenomenon? In the series, "ordinary" non-magical people are called muggles. But who and what is normal according to J.K. Rowling is, of course, very subjective, as evidenced by her recent transphobic statements. Is the magic over for you?

178 Microbioom 2706

Kleine beestjes kriebelen constant door je lichaam. Geen zorgen! Die beestjes horen bij je. Bacteriën, schimmels, gisten, virussen en andere eencellige wezens bevinden zich altijd in je lichaam. En dat is maar goed ook. Zonder hen zou je namelijk veel minder makkelijk kunnen leven! Samen vormen al deze beestjes je microbiom. De belangrijkste beestjes zitten in je darmen, zowel goede als slechte. De darmbeestjes zorgen dat je darmen samentrekken, houden je darmwand dik en sterk en trainen je afweersysteem tegen schadelijke stoffen. Hierdoor blijft je microbiom in balans. En zonder die balans raakt je hele lichaam van slag.

178 Microbioom 2706

Tiny creatures are constantly crawling through your body. But don't panic! These little guys belong to you. Bacteria, fungi, yeasts, viruses, and other single-celled creatures are constantly inside you. And that's a good thing. Without them, life would be a lot more difficult! Together, all of these organisms make up your microbiome. The most important ones are found in your gut, and they can be both good and bad. Intestinal bacteria ensure that your intestines contract, keep your intestinal wall thick and strong, and train your immune system to protect you against harmful substances. This keeps your microbiome in balance. Without balance, your whole body gets upset!

179 Drie-een-heid 2806

De Vader, de Zoon en de Heilige Geest. Of nee... De Moeder, de Maagd en de Oude Wijze Vrouw. Nee, wacht ik weet het weer! Karen, Kristel en Kathleen! Of was het toch Hanne, Marthe en Julia? Veel dingen in het leven komen in drietallen. Waar een drie-een-heid in een deel van het Christendom misschien symbool staat voor 3 aspecten van 1 God, staat hetzelfde idee symbool voor een godin in het (neo)paganisme. Het idee van een drie-een-heid is dan ook al heel oud. Triquetras zijn al sinds de 8e eeuw overal in Noord-Europa te vinden.

179 Drie-een-heid 2806

The father, the Son and the Holy Spirit. Or no ... Curly, Larry, and Moe? No, wait, I remember! Tom, Dick, and Harry! Or was it Huey, Dewey, and Louie? Many things in life come in threes. In Christianity, the trinity symbolises three different aspects of one God; in (neo)paganism, it symbolises a goddess. The concept of a trinity is certainly an old one and can be traced back as far as the 8th Century in Northern Europe.

180 Ruggengraat 2906

"Hij heeft geen ruggengraat!" Wanneer iemand zo iets zegt bedoelen ze meestal dat iemand makkelijk onder druk zwicht. Maar werkelijk zonder ruggengraat leven? Dat is vrijwel onmogelijk. De wervelkolom bestaat uit wervels en schijven die in een gezonde status in een S-vorm op elkaar zijn gestapeld. Een buis vol met zenuwen en ruggenmerg die van alles in je lichaam aanstuurt. Je ouders zeurden vroeger misschien dat je rechtop moest zitten. En ze hadden gelijk! Je ruggengraat is namelijk erg kwetsbaar. Het is dan ook niet gek dat bijna 2 miljoen mensen in Nederland last hebben van rugklachten.

180 Ruggengraat 2906

“He’s spineless!” When we say something like this, we’re usually implying that someone gives in easily under pressure. But actually living without a backbone? It’s virtually impossible. In a healthy person, the spine is made up of vertebrae and discs stacked on top of each other in an S-shape. Simply understood, you can think of it as a tube full of nerves and spinal cord that controls everything in your body. Your parents may have nagged you to sit up straight. And they were right to! Your spine is very vulnerable. It’s therefore not surprising to learn that almost two million people in the Netherlands suffer from back problems.

181 Parlement 3006

Het parlement bestaat uit de Eerste en Tweede Kamer. Ooit heb je dit waarschijnlijk uit je hoofd moeten leren voor maatschappijleer. En nee, de koning hoort er dus niet bij. Wel bij de regering natuurlijk, maar dus niet bij het kabinet of parlement. Eigenlijk zijn het allemaal een hoop termen die allemaal beschrijven wie er de wet voorschrijft. Daar wil je natuurlijk een gezicht bij hebben. Maar vrij weinig mensen kunnen een Eerste Kamerlid aanwijzen. We kiezen ze tenslotte ook niet. En misschien is dat maar beter ook.

181 Parlement 3006

The Dutch parliament consists of the First and Second Chambers. Many Dutch people had to memorise this for social studies at one point. But surprisingly, the king does not hold much governmental power. While he is part of the Dutch ‘government’, he is not part of the Dutch cabinet or parliament. There are many terms that describe who establishes the laws in the Netherlands, and sometimes, you just want to have a face for that. But there are very few people who can appoint a senator. After all, we don’t elect them directly either. And maybe that’s for the better.

July

182 Beroepsziekten 0107

Werken tot je er ziek van wordt. Burn-outs en overwerken komen ogenschijnlijk steeds vaker voor. Maar werken totdat je er fysiek ziek van wordt? Dat gebeurt al heel lang en heel veel. In het verleden werkte men totdat ze er bij omvielen, maar ook in Japan sterft men nu nog aan “karoshi”. Bij zulke beroepsziekten denk je al snel aan zwaar werk; mensen die werken bij mijnen, riolen, plantages en fabrieken. Maar niet alleen stratenmakers en schoonmakers houden vaak fysieke klachten over aan hun werk. Hoe lang zit jij per dag in een stoel? Wat vind je rug daar van?

182 Beroepsziekten 0107

Working until it makes you sick: burnouts are becoming increasingly common. But working until you become physically ill? That has been happening for a long time — and quite often. In the past, people worked until they fell over. In countries like Japan, people still die from “karoshi” (death by overworking) to this day. When you think of occupational diseases, you probably think of heavy work: working in mines, sewers, plantations, and factories. But in reality, it’s not just road workers and cleaners who suffer physical complaints due to their jobs. How long do you sit in a chair each day? And what does your back think of it?

183 Coöperatie 0207

Samen sta je sterker en vele handen maken licht werk. Of toch niet? Samenwerken is belangrijk, maar het gaat niet altijd even goed. Een ‘coöperatieve vennootschap’ of ‘coöperatieve vereniging’. Samenwerken als bedrijf is meer dan alleen een groot groepsproject. Een coöperatie kent leden in plaats van aandeelhouders (zoals vaak bij andere bedrijfsvormen het geval is). Teamwork is bij een coöperatie dus niet alleen het versterken van groepscohesie, maar ook een kwestie van winst en macht.

183 Coöperatie 0207

"Many hands make light work." But do they? Collaboration is important, but it doesn't always go well. A "cooperative society" or "cooperative association" involves working together as a company. And it's more than just a large group project. A cooperative has members instead of shareholders (as is often the case with other forms of business). As a result, teamwork in a cooperative is not only about strengthening group cohesion but also about profit and power.

184 Zon 0307

De zon is een ster, maar een ster is niet altijd een zon. Ja, bakken en braden op het strand heeft alles te maken met het heelal. Bruin worden door de zon wordt vaak als een mode-of-gezondheidsideaal gezien. Maar zo gezond is het stiekem niet. Vitamine D en UV-straling kunnen in beperkte mate niet zo veel kwaad, maar zonder goede zonnebrand wordt het leven toch echt een stukje lastiger. 1 op 6 Nederlanders krijgt te maken met huidkanker. Is dat het waard om zo bruin te worden als de sterren op tv?

184 Zon 0307

The sun is a star, but a star is not always a sun. By that logic, you could say that sunbathing on a beach has everything to do with the universe. A tan is often seen as fashionable — but while your cheeks may be rosy, it's not that healthy. In moderation, Vitamin D and UV radiation won't do too much harm, but without a good sunscreen, sunbathing becomes a risk. In fact, one in six Dutch people are affected by skin cancer. Is tanning to look like the stars on TV still worth it?

185 Alice 0407

"Alice? Who the x is Alice?" Het antwoord op die vraag is niet zo makkelijk. Er zijn natuurlijk veel mensen met de naam Alice. Alice Liddell is degene die vandaag centraal staat. Als zij nog had geleefd was ze vandaag exact 170 jaar geworden. Dat is wel heel oud natuurlijk, Alice overleed in 1934 op haar 82^{ste}. Tijdens haar jonge leven was zij de muse van Charles Lutwidge Dodgson, beter bekend als Lewis Carroll. Alice Liddell is dus de bron van Alice In Wonderland en Alice Through The Looking Glass.

185 Alice 0407

The name Alice may conjure up images of sweet old ladies or popular culture figures — there are, of course, many people with the name Alice. However, today, we want to talk about Alice Liddell. If she were an immortal being, she would have turned exactly 170 today. Of course, Alice wasn't immortal, she died in 1934 at the age of 82. During her youth, she was a muse for Charles Lutwidge Dodgson, better known as Lewis Carroll. That's right: Alice Liddell was the inspiration for Alice In Wonderland and Alice Through The Looking Glass.

186 Diva 0507

Bij het woord "diva" zullen velen van jullie denken aan een vrouw met sterallures. Of als alternatief misschien een bewonderingswaardige vrouw; een zangeres of actrice die uitblinkt in haar vak. Maar een diva is in het Latijn nog meer dan dat. "Diva" betekent daar letterlijk goddin. De eerste officiële diva was actrice Lyda Borelli. Dankzij haar zien we diva's nu meestal als filmsterren. Zij heeft in haar leven meermaals de kracht van vrouwen kunnen bewonderen. Zo vierden we vandaag dat vrouwen in Nederland exact 100 jaar geleden voor het eerst mochten stemmen in een verkiezing.

186 Diva 0507

When you hear the word "diva", many may think of a woman who is a prima donna or a singer or actress who excels in her profession. But the word 'diva' in Latin means something more than that. In Latin, 'diva' literally means goddess. The first official diva was the actress Lyda Borelli. Thanks to her, we now mostly see divas as movie stars. Through Borelli's fascinating life, she witnessed women's rights change. One hundred years ago today, women in the Netherlands were given the right to vote — and we're going to celebrate it.

187 Kapla 0607

Kapla komt van "KAbouterPLAnkje". Niet zo gek! Want alle grenenhouten plankjes zijn precies even groot en passen perfect in de handjes van een klein kind. Of een kabouter natuurlijk. Ze hebben daarnaast ook wel iets weg van de parketvloer van een aardmannetje. Het kinderspeelgoed is een werkelijke Nederlandse uitvinding en is ooit bedoeld om een kasteel op schaal na te bouwen. Kan jouw fantasie er iets moois van bouwen?

187 Kapla 0607

The Dutch toy Kapla comes from the Dutch word, "Kaboutersplankje," meaning "gnome plank." This is because all the wooden planks are exactly the same size and fit perfectly in the hands of a small child. Or a gnome, of course. They also resemble the parquet floor of a goblin. The popular children's building block is actually a Dutch invention. Before it was a toy, it was used to replicate a castle to scale. Can your imagination build something beautiful out of Kapla?

188 Omgevingswet 0707

In 2016 heeft de Eerste Kamer de Omgevingswet aangenomen. Waar het idee van de wet was om betere regels te creëren rondom het beschermen en benutten van leefomgevingen, is er nog weinig van terecht gekomen. De ingang van de wet blijft maar verschoven worden. Heel even werd er gedacht dat de wet deze maand toch echt tot uiting zou komen, maar de startdatum staat inmiddels gepland voor 2023. Wat is de Omgevingswet eigenlijk? En gaan we er ooit iets van merken?

188 Omgevingswet 0707

In 2016, the Dutch Senate passed the Environment and Planning Act. The purpose of the law is to create better rules for protecting environments and how we take resources from them. For a while, it was thought that the act would come into effect this month — but the start date is now planned for 2023. What even is the Environment Act? And what will we see when it's in action?

189 Allergie 0807

Hatsjie! Zodra de pollen door de lucht vliegen, hebben ruim 1,5 miljoen Nederlanders last van hooikoorts. Het niezen, snotteren en tranen dat opkomt is een reactie van je immuunsysteem op een lichaamsvreemde stof (allergeen), die op zichzelf helemaal niet schadelijk hoeft te zijn. Van hondenharen tot wespengif, van pinda's, paracetamol tot parfum...verschillende allergieën roepen verschillende reacties op. Of het aanleg is of niet, waarom de één wel allergisch wordt en de ander geen last heeft blijft onbekend. En zijn we niet allemaal wel eens allergisch, wanneer er iemand 'in onze allergie' zit? Gezondheid!

189 Allergie 0807

Achooo! As soon as the pollen starts floating through the air, more than 1.5 million Dutch people start suffering from hay fever. The sneezing, sniffing, and tears are your immune system's reaction to what it identifies as a foreign substance (allergen). However, the substance itself may not be harmful at all! From dog hair to wasp venom, from peanuts and paracetamol to perfume, different allergies trigger different reactions. Why one person becomes allergic to certain things and another doesn't is unknown. And aren't we all allergic from time to time — like when someone's getting on our nerves, for example? (wink, wink).

190 Conflict 0907

Fittie, ruziën, bekvechten, bonje, bakkeleien en kiffen: we hebben allemaal wel eens onderdeel uitgemaakt van een conflict. Soms ben je het gewoon niet met iemand eens. Maar wat doe je als die persoon bepaald hoe jij je leven leeft? Conflicterende meningen zijn overal, maar niet iedereen durft conflicten aan te gaan. "Ja" zeggen terwijl je "nee" bedoeld of iemand gewoon knikken en lachen terwijl je het helemaal niet met iemand eens bent. Waar de een een conflict zoekt, deinst de ander er voor weg.

190 Conflict 0907

Fighting, arguing, bickering, and squabbling: we've all been part of a conflict at one point or another. Sometimes you just don't get on with someone. But what do you do when that person determines how you live your life? Conflicting opinions are everywhere, but not everyone dares to involve themselves in conflict. Instead, some people say yes when they mean no, or just nod and laugh when they completely disagree with someone. Where one person seeks conflict, the other runs away.

191 Tesla 1007

Een elektrische auto of een Oostenrijkse electrotechnicus. Elon Musk en Nikola: allebei zijn onlosmakelijk aan elektrische vooruitgang verbonden. Nikola Tesla wordt de uitvinding van de wisselstroomgenerator toegekend en hij is misschien wel de oorsprong van de "excentrieke geleerde". De rivaliteit tussen hem en mede-wetenschapper Thomas Edison, werd nog jaren na Tesla's dood besproken. Tesla had enorme schulden, waar Edison schatrijk werd met zijn uitvindingen. Een zakenman was Nikola dan ook niet, in tegenstelling tot Elon Musk.

191 Tesla 1007

An electric car or an Austrian electrical engineer: Elon Musk and Nikola Tesla. Both are inextricably linked to electrical progress. The Serbian-American inventor Nikola Tesla is credited with the invention of the alternating current generator. He is arguably the origin of the "eccentric scholar". The rivalry between him and fellow scientist Thomas Edison was discussed for years after Tesla's death. Tesla had huge debts, while Edison became wealthy with his inventions. After all, Nikola was not a businessman — unlike Elon Musk.

192 Muurformule 1107

Nee dit is geen verticale variant van de Formule 1. Met muurformule bedoelen we de spreuken op veel gebouwen hier in Leiden. Gedichtjes en verhalen in allerlei talen staan door de binnenstad van heel Leiden verspreid. Maar sinds kort kun je niet alleen van proza en poezie genieten op de Leidse muren. Er staan tegenwoordig ook werkelijke natuurkundige formules tussen! Dus als je even een herinnering nodig had aan de veldvergelijking van Einstein of de brekingswet van Snellius; kijk naar de muur en wie weet?

192 Muurformule 1107

No, this is not some weird spin on Formula 1, where the race track includes multiple walls. By wall formula, we mean the writing you see painted on many buildings, including here in Leiden. Poems and stories written in various languages are scattered throughout the city centre. However, in recent years, actual physical formulas have cropped up in between the prose and poetry. If you ever need a reminder of Einstein's field equation or Snellius' law of refraction, just stare at a wall, and maybe you'll have some luck!

193 Cogito Ergo Sum 1207

Cogito Ergo Sum. Ik denk omdat ik ben. Nee, het is niet alleen een catchy liedje van Billie Eilish, het is tevens een uitspraak van Descartes. Hoe weet jij dat je bestaat? Hoe weet jij dat de wereld om je heen echt is? Volgens Descartes zegt het feit dat je erover kunt nadenken genoeg. Je denkt en daardoor weet je dat je bestaat. Je bestaat dus je kunt denken. Ik denk omdat ik ben. Cogito Ergo Sum.

193 Cogito Ergo Sum 1207

Cogito, Ergo Sum. I think, therefore I am. No, it's not just a catchy lyric by Billie Eilish, it's also a quote by Descartes. How do you know you exist? How do you know the world around you is real? According to Descartes, the fact that you can think about it says enough. Yes, your senses can deceive you, and you can doubt everything — but according to Descartes, the fact that you doubt implies that you exist. You exist, which means that you think. I think, therefore I am. Cogito, Ergo Sum.

194 Geur 1307

Reuk is een van onze 5 zintuigen. Hoewel we het vaak hebben over wat we voelen, proeven, zien of zelfs horen, is reuk een beetje een ondergeschoven kindje. We merken geur vaak alleen maar op als iets bijzonder slecht of enorm goed ruikt. De geur van het alledaagse leven? Daar staan we vaak niet bij stil totdat het te laat is. Zoals iedereen met een stevige verkoudheid je kan vertellen, is het verlies van reuk geen lachertje. Je weet niet meer of eten bedorven is, of er een gaslek in je huis, of je t-shirt aan een wasbeurt toe is, enzovoort. Zonder je neus is de wereld smakeloos en gevaarlijk.

194 Geur 1307

Smell is one of our five senses. While we often talk about what we feel, taste, see, or hear, smell is a bit of a neglected child. We often only notice our sense of smell when something smells particularly bad or really good. The smell of everyday life? We often don't think about it until it's gone. As anyone with a bad cold can tell you, losing your sense of smell is no laughing matter. You no longer know if food is spoiled, if there's a gas leak in your house, if your t-shirt needs a wash, and so on. Without your nose, the world is tasteless and dangerous.

195 Normalisatie 1407

“Doe eens even normaal!” Nederlanders zijn gek op normaal. We prijzen BNR's die nog “lekker normaal” zijn gebleven en roepen vaak genoeg dat mensen “gewoon normaal” moeten doen. Maar wat is normaal eigenlijk? Wanneer is iets normaal? 104 jaar geleden was het nog niet normaal dat vrouwen konden stemmen. En het homohuwelijk? Dat werd tot 2001 niet als normaal beschouwd. Normalisatie gaat vaak maar langzaam, maar gebeurt eigenlijk constant. Wat “normaal” wordt gevonden verschuift. Verschuif jij mee?

195 Normalisatie 1407

“Doe normaal” is something the Dutch love to say. It means “act normal.” The Dutch and other countries all praise celebrities who have remained “normal” despite their fame. But what exactly is normal? When is something not normal? Looking back 104 years ago, it wasn't normal for women to vote. And gay marriage? That wasn't considered normal until 2001. Normalisation is often slow, but it is constantly happening. What are considered normal shifts in the status quo? Are you moving along with these changes?

196 Palet 1507

Een smaakpalet of een palet vol verf. Paletten gaan altijd over scala's, verandering en variatie. Niet alleen foodreviewers, interieurdesigners of kunstenaars gebruiken ze. Make-up artiesten die werken met lijken of levende mensen hebben vaak ook honderden kleuren en texturen aan poeder en cremes om uit te kiezen. Paalwormen gebruiken trouwens ook paletten. Niet om mee te schilderen natuurlijk, maar als onderdeel van hun schelpen.

196 Palet 1507

Your food palate or a palette full of paint. These are all about ranges, change, and variation. It's not only food reviewers, interior designers, or artists who use them. Makeup artists also often have hundreds of colours and textures of powders and creams to choose from. Did you know that shipworms also have pallets? Not to paint with, of course, but as part of their shells.

197 Slang 1607

Je wasmachine zit ermee vast, je auto kan niet zonder en het maakt ook onderdeel uit van je infuus. Slangen en slangetjes zijn heel handig. Rubber, plastic of zelfs onze eigen Nederlandse adder. De slang komt bijna overal ter wereld voor. Soms wurgend en soms giftig, maar hier in Nederland is het reptiel te klein om voor de mens gevaarlijk te zijn. Wriemelend en glibberend door het zand of door de aarde. Of zelfs onderwater. Slangen zijn vrijwel overal en misschien wel nuttiger dan je denkt.

197 Slang 1607

In Dutch, the word “slang”, meaning “snake”, is used to describe certain tubes. In Dutch, you could say that your washing machine, car, and IV drip have a “snake.” And indeed, these tubes and pipes are very useful — both the rubber and plastic “snakes” and the Netherlands’ own snake, the Dutch adder. Some snakes will strangle you, some are poisonous, but here in the Netherlands, this reptile is too small to be dangerous. Wriggling and slithering through the sand, the earth, and even underwater, snakes are pretty much everywhere — and they’re more useful than you think.

198 Hoeken 1707

Je bent je sleutels kwijt. Je zoekt in alle hoeken en gaten en dan opeens komt je moeder ermee aanzetten. Hoeken lijken op zulk soort momenten wel subjectief te zijn, maar een hoek moet soms echt onbetwistbaar hetzelfde zijn voor iedereen. Als je wasmachine scheef staat, gaat hij stuk. Als een hoek van een kamer niet exact 90 graden is, wordt laminaat leggen erg lastig. Met het blote oog hoeken afmeten is echter lastig. Hoe (her)ken je perfecte hoeken?

198 Hoeken 1707

When you think of angles, you probably get flashbacks to sitting in maths class. That’s probably the only time you considered a 90-degree angle — but these are very important in everyday life. If your washing machine is tilted, it will break. If a corner of a room is not exactly 90 degrees, laying a laminate floor becomes very difficult. However, measuring an angle with the naked eye is also difficult. How do you create the perfect angle?

199 Mandela 1807

Vandaag staat in het teken van Nelson Mandela: de bekendste Zuid-Afrikaanse anti-apartheidsstrijder en politicus. Hij verbleef hij 18 jaar van zijn levenslange gevangenisstraf op Robbeneiland. Terwijl apartheid steeds kritischer werd bekeken, vormde Mandela steeds meer het symbool van de anti-apartheidsbeweging. Zo werd hij uiteindelijk vrijgelaten en een internationaal icoon. Maar wat heeft Mandela nou precies allemaal gedaan? En nee, hij is dus nooit president van Zuid-Afrika geweest. Dat is het Mandela-effect.

199 Mandela 1807

Today is all about Nelson Mandela, South Africa's most famous anti-apartheid fighter and politician. Mandela spent 18 years of a life sentence in prison on Robben Island. As apartheid fell under more and more criticism, Mandela grew to become the symbol of the anti-apartheid movement. As a result, he was eventually released, going on to become an international icon. But what exactly did Mandela do? And no, he never died in prison: that's the Mandela effect.

200 Seks 1907

Seks. Praten we er te veel of te weinig over? Het antwoord verschilt. Waar veel mensen zullen pleiten voor seksuele voorlichting op scholen, vinden anderen die voorlichting niet goed genoeg of willen ze dat er helemaal niet over seks wordt gepraat. Seks is vaak nog taboe, maar er ligt tegelijkertijd een enorme druk op mensen om het op het ‘juiste’ moment te hebben. Als je 18 bent. In de puberteit. Alleen na het huwelijk. Elke keer dat je uitgaat. Nooit. Wat er als het ‘juiste’ moment wordt gezien verschilt heel erg. Maar is niet alles ‘juist’ zolang het consensueel is?

200 Seks 1907

Sex. Do we talk too much or too little about it? That depends on who you ask. While many people will advocate for sex education in schools, others don't think sex-ed is good enough — and some don't want sex to be talked about at all. Sex is often still taboo, yet at the same time, there's still enormous pressure on people to do 'it' at the right time. For example, when you're 18, going through puberty, only after marriage, every time you go out, or never. What is seen as the “right” moment varies. But isn't everything “right” as long as it's consensual?

201 Gambiet 2007

Nee, dit is geen lokale manier van carbidschieten. Gambiet is een bepaalde opening tijdens een schaakspel. Een speler offert een stuk op (meestal een pion) in de hoop compensatie te krijgen door een ontwikkelingsvoorsprong. Misschien klinkt dat nog ingewikkeld, maar gambieten komen ook in het echte leven voor. Elke dag worden er militaire manoeuvres uitgevoerd waarbij deel A wordt opgeoffert om een voorsprong te krijgen of deel B te winnen. Maar wat betekent dit voor de opgeofferde pion?

201 Gambiet 2007

No, this is not a local style of carbide shooting (Google it, you won't be let down). Gambit is a particular opening move during a game of chess. A player sacrifices a chess piece (usually a pawn) in the hope of being able to progress faster. It may sound complicated, but gambits also occur in real life. Every day, military manoeuvres are carried out where part A is sacrificed so that part B may gain an advantage or win. But what does this mean for the sacrificed pawn?

202 Blanco 2107

Niets. Leeg. Wit. Blanco. Een blanco velletje papier heeft nog veel potentie. Er kan een tekening op komen, een tekst of een snottebel waarna het in een prullenbak wordt gegooid. Een blanco is echter ook een nulproef; een allereerste begin. In de colorimetrie is een blanco een object wat alle stoffen bevat, behalve de stof die onderzocht wordt. Wit is alle kleuren licht bij elkaar. Blanco is dus een combinatie en een startpunt vol potentie.

202 Blanco 2107

Nothing. Empty. White. Blank. A blank sheet of paper has a lot of potential. A drawing can appear, or some writing, or some snot — after which it's thrown in a trash can. A blank also refers to a blank test in science. For example, in colourimetry, a blank is an object that contains all substances except the substance under investigation. White is all the colours of light combined. If you think about it, this means that blankness is both a combination of everything and a starting point that hasn't reached its full potential.

203 Brein 2207

Sommigen van jullie zullen de boodschappen van Stichting BREIN op dvd's en videobanden nog wel herinneren. Een leuk muziekje, een donkerblauw vlak, een plaatje van een hoofd met een brein en een tekstje wat je verteld dat er auteursrecht op je film rust. Je hersenen zorgen ervoor dat je je dit kunt herinneren. Of juist niet. Ze bepalen hoe je ziet, hoe je beweegt, hoe je lichaam functioneert en of je de kleur blauw mooi vindt. En als dat mooie brein van je dan iets bedenkt, dan wil je natuurlijk niet dat iemand anders dat idee jat. Je brein en BREIN gaan dus vaak hand in hand.

203 Brein 2207

Some Dutch people will remember short messages from the BREIN Foundation, which used to play on DVDs and video tapes. There was nice music, a dark blue surface, a picture of a head with a brain, and a text that said the film was copyrighted. Your brain will make sure you remember this. Or maybe it won't. Brains determine how you see, talk, move, body functions, and whether you like the colour blue. And if that beautiful brain of yours comes up with something, then you don't want someone else to steal that idea. Your brain and BREIN often go hand in hand if you think about it.

204 Steen 2307

De menhir van Obelix is bijzonderder dan je denkt! Menhirs komen namelijk uit de late Steentijd en bevatten, net zoals bijna alle stenen, een gigantische hoeveelheid aan historische informatie. Hoe was de aarde toen de steen ontstond? Wat heeft de steen tijdens zijn bestaan meegemaakt? Was elk stukje sediment in de delta van de rivier ooit een berg? De mogelijkheden lijken eindeloos. En hoewel niet elke steen een edelsteen is, verdient wel elke steen je aandacht. En met zo'n historische steen als een menhir moet je natuurlijk niet gooien.

204 Steen 2307

In The Adventures of Asterix, Obelix's menhir is more special than you think! Menhirs come from the late Stone Age and, like almost all stones, contain a huge amount of historical information. What was the earth like when this stone was created? What has the stone experienced during its existence? Was every bit of sediment in the River Delta once part of a mountain? The possibilities seem endless. And while not every stone is a gem, every stone deserves your attention. And, of course, unlike Obelix, you shouldn't throw such a historic stone as a menhir.

205 Spelonk 2407

Wat is een spelonk eigenlijk? Heel simpel: het is een holte in een heuvel of berg. Deze holte wordt gemaakt door een instorting. Daarom is een spelonk geen grot. Die worden gemaakt door rivieren. Spelonken waren in het verleden belangrijker dan je misschien denkt. Onze pre-historische voorouders vonden ze namelijk veel fijner om in te wonen dan vochtige grotten. De Spelonk is daarnaast ook een soera van de Koran waarin enkele mannen jarenlang slapen in zo'n heuvelholte. Spelonken zijn dus zeker comfortabel.

205 Spelonk 2407

What exactly is a cavern? Simple: it's a hollow in a hill or mountain. This cavity is created by a collapse, meaning it's not a cave. Caves are made by rivers. In the past, caverns were more important than you might think. Our prehistoric ancestors found them much nicer to live in than damp caves. The Cavern is also a surah from the Koran, which tells a story about how several men slept for years in a cavern. It turns out a cavern can be quite comfortable!

206 Hittestress 2507

Het zweet breekt je uit en de ventilatoren zijn niet aan te slepen. Hittestress! Er is maar een ding wat je kan doen en dat is afkoelen. Maar hoe doe je dat het best? En waarom lukt het sommige lichamen beter dan andere? Ook voor huisdieren is hitte niet altijd makkelijk. Kattenpootjes plakken vast aan smeltend asfalt en honden zitten uitgedroogd naast hun bakje water. Planten verwelken en de grond wordt kurkdroog. Hitte geeft op meerdere manieren stress.

206 Hittestress 2507

You break out in a sweat, and the fan won't turn on. Now you're experiencing heat stress! There's only one thing you want to do, and that's to cool down. But what's the best way to do this? And why are some bodies better at cooling down than others? Heat isn't always nice for pets either. Cats' paws can stick to melting asphalt, and dogs can become dehydrated despite their big water bowl. Plants wilt, and the soil becomes bone dry. Heat can cause stress in many ways.

207 Science Cooking 2607

Koken is een wetenschap. Hoe vormt het poeder uit een zakje gelatine een solide massa door er vloeistof aan toe te voegen? Hoe werkt gist? En waarom moet je biefstuk altijd tegen de draad snijden? Het antwoord op zulke vragen gaat soms tot het moleculaire level. Science cooking is een vak apart. Op een wetenschappelijke manier koken brengt een hoop innovatie en kennis met zich mee. Van haute cuisine tot in je eigen keuken.

207 Science Cooking 2607

Cooking is a science. How does the powder from a bag of gelatin form into a solid mass simply by adding liquid to it? How does yeast work? And why do you always have to cut steak against the grain? The answer to these questions can be found when we look at them from a molecular level. Science cooking is also a profession in its own right. Cooking scientifically involves a lot of innovation and knowledge. From haute cuisine to inside your own kitchen.

208 Vingerafdruk 2707

Als je een ID-kaart aanvraagt of onverhoopt in een politiebureau terecht komt, moet je je dermatoglify afgeven. Dermatoglify? Ja, je vingerafdruk: het patroon aan bogen, lussen en draaingen op de toppen

van je vingers. Zelfs bij tweelingen zijn ze uniek. Dieren hebben ze ook. De vingerafdrukken van koala's lijken zelfs zo erg op die van mensen, dat ze zelfs onder de microscoop amper te onderscheiden zijn. Je vingerafdruk is je identiteit. Die moet je dus niet zomaar laten rondslingeren. Niet in het echt en niet online.

208 Vingerafdruk 2707

If you apply for an ID card or unexpectedly end up at the police station, you must hand in your dermatoglyphic pattern. Dermatoglyphic pattern? Yes, your fingerprint: a pattern of arcs, loops, and twists on the tips of your fingers. Even for identical twins, fingerprints are unique. You'll find that even animals have fingerprints. In fact, koala fingerprints are so similar to human fingerprints that they're barely distinguishable from each other under a microscope. Your fingerprint is your identity. So you shouldn't just leave it lying around. Not in real life and not online.

209 Atmosfeer 2807

Vliegen door de ruimte en zweven door de lucht,. Velen van ons hebben er wel eens van gedroomd. Hoe zou het zijn om een vogel te zijn? Maar het dichtstbij wat de meeste van ons komen is op vakantie gaan met het vliegtuig. Als je dan heel hoog vliegt zie je misschien net de dampkring. Een deken aan lucht die ons beschermt tegen straling, maar die we alleen maar kunnen zien als een blauwe, gloeiende laag wanneer we vliegen. Meestal zijn we ons dan ook helemaal niet bewust van de atmosfeer.

209 Atmosfeer 2807

Many of us have dreamed of flying through space and soaring through the air. We wonder what it would be like to be a bird. But the closest most of us will get to experiencing this is flying on a plane. If you fly very high, you might actually see the atmosphere: a blanket of air that protects us from radiation. When flying, it would appear to us as a blue, glowing layer. However, most of the time, we're not aware of the atmosphere at all.

210 BFF 2907

Best Friends Forever! Boezemvrienden, hartsvriendinnen, beste vrienden voor altijd. Maar kan dat eigenlijk wel? In het echte leven heeft bijna de helft van alle Nederlanders één tot vijf vrienden. Online vrienden worden dus eventjes niet meegeteld. 1 tot 5. Best logisch want volgens de theorie van Robin Dunbar, een Britse antropoloog, kunnen we maximaal vijf allerbeste vrienden hebben en tien goede vrienden. Meer kunnen onze hersenen simpelweg niet aan. Wat maakt iemand voor jou een BFF?

210 BFF 2907

Best Friends Forever! Soulmates, twin souls, your person. But is it actually possible to have a soulmate? In real life, almost half of all Dutch people have between one and five friends. Online friends don't count. One to five friends — it's quite a logical amount. According to Robin Dunbar, a British anthropologist, we can have a maximum of five best friends and 10 close friends. Our brains simply can't handle more than that. What do you think makes someone a BFF?

211 Stappen 3007

We maken allemaal stappen in het leven. Zelfs als je niet kan lopen, maak je mentaal nog stappen, sprongen en duikelingen. De stappen die je maakt in je hoofd zijn misschien nog wel belangrijker dan de 10,000 stappen per dag die je gezond moeten houden. Een gezond hoofd helpt tenslotte bij een gezond lijf. Lekker erop uit of mentaal kleine stapjes maken naar lekker in je vel zitten.

211 Stappen 3007

We all make strides in life. You can mentally take steps, jumps, and tumbles even if you can't walk. The steps you take in your head are perhaps even more important than the 10,000 steps you should take daily to stay healthy. After all, a healthy head helps with maintaining a healthy body. Get out and about or take small mental steps — feel good about yourself.

212 LGBTQIP2SAA+ 3107

Ja, die afkorting heb je waarschijnlijk nog nooit gezien. Waarschijnlijk ken je de afkorting eerder als LGBT of LGBTQ of zelfs LGBTIA+. Alle lettertjes in de veel langere LGBTQIP2SAA+ hebben een betekenis, maar schaam je niet als je ze (nog) niet allemaal kent. De LGBT-gemeenschap bestaat uit iedereen die intersex, niet-cisgender of niet-heteroseksueel is. De gemeenschap is echter geen eenheid. Onderling vecht men nog steeds over wie er wel en niet bij hoort. En dat terwijl de groep ook nog genoeg discriminatie ervaart van mensen die geen onderdeel uitmaken van de LGBT.

212 LGBTQIP2SAA+ 3107

Okay, you've probably never seen that abbreviation. You're most likely more familiar with the abbreviation as LGBT or LGBTQ or even LGBTQA+. All the letters in the much longer LGBTQIP2SAA+ stand for something — but don't be ashamed if you don't know them all (yet). The LGBT community comprises anyone who is intersex, non-cisgender, or non-heterosexual. However, the community is not a unit. Internally, there are still arguments over who belongs and who doesn't. And this is all while the group already experiences discrimination from people who aren't LGBT.

August

0108 limes

Nee, vandaag staat niet in het teken van een klein groen citrusvruchtje. De limes is een oude grens die dwars door Nederland loopt langs de Rijn. De Romeinen konden zo'n tweeduizend jaar geleden niet de Nederlandse Rijn oversteken, dus werd de grens van het Romeinse Rijk vlak voor de rivier afgekap. Zo ontstond het Nederlandse stukje van de limes die in totaal duizenden kilometers lang is. De grens loopt ook door noord-Engeland, delen van de Sahara en de Rode Zee. De groene natuur staat namelijk aan de basis van de limes.

0108 limes

No, we're not talking about a small, green citrus fruit today. The limes is an old border which stretches across the Netherlands, along the Rhine. About 2000 years ago, the Romans were incapable of crossing the Dutch Rhine, which led to the reach of the Roman Empire ending by the river. Well, that's how it went in The Netherlands anyway. The limes is thousands of kilometres long in total. It also meanders through northern England, parts of the Sahara, and the Red Sea. The green nature is the basis of the limes.

0208 islamthemathica

Zonder islamitische wetenschappers was jij (nog) slechter in wiskunde geweest. Onze getallen hebben namelijk een Arabische oorsprong. De "math" in Islamthemathica is dan misschien wel toeval, maar ook een leuke verwijzing. Tijdens de islamitische gouden tijdperk (ja, tijdperk, want het duurde veel langer dan een eeuw!), kwamen er honderden uitvindingen tot stand die we vandaag de dag nog gebruiken. Denk aan tandenborstels, universiteiten en ziekenhuizen zoals we ze nu kennen. En dat terwijl de islamieten constant belaagd werden door kruisvaarders en het Mongoolse Rijk.

0208 islamthemathica

Without islamic scientists, you would have been (even) worse at maths. Our numbers have an Arabic origin. The "math" in islamthemathica may be a coincidence, but it's also a funny reference. Hundreds of crucial inventions were done during the islamic golden age. A lot of them are still used today! Think of toothbrushes, but also universities and hospitals as we know them. And the muslims did all that while constantly being attacked by crusaders and the Mongolian Empire.

0308 caraïben

Witte stranden, helder turkoois water en heel veel zonuren: de Caraïben is dé plek om je tropische dromen werkelijkheid te laten worden. En als Nederlander moet het toch een beetje vertrouwd voelen,

met Aruba, Bonaire, Curaçao, Saba, Sint Eustatius en Sint Maarten als onderdelen van het Koninkrijk der Nederlanden. Dus mocht je nou zin hebben om in je eigen taal zorgeloos van een vakantie te genieten, het is maar 7000 KM verderop!

0308 caraïben

White beaches, bright blue water and a lot of sun: the Caribbean is the place to make your tropical dreams a reality. If you're Dutch, you don't even need to leave the kingdom to go there! Aruba, Bonaire, Curacao, Saba, Sint Eustatius and Sint Maarten are all part of the Kingdom of the Netherlands. So, if you're looking for a vacation spot where some people may even speak your own language, it's only 7000 kilometres away!

0408 niet bellen

"Mij niet bellen." De uitspraak lijkt nieuw leven in te zijn geblazen door Martien Meiland. Maar of hij de grondlegger is? Dat valt nog te betwisten. Waar mensen "mij niet bellen" gebruiken wanneer ze willen aangeven dat ze niet bij bepaalde (theoretische) situaties of mensen betrokken willen zijn, wordt niet gebeld willen worden steeds normaler. Telefoonangst neemt toe. 38% van de Nederlandse jongeren vind het eng om te bellen of gebeld te worden. En dat terwijl iedereen steeds vaker z'n telefoon voor alles behalve bellen gebruikt.

0408 niet bellen

"Mij niet bellen." This means "don't call me" in Dutch. Some Dutch celebrities have popularised the phrase in recent years, and now almost every Dutch person knows what it means. Basically, it means you don't want to be associated with certain (theoretical) people or situations. Meanwhile, many people don't want to be associated with phones either. Telephone phobia is becoming increasingly common. 38% of Dutch youth are afraid to call people or be called. Strange, isn't it? You'd think young people would be less scared of phones.

0508 pijn

Pijn is fijn is een uitspraak die niet veel mensen zullen beamen. Want in onze maatschappij zijn we vaak geneigd tegen moeilijke gevoelens te vechten, ervoor te vluchten of het te vermijden. Ieder mens heeft zo zijn eigen overlevingsmechanismen ontwikkelt, die ooit functioneel zijn geweest. Maar vaak dragen we oude pijn mee en blijven we in cirkeltjes lopen. Door de vinger op de zere plek te leggen en pijn daadwerkelijk te voelen kan er veel veranderen in je leven. Misschien dat pijn dan toch fijn wordt?

0508 pijn

"No pain, no gain.", is not a phrase everyone will agree with. In our society we tend to fight against complicated feelings, we flee from them or we avoid them entirely. Every human has developed their own survival tactics, which surely helped out in the past. However, pain can be hard to get rid off once it's there. Some people keep going around in circles with their old pain trying to avoid it. The pain it causes to confront this old pain, might actually make you gain something. So maybe there's no gain without pain after all?

0608 Citizen Science

Citizen Science is een samenwerking tussen wetenschappers en niet-wetenschappers. Wetenschap was ooit voor en door iedereen, maar met de komst van de universiteiten verdween veel van de wetenschap achter deuren van laboratoria en collegezalen. Dat is nu volop aan het veranderen. Steeds meer onderzoek gebeurt tegenwoordig in samenwerking met burgers. Die samenwerking neemt verschillende vormen aan. De wetenschapper staat er niet meer alleen voor. Welkom in het tijdperk van Citizen Science!

0608 Citizen Science

Citizen Science is a collaboration between scientists and non-scientists. Once upon a time, science was meant for everyone and could be practised by everyone. With the introduction of universities, a

lot of science and scientific knowledge disappeared behind the doors of laboratories and auditoriums. However, big changes are afoot. More and more researchers include citizens in their research. A scientist no longer has to be a loner. Welcome to the era of Citizen Science!

0708 felis catus

Een hond is de beste vriend van de man? Maar wat is een kat dan? Katten worden ietsjes minder lang als huisdieren gehouden. De beestjes werden vroeger voornamelijk ingezet als ongediertebestrijders, maar inmiddels zijn de pluizige felis catus een waar fenomeen geworden. Zowel online als offline. Katten filmpjes op YouTube en TikTok zijn nog steeds razend populair en in Nederland alleen al leven er naar schatting 2,9 miljoen katten. Waar katten al met goden werden vergeleken in het Oude Egypte, worden de diertjes dus nu nog op handen gedragen.

0708 felis catus

A dog is a man's best friend? What does that make a cat? Cats have been kept as pets for a shorter time than dogs. The creatures were mainly used as a cheap form of pest control in the past, but now the fluffy felis catus has become a phenomenon. Both online and offline. Cat videos on YouTube and TikTok are extremely popular, and in the Netherlands alone about 2.9 million cats are roaming streets and houses alike. Cats may have been compared to deities in ancient Egypt but even now, the world is still worshipping them.

0808 infinity symbol

Het infinity symbol staat voor alles; het oneindige. Maar als het teken alomvattend is, hoe kan het dan dat sommige oneindigheden groter zijn dan anderen? Daarnaast kan ons brein helemaal niet bevatten wat 'oneindig' werkelijk inhoud. We kunnen er een vaag idee bij voorstellen wat meestal neerkomt op 'heel veel' of 'heel lang', maar we weten niet echt wat zo'n zijwaarts achtje betekent. Het teken heeft echter heel veel betekenissen. Zo wordt het steeds vaker als symbool voor de autistische gemeenschap gebruikt.

0808 infinity symbol

The infinity symbol stands for everything. But if it means everything, how is it possible that some infinities are bigger than others? Besides, our brain isn't really capable of imagining what 'infinity' truly means. Sometimes, we can envision something vague that usually means 'a lot', but we don't really know what that eight on its side means. The symbol has a lot of different meanings too. For example, the autistic community has recently been using it to represent themselves.

0908 natives

Waar veel mensen bij het woord "natives" aan Apache, Aboriginals en Ainu denken, zijn er ook genoeg oorspronkelijke bewoners van landen binnen Europa (en zonder de beginletter A). De Scandinavische Sami, de Gagaoezen uit het huidige Oostblok en de West-Slavische Sorben, wat weet jij van ze? Er is een grote kans dat je nog nooit van ze hebt gehoord. Natives uit alle hoeken van deze aarde worden onderbelicht, gediscrimineerd en vergeten. En dat is als ze niet systematisch worden uitgeroeid door de overheid van het land waarin ze wonen. Zullen al deze samenlevingen verloren gaan?

0908 natives

A lot of people will see the word 'natives' and think about Apache, Aboriginals and Ainu. However, there's many native communities within Europe as well. The Scandinavian Sami, the Gagauz from the Eastern Bloc, and the west-Slavic Sorbs. What do you know about them? It's likely that you've never heard of them before. Little attention is being paid to natives from all corners of the world. That is, if they're not actively being discriminated against or murdered by their country's government. Will all of these communities go extinct?

1008 rendez-vous

Een afspraak die zo bijzonder is dat we 'm in het Frans benoemen. Een rendez-vous is eigenlijk niets anders dan een samenkomst of een ontmoeting. Maar in Frankrijk denkt men bij 'rendez-vous' toch vaker aan een date dan aan een businessmeeting. De westerse samenleving is blijkbaar gek op dit woord. We gebruiken het als film-of albumtitels, bandnamen en als betiteling voor muziek of series. Eris zelfs een auto die de titel "rendez-vous" draagt! En dan maar hopen dat al die media en objecten hun beloftes en afspraken na komen.

1008 rendez-vous

Sometimes an appointment is so special, we have to say the word in French. A rendezvous is not any different from a get-together or a meeting. But when you use the word in France, people will assume you're going on a date. Western society seems to love the word regardless. We use it as film, song, series and album titles. Everything goes! There's even a car that's called "the rendezvous". Let's hope all those objects will show up for their appointment with you after you've ordered them.

1008 rendez-vous

Een avondje quizen, het geeft menig mens plezier. In teamverband spelen of solo, een specifiek onderwerp of een vari  t   aan vragen: alles draait om kennis. Quizen zijn er in alle soorten en maten, van grote tv-quizen (de Slimste Mens) tot gezelschapspellen (30 seconds), van pubquizen tot gepersonaliseerde online quizen op Kahoot! Het woord 'quiz' komt zeer waarschijnlijk vanuit het Engelse werkwoord 'inquisite', wat ondervragen betekent. Afgeleid vanuit het Latijn staat 'Qui' ook voor wie. Wie o wie heeft er de meeste kennis?

1108 quiz

Een avondje quizen, het geeft menig mens plezier. In teamverband spelen of solo, een specifiek onderwerp of een vari  t   aan vragen: alles draait om kennis. Quizen zijn er in alle soorten en maten, van grote tv-quizen (de Slimste Mens) tot gezelschapspellen (30 seconds), van pubquizen tot gepersonaliseerde online quizen op Kahoot! Het woord 'quiz' komt zeer waarschijnlijk vanuit het Engelse werkwoord 'inquisite', wat ondervragen betekent. Afgeleid vanuit het Latijn staat 'Qui' ook voor wie. Wie o wie heeft er de meeste kennis?

1108 quiz

Quizzing for an entire evening, many people enjoy it. Quizzes can be enjoyed solo or in a team. They can be about a specific subject or a variety of different things. One thing is clear: it's all about knowledge. Quizzes exist in many different shapes and sizes. Sure, there's big quizzes that air on television. Think of popular game shows such as "Wheel of Fortune" and "The Price is Right". But there's also much smaller quizzes played with family and friends such as "30 Seconds". Lastly, there's also pub quizzes and Kahoot! Quizzes are basically everywhere! The word "quiz" probably comes from "inquisite". In Latin, "qui" also means "who". Who has the most knowledge?

1208 haven

Een haven staat voor thuis. Overal in de wereld zijn havens belangrijke stappen binnen de wereld van transport. Als er iets mis gaat bij een haven, missen meerdere winkels en mensen hun producten. Een haven zorgt dus vaak dat de producten bij jou thuis komen, maar staat voor vissers en de bemanning van schepen en booreilanden tevens symbool voor thuis. Mensen in deze werkgebieden zien vaak maandenlang geen land, vrienden of familie. Een haven is na zo'n lange tijd letterlijk het licht aan de horizon.

1208 haven

A harbour means home. Regardless of where you are on this planet, harbours are an important step in the world of transport. If something goes wrong at a harbour, a lot of people and stores will be missing their products. So, harbours ensure that products arrive at your home safely but are also a symbol of home for fishermen and the crew of ships and oil rigs. People with a job like that often don't

see their family or friends for months. A harbour is, after such a long time, both literally and metaphorically a light on the horizon.

1308 Linkshandig

Voor tien procent van de bevolking is het vandaag feest: we vieren vandaag de dag van de linkshandigheid! Maar linkshandigheid is niet altijd een feestje geweest. Tot 1960 werd linkshandig schrijven zelfs gezien als een afwijking en leerden kinderen op school om rechts te schrijven. Kan je als persoon eigenlijk invloed hebben op het feit dat je linkshandig bent? Nee. Onderzoek laat zien dat er verschillen zitten in zowel de genen als de hersenactiviteit tussen links- en rechtshandigen. Gelukkig zijn er ook voordelen in deze overheersend rechtshandige wereld. Zo denken linkshandigen meer oplossingsgericht en hebben ze een voordeel bij contactsporten. Genoeg redenen om de slingers op te hangen!

1308 Linkshandig

10% of people are allowed to celebrate today: we're celebrating those who are left-handed! However, being left-handed hasn't always been a joyful thing. Until the 1960s, being left-handed was seen as a disorder in Dutch schools. Children were taught to write with their right hand instead. They were punished if they did not. But can you actually change whether you're right or left-handed? No. Research shows that there's a distinct difference in genes and brain activity between left and right-handed people. Luckily, left-handed people do have an advantage in this right-handed world sometimes. They can benefit from their left-handedness in some sports for example!

1408 leidse nieuwe

"Leidse nieuwe"? Is dat een soort Leidse versie van Hollandse Nieuwe? Leiden ligt toch helemaal niet aan zee? Nee, beste lezer. Hoewel Leiden wel haring aanbiedt op de zaterdagse markt en tijdens het Leidens Ontzet, gaat het vandaag om nieuwe mensen die in Leiden aankomen. In het bijzonder, nieuwe Leidse studenten. Elk jaar komen honderden nieuwe studenten naar Leiden voor hun educatie; honderden potentiële onderzoekers, wetenschappers en wereldverbeteraars. Hoeveel potentie heeft Leiden in totaal?

1408 leidse nieuwe

Today is a special day for Leiden. Leiden has a massive university, and every year many different students from all over the world come to Leiden to study. 'Leidse nieuwe' means 'new in Leiden' or 'Leidens new people'. Those new people hold a lot of potential for the city. They can become researchers or scientists, and they technically have the potential to change the world. How much potential does Leiden have as a whole?

1508 quatsch

Soms is iets zo onzinnig dat je het in het Duits moet zeggen. Quatsch is nonsens en wel 22 punten waard bij Scrabble. Het woord ligt voor velen maar wat raar in de mond. Niet heel gek, want het stamt uit het hoogduits en het middelnederduits. Het woord 'quat' betekent daar 'kwaad' en heeft dus niets met beenspieren of voertuigen te maken. Onzin uitkramen heeft lang niet altijd kwade bedoelingen, maar kan wel kwade gevolgen hebben. Fake news, roddels, quatsch.

1508 quatsch

Sometimes something is so stupid, you have to say it in German. Well, if you're Dutch that is. Quatsch means 'nonsense', and is worth 22 points in Scrabble. The word feels a bit weird to say in the Dutch language. This isn't a big surprise, since the word has its roots in High German and Middle Low German. The word 'quat' means 'evil', and has nothing to do with your leg muscles or vehicles. Saying something stupid doesn't always have evil intentions, but can definitely have evil results. Fake news, gossip, quatsch.

1608 Tattoo

Tribal, sleeve, hand poke, fine line, dotwork, een echte tattoo liefhebber kent deze stijlen en kiest hetgeen wat het best bij die persoon past. Een betekenisvol kunstwerk of iets wat je simpelweg mooi vindt, een tattoo wordt vaak gezet als eerbetoon, uiting van je persoonlijkheid of versiering. In 1769 kwam de Engelse ontdekkingsreiziger James Cook aan bij Tahiti, waar hij zag dat de lokale bevolking schilderingen op hun lichaam hadden, door hen 'tatu' genoemd. Sindsdien is het woord tattoo niet meer weg te denken uit onze vocabulaire. Tattoo's bestonden overigens al veel langer: zelfs tijdens de prehistorie en de oudheid zijn voorbeelden gevonden, waaronder Ötzi de ijsmummie die ruim 60 tatoeages op zijn lichaam had.

1608 Tatoo

Tribal, sleeve, hand poke, fine line, dotwork, a tattoo lover will know about these styles and pick whatever suits them. A meaningful artwork or something you simply like: a tattoo is often a way of honouring someone or something, a way of showing off your personality, or simply a decoration. In 1769 James Cook arrived at Tahiti, where he saw people with drawings on their skin for the first time. The locals called these drawings 'tatu', and the word has become a part of our vocabulary ever since. However, tattoos didn't originate in the 1700s. There's evidence that people in prehistoric civilizations already had them. One of those people is Ötzi the Ice Mummy, who has over 60 tattoos on his body.

1708 st. juttemis

Deze sint komt niet langs de deuren met snoep en cadeautjes. En er bestaan ook heel wat minder liedjes over hem dan over Sint Nicolaas of Sint Maarten. Sint Juttemis is namelijk een nietsnut. Hij (of zij?) doet nooit wat en is er nooit. Juttemis is dan ook geen werkelijke heilige en bestaat alleen als uitdrukking. De volledige uitdrukking is "met sint-juttemis, als de kalveren op het ijs dansen". Een fictieve feestdag voor een fictieve heilige, die ook in veel andere talen voorkomt. Maar wat hebben die kalfjes er nou mee te maken?

1708 st. juttemis

This saint won't bring you presents like Saint Nicholas and you won't see anyone carolling in their honour. "Saint Juttemis" does not exist. He (or she?) is a fictitious saint and a fictitious holiday that Dutch people refer to when they mean that something will never happen. Sometimes the saint is referred to as Saint Glinglin in English (based on the French version of the same fake saint). "It will happen when it's Saint Juttemis.", means something will happen when hell freezes over or when the cows come home: never. And the Dutch aren't the only ones with this fake saint. Many other languages including Polish, Italian, Romanian and Portuguese have the same made-up holy person.

1808 jansen & janssen

De meest voorkomende achternaam in Nederland is... De Jong. Ja, waar Jansen en Janssen misschien populaire namen zijn, komen ze nog niet eens in de buurt van de hoeveelheid mensen met De Jong als achternaam. De zoektocht om jong en gezond te blijven wordt ook aangespoord door een Janssen. De Amerikaanse Johnson & Johnson staan hier namelijk bekend als Janssen. Een andere J&J die ook op zoek zijn naar een boosdoener zijn de populaire detectives uit Kuifje. Ze zijn zelfs zo populair dat een bureau wat de politie en de AIVD in de gaat houdt er zijn naam aan ontleent.

1808 jansen & janssen

Jansen and Janssen are some of the most popular surnames in the Netherlands. Their direct translation would be something along the lines of Johnson and Johnson. The American Johnson & Johnson company is often referred to as 'Janssen' in Dutch because of this. Dutch people talk about getting the Janssen vaccine instead of the Johnson and Johnson one. But "Jansen and Janssen" is also an institution that keeps a close eye on the police and the AIVD (the Dutch intelligence and security agency), named after 2 detectives in the Dutch translation of TinTin.

1908 zoom

Vandaag zoomen we in op de internationale dag van de fotografie! Waar we ons tegenwoordig niet meer kunnen voorstellen hoe het zou zijn zonder elk moment van de dag vast te leggen, verkocht Louis Daguerre op 19 augustus 1839 zijn patent op de eerste fotografische methode aan de Franse overheid, die het vervolgens vrijgaf aan iedereen. Na meerdere ontwikkelingen werd in 1888 de naam Kodak geboren en ontstond de eerste fotocamera met een filmrolletje. Welke mooie momenten heb jij al vastgelegd?

1908 zoom

Today we're zooming in on the international day of photography. Nowadays we can barely imagine what it would be like to be alive without capturing almost every moment. But on the 19th of August 1839, Louis Daguerre sold his patent on the first method of photography to the French government. Luckily for all of us, the government was kind enough to make this method public. After a lot of developments, Kodak was born in 1888: the first camera with a film roll. Which moments have you captured in your life?

2008 mug

Welkom bij Wereld Muggendag! Tijd om vandaag stil te staan bij de meest dodelijke dieren op aarde. In 1897 ontdekte een Britse arts dat muggen verantwoordelijk zijn voor het overbrengen van malaria, net als meerdere ernstige ziektes. Wist je trouwens dat muggen gemiddeld 2,5 minuut nodig hebben om zich vol te zuigen met bloed? En vraag je jezelf nou af waarom jij meer wordt gestoken dan een ander? Dan adem jij waarschijnlijk meer kooldioxide uit. Helaas geen trucje om dit te voorkomen dus! Tegen de jeuk wel een tip: smeren met tijgerbalsem. Muggen vermijden? Check dan muggenradar eens.

2008 mug

Welcome to World Mosquito Day! Take some time out of your day to contemplate the deadliest animal on earth. In 1897, a British doctor figured out that mosquitoes spread malaria among other serious diseases. Did you know that it takes a mosquito around 2 and a half minutes to fill up with blood? Are you wondering why you're being bitten more often than other people? Then you're probably breathing out more carbon dioxide. Unfortunately that means there are no tips or tricks to avoid being targeted!

2108 hooi

Hoi hooi. Het ene hooi is het andere hooi niet. Hooi wordt gebruikt als voedsel voor allerlei soorten vee in periodes waarin er weinig gras groeit. Hooi bestaat zelf hoofdzakelijk uit gras, maar hoe jong dat gras is bij de oogst bepaald de kwaliteit. Hooi op het juiste moment oogsten is dus al lastig, maar hooi op de juiste manier opslaan is nog lastiger. Te nat hooi leidt tot schimmel of zelfs hooibroei. Dode beestjes die bij het maaien van het gras in de hooibaal terecht komen, kunnen er daarnaast voor zorgen dat (voor het vee) giftige stofjes zoals botox vrijkomen in het hooi.

2108 hooi

Hey hay. Hay is more complex than you might think! Hay is used as food for different types of livestock during times when there's little fresh grass. Hay mostly consists of grass, but the age of the grass when it is harvested, determines the quality of the hay. Harvesting hay at the right moment is already difficult enough, but keeping it stored correctly is even more complicated. Hay that's too wet may lead to mould or even spontaneous combustion. Dead creatures that get into the hay during the harvesting period can also produce substances that are toxic when ingested by livestock (like botox).

2208 materie

Meestal staan we niet echt stil bij waarvan iets is gemaakt. Als je plastic, leer, wol of een andere stof vermijdt, denk je er wel over na natuurlijk, maar op alle andere momenten? Dingen lijken gewoon te bestaan, gewoon zo te zijn. Maar alles heeft een oorsprong en een materie. Materie is hetgeen waaruit iets bestaat. Een materiaal, een stof, een mediavorm of zelfs een verhaal. Want wat is de materie van zoiets conceptueels als je "geest" precies?

2208 materie

Most of the time we're not really thinking about what something is made out of. Unless you're actively avoiding plastic, leather, wool, or some other material, of course. But during daily life most things tend to just be. Things seem to just exist. What they're made out of is usually not that relevant in our brains. But of course, everything has a source and is made out of something. That something can be described as "matter", and matter can be anything: a material, a fabric, a form of media, or even a story. Because what is something as conceptual as your "spirit" made out of?

2308 @

Het apenstaartje stamt uit de 14^e eeuw. Ver voor het internet dus! Het teken is lang niet altijd een symbool voor het Engelse woord 'at' of een tussenvoegsel in je e-mailadres geweest. In de 16^e eeuw was het teken in Italië een afkorting voor 'amfora': een kruik die als maateenheid werd gebruikt. Daarom wordt het apenstaartje heel af en toe ook nog wel eens 'amfoor' genoemd. Maar in diezelfde periode was het in Nederland een afkorting voor 'anno' en in Spanje en Portugal een aanduiding voor een hele andere maateenheid: de arroba. De @ op de PC? Daar kan je dus meer mee!

2308 @

The at sign was first put to paper in the 14th century, way before the internet! The sign has not always been a symbol for someone's location or email address. In the 16th century in Italy, the sign was an abbreviation of the word 'amphora': a jug that was used as a unit of measurement. That's why the at sign is sometimes called an amphora in different languages. In that same century, the @ was a time indication in the Netherlands. In Spain and Portugal it represented another unit of measurement: the arroba. The @ on your pc is far more than a random scribble.

2408 vulcanus

De Romeinse god van vuur, smeden en vulkanen is een tragisch geval. Na zijn geboorte vond zijn moeder hem zo lelijk dat zij hem van de Olympus afsmeet. Toen hij uiteindelijk terug mocht komen en trouwde met Venus, ging zijn vrouw vreemd met zijn broer, Mars. Medelijden hadden de Romeinen echter niet. Vulcanus werd voornamelijk gezien als destructief met al zijn vuren. Om te zorgen dat Vulcanus hen niet zou verbranden organiseerden zij Vulcanalia: een festival vol vreugdevuren. Als je het wil vieren, juig je nu een beetje te laat. Het festival werd altijd op 23 augustus gehouden.

2408 vulcanus

The life story of the Roman god of fire, smiths and volcanoes is a tragedy. After his birth, his mother deemed him so ugly that she threw him off the Olympus. When he finally returned to the mountain, he got to marry Venus. Venus cheated on him with his brother Mars. That's sad, isn't it? Well, the Romans did not pity him. Vulcan was mostly seen as destructive. To make sure that he would not burn them, the Romans organised Vulcanalia: a festival with loads of bonfires. If you want to celebrate with them, you're too late. The festival was always held on the 23rd of August.

2508 proefpersoon

Wat beweegt iemand om proefpersoon te worden? Een bijdrage aan de wetenschap? De vergoeding? De ervaring? Mocht je langere tijd deelnemen aan een onderzoek, in onderzoekscentra zijn er talloze spullen aanwezig om je vrije tijd mee op te vullen. Is het dan een soort betaalde mini-vakantie? Niet alleen tijdens je leven kan je bijdragen. Ook na de dood schenken sommige mensen hun lichaam aan de wetenschap. Ter nagedachtenis aan deze mensen en voor hun nabestaanden is op begraafplaats Groenesteeg een speciaal monument opgericht: het DANK monument.

2508 proefpersoon

Why would someone ever want to be a test subject? Contributing to science? The money? The experience? If you have to stay for a long time during a specific test, research centres are filled with all kinds of entertainment. So, is it a mini-holiday then? You don't even have to be alive to contribute

to science. Even after death, some people decide to give their bodies to researchers. Maybe that sounds a bit morbid, but it's also quite necessary.

2608 viervoeter

Zeggen we viervoeter, dan zeggen we hond. Maar ook katten, paarden, schapen en olifanten zijn voorbeelden van viervoeters. Vandaag houden we het bij de ruim 1,5 miljoen honden die ons land telt. Het is namelijk Wereld Hondendag! Waarom houdt de ene persoon eigenlijk meer van honden en de ander meer van katten? Dit hangt deels af van je persoonlijkheid. Uit onderzoek blijft dat hondenliefhebbers in het algemeen meer meegaand, extrovert en ordelijk zijn. Kattenliefhebbers zijn weer innovatiever, nieuwsgieriger en avontuurlijker. Kan jij je hierin vinden?

2608 viervoeter

When we think of a four-legged friend, we usually think of a dog. But of course, cats, horses, sheep, and elephants are also examples of quadrupeds. Today, we're just focusing on dogs though. It's World Dog Day after all! The Netherlands has over 1,5 million dogs. Why does one person like dogs more than the other? It partially depends on your personality. Research shows that dog lovers are extraverted, organised and accommodating. Cat lovers tend to be more innovative, curious and adventurous. Do you agree?

2708 vleermuis

De fladderende vleermuis vliegt voort. Vleermuizen hebben een slechte reputatie. Mensen zien ze als mini-dracula's die blind op pad gaan op zoek naar bloed. Niets is minder waar. De meeste vleermuizen leven van nectar of insecten. Slechts 1 soort vleermuizen drinkt bloed en die is niet in Nederland te vinden. Er zijn steeds minder vleermuizen in Nederland te vinden. Huizen worden steeds beter gebouwd en geïsoleerd, waardoor veel vleermuizen geen dak meer boven hun hoofd kunnen vinden.

2708 vleermuis

Bats have a bad reputation. People view them as mini-vampires that are blindly flying around looking for blood. That's mostly a fable. There's only one species of bat that actually consumes blood, and you don't have to worry about finding that type of bat in Europe any time soon. Most bats only eat nectar or insects. In the Netherlands the bat-population is rapidly declining. Houses are sturdier and better insulated than they used to be, which means that many bats don't have a place to put their bed.

2808 planetarium

De planeten zweven om ons heen, maar meestal zien we ze alleen als een heel klein stipje in de lucht. En dat dan alleen als het weer goed is en de aarde net goed gedraaid staat. Als dat de enige manier zou zijn waarop we de planeten konden zien, zouden we nogal snel het overzicht kwijtraken. Daarom sturen we satellieten en raketten en bouwen we planetaria. Een mini sterrenstelsel hier op aarde, waar zelfs Archimedes al gebruik van zou hebben kunnen gemaakt. Astronomische uurwerken bestaan al een lange tijd.

2808 planetarium

Planets are constantly floating around us, but during ideal (weather)conditions on planet earth, we can only see those other planets as small dots in the sky. If this was the only way to study the planets, we would probably not be very knowledgeable about them. Luckily, we have satellites and rockets, and we build planetariums. A mini solar system right here on earth. Even Archimedes is likely to have used one of them. Astronomical clocks have been around for a long time.

2908 Citroen

De geur van citroen zorgt direct voor een verfrissend, zomers en vrolijk gevoel. De smaak daarentegen is wat minder comfortabel: wanneer je in een citroen bijt trekt je hele gezicht samen door het zuur van het vrucht vlees. Een citroenschijfje is een heel ander verhaal en is een enorme smaakmaker in menig

gerecht. Commercieel gezien ook handig: door een schijfje citroen in frisdrank krijgen mensen meer dorst waardoor ze nog een drankje bestellen. Wist je dat citroen verwarmend en limoen verkoelend werkt? Denk maar eens aan thee en pittig eten.

2908 Citroen

The scent of lemon usually conjures a fresh, happy, summery feeling. The taste however, is a little bit less comfortable: when you bite into a lemon, your entire face contracts because of the sour pulp. A slice of lemon is an entirely different story. Lemon is a crucial part of many different dishes. Commercially, lemons are also very nifty: by adding a slice of lemon into a drink, people become more thirsty and are more likely to order another drink. Did you know that a lemon has a warming effect, where a lime has a cooling one? Consider tea and spicy food.

3008 karper

Jouw goudvis is een karper. Voor sommigen van jullie is dat misschien een raar idee. Een karper is toch zo'n dikke vis die rondzwemt in meren, grachten en rivieren? Ja! Allebei zijn waar. De karper is een extreem populaire vis bij hengelsporters. Maar ook de sierlijke vissen die je vaak in vijvers en aquaria ziet, zijn nog wel eens karpers. En dan met name koi. Een karper is dus van alle markten thuis. Het dier is zelfs op werkelijke vismarkten te vinden buiten West-Europa.

3008 karper

Your goldfish is a carp. For some of you, that may seem weird. Isn't a carp one of those fat fish that swim in lakes, canals and rivers? Yes! Both are true! The carp is an incredibly popular fish among anglers. However, the pretty fish you can often find in ponds and aquariums are also carp! Mainly koi. The carp is very universal. You can even find the animal on fish markets outside of western-Europe.

3108 goedfout

Als iets goedfout is, is het heel erg fout, maar als iets foutgoed is, is het niet heel erg goed? De Nederlandse taal is maar ingewikkeld. Wat er goed is en wat fout is daarnaast subjectief. Zowel binnen als buiten onze woordenschat. Als een kind "sloom motion" opschrijft in plaats van "slow motion", heeft het kind het qua spelling misschien verkeerd gedaan, maar qua betekenis zijn de woorden nog steeds correct. Sloom motion is dus zowel goed als fout. Maar is het ook goedfout?

3108 goedfout

"Goedfout" is a weird Dutch word. It literally means "good bad", and it metaphorically means that something is very bad or very wrong. But what does that even entail? When is something truly evil or truly bad? Does true evil even exist? What's good and what's bad is subjective after all. Can things be right and wrong at the same time?

September

0109 Schort

Wat schort eraan? Schorten betekent meestal dat er iets ontbreekt. Schorten lijken zelf echter steeds vaker te ontbreken. Een schort kon vroeger je sociale status of je beroep aangeven en werd gebruikt als bescherming, accessoire, handtas en stofdoek. Nu worden schorten voornamelijk geassocieerd met de horeca en kokende huisvrouwen. Het ene schort is het andere schort ook niet. Laswerkers dragen niet dezelfde schorten als dienstmeisjes. De schorten hebben allebei een hele andere (gegenderde) connotatie in onze samenleving. Toch zijn schorten meestal best handig. Wat schort er aan een schort?

0109 Schort

Aprons seem to be less popular than they used to be. An apron used to be a sign for the people around you. What kind of job do you do? What's your social status? Is it meant as protection, an accessory, a bag or a dust cloth? Now, aprons are associated with restaurants and housewives. But not every apron is the same. Welders and glassblowers do not wear the same aprons as maids. Those aprons

both have a very different (gendered) connotation in our society. Still... aprons can be very useful for anyone of any gender.

0209 Tolkien

J.R.R. Tolkien wordt soms gezien als de grondlegger van het moderne fantasy genre. Of hij werkelijk de grondlegger was, valt te betwisten, maar hij was in ieder geval erg invloedrijk. De Hobbit en In de Ban van de Ring worden tot op de dag van vandaag bewonderd door kinderen en volwassenen. Tolkien was echter meer dan Midden-aarde. Zijn vriendschap en rivaliteit met C.S. Lewis (De Kronieken van Narnia), de invloed van de eerste wereldoorlog op Tolkien en zijn werk en de talen en mythologien die Tolkien heeft bedacht, worden allemaal nog steeds bestudeerd.

0209 Tolkien

J.R.R. Tolkien is often lauded as the founder of the modern fantasy genre. Whether he truly is the founder is debatable, but he certainly was very influential. The Hobbit and Lord of the Rings are still admired by children and adults alike. However, Tolkien was more than just Middle Earth. His friendship and rivalry with C.S. Lewis (The Chronicles of Narnia), the influence of WW1 on Tolkien's work, and the many mythologies and languages Tolkien created, are still being studied.

0309 Organisch

Vloeiend en natuurlijk: in de kunst is dat organisch. Biologisch en onbespoten: in de supermarkt is dat organisch. Je nier, je lever of je maag: op de operatietafel is organisch. Op z'n minst 1 koolstofatoom in een verbinding: in de chemie is dat organisch. Organisch heeft binnen heel veel verschillende velden een betekenis. De enige overeenkomst is dat het binnen alle velden heeft en te maken met organismen. Of het nou gaat om koolstofverbindingen, orgaanweefsel, natuurlijke vormen of biologische paprika's.

0309 Organisch

Flowing and natural: in the art world that's organic. Fresh and without chemicals: in the supermarket that's organic. Your kidney, your liver or your stomach: for a surgeon that's organic. At least 1 carbon atom in a compound: in chemistry that's organic. 'Organic' means a lot of different things in a lot of different fields. The only thing all the meanings have in common is that they all have to do with organisms. It doesn't matter whether we're talking about carbon compounds, organ tissue, natural shapes or organic bell peppers.

0409 Dudok

Appeltaart! Vandaag staat niet alleen in het teken van de Rotterdamse patisserieketen. De architect, Willem Dudok, ontwierp jarenlang allerlei gebouwen die inmiddels door heel Nederland staan. Na de tweede wereldoorlog had Dudok de leiding over het herbouwen van Den Haag, maar ook het Gebouw Leidsch Dagblad in Leiden en het Raadhuis in Hilversum zijn aan hem te danken. In de jaren 50 kreeg Dudok zelfs bewonderaars uit de V.S. En dat allemaal terwijl hij niet eens was opgeleid als architect. Dat is best een puntje taart waard!

0409 Dudok

When Dutch people hear this word, they think about apple pie. Dudok is a famous pastry chain in the Netherlands after all. However, Dudok is also an architect. Willem Dudok designed many different buildings that can be found all throughout the Netherlands. After WW2, Dudok was in charge of rebuilding The Hague (which was bombed during the war), but he also designed buildings in Leiden and Hilversum. In the 50s, Dudok even got admirers from the US. That's worth a slice of pie, isn't it?

0509 Kunstmatige Intelligentie

Veel mensen denken bij kunstmatige intelligentie aan robots die voor zichzelf kunnen denken. Daar zit een kleine waarheid in, maar de eerste AI is waarschijnlijk geen Wall-E of Chappie. De eerste functionele vorm van AI is waarschijnlijk een algoritme of chatbot. Het is daarnaast vrij moeilijk om te bepalen wat 'intelligentie' precies is. Laat staan wat 'kunstmatige intelligentie' dan precies inhoudt. Is

een algoritme wat jou exact de juiste video's of producten laat zien al intelligent genoeg? Moeten we een nog intelligentere vorm van technologie überhaupt wel willen?

0509 Kunstmatige Intelligentie

When people hear 'artificial intelligence' they usually think about robots that can think for themselves. That's partly true, but the first kind of AI probably won't be like Wall-E or Chappie. The first functional form of AI is more likely to be an algorithm or chatbot. Besides, it's kind of hard to determine what 'intelligence' really is. Let alone what 'artificial intelligence' means. Is the algorithm that determines what you see on social media already intelligent enough? And do we even want a more intelligent form of technology?

0609 Tuin

Waar houdt een tuin precies op? De meest pure definitie van "tuin" is een omheind stuk grond met planten. Maar wanneer is een tuin een landgoed en wanneer is het gewoon een tuin? En als je een aantal stoeptegels omhoog wipt en daar bloemetjes in zet, is dat dan een voortuin? Het is tenslotte niet echt omheind, maar het is wel voor je huis en gevuld met planten. En hoe zit het dan met de grote hoeveelheid "tuinen" waar tegenwoordig maar weinig planten in te vinden zijn?

0609 Tuin

Where does a garden truly end? The most accepted definition of 'garden' is a piece of fenced off soil. But when is something an estate and when is it a garden? If you take out part of the pavement in front of your house and fill it up with flowers, is that a garden? It's not really fenced off, but many Dutch people would argue it's a garden anyway. And what about the many "gardens" covered with tiles, where soil and plants are a rare sight? Are those gardens too?

0709 Hart

Je hart is een pomp. Een kamer aan spieren die je bloed door je lichaam laat racen. Helaas gaat er nog wel eens iets mis. De pomp hapert, pompt uit het ritme of valt zelfs stil. Dat is niet best. Zonder het hart werkt er nog maar weinig in je lichaam. Je zou denken dat we over zo'n belangrijk orgaan dus al alles weten, maar dat is helaas niet zo. Zo presenteren hartaanvallen bij vrouwen bijvoorbeeld anders dan bij mannen. Maar hoe anders? Dat is nog niet helemaal duidelijk. Eén ding is zeker: een goed hart is goud waard. Zowel op de spreekwoordelijke als de letterlijke manier.

0709 Hart

Your heart is a pump. It's a small chamber made out of muscle that makes your blood flow. Unfortunately, things tend to go wrong sometimes. The pump stutters, loses its rhythm, or stops completely. All of that is bad. Without your heart, your body doesn't work very well. You'd think we know nearly everything about an organ of such great importance, but that's not the case. Heart attacks tend to present differently in female patients than they do in male ones. But we don't know much about those differences. One thing we do know for sure: breaking your heart is bad in both the literal and the metaphorical sense.

0809 Anatomie

Hoe steekt jouw lichaam in elkaar? De meeste mensen hebben een vaag beeld van hoe hun lichaam werkt. Biologie op de middelbare school, een beetje algemene kennis en een handjevol aan leuke weetjes. Maar voor een arts of ander medisch behandelaar is het belangrijk om te weten hoe alles exact met elkaar samenhangt. Je anatomie moet grotendeels bekend zijn om je goed te kunnen behandelen. Waar de anatomie van veel mensen hetzelfde is, zijn er echter uitzonderingen. Mensen worden vaak genoeg geboren met meer of minder organen dan de norm. Dat kan best lastig zijn. Zowel voor patiënt als arts.

0809 Anatomie

How does your body work? Most people have a vague idea about how their body functions. Biology and health class in school, a little bit of general knowledge, and a handful of fun facts. For a doctor or other medical professional it is crucial to know the details though. Your anatomy must largely be known to them. And where most people's anatomy doesn't differ much, there are exceptions. People are born with more or less organs than usual on a fairly regular basis. That can be difficult. Both for the patient and the doctor.

0909 9x9

81! Een magisch vierkant! Het spelletje GO! Waar denk jij aan bij 9x9? Waarschijnlijk niet gelijk aan 9 september: de nationale dag van de geboorte. Elk jaar worden er ongeveer 170.000 baby's in Nederland geboren. De meesten van hen na een zwangerschap van 9 maanden (sommigen zijn wat eerder of wat later). 1 op de 9 van hen wordt in armoede geboren en zal dus een lastiger en mogelijk ongezonder leven leiden. Als je dus ooit de 81 wilt bereiken, speelt 9 een grote rol in het leven.

0909 9x9

81! A magic square! GO! What do you think about when you see 9x9? The ninth of september probably isn't the first thing to pop into your mind. 09/09 is the National Day of Birth in the Netherlands. Each year 170.000 babies are born in the Netherlands. Most of them after a 9 month long pregnancy (some of them are a bit earlier or a bit later). 1 in 9 of those babies will be born into poverty, and is more likely to live a more difficult and unhealthy life. If you ever want to live past 81, 9 plays a bigger part than you might think.

1009 Monument

Soms wil je iets bewaren, ergens aan blijven denken. Maar de klikjes in je koelkast zijn natuurlijk geen monument. Een monument is iets wat speciaal in het leven is geroepen om iets te herinneren. Om een herinnering goed te bewaren. Die herinnering kan van alles zijn: een gebeurtenis, een persoon of zelfs een dier. Je hebt natuurlijk ook natuurmonumenten. Want soms moet de natuur ook herinnerd worden. Technisch gezien is de post-it die je ophangt om je aan een afspraak te herinneren echter ook een monument. Herinneren gaat soms minder makkelijk dan we willen.

1009 Monument

Sometimes you want to keep something with you to remember something. But when is something a monument rather than a regular keepsake? A monument exists purely to remember someone or something by. To keep a memory alive. That memory can basically be anything: an event, a person, or even an animal. Of course, nature monuments also exist. Nature deserves to be remembered as well after all. Technically speaking, the post-it hanging on your refrigerator door might also be considered a monument. It's there to remember something, isn't it? Remembering sometimes isn't as easy as it seems.

1109 Bliksem

De persoon die voor het eerst bliksem zag, moet gedacht hebben dat de wereld verging. Een felle flits die vaak vergezeld wordt door een harde donderklap. Een beetje eng is het wel, maar mooi kan het ook zeker zijn. Stroken en lijnen van elektriciteit die uit de wolken neerdalen. Meestal gaat het echter te snel om met het blote oog de volledige schoonheid te zien. En je wilt de bliksem natuurlijk ook niet echt goed kunnen zien. Want wat gebeurt er als je geraakt wordt? En hoe groot is die kans überhaupt?

1109 Bliksem

The first person who ever saw lightning, must have thought the world was ending. A bright flash, often accompanied by a loud bang. It's a bit scary, but it can also be very beautiful. Streams and lines of electricity that seem to rain down from the clouds. Most of the time it's over too quickly to perceive the beauty with the naked eye though. And of course, it's very reasonable to not want to see lightning from up close. What happens if you do get struck? And how big is that chance to begin with?

1209 Migraine

Spijkers in je hoofd. Je schedel split in tweeën. Migraine komt naar schatting bij 2 miljoen Nederlanders voor. Hoofdpijn die zo heftig is dat het door je hele lichaam uitstraalt. Overgeven van de pijn en geen enkel geluid of licht kunnen verdragen. Migraine is voor veel mensen een persoonlijke hel. De oorzaak voor deze afschuwelijke hoofdpijn is grotendeels amper bekend. Bij sommige mensen wordt het opgeroepen door menstruatie of stress, maar hoezo? Dat weet helaas niemand.

1209 Migraine

Nails in your head, your skull is splitting in two. Migraines plague over 7% of the world population on a daily basis. It's a headache that is so intense, that the pain seems to take over the entire human body. Vomiting due to the pain and being unable to withstand any noise or light, is common for people with migraines. Migraines can truly be a personal hell. Unfortunately, the cause of this awful headache is largely unknown. Some people seem to get it during certain parts of their menstrual cycle, or while very stressed. But why? Nobody seems to know.

1309 Oempa Loempa

Zingende kleine mensen zijn een stereotiepe. De dwergen uit Sneeuwwitje, de Smurven en de Oempa Loempa's uit Roald Dahl's alombekende kinderboeken. De oempa loempa's zijn een fictief dwergenvolk dat woont in boomhutten, zing en danst, en gek is op cacao. Daarom krijgen ze een grote bijrol in Willy Wonka's chocoladefabriek en Sjakie's avontuur. Maar moeten mensen met dwerggroei nou blij zijn met deze representatie? Niet echt.

1309 Oempa Loempa

Small, singing people are a stereotype. The Dwarves from Snow White, the Smurfs, and the Oompa Loompas from Roald Dahl's children's books. The Oompa Loompas are a fictional people of small stature. They live in treehouses, sing and dance, and absolutely love cacao. That's why they get a large supporting role in Willy Wonka's chocolate factory and Charlie's adventure. But should real little people be happy with representation like this? Not really. Even if the Oompa Loompas provide kids with life lessons in the form of songs.

1409 Cichorei

Cichorei is jammie! En het is niet eens een werkelijk ei! Het is een verzamelnaam voor allerlei verschillende plantjes waaronder witlof en andijvie. De plantjes zijn nogal bitter. In tijden van armoede werd geroosterde cichorei zelfs als koffievervanger gebruikt om haar bittere smaak. Maar het bittere melksap wat deze plantensoort herkenbaar maakt, is niet waarvoor de planten altijd worden geteeld. Cichorei wordt al jaren gekweekt om fructose te produceren: een suikervervanger. Cichorei kan dus zowel koffie zijn als het zoetje wat je erin doet.

1409 Cichorei

Chicory is delicious! And no, it has nothing to do with chickens. It's a collective name for different plants including escarole (endive), and of course, chicory itself. Most of these plants are kind of bitter. During hard times, chicory was even used to make a type of coffee. But the bitterness of this plant is not always what it is grown for. Chicory is often used as a source of inulin: a type of fructose sugar. Chicory can be your coffee and the hint of sweetness you add to it!

1509 Democratie

Samen sta je sterker. Toch? Het idee van een democratie is dat de mening van de meerderheid geldt en dat de minste mensen dus ontevreden zijn. Maar in de praktijk loopt het meestal niet zo. Een grote partij is meestal niet groot genoeg om de mening van de meerderheid van een land te omvatten. Daar zijn de meningen te verdeeld voor. En wie er onderdeel uitmaakt van de democratie verschilt ook nog eens per tijd en regio. Mag jij stemmen over je eigen leven?

1509 Democratie

We're stronger together, right? The idea behind a democracy is that the opinion of the majority counts, and therefore the least amount of people will be unhappy. In practice, that doesn't usually work out that way though. The biggest party within a government usually isn't big or broad enough to represent the opinions of the majority of a country. The opinions within a country are just too different from each other for that to be the case. Who is allowed to participate in a democracy also differs per era and region.

1609 Intuïtie

Soms voel je iets aan je water. Je hebt een onderbuikgevoel of je weet instinctief dat je in gevaar bent voordat er werkelijk iets gebeurt. Intuïtie wordt door sommigen ook wel het zesde zintuig genoemd. Je voelt iets aan, voordat je iets werkelijk zeker weet. Maar kun je je intuïtie wel vertrouwen? In sommige gevallen draait je fantasie overuren of is je intuïtie meer gebaseerd op vooroordelen dan op de werkelijkheid. Weet je intuïtief of je intuïtie klopt?

1609 Intuïtie

Sometimes you need to trust your gut. You can feel something happening before it actually happens or you instinctively know when you're in danger. Intuition is sometimes seen as a sixth sense. You feel something before you know something. But can you actually trust your intuition? In some cases, your imagination gets the best of you. Or your intuition is more so based on prejudice than true intuition. Do you intuitively know whether your intuition is correct?

1709 Kintsugi

Gouden lijntjes in Japans aardewerk. Kintsugi is een reparatievorm en een kunstvorm tegelijkertijd. Fouten kunnen het leven soms mooier maken en scherven brengen geluk. Deze twee dingen staan in kintsugi centraal. Gebroken vazen, borden en ander aardewerk gaan soms kapot. Wanneer dit gebeurt worden ze gerepareerd met goudkleurig metselwerk waardoor de barsten gehighlight worden. Dit zou in theorie het werk lelijker maken, het laat zien dat er ooit iets fout is gegaan, maar in de praktijk wordt het stuk aardewerk er vaak alleen maar mooier op.

1709 Kintsugi

Golden lines in Japanese pottery. Kintsugi is a form of repair and an artform at the same time. Mistakes can make life more beautiful. This is the main idea behind kintsugi. Vases, plates and other types of pottery break sometimes. When this happens, they're repaired with gold-coloured cement or glue. In theory, the breaking of a piece should make it uglier. But in practice, the pottery only becomes more beautiful.

1809 Focus

Soms heb je er te veel van en soms te weinig. "Focus" is maar lastig. Het brandpunt van een lens is ingewikkeld te bepalen. Dikke telescooplenszen werken nou eenmaal op een andere schaal dan brillenglazen. Als je kijkt naar de hoeveelheid onscherpe foto's op Instagram is ook het bepalen van de focus in een foto voor velen nog erg moeilijk. Zelfs als ze wel scherp kunnen zien. Focussen is ingewikkeld. Soms ben je zo gefocust op iets dat de wereld om je heen lijkt te vervagen. Op andere momenten lijkt focussen onmogelijk en is alles afleidend. Hoe focus je je ogen? En hoe focus je je brein?

1809 Focus

Sometimes you have too much of it, and sometimes too little. "Focus" is hard. Finding the focal point of a lens is hard. Thick telescope lenses aren't quite the same as the glasses on some people's noses after all. If you look at the average picture on Instagram, finding focus with a camera is also quite difficult. Even if the photographer's eyes aren't unfocused. Focusing your brain is complicated too. Sometimes, you're so focused that the world around you seems to disappear. Other times, you can't seem to focus at all. How do you focus your eyes? How do you focus your brain?

1909 Goeie Mie

Nee, dit is niet dat lekkere gerecht wat je bij de toko besteld. Goeie Mie is giftig. Of nou ja, was giftig. Maria Swanenburg overleed namelijk in 1915, maar staat bekend als de grootste gifmengster aller tijden. De Leidse Gifmengster wordt verdacht van meer dan 90 moorden en is misschien wel de beruchtste seriemoordenaar van Nederland. Waarom Goeie Mie deed wat ze deed? Tja, dat is nog wat mysterieus. Veel documenten in verband met het proces van Goeie Mie zijn verloren gegaan tijdens de Tweede Wereldoorlog. Berouw voor haar daden had ze in ieder geval niet.

1909 Goeie Mie

“Goeie Mie” is the nickname of Maria Catharina Swanenburg. Goeie Mie died in 1915 but is known as the most prolific poisoner in the world. Historians suspect she killed over 90 people, and she might be the most infamous serial killer of the Netherlands. She was born and raised in Leiden, and killed family members and non-family members alike. Why did she do what she did? That’s unfortunately largely unknown. The papers that documented Goeie Mie’s trial did not come out of WW2 unscathed. All we know is that she did not have any regrets.

2009 Troonrede

“Op de derde dinsdag van september leest de monarch de troonrede voor.” Het klinkt bijna als het begin van een sprookje, maar Prinsjesdag bestaat toch echt. De troonrede is een lange lap tekst waarin de monarch, op dit moment koning Willem Alexander, het volk en de Staten-Generaal toespreekt. Dit staat bij wet vast. In Artikel 65 van de Nederlandse Grondwet staan allerlei regels omtrent Prinsjesdag en de troonrede. De jaarlijkse regeringsverklaring en nieuwsupdate van de monarch is dus meer dan alleen een traditie.

2009 Troonrede

“On the third Tuesday in September, the monarch will read a speech.” It sounds like something from a fairy tale, but it’s a reality within the Netherlands. This third Tuesday of September is called “Prinsjesdag” (Day of the Little Prince). On this day, several things happen, but one of the most noticeable ones consists of the current monarch giving a speech to the people, the Senate, and the House of Representatives. This isn’t just a tradition. It is recorded within the Dutch constitution. In Article 65, you can find many rules concerning Prinsjesdag and the monarch’s speech.

2109 Vrede

“Wat zou je wensen als je 3 wensen zou krijgen van een geest in een fles?” Vrede op aarde! Het is een cliché en onduidelijk antwoord. Want wat is vrede eigenlijk? Is het geen oorlog? Of een overeenstemming tussen iedereen waardoor er geen enkel vorm van onenigheid meer is? Dat tweede klinkt misschien wat saai. En onmogelijk. Want hoe zorg je ervoor dat iedereen het met elkaar eens is? Oorlog voeren en fysiek of verbaal vechten lijkt in de natuur van de mens te zitten.

2109 Vrede

“What would you ask for if a genie gave you 3 wishes?” Peace on Earth! It’s a cliché and vague answer. Because what does peace even mean? Does it mean no war? Or does it mean no discord or disagreements in general? The latter maybe sounds a bit boring. And impossible. Because how do you ensure that everyone agrees with one another? Waging war and fighting physically or verbally seems to be part of human nature.

2209 Ommelanden

Misschien denk je bij “Ommelanden” eerder aan Groningen, maar vandaag staan toch echt de Leidse Ommelanden centraal. Dit programma wil Leiden en omgeving aantrekkelijker maken voor inwoners en toeristen. Momenteel wordt er een netwerk aan routes ontwikkelt die beginnen en eindigen in het Singelpark, maar je meenemen door heel Leiden. Zo kun je een rondje door de Kaag of meerdere polders maken of de Ruïne van Teylingen bezoeken.

2209 Ommelanden

If you're a tourist, the city of Leiden is encouraging you to visit the Ommelanden. The Ommelanden encompasses a program that has as its main goal to make Leiden more attractive for tourists and inhabitants alike. Currently, the municipality of Leiden is developing several hiking routes throughout Leiden that all start or end in the Singelpark. You can walk through the Kaag and several polders, or visit the Ruin of Teylingen, for example.

2309 Goal

Ja we gaan het straks allemaal weer voluit gillen: GOAL! Over exact 59 dagen gaat het WK Voetbal 2022 van start. Grappig hoe we met "goal" zowel naar het doel als naar het doelpunt zelf refereren, toch? Het woord "goal" kom je ook op andere plekken tegen. Een doel in elke zin van het woord wordt wel eens goal genoemd en ook als je een propje perfect in de prullenbak gooit denk je waarschijnlijk eerder "goal!" dan "try!" (dat is hoe een doelpunt heet bij rugby). Goals zijn hoe dan ook ambitieus.

2309 Goal

Yup, we'll all be screaming it soon: GOAL! In exactly 59 days, the World Cup will be all many people can talk about. Isn't it funny how the word "goal" refers to putting the ball in the goal, and the goal itself? You can also find the word in many other places. Any target or purpose can be referred to as a goal. And if you ever throw a crumpled up piece of paper at a bin, you're more likely to think 'goal!' than 'try!' (that's what a goal is called in rugby). Goals are generally ambitious, but it's fine if they aren't.

2409 Paddenstoel

"Op een grote paddenstoel, rood met witte stippen..." Van kabouter Spillebeen tot de Vegetarische Slager, paddenstoelen zijn hot en happening. De schimmels zijn een bijzonder fenomeen. Waar sommigen onderdeel uitmaken van vleesvervangers, soep of pastasaus, geven anderen je heftige hallucinaties, buikpijn of laten je zelfs het loodje leggen. Het is dan ook van groot belang dat je weet welke paddenstoel je precies in je handen hebt, voordat je hem in je mond stopt. De paddenstoel van kabouter Spillebeen, een vliegenschwam, is bijvoorbeeld giftig en kent geen tegengif.

2409 Paddenstoel

From psychedelics to your vegetarian burger: mushrooms are hot and happening. The fungi are a peculiar phenomenon. Some may become part of meat substitutes, soup or pasta sauce, and others will give you a tummy ache, or hallucinations, or will make you kick the bucket. That's why it's very important to know exactly what mushroom you're holding before you put it in your mouth. In the US, over 700 people a year end up taking a trip to the ER because of poisonous mushrooms.

2509 Vallende Ster

Een vallende ster is eigenlijk gewoon een meteoroïde die met grote snelheid door onze dampkring komt gestormd. Die meteoroïde hoeft niet eens groot te zijn. Een deeltje ter grootte van een erwt geeft al een duidelijke lichtstreep. Wanneer een meteoroïde zo groot is dat een stukje steen de dampkring overleeft en de aarde bereikt wordt het een meteoriet genoemd. Sterren op aarde vallen echter ook vaak genoeg. A-list celebrities hoeven maar een aantal maanden tot jaren uit de spotlight te blijven om bijna volledig vergeten te worden door het publiek.

2509 Vallende Ster

A shooting star is a meteoroid bursting through our atmosphere. It doesn't even have to be a big meteoroid. A rock the size of a split pea, is big enough to create trail of light through our sky. When a meteoroid is so big that part of it survives its journey through the atmosphere and reaches the Earth, it's called a meteorite. Stars aren't always falling from the sky though. They fall from grace or the spotlight all the time! A-list celebrities only have to stay away from paparazzi for a few months or years to be completely forgotten by the general public.

2609 Oort

Ja, dat staat correct gespeld. We hebben het vandaag niet over een “oord”, maar over een oort. De oort was een Nederlandse munt uit de 15e eeuw, maar misschien nog wel belangrijker was Jan Hendrik Oort: een astronoom uit 1900. De Friese astronoom werd door Willem de Sitter in 1924 naar de Rijksuniversiteit Leiden gehaald. Oort bleef hier de rest van zijn lange leven wonen. Hij wordt nog steeds gezien als een van de pioniers van radioastronomie. Na zijn overlijden in 1992 zei de natuurkundige Chandrasekhar: "The great oak of Astronomy has been felled; and we are lost without its shadow"

2609 Oort

The Oort was a Dutch coin from the 15th century, but it was also, more famously, a Dutch astronomer. Jan Hendrik Oort was an astronomer from 1900. The Frisian astronomer was brought to Leiden by colleague Willem de Sitter in 1924. Oort stayed in Leiden for the rest of his long life, and is still considered one of the pioneers of radio astronomy. After his death in 1992, physicist Chandrasekhar stated: "The great oak of Astronomy has been felled; and we are lost without its shadow"

2709 Space Invaders

Piew! Piew! Piew! En gefeliciteerd! Space Invaders wordt dit jaar alweer 44 jaar oud! In 1978 was het spelletje super populair. Zo populair zelfs dat er wordt gespeculeerd of het arcade-spelletje leidde tot een tekort aan 100-yen munten in Japan. Space invaders zijn echter nog steeds super hip. Aliens zijn tenslotte nog steeds een veel voorkomend gespreksonderwerp in onze media. Van Star Trek tot The Avengers, aliens zijn overal. Maar of we ze in het echt ook ooit gaan tegenkomen (of zelfs al zijn tegengekomen), dat is nog een mysterie.

2709 Space Invaders

Pew! Pew! Pew! Congratulations! Space Invaders is turning 44 years old this year. In 1978 the game was immensely popular. So popular even, that people speculate the arcade game led to a shortage of 100-yen coins in Japan. Space invaders are still super trendy though. Aliens are a favourite subject in many of our media after all. From Star Trek to the Avengers, aliens are everywhere. But whether we'll ever see them in real life is still a mystery.

2809 Magnetron

Weet jij hoe een magnetron werkt? De kans is klein. Waarschijnlijk weet je dat het eten opwarmt en het iets met straling, hitte en moleculen heeft te maken. Maar verder? Magnetrons zijn sinds de jaren 60 steeds vaker in keukens te vinden. "Magnetron" refereert trouwens naar het component in het apparaat dat de microgolfstraling opwekt: het magnetron. De meeste landen spreken echter over de golven zelf wanneer ze naar een magnetron refereren. Denk aan het Engelse "microwave" of het Vlaamse "micro".

2809 Magnetron

Can you hold onto your curiosity a little longer? We'll be happy to come back to you with more MICROWAVE

Do you know how your microwave works? For most people, the answer is "no". You probably know that it has something to do with radiation, heat, and molecules. But besides that? Microwaves have become a staple in most western kitchens since the 1960s. But what kind of waves does the 'wave' in microwave even refer to? Are they dangerous? Will your microwave kill you? The answer is most likely no.

2909 Didymos

Misschien ben jij wel een didymos. Veel mensen zijn tweelingen. Soms als broer of zus, soms zonder dat ze het zelf weten en soms als sterrenbeeld. Didymos bevindt zich echter ook tussen de sterren na 21 juni. Asteroïde 65803 draagt dezelfde naam. De Didymos asteroïde draait elke 770 dagen een rondje om onze zon. Samen met zijn tweelingbroer, de maan Dimorphos, wordt Didymos constant in

de gaten gehouden door de AIDA. Het kan namelijk gebeuren dat Didymos en zijn tweeling te dicht bij onze aardbol komen.

2909 Didymos

Maybe you're a didymos. A lot of people are twins. Sometimes as a brother, sister or zodiac sign, and sometimes without even knowing it. Didymos is also located between the stars after the 21st of June. Asteroid 65803 is also known as Didymos. The Didymos asteroid makes a circle around our sun every 770 days. He does this together with his twin, the moon Dimorphos. Didymos is constantly under surveillance of the AIDA. It's a possibility that Didymos and his twin venture too close to the Earth, and that could be a problem.

3009 Tijd

"It's more like a big ball of wibbly-wobbly, timey-wimey stuff." Dat is de uitleg die The Doctor uit Dr. Who geeft voor het bestaan van tijdreizen. In onze werkelijkheid is het echter te betwijfelen of zoiets kan. Wel is het zeker dat tijd maar een bizar concept is. Want waar een klok misschien de tijd aangeeft, verschilt het per persoon hoe die tijd wordt ervaren. Waarom kunnen 10 minuten soms als een uur voelen? En een uur als 5 minuten? En hoe zit het eigenlijk met tijdzones? Of de omstreden winter- en zomertijd?

3009 Tijd

"It's more like a big ball of wibbly-wobbly, timey-wimey stuff." That's the explanation The Doctor from Dr. Who provides us with to explain time travel. In our reality, it's unlikely we'll ever be able to time travel. What is more grounded in reality is the concept of time itself. Or is it? Time is weird after all. Because even though a clock may show the time, time can feel very different depending on a person and their mood. Why do 10 minutes sometimes feel like an hour? And an hour like 5 minutes? And how do timezones even work? And what's the deal with daylight savings time?

October

0110 - Trance

Een trance is een dissociatief verschijnsel waarbij je bewustzijn afneemt. Dat klinkt misschien wat eng, maar iedereen die wel eens is opgegaan in een boek heeft het ervaren. Heb jij wel eens dat je fietst of autorijdt en daarna een stuk uit je herinnering lijkt te missen? Je bent op de automatische piloot op je bestemming aangekomen. Ook dat kan gezien worden als een lichte vorm van trance. Allerlei verschillende dingen kunnen een trance oproepen. Dit kan soms gevaarlijk zijn en soms volledig onschuldig. Sommige religies en culturen proberen het verschijnsel zelfs expres op te roepen.

0110 - Trance

A trance is a dissociative state in which you're less conscious of your surroundings and your actions than usual. That sounds a bit scary, but anyone who has ever been absorbed by a good book has experienced something like it. Have you ever felt like you were missing part of your memory after a long drive? You've arrived at your destination on auto-pilot. Occurrences like that can also be viewed as a light form of trance. Lots of different things can make someone go into a trance. Sometimes, this can be dangerous. Other times, it can be completely innocent. Some religions and cultures even try to make people enter a trance on purpose.

0210 - Kermis

Draaimolens, zuurstokken en botsautootjes. Wat zie jij voor je bij een kermis? Kermis is een leuk jaarlijks evenement voor velen en een levensstijl voor sommigen. Rondreizende attracties zijn al sinds de 11e eeuw een traditie in de Benelux. Tot de 20ste eeuw kwamen de attracties vaak niet buiten hun eigen provincie. Attracties vervoeren met schepen, karren en paard en wagen is tenslotte stukken lastiger dan vervoer via een auto.

0210 - Kermis

Carousels, candy canes, bumper cars. What do you think of when you think about city fairs? A fair is a fun annual event for most, and a lifestyle for some. Travelling rides have been a tradition in the Netherlands since the 11th century. Until the 20th century, the rides usually didn't leave their own province. Making sure rides reached their destination via ships, carts, and horses was a lot more complicated than transporting those same rides via cars or trucks.

0310 - Juh

Vandaag is lekker Leids, juh! Je je 't temmes fietsen om dan krotewater naar binnen te werken tijdens Leids Ontzet. Leids is een raar taaltje. Het Leidse "juh" lijkt op de "joh" die in een groot gedeelte van Nederland wordt gebruikt, maar het is toch niet helemaal hetzelfde. Vandaag viert Leiden dat ze in de 16e eeuw een groep Spanjaarden hebben laten verzuipen en hun burgemeester toch niet hebben opgegeten. Dat is misschien wel heel kort door de bocht, want eigenlijk viert Leidenaren vandaag vooral haring, hutspot, bier en vrijheid.

0310 - Juh

"Juh" is a weird word that has its roots in Leiden. It can be compared to "joh" in other parts of the Netherlands, "innit" in British slang, and "ne" in Japanese. It's added to the end of a sentence, usually when the sentence is a question, but the meaning isn't completely clear. Leiden is celebrating their local traditions today. The 3rd of October has been a holiday in Leiden since the 16th century. The city of Leiden was under siege from the Spaniards. Food was very scarce but right before the entire city starved, the Geuzen broke several dykes. This caused the Spaniards to drown. So today, the people of Leiden celebrate that fact with lots of beer, herring and hutspot.

0410 – Gracht

Veel mensen denken bij "grachten" toch al snel aan Amsterdam. Maar, Leiden, Delft en Utrecht moeten natuurlijk niet vergeten worden! Grachten zijn eigenlijk gewoon een iconisch stukje Nederland. Waar het water vroeger functioneerde als drinkwater, bier ingrediënt en open riool, zijn de waterwegen nu vooral een boost in de biodiversiteit binnen steden. Helaas eindigt er toch nog vaak afval of een fiets in het water. Zijn mensen vergeten dat de gracht allang geen open riool meer is?

0410 – Gracht

Most tourists will associate Dutch canals with Amsterdam. However, Leiden, Delft and Utrecht also have plenty of canals. Canals are truly an iconic part of the Netherlands. The water used to function as drinking water, an ingredient in beer, and open sewers (yes, all at the same time). Now, canals symbolise a massive boost in biodiversity with Dutch cities. Unfortunately, trash and bicycles tend to end up in the water. Have people forgotten that the canals haven't been sewers in centuries?

0510 - Docent

Wat maakt iemand een docent? Moet iemand een diploma hebben? Een papiertje wat bewijst dat je iets weet of iets kan? Of is het genoeg als je goed bent in het uitleggen en doorgeven van je vaardigheden of kennis? Docent zijn is lastig. Het duidelijk overbrengen van informatie is een skill waar niet iedereen altijd evenveel waardering voor heeft. Docenten verdienen veel meer waardering dat zij nu krijgen. Maar hoe? Met kleinere klassen, minder stress en een beter salaris?

0510 - Docent

What makes someone a teacher? Do you need a diploma for it? A piece of paper to tell other people that you're able to explain something? Or is it good enough if you're good at talking and conveying knowledge and skills? Being a teacher is difficult. People don't tend to appreciate teachers, even if they do deserve way more recognition and appreciation than they're currently receiving. But how do we change that mindset? Both within civilians and the government?

0610 – BPM

Stayin' Alive van de Bee Gees heeft een tempo van 104 beats per minute. Het nummer staat bekend als het perfecte ritme voor het geven van een hartmassage. Toch is dat niet helemaal waar. De Bee Gees zijn goed, maar eigenlijk zou het iets sneller mogen. Alles tussen de 100 en 120 BPM is prima om iemands leven te redden. Tik Tok (120BPM) van Kesha is dus ook oke! De volgende keer dat iemand het aan z'n rikketik krijgt kun je dus uit meer liedjes kiezen dan je denkt.

0610 – BPM

Stayin' Alive by the Bee Gees has a pace of 104 beats per minute. The song is known for having the perfect rhythm for giving someone chest compressions. However, that isn't completely true. The Bee Gees are fine, but you could go a bit faster. Every song in between 100 and 120 BPM is good enough to save someone's life. Tik Tok (120BPM) by Kesha is therefore also a fine choice. So next time it seems like someone's time might be running out, there's more songs to choose from than you may have thought.

0710 - Levend Lab

Frankenstein's monster kwam tot leven in een lab. Wat blijkt? In het lab leven meer dingen dan je denkt. Bacteriën, schimmels en andere micro-organismen zijn cruciaal onderdeel van laboratoriumonderzoek. Maar ook de buitenwereld kan als een levend lab gezien worden waar grotere organismen onderdeel van uitmaken. Hier in Leiden hebben we bijvoorbeeld het Levend Lab van de Universiteit Leiden: 32 sloten die door mensen van allerlei leeftijden worden bestudeerd.

0710 - Levend Lab

Frankenstein's monster was raised from the dead in a lab. It seems like lots of things in a lab are alive. Even things you might not expect. Bacteria, fungi, and other microorganisms are a crucial part of laboratory research. But the outside world can also be viewed as a living lab made up out of large and tiny organisms. In Leiden, there's a Leiden University project called het Levend Lab (the Living Lab). This lab consists of 32 ditches which are constantly observed by people of all ages.

0810 – Buskruit

Er groeit geen roosmarijn in de bus. En explosieven worden ook niet toegestaan in het openbaar vervoer. Waarom heet buskruit dan buskruit? Het 'kruit'-gedeelte heeft wel degelijk met kruiden te maken! De structuur van buskruit lijkt namelijk wat op gemalen specerijen. En 'bus'? Dat is eigenlijk gewoon buis! De loop van oude vuurwapens werd voorheen nog wel eens zo genoemd. Maar in China, de originator van buskruit, wordt het goedje 火药 (Huǒyào) genoemd. Dit woord betekent letterlijk 'vurig medicijn'. Al is het maar de vraag wie er ooit van een schotwond gezonder is geworden.

0810 – Buskruit

Gunpowder has a long and complex history. It originated in China, and was probably one of the most influential inventions in human history. Without gunpowder, we'd still be fighting wars with catapults and spears. Fortunately (or maybe unfortunately), gunpowder isn't too difficult to make. Some sulphur, charcoal and saltpetre, and you're done. In China the stuff is called 火药 (Huǒyào). This literally means 'fiery medicine'. But who has even gotten better from a gunshot wound?

0910 – Selfie

"But first... let me take a selfie!" Het nummer van The Chainsmokers is alweer 8 jaar oud! Selfies zijn echter al veel ouder. Men maakt al jaren graag foto's of portretten van zichzelf. Technisch gezien kunnen de grotschilderingen gemaakt door de eerste homo sapiens al geteld worden als zelfportretten. De eerste *handheld* foto werd gemaakt door Joseph Byron in 1909. Hoewel men tijdens het begin van de Instagram selfie-trend narcistisch werd genoemd, is de mensheid dat dus al eeuwen.

0910 – Selfie

"But first... let me take a selfie!" #SELFIE by The Chainsmokers turns 8 years old this year! However, selfies are much older than that. People have been making self portraits in the shape of drawings, pictures, and paintings for years. Technically speaking, you could even count cave drawings by the first homo sapiens as self portraits. The first handheld photograph was made by Joseph Byron in 1909. People were often called narcissistic when Instagram selfies first became a thing. But if that is true, humans have been narcissistic for centuries.

1010 - 10¹⁰

10x10x10x10x10x10x10x10x10x10. Tja dat is nogal onoverzichtelijk he? 10¹⁰ ziet er stukken beter uit. Vandaag is het de tiende dag van de tiende maand. En hoewel 10 een lekker rond getal is, doen we er eigenlijk maar weinig mee. Behalve rekenen en onze vingers tellen natuurlijk. Een jaar bestaat uit 12 maanden. Een dozijn is twaalf en een gros bestaat uit twaalf twaalfen. Sommige wiskundigen pleiten dan ook al jaren voor een telsysteem gebaseerd op 12 in plaats van 10. Misschien dat dit heel verwarrend zou werken. Maar ja, oktober was ook ooit de achtste maand.

1010 - 10¹⁰

10x10x10x10x10x10x10x10x10x10. That's kind of hard to read, isn't it? 10¹⁰ is much more legible. Today is the tenth day of the tenth month. And while 10 may seem like a nice and round number, we don't actually use it much. Besides some maths and counting with our fingers, of course. A year is 12 months long. A dozen is 12. And a gross consists of twelve twelves. Some mathematicians have been pleading for a counting system based on 12 instead of 10 for years. Maybe that would be very confusing. However, October used to be the 8th month too. Numbers and their meaning can change.

1110 - Lovelace

Kant is ingewikkeld. Het is enorm lastig met de hand te maken en is enorm populair. Datzelfde geldt ook voor computers en bij uitstek computerprogramma's. Een programma met de hand uitschrijven? Dat is monnikenwerk. Toch deden mensen het. Al in 1843 publiceerde Ada Lovelace een artikel waarbij ze de werking van een computer omschreef. Dat jurkje met dat kantje lag zonder Lovelace dus niet in jouw digitale winkelmandje.

1110 - Lovelace

Lace is complicated. It is super hard to make by hand, and it's incredibly popular. Same thing goes for computers and computer programs. Writing a program by hand? That's an insane amount of work. Yet, people used to do it. As early as in 1843, Ada Lovelace published an article explaining how a computer would work. Without Lovelace, you wouldn't be able to admire any clothes online (including those with lace).

1210 - Reuma

Veel mensen hebben last van reuma. Maar het woord "reuma" omvat meer dan 100 verschillende aandoeningen. Iemand's ervaring met reuma hoeft dus totaal niet overeen te komen met die van een andere reumapatiënt. Het enige wat overeenkomt bij alle vormen van reuma is dat beweging lastig is. Meestal is dat de beweging van gewrichten, spieren, botten of pezen, soms de beweging van organen. 1 op de 9 mensen in Nederland heeft dan ook een vorm van reuma. Lastig en pijnlijk, maar helaas is reuma nog niet te genezen.

1210 - Reuma

A lot of people have rheumatism. The word "rheumatism" described over 100 different conditions. One's experience with rheumatism may therefore be completely different than someone else's. The only thing all types of rheumatism have in common is issues with movement. Usually that means the movement of joints, muscles, bones or tendons, or sometimes even the movement of organs. In the Netherlands 1 in 9 people has a type of rheumatism. Painful and complicated, but unfortunately rheumatism can't be cured as of yet.

1310 - Trombose

Ieder uur krijgen 11 mensen trombose: een bloedprop wat een bloedvat deels of volledig blokkeert. Afhankelijk van waar die prop zit kan het desastreuze gevolgen hebben voor je gezondheid. Een propje in je longen kan een longembolie veroorzaken en een propje in je hersenen zelfs een herseninfarct. Er overlijden dan ook 40 mensen per dag aan trombose in Nederland. Hoe zorgen we dat bloedpropfen een minder groot gevaar worden voor de mens? Hoe kan je ze voorkomen?

1310 - Trombose

Every hour 11 people will suffer from thrombosis: a blood clot that fully or partially obstructs blood flow in a vein. Depending on where the clot is located, thrombosis can have disastrous consequences for your health. A clot in your lungs can cause a pulmonary embolism, and a clot in your brain can even cause an ischaemic stroke. Every day just about 40 people in the Netherlands die from the consequences of thrombosis. How do we ensure that thrombosis will become a smaller risk for people? How can we prevent it?

1410 – Ei

Ei, ei, ei, en we zijn zo blij... maar wat kwam er nou eerder? De kip of het ei? Eieren zijn overal. Kleine insecteneitjes bevinden zich op bijna elke plant en vogel-en-visseneitjes kun je zelfs in de supermarkt vinden! Maar ook al is de mens een zoogdier, wij leggen ook eieren. Baby's met eierstokken worden met alle eitjes die ze ooit zullen hebben in hun lichaam geboren. Raar maar waar! Soms ben je een blij ei en soms heb je een blij ei.

1410 – Ei

What came first? The chicken or the egg? You've probably heard that one before, but eggs are truly everywhere (regardless of whether there's a chicken around). Insect eggs are on almost every single plant, and fish and bird's eggs can be found in every supermarket. Although humans are mammals, we also produce eggs. Without an egg, a sperm cell would be pretty useless after all. People who are born with ovaries are simultaneously born with all the eggs they'll ever produce in their body. Weird but true.

1510 - Fantasia

We gaan een experiment doen. Stel je voor dat je een appel in je handen hebt. Stel je nu voor dat je er een hap uit neemt. Kijk naar de appel in je hoofd. Kan je de hap zien? Kan je zelfs de verkleuring van de appel inbeelden als je hem even laat liggen? Ja? Goed nieuws, dan werkt je fantasie nog prima! Uit onderzoek blijkt namelijk dat 0.7% van de wereldpopulatie lijdt aan afantasia: een aandoening waarbij je geen mentale beelden kan visualiseren.

1510 - Fantasia

We're going to do a test together. Imagine you're holding an apple. Now imagine you're taking a bite out of it. Look at the apple in your mind. Can you see the bite? Can you even imagine it slowly turning brown if you left it alone for a while? If the answer is yes, then good news! Your imagination is working fine. Research shows that 0.7% of the world suffers from a condition called aphantasia. This is a condition that makes someone unable to imagine something visual.

1610 - Voedsel

Voedsel is belangrijk. Dat weten we allemaal wel. Het liefst heeft het menselijk lichaam elke dag iets te eten. Maar voor veel mensen is dat lastig. Of dat nou vanwege een voedselgebrek, een geldgebrek of een ziekte is. Waar de een zijn smaakpalet probeert te verfijnen met de duurste en zeldzaamste ingrediënten of alsmaar nieuwe smaakcombinaties, is de ander al blij als het überhaupt lukt om iets te eten. Is het waar dat je bent wat je eet?

1610 - Voedsel

Food is important. We all know that. The human body prefers to eat something every single day. But for a lot of people, that can be very hard. Food shortages, poverty, or disease: access to food isn't a

given for everyone. Where some people are trying to expand their taste palette with the most expensive and rare ingredients, others are happy if they can eat anything at all. Is it true that you are what you eat?

1710 - Geld

"Money! Money! Money! Must be funny, in a rich man's world.", ABBA zong het al, maar geld is ongelijk verdeeld en betekent voor de een iets anders dan voor de ander. Waar 100 euro voor de een een enorme smak geld is, is het voor de ander iets wat zonder na te denken wordt uitgegeven. De waarde van geld verschilt dus per persoon, maar is ook nog eens een raar iets op zichzelf. Wie bepaalt dat een brood 3 euro waard is in plaats van 15? En hoe zat het ook alweer met inflatie?

1710 - Geld

"Money! Money! Money! Must be funny, in a rich man's world.", ABBA already told us so: money is not divided equally and therefore means different things to different people. 100 euros can be a lot of money for one, and pocket change for someone else. The value of money differs per person, but also changes in itself. Why do you pay 3 euros for bread instead of 15? And how does inflation even work?

1810 - Duizendknoop

Duizend knoopjes op een kledingstuk zijn er wel erg veel. Gelukkig zijn het er op een gemiddeld overhemd niet meer dan 6. En de wind? Die wil je al helemaal niet rond de 1000 knopen hebben. Het gaat vandaag dan ook om een plant. De Japanse duizendknoop is een van de meest invasieve planten in Nederland. Zoals de naam al doet vermoeden, komt de plant uit Japan. De sterke wortels en stengels van de plant kunnen schade toebrengen aan de omgeving. En het allerergste? De plant is zeer moeilijk te verwijderen zodra hij is gevestigd.

1810 - Duizendknoop

Knotweed is not weed. It is a weed however. In Dutch, this plant is called a 'duizendknoop', which means 'a thousand buttons' or 'a thousand knots'. A thousand knots seem worrying in any case. A thousand knots in your hair, probably mean you have to shave your head. And you don't want the wind to be at a thousand knots either. The Japanese knotweed is one of the most invasive plants in the Netherlands. The strong roots and stems can damage the area in which it is located in several ways. Worst of all? It's very hard to get rid of!

1910 - Oumuamua

1I/2017 U1 dat is de officiële naam van Oumuamua, een interstellair object wat in 2017 zichtbaar was door de Pan-STARRS telescoop. Het object is maar mysterieus. Onderzoekers weten gewoonweg niet zeker wat het nou precies was. Het is daarnaast ook nog eens het eerste interstellaire object wat een mens ooit heeft waargenomen. Waarschijnlijk was het object dun en niet meer dan 1 kilometer lang. Klein in de context van het universum dus, maar groot in onze geschiedenis.

1910 - Oumuamua

1I/2017 U1 is the official name of Oumuamua, an interstellar object which was spotted through the Pan-STARRS telescope in 2017. The object is mysterious. Researchers simply don't know what it was. It's the first interstellar object humans have ever seen. It's likely that the object was quite thin and no longer than 1 kilometre. That means it's very small in the context of the universe, but quite big in the context of human history.

2010 - Transvaal

Bij Transvaal denken veel mensen aan Den Haag of Leiden. Transvaal was echter ook een provincie in Zuid-Afrika tussen 1910 en 1994. De Transvaal-provincie werd in 1852 gesticht door Nederlandstalige Boeren. Toen was het een onafhankelijk land wat niet bij de rest van Zuid-Afrika hoorde. 50 jaar na het ontstaan werd het land echter een kolonie van de Britten. Van land naar kolonie naar provincie naar vergetelheid. Transvaal in Leiden heeft een minstens zo boeiende geschiedenis.

2010 – Transvaal

When you hear the name “Transvaal”, you might think of The Hague or Leiden. Both of those cities have neighbourhoods with that name, after all. However, Transvaal used to be a province in South Africa between 1910 and 1994. The province was founded by Dutch settlers and was considered one of the Boer republics until 1902. Boer republics operated separately from the rest of South Africa. In 1902 the province would become part of the British empire as a colony. This would last until 1910. From country, to colony, to province, to not-so-ancient history. Transvaal in Leiden also has a rich history though.

2110 - Zwart Gat

Wat maakt zwart zwart? Iedereen die veel zwart draagt kan je vertellen dat het ene zwart het andere niet is. Soms lijkt het donkerder, lichter, doffer of helderder. Maar een zwart gat? Dat is pas zwart. Een plek in de ruimte waar de zwaartekracht zo sterk is dat deeltjes en golven (waaronder licht) deze plek niet kunnen ontsnappen. Zwarte gaten zijn dus donker, zwart en een beetje eng, maar vormen ook het middelpunt van verschillende sterrenstelsels.

2110 - Zwart Gat

What makes black black? Everyone who wears a lot of black clothes can tell you that not every black is the same. Sometimes it seems darker, lighter, more dull or more bright. But a black hole? That is truly black. A black hole is a place in space where gravity is so incredibly strong that particles and waves (including light) cannot escape from it. This means that black holes are dark, black, and a bit scary. However, they also form the centre of many different starsystems.

2210 – Stotteren

S-s-st-stotterde jij vroeger? Of misschien nog steeds? Stotteren is erfelijk, komt meestal bij kinderen voor en gaat meestal weer over. Maar wat als het nou niet overgaat? Tja, dan stotter je vaak voor het leven. De samenwerking tussen je hersenen, zenuwen en spieren gaat niet helemaal goed, maar niet de hele tijd en soms vaker dan anders. Stotteren kan toe en afnemen. Vaak bepaald door de hoeveelheid stress, heftige emoties of moeheid in je leven. En dat terwijl stotteren juist stressvol is voor veel stotteraars.

2210 – Stotteren

Did you have a s-st-stutter when you were younger? Maybe you still have it? Stuttering is hereditary, usually appears in young children, and usually disappears when those children grow up. What happens when it doesn't disappear? Well, then you're usually stuck stuttering for life. The collaboration between your brain, your nerves, and your muscles just doesn't seem to function as it should. But stuttering doesn't happen 24/7 for most people. Stuttering usually comes and goes depending on emotions, stress and fatigue. That doesn't make it any easier though because stuttering in itself can be very stressful.

2310 - Mol(l)en

Mollen mollen molens niet. Maar wel golfbanen, grasvelden, tuinen en perken! Mollen zijn voor sommige mensen lastig en voor anderen super schattig. De blinde diertjes zijn eigenlijk constant hun ondergrondse huizen aan het renoveren. Maar ook molens helpen bij renovatie. Zonder molens was Nederland waarschijnlijk een stukje kleiner geweest. Zowel qua populatie als qua oppervlakte. Molens hielpen bij het polderen van grote gebieden en het verschaffen van meel voor het maken van brood. Niet raar dus dat ze nu een symbool voor Nederland zijn geworden.

2310 - Mol(l)en

Mills and moles. They sound similar and they can do similar things. Mills and moles both alter terrain. The Netherlands has used mills in the past to drain away water and create new land. Moles alter land in a completely different way. They dig through golf courts, yards, fields, and gardens. They're not malicious, they're just constantly expanding and renovating their underground homes. Can we blame

the moles for doing that? When a lot of Dutch people wouldn't live in their homes without massive alterations to the landscape either?

2410 – Micro

Sacharias Jansen en Antoni van Leeuwenhoek zijn cruciaal geweest in de wereldgeschiedenis. Zij hebben de microscoop uitgevonden en verbeterd. De micro-wereld wordt dus al eeuwen door Nederlanders belicht. Een klein landje en een klein wereldje. Het allerkleinste speelt een rol in bijna alles wat je kunt bedenken. Natuurkundigen, wiskundigen, scheikundigen en biologen houden zich allemaal bezig met microscopische deeltjes en organismen.

2410 – Micro

Sacharias Jansen and Antoni van Leeuwenhoek were crucial for the development of the microscope. Officially Sacharias invented the microscope, and Antoni improved it. However, there's also many sources claiming Sacharias's son lied about his father's inventions. Regardless, the micro-world has been an integral part of Dutch history for centuries now. A small country focusing on a small world. The microscopic world plays a big role in science to this day. Physicists, mathematicians, chemists, and biologists all study this tiny, tiny world.

2510 – Straf

Honderd regels schrijven, in de hoek staan of een werkelijk pak slaag. We hebben allemaal wel eens fouten gemaakt en allemaal wel eens straf gekregen. Maar hoe zorg je voor een balans tussen een fout en straf? De doodstraf voor een spelfout lijkt tenslotte nogal extreem. Maar hoe zit het met serieuze zaken. Moet iedereen die de wet overtreedt een boete krijgen? 1000 euro is voor de een tenslotte niets en voor de ander bijna een maandsalaris. Wat wordt er afgestraft en hoe?

2510 – Straf

Writing down 100 lines, standing in the corner, or getting a spanking. We've all made mistakes before, and we've all received punishment in some way. But how do you ensure there's a balance between mistakes and punishments? After all, being put on death row for a grammatical error seems quite extreme. Should everyone who violates the law get a fine then? 1000 euros means nothing to some people but is almost a month's salary to others. What constitutes a mistake? And what's the right punishment?

2610 – T Rex

In Leiden staat een T-rex. Een van de allerbekendste dino's staat in Nederland en heeft de naam Trix gekregen. Een beetje bizar is dat wel. De tyrannosaurus liep tijdens het Krijt namelijk alleen in Noord-Amerika rond. Trix trekt niet alleen toeristen aan, maar is dus ook zelf een toerist! De grote dame is sowieso een echte globetrotter. Tussen 2017 en 2019 maakte de dino een postume reis door heel Europa.

2610 – T Rex

There's a t-rex in Leiden. One of the most famous dinosaurs is named Trix. And she has a semi-permanent place in Naturalis: a museum in Leiden. That's a bit bizarre, isn't it? During the cretaceous era, the tyrannosaurus only traversed the US. So, Trix doesn't just attract tourists, she's a tourist herself! The big lady is a real globetrotter. Between 2017 and 2019, the dinosaur made a posthumous journey through many countries in Europe.

2710 – Blue

Ben jij blue? Da Ba Dee Da Ba Da? In Nederland wordt bijna 20 procent van de volwassenen (18-64 jaar) ooit depressief. Voor mensen onder de 18 geldt 4%. Een fors aantal. En dan gaat het bij dat getal alleen nog maar over gediagnosticeerde depressies. Iedereen lijkt depressief te kun worden. Of je nou blauw bloed hebt of geen rode cent. De roze bril waar zoveel mensen mee naar het leven kijken, is helaas voor sommigen blauw gekleurd.

2710 – Blue

Are you blue? Da Ba Dee Da Ba Da? In the Netherlands almost 20% of all adults (18 - 64 years old) will become depressed during their lifetimes. For minors this percentage is at 4%. That's a lot of people. And undiagnosed depressions aren't even taken into account. Everyone seems to be able to become depressed. Sometimes even out of the blue. The rose-tinted glasses that so many people view life through, is a shade of blue for many others.

2810 - Geslaagd?

Ja! Nee! Misschien? Gister was het de 300ste dag van het jaar. Nog maar iets meer dan 2 maanden en dan is 2022 alweer voorbij. Hoe vond je het jaar tot nu toe? Is het geslaagd? Misschien heb je wel hulp nodig gehad om dit jaar te laten slagen. Elk jaar dragen daar tenslotte een aantal mensen aan bij: iemand die je vertrouwt, familie, vrienden, iemand die in je gelooft, iemand die je een kans geeft of een combinatie van al die categorieën. Tijdens je kindertijd is deze persoon vaak een leraar. Het is in Australië vandaag dan ook de Dag van de Leraar! De rest van de wereld viert die dag op 5 oktober trouwens.

2810 - Geslaagd?

Yes! No! Maybe? Yesterday was the 300th day of the year. In only a little more than 2 months from now 2022 will be over. How did you enjoy the year so far? Was it a successful year? Maybe you needed some help to let this year succeed. Every year a few people add to your success after all: people who believed in you, people who trusted you, people who gave you a chance, or some combination of those three. During your childhood, this person is often a teacher. In Australia, it's "World's" Teacher's Day today. Funnily enough, the rest of the world celebrates this holiday on the 5th of October.

2910 - N8

In november kunnen we genieten van de langste nacht van het jaar. Lekker doezelen. Maar, de nacht is natuurlijk niet alleen voor slapen bedoeld. Veel mensen gaan 's avonds graag nog allerlei activiteiten doen. Zo kon je deze maand genieten van Museumnacht Amsterdam, georganiseerd door N8. Of kun je in de toekomst een tochtje maken naar de Belgische Westkust. Als je daar (specifiek in Koksijde) wilt komen moet je namelijk sowieso via de N8!

2910 - N8

In November you can enjoy the longest night of the year. Pressing snooze over and over again. But of course, not everyone uses the night to sleep. A lot of people love to celebrate the night with many different types of events. This month you could enjoy the Museum Night, organised by N8. But the night is still full of new possibilities and opportunities too!

3010 - Ssst!

Ssst! De wereld valt vandaag weer stil. Of nou ja, alleen de wereld op het noordelijk halfrond eigenlijk. Vandaag gaat namelijk officieel de wintertijd in. De winter? Die begint pas in december. Dus de natuur gaat nog eventjes lekker vooruit. Maar onze klok? Die gaat een uur terug. Achter in het jaar gaat de klok achteruit! We krijgen dus allemaal een extra uurtje slaap en dat brengen de meeste mensen het liefst in stilte door. Dus sssst! Slaap lekker.

3010 - Ssst!

Shush! Today the world shall be quiet! Well, the part of the world in the northern hemisphere at least. Today we're switching from summer to winter time. The actual winter starts in December, but daylight saving time is coming to an end today. Our clock is going back by an hour. In the back of the year, the clock goes back! So, we'll all be able to enjoy an extra hour of sleep tonight, and most people like to do that in silence. So, shush! Good night.

3110 - Angst

Aanschouw en huiver! Het dagonderwerp van vandaag is angst! Angst hebben we (bijna) allemaal. De een meer dan de ander. In theorie is angst heel nuttig. Het houdt je veilig in gevaarlijke situaties en zorgt ervoor dat je minder geneigd bent om periculieuze kapriolen uit te halen. Maar toch staan menig mensen ook gillend op een tafel wanneer ze een muis of spin zien. Waarom zijn we daar dan bang voor? Waarom hebben we irreële angsten en waarom achtervolgt angst ons soms?

3110 - Angst

Behold and shudder! Today's topic of the day is fear! Fear is something we (almost) all have. Some more than others. In theory, fear is very useful. It keeps you safe in dangerous situations and makes you less inclined to perform periculous capers. Yet many people also stand screaming on a table when they see a mouse or spider. So why do we fear them? Why do we have unreal fears and why does fear sometimes haunt us?

November

305 Skelet 0111

Sommigen van ons hebben een paar extra ribben, anderen hebben een sesambeentje. In totaal bevat het skelet van een volwassen persoon uit 206 beenderen. Ook de meeste zoogdieren hebben deze beenderen, wellicht in een andere vorm. Zonder skelet zouden we letterlijk uit elkaar vallen en zouden onze organen direct beschadigd raken. Ben je 35 jaar of ouder? Dan zijn je botten officieel uitgegroeid. Nog in de puberteit? Dan worden je botten niet meer langer, maar nog wel dikker.

305 Skelet 0111

Some of us have a few extra ribs, others have sesamoid bones. In total, most adult human skeletons consist of 206 bones. Most other mammals also have bones, sometimes in another shape or form. Without a skeleton, we'd fall apart and our organs would get damaged. Are 35 years old or older? Then your bones have officially stopped growing. Still going through puberty? Then your bones are only getting thicker, not longer.

306 Stress 0211

Stress. Een woord met veel betekenis en voor iedereen anders te interpreteren. Waar de één in de stress schiet van het presenteren voor een grote groep, doet de ander dat het liefst elke dag. Waar de één slapeloze nachten heeft, kan de ander geen hap meer door de keel krijgen. Toch kan stress ook handig zijn, door alert te reageren kunnen er soms betere prestaties ontstaan. Maar, alles met mate, want stress is besmettelijk!

306 Stress 0211

Stress. It's a word with a lot of different meanings. Some people start freaking out when they have to give a speech to a big audience, other people couldn't care less. Some people can't sleep when they're stressed, others will start eating a lot more or a lot less. Stress is supposed to be useful: it makes you more alert and some people perform better under stress. However, too much stress is always a bad thing. Stress is contagious too, so it won't just bother you but also the people around you.

307 Press 0311

Zonder pers geen nieuws. Zonder persvrijheid geen mogelijkheid om gevoelens en gedachten te openbaren. Zonder vrijheid van meningsuiting geen democratische samenleving. Het uiten van je eigen stem is niet overal een gegeven. In veel landen is er censuur waarbij eerst toestemming moet worden gegeven voordat er iets wordt gepubliceerd. Er staat dus een hoop druk op pers. Tijd om vandaag stil te staan bij de vraag of jij deze vrijheid ervaart.

307 Press 0311

Without the press, it would be much harder to find reliable news. Without freedom of the press people wouldn't be able to publicly express their opinions and thoughts. Without freedom of speech there wouldn't be a democracy. But being able to voice your thought isn't a given everywhere. There's a

form of censorship in many countries. Posts that the government doesn't agree with are taken down or an article has to be checked by the government before it gets published. There's a lot of pressure on the press.

308 Toetanchamon 0411

Toetanchaton, beter bekend als Toetanchamon, was een van de bekendste farao's uit de geschiedenis van Egypte. Koning 'Toet' was nog maar 9 jaar oud toen hij de troon besteeg. Tien jaar later overleed hij, waarna zijn graf in 1922 vrijwel volledig ongeschonden werd ontdekt. Met meer dan 3500 voorwerpen bij het graf, waaronder het beroemde dodenmasker, was deze vondst een spectaculaire ontdekking. De vele geruchten rondom zijn dood en het speculeren over de 'vloek van Toetanchamon' houden vele wetenschappers bezig.

308 Toetanchamon 0411

Tutankhamun is one of the most famous pharaohs in Egypt's history. King Tut was only 9 years old when he became pharaoh. Ten years later, at the age of 19, he died. In 1922, his tomb was re-discovered. In it, archeologists found over 3500 artifacts in Tutankhamun's grave, including his famous golden mask. His premature death and the so-called 'Curse of Tutankhamun' still remain a point of debate for scientists and non-scientists alike.

309 Tiny 0511

'Tiny desk concerten', 'tiny houses', klein is fijn! Tegenwoordig willen mensen meer ontspullen en 'downsizen'. De keuze om een duurzamere woon- en levensstijl aan te nemen wordt steeds vaker gemaakt. Nog geen twee jaar geleden werd er voor het eerst een Tiny House op wielen definitief vergund in Nederland. Zou jij het aankunnen, je hele hebben en houwen in een oppervlakte van 25 vierkante meter?

309 Tiny 0511

'Tiny desk concerts', 'tiny houses', small things can be great! Nowadays, more and more people want to downsize. People decide to live in a more eco friendly way by getting rid of excess stuff and inhabiting smaller houses. Barely 2 years ago, the Dutch government allowed the first tiny house on wheels to be rented out. Can you handle living in a house that's 25m² or less?

310 Metamorf 0611

Een metamorf is een steen die een metamorfose heeft ondergaan. Heeft die steen dan een make-over gekregen? Nou, hier praten we over de chemische reactie die in gesteente plaatsvindt. De mineralen in deze steen groeien onder invloed van druk en temperatuur en kunnen indrukwekkende structuren en kleuren aannemen. In die zin wordt de steen dus wel mooier en indrukwekkender nadat hij is gemetamorfoseerd.

310 Metamorf 0611

A metamorphic rock is a rock that underwent metamorphosis. Does that mean nature gives rocks make-overs? Well, kind of. We're talking about a chemical reaction that sometimes happens in some rocks. Minerals grow under the influence of high temperatures and high pressure. When this happens, rocks can get impressive colours and patterns. So, in that way, the rock does get prettier after it's been metamorphosed.

311 Beeldbuis 0711

Even lekker voor de beeldbuis hangen. Doe jij dat nog wel eens? Of zegt een avondje 'Netflixen' jou meer? In 1927 kwam de eerste beeldbuis in beeld, waarna men zwart wit beelden konden zien en begon met televisiekijken. Sinds 1967 kwam er kleur op het scherm en nog geen 40 jaar later had meer dan de helft van de Nederlandse huishoudens een breedbeeld tv. Nu zijn we nog eens 20 jaar verder en verdwijnt de beeldbuis steeds meer uit beeld. Kijken we straks alleen nog maar online of op onze telefoons, laptops en tablets?

311 Beeldbuis 0711

Hanging out in front of your television... do you still do that? Or do you consume media via your laptop or phone through Netflix or some other streaming service? In 1927 the first ever black-and-white television was introduced. It would take decades for tvs to become commonplace. In 1967, colour was first introduced to the tv world. 40 years later, over half of Dutch households would own a flatscreen tv. Now, almost 20 years later, tvs are disappearing from households. Is online tv the future?

312 Röntgen 0811

Heb jij wel eens een deel van jouw lichaam op een röntgenfoto gezien? De röntgenstralen die door het lichaam heen gaan worden door je huid doorgelaten, maar door je botten tegengehouden. Deze stralen werden per toeval ontdekt door Wilhelm Röntgen, een Duits-Nederlands natuurkundige die hier vervolgens de eerste Nobelprijs voor Natuurkunde voor ontving. Deze uitvinding was destijds zo indrukwekkend dat het voor veel futuristische denkbeelden zorgde. Zo geloofde men dat er in 2020 inbrekers konden worden opgespoord door röntgenstraling. Wat denk je, is dit uitgekomen?

312 Röntgen 0811

Have you ever seen (a part of) your body on an x ray? The rays used during x ray go through your body, but can't go through bone. That's why only your bones show up on an x ray. The rays were accidentally discovered by Wilhelm Röntgen: a German-Dutch physicist who won the first Nobel Prize in Physics for this discovery. The invention of machines that could produce x rays sparked the imagination of many people in the early 20th century. People believed the machines would be able to detect burglars by 2020. But that didn't happen, did it?

313 Element 0911

Zit je lekker in je element? Of hebben we het over de Chinese elementen: hout, vuur, metaal, water en aarde? En is een onderdeel van een verzameling ook niet een element? Hoe dan ook, element wordt veel gebruikt in verschillende contexten. Scheikundig gezien is een element één soort atomen die niet in andere stoffen opgesplitst kan worden. Is het dan wel een onderdeel van een verzameling of toch niet? In ieder geval genoeg stof om over na te denken.

313 Element 0911

What element of your life is the most important to you? According to Chinese philosophy it's either wood, fire, metal, water or earth. The word 'element' is used in many different contexts. Usually an element is a singular part of something. A part of a collection or a part of an outfit could both be called elements. In chemistry, an element is a type of atom that can not be separated into other materials. Is singularity a crucial part of being an element then?

314 Science 1011

Leiden is dit jaar European City of Science. Science speelt dus een hoofdrol dit jaar. Maar wat is wetenschap precies? De brede definitie luidt: zowel de menselijke kennis op bepaalde gebieden, de manier waarop mensen deze kennis ontvangen als het geheel waarbinnen de informatie wordt vergaard. Er kan worden gezocht naar diepere achtergronden, door fundamenteel onderzoek, of naar toepassingen van de kennis door toegepaste wetenschap. Wetenschap is overal en voor iedereen toegankelijk. Het ligt er maar net aan waar je zoekt.

314 Science 1011

Leiden is the European City of Science this year. Science has a big role in our year, but what is science to begin with? The broad definition: human knowledge in certain areas and the way in which that knowledge is obtained and received. Science can be used to explore the history of subjects, perform fundamental research, and research the applicability of applied sciences. Science can be accessible for everyone. It just depends on what you want to do.

315 Fake News 1111

Steeds vaker horen we de term 'fake news' voorbij komen, maar wat maakt iets nou eigenlijk fake news? Is het wanneer de kern van het verhaal niet klopt of is iets al fake news als een titel of quote binnen een artikel niet klopt? Het antwoord op die vraag verschilt per persoon. Wel is het zeker dat fake news heel gevaarlijk kan zijn. Mensen kunnen verkeerde informatie als waarheid aannemen en daardoor acties en meningen baseren op een onwaarheid of leugen. Dat lijkt niet zo erg totdat het over zo iets als publieke gezondheid, politiek of oorlog gaat. Hoe voorkomen we dan dat fake news verspreid raakt zonder dat de vrijheid van meningsuiting in het gedrang komt?

315 Fake News 1111

We often hear the term 'fake news'. But what even is fake news? Is it an article where the core of the story is incorrect? Or can something already be considered fake news when a quote or title is misleading or wrong? The answers to those questions are subjective. However, it is the objective truth that fake news can be very dangerous. People can view the wrong information as reality, and base their actions and thoughts on a lie or untruth. That might not seem that concerning, until you think about the effects that may have on public health, politics, or war. How do we prevent fake news from spreading without freedom of speech being compromised?

316 Rookie 1211

Iedereen is ooit een 'rookie' geweest. Als groentje of nieuwkomer voel je je vaak nog een beetje onzeker en moet je nog veel leren. Binnen de sport zijn rookies tegelijkertijd ook de professionals van de toekomst, waardoor het belangrijk is ook speciaal wedstrijden te organiseren voor deze talenten. Er bestaat zelfs een titel om 'rookie of the year' te worden. Is het dan misschien toch niet echt iets om onzeker over te zijn?

316 Rookie 1211

Everyone was a rookie once upon a time. As a greenie or a freshman, you often still have to learn a lot, which can lead to a bit (or a lot) of insecurity. At the same time, rookies are the professionals of the future. Which is why there's many events and competitions held to celebrate newcomers. Within the NBA you can even receive the Rookie of the Year Award. Is all that personal insecurity truly necessary?

317 Midden Oosten 1311

Welke landen precies tot het Midden-Oosten behoren is niet geheel bekend. In ieder geval liggen de landen in Zuidwest-Azië en delen van Noord-Afrika. Het Midden-Oosten is een belangrijke schakel tussen het Westen en het Oosten van de wereld. Het jodendom, christendom en de islam zijn er alle drie ontstaan. Daarnaast komt het overgrote deel van de aardolievoorraad uit dit gebied. Door de belangrijke ligging in de wereld, spelen er vele politieke en religieuze spanningen.

317 Midden Oosten 1311

Which countries belong to the Middle East is unclear. It is generally agreed upon that the countries have to be located in southwest Asia and northern Africa. The Middle East is the link between 'the West' and 'the East'. Judaism, christianity, and the islam all have their roots in the Middle East. A large part of the world's oil also comes from this region. This means the political tensions are always high.

318 Insuline 1411

Wanneer onze alvleesklier geen insuline aanmaakt, of wanneer ons lichaam daar niet goed meer op reageert, blijft er te veel suiker in ons bloed zitten. Dit zorgt voor gezondheidsproblemen en wordt suikerziekte of diabetes genoemd. Mag je dan geen suiker meer eten wanneer je 'suikerziek' bent? Nee, maar je bloedsuikerspiegel moet wel zo stabiel mogelijk blijven! De insulinepomp helpt mensen met diabetes daarbij. Een belangrijke stof dus in je lichaam, die insuline.

318 Insuline 1411

When our pancreas doesn't produce insulin anymore or when our bodies don't respond to that pancreas-made insulin anymore, we'll get an excess of sugars in our blood. This causes a lot of health

issues and is called diabetes. Does being diagnosed with diabetes mean you're not allowed to have sugary products anymore? No, but keeping an eye on your blood sugar level is crucial. In some cases, an insulin pump can help people with that. Insulin is a hormone you cannot live without, so it's a shame that it can be so expensive to buy in many countries.

319 Game Changer 1511

Wanneer een situatie totaal veranderd door een gebeurtenis, noemen we dit een game changer. Een goed voorbeeld hiervan is de uitvinding van het internet. In januari van 1983 stapte het destijds 14 jaar oude ARPANET over naar de huidige IP-versie van het internet. Deze gebeurtenis heeft de hele wereld doen veranderen en heeft impact op ons denken en handelen. Maar ook andere evenementen in de wereldgeschiedenis en het gebruiken van WhatsApp, Uber, Gorilla's of Airbnb heeft levens volledig veranderd. Welke game changer heeft jouw leven op zijn kop gezet?

319 Game Changer 1511

When a situation is completely changed by an event, we call the event a game changer. A good example of a game changer is the invention of the internet. In January of 1983, the 14 year old ARPANET changed into the current IP-version of the internet. This event had a massive impact on our ways of thinking and acting. Other events changed the world in a similar way. WhatsApp, Uber, Gorillas and Airbnb all changed big parts of the world when they were first released. What game changer changed your life the most?

320 Benauwd 1611

Het Spaans benauwd krijgen is wat anders dan het benauwd hebben. Hoewel, wanneer je heel erg tegen iets op ziet krijg je vaak ook het gevoel dat je te weinig lucht binnenkrijgt. Benauwdheid kan acuut ontstaan of chronisch zijn. Herken je dat gevoel, wanneer je eten opeens in je verkeerde keelgat schiet? Na een paar keer proesten en water drinken komt de ademhaling hopelijk vanzelf weer terug naar zijn oude ritme. Kan je toch weer gerust ademen.

320 Benauwd 1611

Feeling stuffy, muggy or smothered because it's hot outside is very different from actually being unable to get any air. When you're very nervous, your chest can feel tight, maybe you'll even hyperventilate. Hyperventilation is an example of acute shortness of breath, but some shortness of breath is chronic. Asthma, COPD, and other lung conditions can make you feel like you're out of breath all of the time.

321 Therapiedier 1711

Wanneer je even niet zo lekker in je vel zit, helpt het vaak om even te knuffelen met iemand. Maar wist je dat er zelfs dieren zijn getraind om je te troosten of te ondersteunen? Therapiedieren geven je nieuwe energie, minder stress en helpen je wat meer structuur te krijgen. Van honden en katten, tot konijnen, vogels en paarden. Natuurlijk kan dit dier niet als werkelijke therapeut of psycholoog functioneren, maar ze kunnen wel een vorm van geruststelling, hulp en therapie (op hun eigen manier) aanbieden.

321 Therapiedier 1711

When you're feeling down it can help to hug someone. But did you know there's trained animals that can support you? Emotional support and therapy animals can give you new energy, a way to de-stress, and can help you to organize your life a bit more. Dogs, cats, rabbits, birds, and horses: any animal can help. Of course, emotional support animals can't truly take the place of a therapist or psychiatrist, but they can help out in other ways and provide therapy in their own special way.

322 Antibiotica 1811

De verzamelnaam voor de middelen die bacteriële infecties bestrijden. Nog geen 100 jaar geleden is het eerste echte antibioticum ontdekt, penicilline. Sinds de ontdekking van deze schimmel (want ja, dat is wat penicilline is) zou je denken dat de wereld niet meer zonder wilt. Maar, omdat de kans om resistent te worden aanwezig is, is het belangrijk niet te vaak te antibiotica gebruiken. Antibiotica

slikken om van je verkoudheid of griep af te komen? Helaas, deze worden veroorzaakt door een virus. Toch worden antibiotica in het buitenland ook volop voorgeschreven in die situaties. Helaas is antibiotica niet het wondermiddel waar men het soms voor aanziet.

322 Antibiotica 1811

The collective name for a type of medication that is used to treat bacterial infections. Not even a hundred years ago, Alexander Fleming first discovered penicillin. Since the discovery of this fungus (yes, that is what penicillin is), the world doesn't want to go without it. This is kind of a problem. If you use antibiotics too often, your body can become immune. Using antibiotics to combat a flu? That's a viral infection, so it won't work. Unfortunately, in many countries antibiotics would be prescribed to you anyway. Alas, antibiotics aren't some fix-all miracle drug.

323 Achteromkijken 1911

Niet achteromkijken! Op het moment dat iemand dat tegen je zegt, is er een grote kans dat je angstig wordt. Los van het schrik-effect zijn er ook mensen die bewust niet achterom kijken naar het verleden, maar vooruitkijken naar de toekomst. Wanneer je iets achter je laat is het ook de vraag of je dat nog een keer wilt aankijken. Achteromkijken kan ook terugblikken betekenen, waarbij je met een fijn gevoel een mooie herinnering opnieuw afspeelt in je hoofd. Welke kant kijk jij op?

323 Achteromkijken 1911

Don't look back! When someone says that to you, there's a big chance you'll become very curious or very scared. There's a lot of people who refuse to look back on their lives to avoid useless worrying or anxiety. Instead, they like to stay in the now or look forward. But looking back can also be a positive thing. Looking back on a period of your life and seeing how you've changed and grown for the better can be a very gratifying feeling. What direction are you looking at?

324 Leids Adres 2011

Wanneer je postcode ergens tussen 2300 en 2400 valt, woon je op een Leids Adres. Maar daar hebben we het vandaag niet over. Het Leids Adres is namelijk het verzoekschrift dat Leidse fabrikanten in 1863 aan Koning Willem III stuurden, om hem te vragen de werktijden en het onderwijs voor kinderen wettelijk te regelen. Dit was naar aanleiding van de misstanden in de kinderarbeid die de fabrikanten wilden melden. Het Leids Adres heeft een belangrijk onderdeel gevormd in het bredere maatschappelijk streven om verantwoord te ondernemen en sociale verbeteringen door te voeren.

324 Leids Adres 2011

When your zip code is somewhere between 2300 and 2400, you have an address in Leiden. But that's not what we're talking about today. Het Leids Adres (the Address from Leiden) was a petition written by factory owners and other manufacturers addressed to King William III of the Netherlands. The petition requested that the King would make laws to determine how much children were allowed to work and when they should go to school. This all happened in 1863, long before child labor would be outlawed. However, the script formed an important step in the right direction. Child labor for kids below 12 years old would finally be outlawed in 1874.

325 Dromen 2111

Iedereen droomt. Soms levensecht, soms totaal buitensporig en bizar. Soms kan je precies navertellen wat je die nacht allemaal hebt beleefd, soms word je wakker en weet je helemaal niks meer. Sommige mensen geven betekenis aan hun dromen. Zo geloven sommigen bijvoorbeeld dat het uitvallen van tanden krachtverlies symboliseert. Wat je in je dagelijks leven meemaakt kan invloed hebben op hetgeen waar je over droomt. Het is waarschijnlijk een verwerking van alle gebeurtenissen. Droom lekker verder!

325 Dromen 2111

Everybody dreams. Sometimes dreams are hyper realistic, and other times they're outrageous and bizarre. Sometimes you know exactly what happened after you've woken up, and other times you won't remember anything. Some people believe there's a deeper meaning to dreams. For example, they believe your teeth falling out in a dream means you're afraid to lose some type of power. What you experience during your conscious life does seem to have an effect on your dreams, but it is unknown why we dream. Scientists theorize we dream to process all the information we've received during a day. So, keep on dreaming!

326 Kleur 2211

Denk niet wit, denk niet zwart, denk niet zwart-wit, maar in de kleur van je hart. Frank Boeijen zingt het eigenlijk al, zwart en wit zijn theoretisch gezien geen kleuren. Kleur heeft te maken met licht en waar wit licht is, is er bij zwart gebrek aan licht. Wanneer we de drie primaire kleuren geel, rood en blauw zouden gebruiken om nieuwe kleuren te maken, krijgen we zeer waarschijnlijk oranje, groen en paars. Gaan we deze secundaire kleuren weer mengen met de primaire kleuren, kun je alle kleuren van de wereld maken. Maar zwart en wit? Hoe hard je ook mengt, dat gaat je niet lukken.

326 Kleur 2211

"It don't matter if you're black or white", that's what Michael Jackson told us in the 1990s. Unfortunately, he wasn't completely correct. Of course, it shouldn't matter whether you're black or white, but in some cases it still very much does. Did you know that black and white aren't actual colours? They're the absence and the presence of light respectively. When you take the 3 primary colours (in paint), blue, yellow, and red, you can make many secondary and tertiary colours, but you'll never be able to make a true black or white. So does the phrase 'people of colour' even make sense?

327 Paling 2311

Waterzooi, paling in het groen, gerookte paling: allemaal traditionele Nederlandse gerechten met de paling in de hoofdrol. Deze langwerpige trekvis met slangachtig lichaam kan tot wel een meter lang worden. De paling, ook wel aal genoemd, trekt vanaf de geboorte aan het andere kant van de Atlantische Oceaan in een paar jaar tijd richting de Europese kust. Aangekomen in zoet water groeien ze na 2 tot 5 jaar uit tot een paling van 25 cm. Eenmaal volwassen en wanneer de biologische wekker afgaat maakt de paling een terugreis van wel 6000 km en begint de voortplanting en de reis opnieuw.

327 Paling 2311

Eels aren't fashionable in English speaking countries. Maybe you'll find an eel dish from the UK with its roots in the 1700s or the 1800s (jellied eels, Richmond eel stew, and eel pie come to mind), but the average American, Australian, New Zealander, Indian, or Irishman, won't really know what you're talking about. Meanwhile, the Dutch, the Japanese, the Italians, and several other people love eels. This long fish can grow up to a metre and travels from salt to freshwater and back again.

328 Wachtwoord 2411

Wachtwoord123 zou een wachtwoord zijn dat eenvoudig te raden is door anderen. Een wachtwoord beschermt jouw gegevens. Hoe lastiger het wachtwoord, hoe beter je bent beschermd. Maar tegenwoordig moeten we zoveel wachtwoorden aanmaken, hoe ga je die dan allemaal onthouden? Gelukkig zijn er steeds meer oplossingen om je wachtwoorden centraal op te slaan. Om vervolgens bij al die ingewikkelde wachtwoorden te komen, heb je nog maar 1 wachtwoord nodig. Wel zorgen dat dat hoofdwachtwoord dan natuurlijk niet te makkelijk is.

328 Wachtwoord 2411

Password123 is one of the easiest passwords to guess. A password is supposed to protect your data. The more complicated a password is, the better it can protect your data. Nowadays, almost every single website and function on your phone or computer seems to require a password. How are you supposed to keep track of them all? Re-using passwords makes them less secure, so what's the solution here? Some companies now provide services that keep track of all your passwords. When

you use their services, you only need one main password to access all the other ones. Of course, you do have to ensure that the main password is a safe one.

329 Black box 2511

Waarschijnlijk denk je bij dit woord aan vliegcrashes waarbij er informatie uit de zogenaamde 'black box' moet worden gehaald. Ironisch genoeg is die black box meestal knaloranje zodat het makkelijk te vinden is na een crash. Black heeft in dit geval dus weinig met kleur te maken. Ooit was de black box werkelijk zwart, maar voor veel mensen blijft het zoals een black box binnen de informatica: een object waarvan we de input en output begrijpen, maar de werking ervan niet exact. Want hoe werkt een black box eigenlijk?

329 Black box 2511

You're probably thinking about awful plane crashes when you see the words 'black box'. Ironically, the black box is usually coloured a bright orange. Black objects can be a bit hard to find after a plane crash after all. Weirdly enough, black boxes used to be black though. That's where their name comes from. But for many people a plane's black box remains the same as a black box within engineering: an object of which we understand the input and output but not the working itself. Because how does a black box truly function?

330 Luister! 2611

Wist je dat luisteren bij je persoonskenmerken hoort? Iemand kan namelijk van nature goed luisteren of niet. Wanneer je een geluid hoort en daar betekenis aan geeft, ben je aan het luisteren. Maar of je daar aandacht aan schenkt, kan sterk verschillen. Luisteren is ook horen wat er niet wordt gezegd en daarmee begrijpen wat iemand bedoelt. Luisteren kan je ook naar je lichaam, door je gevoelens te interpreteren. Hoor jij alleen wat je zelf wilt horen of ben je onbevooroordeeld?

330 Luister! 2611

Did you know that listening is part of your personality? People are naturally good at listening to others, or they aren't (although you can be taught to be better at it). When you hear a noise and apply meaning to that noise, you're listening. Whether you're actually paying attention is an entirely different story. Listening sometimes also consists of hearing and understanding things that aren't actually being said. It's also important to listen to yourself, your own body in particular. Are you hearing or are you listening?

331 Heimwee 2711

Heim (huis) wee (pijn) is het gemis van je vertrouwde omgeving, je thuis, bekend terrein. Je kunt ook heimwee hebben naar een bepaald gevoel dat je eerder had. Dit verlangen kan je letterlijk ziek maken: door de stress die de continue gedachtestroom teweegbrengt kunnen hoofdpijn, vermoeidheid, huiltuien en maag- en darmproblemen ontstaan. Jong of oud, heimwee moet niet onderschat worden. Een paar tips: probeer vast te houden aan routines, zorg voor vertrouwde spullen om je heen, praat erover en zoek afleiding. En onthoud: waar je ook bent, je neemt jezelf altijd mee.

331 Heimwee 2711

Homesickness can turn into an actual sickness if you're not careful. People miss a certain place a lot, or they miss a certain feeling. This can cause so much stress that it can actually make someone ill. The constant thoughts can cause headaches, fatigue, fits of crying, and gastrointestinal issues. Young or old, homesickness should be taken seriously. A few tips for those who may be homesick: find or hold on to routines, ensure that some familiar stuff is around you (this can be as little as a stuffed animal or your favourite sweater), talk about your feelings and look for distractions, and remember that you will always be yourself, regardless of where you are.

332 Cyber 2811

Cybernetica? Cyberbullying? Cyborg? Waar denk jij aan bij 'cyber'? Waarschijnlijk weet je dat het iets met de digitale wereld heeft te maken, maar wat betekent het nou precies? Het woord 'cyber' komt uit het Grieks, waar het 'stuurman' betekent. Dat zegt je misschien nog steeds niet heel veel, maar dat woord wordt vanaf de jaren 40 gebruikt binnen cybernetica om controlesystemen binnen natuur en machines aan te duiden. Pas vanaf de jaren 60 (en misschien zelfs de jaren 80) voeren machines, in het bijzonder computers, bijna volledig de boventoon bij cyber. Het woord cyber is dus overgenomen door machines. Wat zullen ze nog meer overnemen?

332 Cyber 2811

Cybernetics? Cyberbullying? Cyborg? What do you think about when you hear the word 'cyber'? You probably know it has something to do with the digital world, but what does it mean? The word 'cyber' stems from old Greek. It means 'helmsman', and has been used since the 1940s within cybernetics to refer to systems that control certain aspects of machines and nature. Since the 60s (and maybe even the 80s) the machine part of 'cyber' has become more prominent. The machines have taken over the word. What else will they take over?

333 Boulder 2911

Boulderen is tegenwoordig een populaire sportactiviteit. Bij deze intensieve klimsport klim je tegen (rots)wanden op. Het verschil met klimmen? Boulderen wordt gedaan zonder zekering en touw en gaat niet hoger dan 4 meter. Ooit is boulderen ontstaan als training om moeilijke overgangen op een berg te kunnen voltooien. Vandaar dat de routes die zijn uitgestippeld op de oefenmuren/rotsen (boulders) behoorlijk complex en moeilijk zijn. De kleur van het blokje op de wand geeft de moeilijkheidsgraad aan. Een gezond portie moed en zelfvertrouwen zijn wel nodig: heb jij wel eens de top bereikt?

333 Boulder 2911

The Dutch word for boulder is 'kei'. However, in some instances the word 'boulder' is still used. Take for example the sport bouldering. That is referred to as 'boulderen'. The language switch might be simple in this case, but the sport itself isn't. Bouldering is a form of free climbing. People climb walls without any gear. It can be dangerous and takes a lot of agility, and core and hand strength. Once upon a time bouldering was only used as a training for mountain climbers, now it's a very popular sport. Have you ever reached the summit?

334 Spieren 3011

Als je kan lopen, gebruik je tijdens een wandeling 200 spieren tegelijkertijd. Terwijl we hierom lachen, zijn er weer 17 spieren aangespannen. Spieren gebruiken we voor elke handeling die we doen. Wist je dat de tong de sterkste spier is van ons lichaam? Toch train je deze niet in de sportschool, waar andere spieren op die locatie wel kunnen groeien. Spieren kunnen trouwens niet duwen, alleen trekken. Daarom zit er ook één spier aan je bot om deze omhoog te trekken, en andere spier aan je bot om deze vervolgens weer omlaag te trekken. Duimpje omhoog voor deze weetjes? Weet dan wel dat je de spieren in je handpalm gebruikt: in je vingers zitten namelijk geen spieren!

334 Spieren 3011

If you're able to walk, you'll use over 200 muscles during a walk. If you're laughing about that fact, you're using at least 17 muscles right now. You use your muscles for every movement you make. Did you know your tongue is the strongest muscle? It's a shame you can't train it in a gym like you would some other muscles. By the way, muscles can't push. Only pull. That's why there's a muscles on either side of a bone, so it can be pulled in 2 different directions. Thumbs up for all these facts? If you do so, acknowledge that you're only using the muscles in the palm of your hand. Your fingers don't have any muscles at all!

December

0112 – Stof

Brokaat, kasjmier en satijn. De ene stof is de ander niet. De een houdt je warm, de ander zorgt dat je lekker koel blijft. Stof is een cruciaal onderdeel van ons leven. Alles wat bestaat is van een of meerdere

stofjes gemaakt. We ademen zelfs zuurstof! Maar stof kan je ook aan het niezen maken. Of het nou om kluwen stof onder je bank gaat of een allergie voor bijvoorbeeld wol.

0112 – Stof

Brocade, cashmere and satin. One material is not like the other. One keeps you warm, the other keeps you cool. Materials are a crucial part of our lives. Everything in existence is made of one or more materials. We even breathe some materials, mainly oxygen! But some materials can make you sneeze, whether it's the dustbunnies under your sofa or an allergy to wool, for instance.

0212 - Crisis

Wat is het verschil tussen een probleem en een crisis? Voor velen is een crisis net ietsjes heftiger. De woningcrisis, de elektriciteitscrisis, de vluchtelingencrisis; het gaat allemaal om noodsituaties die zo snel mogelijk moeten worden opgelost. Het probleem is echter vaak dat er geen ideale oplossing is waardoor crises alsmaar erger worden. Op persoonlijke of op internationale schaal, het blijft lastig. Een crisissituatie bij een GGZ-patiënt is tenslotte ook niet zomaar opgelost. Hoe kom je uit een crisis?

0212 - Crisis

What's the difference between a problem and a crisis? For many, a crisis is just a little more intense. The housing crisis, the electricity crisis and the refugee crisis; they all involve emergencies that need to be resolved as quickly as possible. However, the problem is often that there is no ideal solution, making crises worse and worse. On a personal or international scale, it remains difficult. After all, a crisis situation of a mental health patient is not solved overnight either. How do you get out of a crisis?

0312 – Handicap

De definitie van het woord 'handicap' is ingewikkeld. Officieel is een handicap elk langdurig fysiek of mentaal probleem waardoor iemand moeite heeft met meedoen in bepaalde aspecten van de maatschappij. Maar veel mensen zullen een depressie of burn-out niet als handicap zien. Terwijl dat dus wel onder de definitie valt. De wereld is niet gemaakt voor mensen met handicaps; welke handicap dan ook. Dat zit dus zelfs in de definitie, maar moet dat niet anders kunnen?

0312 – Handicap

The definition of the word 'disability' is complicated. Officially, a disability is any long-term physical or mental problem that makes it difficult for someone to participate in certain aspects of society. However, many people won't view a depression or a burnout as a disability, even though these mental problems fall within the scope of the official definition of disability. The world was not made for people with disabilities; not for any disability. This is even included in the definition, but shouldn't it be possible to change that?

0412 – Bank

Lekker bankhangen zo net voor Sinterklaas. Of toch niet? Sinterklaas is een dure aangelegenheid. Hoewel het voor veel ouders en kinderen een leuke periode is, zitten anderen met de handen in het haar. Een kind verwacht een cadeautje, anders denkt het niet lief te zijn geweest. Waarom krijgt de een een Playstation en de ander alleen een chocoladeletter? Dat is toch oneerlijk van Sinterklaas? Dat veel ouders niet genoeg geld op de bank hebben om Sinterklaas te spelen, komt bij de kinderen (en veel volwassenen) niet als gedachte op.

0412 – Bank

Relaxing on a bench by a river, fiddling with your debit card: you're sitting on a bank by a bank while playing with your connection to a bank. The word "bank" means a lot of different things and somehow it usually doesn't get too confusing. What do you know about the banking world? Do you know where the money flows? Just like rivers, there are places where money flows quick, and there's places where it's barely a steady drip. Not unlike water, money is not divided equally among the world population. What does that mean? And is it fair?

0512 – Bodem

Een bodem is erg belangrijk. Zonder bodem zou al de chocolademelk uit je mok vallen! De bodem onder onze voeten is echter ook fundamenteel. De bodem bepaald hoe je huizen moet bouwen en wat voor voedsel je kunt verbouwen. Een slechte bodem is dan ook desastreus. Gebouwen kunnen instorten en voedsel-en watertekorten kunnen ontstaan. Bodems worden dan ook constant in de gaten gehouden door milieu-en klimaatexperts. Want wat gebeurt er als het veel natter of droger wordt?

0512 – Bodem

A base is very important. Without a base, all the chocolate milk would fall out of your mug! However, the base under our feet is also fundamental. That base determines how to build houses and determines what kind of food you can grow. Poor soil can therefore have disastrous consequences. Buildings could collapse and food and water shortages could occur. Soils are therefore constantly monitored by environmental and climate experts. After all, what happens if it gets much wetter or drier?

0612 - Roofkunst

Een groot gedeelte van de kunst in musea is roofkunst. Wat is dat? Het woord zegt het eigenlijk al: kunst die eens is geroofd. Veel kunstwerken zijn tijdens de koloniale periode weggehaald bij de oorspronkelijke eigenaren om tentoongesteld te worden in Westerse musea. Daar staan ze nu nog steeds. De kunstwerken zijn dus letterlijk weggeroofd. Is het dan niet de simpelste oplossing om de werken gewoon terug te geven? Dat ligt ingewikkeld. De een vindt van wel en de ander claimt dat de oorspronkelijke landen niet veilig of rijk genoeg zijn om de kunstwerken goed te bewaren. Maar wie bepaalt er überhaupt wat de beste oplossing is?

0612 - Roofkunst

Much of the art in museums is looted art. What is looted art? The word actually says it all: art that was once looted. Many works of art were taken away from their original owners during the colonial period, only to be displayed in Western museums. That is where they still are today. So the artworks were literally looted from those countries. Isn't the simplest solution to return the works to the original owners? That is complicated. Some think so and others claim that the original countries are not safe or rich enough to properly preserve the artworks. But who decides what the best solution is in the first place?

0712 – Huizinga

Johan Huizinga was een historicus. Hij had een voorliefde voor sprookjes en heeft veel invloed gehad op de Nederlandse geschiedenis. Een historicus met invloed op de geschiedenis. Ironisch? Misschien een beetje. Zijn eerste werk "Herfsttij der Middeleeuwen" publiceerde hij in 1919. Hij was toen 47 jaar oud. Wat begon als een studie over schilder Jan van Eyck groeide uit tot een groot werk over de late middeleeuwen in het algemeen. Het kan dus nooit kwaad om je passies te volgen. Op welke leeftijd dan ook.

0712 – Huizinga

Johan Huizinga was a historian. He had a fondness for fairy tales and had a great influence on Dutch history. A historian with influence on history. Ironic? Perhaps a little. He published his first work "Autumn of the Middle Ages" in 1919. He was 47 years old at the time. What originally started as a study on painter Jan van Eyck grew into a major work on the late Middle Ages in general. This shows that it never hurts to follow your passions, at whatever age.

0812 -Mars

Heb jij al genoeg van chocola? Per jaar kopen Nederlanders zo'n 22 miljoen chocoladeletters. Geen marsrepen dus, maar wel een explosieve hoeveelheid cacao. Over explosieven gesproken, wist jij dat de grootste vulkaan in ons zonnestelsel zich op Mars bevindt? De Olympus Mons is ongeveer 25 kilometer hoog, 550 kilometer breed en heeft een diameter van ongeveer 624 kilometer. Deze vulkaan is dus meer dan 2 keer zo breed als Nederland!

0812 -Mars

Have you had enough of chocolate yet? Every year, the Dutch buy about 22 million chocolate letters to celebrate Sinterklaas. So no mars bars, but an explosive amount of cocoa. Speaking of explosives, did you know that the largest volcano in our solar system is located on Mars? The Olympus Mons is about 25 kilometres high, 550 kilometres wide and has a diameter of about 624 kilometres. This volcano is more than twice as wide as the Netherlands!

0912 – Pillendraaier

Het woord 'pillendraaier' klinkt erg negatief. Het was vroeger echter niets anders dan iemand die medicatie produceerde en verkocht. Dat gaat nu vaak niet meer zo. Meestal wordt medicatie door persoon A gemaakt en door persoon B verkocht. De regels rondom medicatie worden constant aangescherpt. Wat mag wel? Wat mag niet? En is het überhaupt wel ethisch om geld te willen verdienen met levensreddende medicatie?

0912 – Pillendraaier

The word 'pill pusher' sounds very negative. However, it used to be nothing more than someone who produced and sold medication. This is often not the case nowadays. Usually, medication is made by company A and sold by company B. The rules around medication are now constantly being tightened. What is allowed and what is not? And is it at all ethical to want to make money from life-saving medication?

1012 – Mensenrechten

Wat is een mensenrecht? Dat verschilt een beetje aan wie je het vraagt, maar officieel zijn er 30. Een aantal spreken er voor zich: slavernij mag niet, we hebben allemaal recht op een eerlijke rechtszaak en we hebben het recht om ons fysiek en verbaal te uiten zoals we dat willen. Nou ja, soort van. Want naakt over straat rennen wordt natuurlijk niet geaccepteerd. De rechten op voedsel, onderdak en sociale zekerheid vallen ook onder de mensenrechten. Met de huizen crisis en stijgende energieprijzen is het echter maar de vraag hoeveel mensen nog van die rechten kunnen genieten.

1012 – Mensenrechten

What is a human right? The answer to this question may vary from person to person, but officially there are 30 human rights. Some of them speak for themselves: slavery is prohibited, we all have the right to a fair trial, and we have the right to express ourselves physically and verbally as we wish. Well, sort of. Running naked down the street is not accepted, of course. Rights to food, shelter and social security also come under human rights. However, with the housing crisis and rising energy prices, the question is how many people can actually enjoy those rights nowadays.

1112 – Planning

Sommige mensen zijn erg goed in improviseren. Voor anderen werkt een planning veel beter. Checklists, zelf-opgelegde deadlines en agenda's vol met afspraken: plannen is niet voor iedereen weggelegd. Toch wordt plannen wel vaak aangeraden. Het kan inzicht scheppen in wat je precies moet doen en grote taken veel kleiner en makkelijker laten lijken. Het kan, afhankelijk van hoe de planning is opgesteld, echter zorgen voor inflexibiliteit. Als je iets per ongeluk niet in je planning opneemt is de kans ook groter dat je het over het hoofd ziet. Daarnaast is het plannen van een planning soms ook nog een hele klus. Plan jij je leven? Of plant jouw leven zichzelf?

1112 – Planning

Some people are very good at improvising. For others, planning works much better. Checklists, self-imposed deadlines and diaries full of appointments: planning is not for everyone. Yet planning is often recommended. It can create precise insight into what you need to do and make big tasks seem much smaller and easier. Depending on how the planning is done, it can also create inflexibility. If you accidentally fail to include something in your planning, you are also more likely to overlook it. Besides,

planning a schedule is sometimes quite a job by itself. Do you plan your life? Or does your life plan itself?

1212 - Zorg

Kopzorgen zijn niet hetzelfde als hoofdpijn. Toch hebben ze wel allebei met zorg te maken. Of je je nou zorgen maakt, zorg verschaft of zorg nodig hebt: zorg kan stressvol zijn. Medewerkers in de gezondheidszorg dealen dagelijks met een enorme hoeveelheid zwaar werk, maar ook mensen buiten dat werkveld maken zich zorgen of zorgen voor anderen. Volgens Movisie zijn ruim 6% van de Nederlanders onder de 25 jaar mantelzorger voor een familielid. Jong of oud, goede gezondheidszorg is hard nodig voor iedereen. Des te minder kopzorgen mensen hebben.

1212 – Zorg

Headaches are not always a physical illness. Sometimes, they have more to do with worrying. Whether you provide care or need care: care can be stressful. Healthcare workers deal with an enormous amount of heavy work on a daily basis, but people outside that field also worry or care for others. According to Movisie, over 6% of Dutch people under the age of 25 are caretakers for a family member. Young or old, good healthcare is desperately needed for everyone. The less headaches people have.

1312 - Veerkracht

Veerkracht heeft weinig met gespierde vogels te maken. Deze kracht is gebaseerd op de metalen veren die je ook in auto's, balpennen en matrassen vind. Als je die veren indrukt, schieten ze uiteindelijk weer terug in hun originele vorm. Als je echter met een hoop kracht aan een veer trekt, vervormt hij en raakt beschadigd. Emotionele veerkracht is niet anders. Je kunt wat druk ervaren en daarna in orde zijn, maar als je dingen moet doen waar je niet voor bent gemaakt, ontstaat er soms permanent schade.

1312 - Veerkracht

Springiness has little to do with the season. This force is based on the metal springs you also find in cars, ballpoint pens and mattresses. If you press those springs, they eventually shoot back into their original shape. However, if you pull a spring with a lot of force, the spring deforms and gets damaged. Emotional springiness or resilience is no different. You can experience some pressure and be fine afterwards, but if you have to do things you are not made for, sometimes permanent damage occurs.

1412 - Moonwalk

Bij dit woord denk je waarschijnlijk aan Michael Jackson, maar de move bestaat al sinds de jaren 30. Het is een illusie waarbij de danser naar voren lijkt te lopen, maar naar achter beweegt. Tot na de werkelijke maanlanding stond de move onder andere namen bekend. Sinds de jaren 70 is er echter geen mens meer op de maan geweest. Toen Jackson in de jaren 80 de dansmove populair maakte, had hij dus alleen oude beelden om naar echter moonwalkers te kijken. Met het recente Artemis programma komt er misschien voor het eerst in meer dan 50 jaar wel weer iemand op de maan.

1412 - Moonwalk

This word probably makes you think of Michael Jackson, but the move has been around since the 1930s. It is an illusion in which the dancer appears to walk forward, but actually moves backwards. Until after the actual moon landing, the move was known by other names. However, no human has been on the moon since the 1970s. So when Jackson popularised the dance move in the 1980s, he only had old footage to watch real moonwalkers. With the recent Artemis programme, there may be someone on the moon again for the first time in more than 50 years!

1512 - International

De wereld wordt steeds internationaler. Het internet zorgt ervoor dat je met mensen over de hele wereld kunt spreken en nieuws uit de hele wereld kunt ontvangen. Alles lijkt internationaal. Expats, immigranten en internationale studenten worden dan ook vaak samengevoegd onder de term

“internationals”. Internationals zijn geen nieuw fenomeen. Al eeuwen reizen studenten de wereld rond om nieuwe dingen te leren en verhuizen mensen permanent of tijdelijk naar andere landen voor allerlei verschillende redenen. Zonder hen was het leven nooit geweest wat het nu is.

1512 - International

The world is becoming increasingly international. The Internet allows you to talk to people all over the world and receive news from all over the world. Everything seems to be international. Expats, immigrants and international students are therefore often lumped together under the term 'internationals'. Internationals are not a new phenomenon. For centuries, students have travelled around the world to learn new things and people have moved permanently or temporarily to other countries for all sorts of different reasons. Without them, life would never have been what it is today.

1612 - Vinex

Vierde Nota Ruimtelijke Ordening Extra: dat is waar Vinex voor staat. De nota bevat allemaal regels omtrent het bouwen van woningen tussen 1995 en 2005. Vinex wordt dus vaak geassocieerd met nieuwbouw, maar sommige vinex wijken zijn alweer 27 jaar oud! “Nieuwe” nieuwbouw valt al sinds 2004 onder de Nota Ruimte. In Leiden en omstreken hebben 3 werkelijke vinexwijken: Het Leidse Roomburg, het Leiderdorpse Leyhof en de Broek en Simontjespolder in Oegstgeest.

1612 – Vinex

Fourth Memorandum on Spatial Planning Extra: that's the literal translation of the Dutch acronym “Vinex”. The memorandum contains all the rules about building houses in the Netherlands between 1995 and 2005. Vinex is often associated with new construction, but some Vinex districts are 27 years old already! 'New' new construction has been covered by the Planning Note since 2004. In Leiden and the surrounding area, there are three actual Vinex districts: Roomburg in Leiden, Leyhof in Leiderdorp, and Broek and Simontjespolder in Oegstgeest.

1712 – Saturnalia

Het was vandaag feest! Ja “was”. Op 17 december vierden de Romeinen het feest Saturnalia ter ere van de god Saturnus en het einde van het landbouwjaar. De eerste blijken van het feest verschijnen al in de archaische periode tussen 800 en 480 v. Chr. Men bracht offers aan Saturnus, dronk en at veel, gaf elkaar cadeautjes en droeg speciale hoeden. Jongens kregen vrij van school en dobbelspellen waren voor heel eventjes legaal. Nog opvallender: tot-slaaf-gemaakten en meesters moesten wisselen van rol!

1712 – Saturnalia

It was party time today! Yes, 'was'. On December 17th, the Romans celebrated the festival Saturnalia in honour of the god Saturn and the end of the agricultural year. The first evidence of the party appears as early as the archaic period between 800 and 480 BC. People made offerings to Saturn, drank and ate a lot, gave each other presents and wore special hats. Boys were given time off from school and dice games were legal for a while. Even more remarkable: enslaved people and slave masters had to switch roles!

1812 – Arabisch

Het Arabisch kan getraceerd worden naar ongeveer 8 eeuwen voor Christus. De taal is dus heel oud en is sterk veranderd sinds het ontstaan. Het woord “Arabisch” betekent nomadisch en verwijst dan ook naar de nomaden op het Arabisch schiereiland die de taal spraken. Met het verspreiden van de Islam raakt het Arabisch ook steeds meer verspreid en nu is het een van de meest gesproken talen ter wereld. Misschien wist je al dat je de taal van rechts naar links leest, maar wist je ook dat veel talen woorden uit het Arabisch lenen? Giraffe, alcohol, caravan en talisman zijn allemaal van origine Arabisch!

1812 – Arabisch

Arabic can be traced back to about eight centuries before Christ. The language is therefore very old and has changed a lot since its origin. The word 'Arabic' means nomadic and refers to the nomads in the Arabian Peninsula who spoke the language. With the spread of Islam, Arabic became more and more widespread and is now one of the most widely spoken languages in the world. You might already know that you read the language from right to left, but did you know that many languages borrow words from Arabic? The words 'giraffe', 'alcohol', 'caravan' and 'talisman' are all originally Arabic!

1912 - Hypothese

Stelling: mensen kijken eerder naar de laatste zin van een tekst wanneer dit hen wordt verteld. Een hypothese is niets meer dan een stelling waarbij je aangeeft wat je verwacht te concluderen na een onderzoek. Je stelt een hypothese dus altijd op voordat je je onderzoek werkelijk hebt gedaan. Maar wat is dan precies het verschil met een theorie? Simpel! Een theorie is gebaseerd op data die je al hebt! Daarnaast kun je een theorie op meerdere dingen toepassen en slaat een hypothese slechts op 1 ding. En had ik gelijk?

1912 - Hypothese

Thesis: people are more likely to look at the last sentence of a text when they are instructed to. A hypothesis is nothing more than a thesis where you state what you expect to conclude after your research. So you always formulate a hypothesis before actually conducting your research. What is exactly the difference between a thesis and a theory? Easy! A theory is based on data you already have. In addition, you can apply a theory to several things and a hypothesis only applies to one thing. And was I right?

2012 - Solidariteit

Solidariteit is volgens de Van Dale het bewustzijn van saamhorigheid en bereidheid om de consequenties daarvan te dragen. Dat klinkt allemaal heel leuk en aardig, maar wat houdt het nou precies in? Het komt neer op een gevoel van bij elkaar horen. Je kunt je dus ook solidair voelen met je familie of je vriendengroep. Meestal wordt solidariteit echter in de context van nationaliteiten gebruikt. Je voelt je een Nederlander en dus solidair met andere Nederlanders. Of juist niet. Met wie voel jij je solidair? [Einde van tekstterugloop]

2012 - Solidariteit

Solidarity, according to the Van Dale (the Dutch dictionary), is the consciousness of togetherness and a willingness to bear its consequences. That sounds all well and good, but what exactly does it mean? It comes down to a sense of belonging together. So you can feel solidarity with your family or your group of friends. Usually, however, solidarity is used in the context of nationalities. You feel like a Dutchman and thus you show solidarity with other Dutch people. Or not. With whom do you feel solidarity?

2112 - Hout

Het is een van de 5 Chinese elementen en maakt waarschijnlijk ook onderdeel uit van het gebouw waar je nu het dichtst bij staat. Hout is overal en zit in alles. Het is een van de belangrijkste bouwmaterialen die de mens kent. Hout moet echter al eeuwen geïmporteerd worden in Nederland. Wij hebben maar weinig bomen vergeleken met de bossen van Scandinavië en de tropen. En daar ligt dan ook een probleem. De houtindustrie is niet echt goed voor het milieu. Het hakken en vervoeren van bomen kan desastreuze gevolgen hebben voor dieren, bodems, andere planten, zeeën, rivieren en zelfs het weer.

2112 - Hout

It is one of the five Chinese elements and it is probably also part of the building you are closest to right now. Wood is everywhere and one of the most important building materials known to man. However, wood has had to be imported to the Netherlands for centuries. The Netherlands has very few trees compared to the forests of Scandinavia and the tropics. So there is an immediate problem. The wood

industry is not good for the environment. Chopping and transporting trees can have disastrous consequences for animals, soils, other plants, seas, rivers and even the weather.

2212 – Toekomst

Waar denk jij aan bij de toekomst? Denk je aan vliegende auto's, robots en AI? Of denk je aan natuurrampen, klimaatverandering en leeggeviste zeeën? De toekomst is een moeilijk concept om te bevatten. Waar de een niet kan wachten tot het gebeurt, wordt de ander al misselijk bij de gedachte alleen al. Mensen leven over het algemeen graag in het heden. Want hoewel de mens in z'n geheel wel wat controle heeft over de toekomst, hebben de meeste individuen dat maar weinig. Heeft nadenken over de toekomst wel nut? Of is het noodzaak?

2212 – Toekomst

What do you think of when you think of the future? Do you think of flying cars, robots and AI? Or do you think of natural disasters, climate change and empty oceans? The future is a difficult concept to grasp. Where some cannot wait for it to happen, others get nauseous at the very thought of it. People generally like to live in the present. Because while humans as a whole have some control over the future, most individuals have very little. Does thinking about the future even make sense? Or is it actually a necessity?

2312 - Fractal

Een fractal is een meetkundige figuur wat zelfgelijkend is. Dat klinkt heel ingewikkeld en dat is het ook. Een fractal heeft oneindig veel details en bij sommige fractals komen er allemaal kleine figuurtjes tot in de oneindigheid in die details terug. Er bestaat daarnaast een fractale dimensie die wordt gebruikt omdat de dimensies van veel fractals niet goed te vatten zijn in 1 (een lijn), 2 (bijv. een vierkant) of 3 (bijv. een kubus). In plaats daarvan begeven fractals zich vaak in dimensies die tussen getallen in zitten. De anderhalfste dimensie bijvoorbeeld. Ingewikkeld, nietwaar? En lastig voor te stellen. Google de Mandelbrot set maar eens.

2312 - Fractal

A fractal is a geometric figure which is self-similar. Sounds very complicated and it actually is. A fractal has an infinite number of details and in some fractals there are all kinds of small figures that appear in those details to infinity. In addition, there is a fractal dimension that is used because the dimensions of many fractals cannot be properly captured in one (a line), two (e.g. a square) or three (e.g. a cube). Instead, fractals often move into dimensions that are in between numbers. The one-and-a-half dimension, for example. Complicated, isn't it? And hard to imagine. For an example, Google the Mandelbrot set.

2412 – Advent

Vandaag mag je het laatste cadeautje of chocolaatje uit je adventskalender peuteren. Advent is de christelijke periode voor Kerstmis. De periode zit vol met tradities waarvan de kalender er slechts 1 is. Sommige mensen steken adventskransen aan en katholieke kerken kleuren paars. Hoewel advent een christelijke periode is, doen veel niet-christelijke landen en bedrijven er ook aan mee. Elk jaar worden er kalenders vol met make-up, alcohol en seksspeeltjes gemaakt. Er zijn zelfs adventskalenders voor huisdieren! De tradities zijn dus wat aangepast, maar voor veel mensen niet minder leuk.

2412 – Advent

Today you get to open the last present or chocolate from your Advent calendar. Advent is the Christian period before Christmas. The period is full of traditions of which the calendar is just one. Some people light Advent wreaths and Catholic churches colour purple. Although Advent is a Christian period, many non-Christian countries and companies also participate in it. Every year, calendars full of make-up, alcohol and sex toys are made. There are even advent calendars for pets! So the traditions are somewhat modified, but no less fun for many.

2512 - Eenzaam

Veel mensen vieren Kerst vandaag in hun eentje: omdat ze geen vrienden of familie hebben, omdat ze zich in een instelling bevinden, omdat ze een slechte relatie hebben met hun familie of omdat ze de hele dag aan het werk zijn. Doordat de wereld hen er constant aan herinnert dat het een gezellige tijd van samenzijn hoort te zijn, voelen zij zich vaak eenzaam. De zelfmoordcijfers lopen in januari, net na alle feestdagen, dan ook hoog op. Neem vandaag en na de feestdagen dus contact op met iemand die je een tijdje niet hebt gesproken. Misschien help je meer dan je weet.

2512 - Eenzaam

Many people celebrate Christmas by themselves today: because they have no friends or family, because they are in an institution, because they have a bad relationship with their family, or because they are working all day. With the world constantly reminding them that it is supposed to be a cozy time of togetherness, they often feel lonely. Consequently, suicide rates run high in January, just after all the holidays. So today and after the holidays, contact someone you haven't spoken to in a while. You might help out more than you think.

2612 - Yeti

Yeti, ook wel de Verschrikkelijke Sneeuwman, is een groot aap-achtig mythisch wezen wat volgens legendes in de Himalaya rondzwerft. Het woord 'Yeti' komt van het Tibetaans 'yache' wat 'beer uit de rotsen' betekent. Het is opvallend dat gelijksoortige mythes overal ter wereld terug lijken te komen. Zo geloven sommige mensen in Rusland in Chuchuna en hebben de Amerikanen Bigfoot. De Yeti wordt echter in delen van Tibet vereerd als onderdeel van een Boeddhistische stroming. Binnen die stroming zijn er 3 verschillende soorten yeti, die allen een slecht omen zijn wanneer ze worden gezien.

2612 - Yeti

The Yeti, also known as the Abominable Snowman, is a large ape-like mythical creature that, according to legends, roams the Himalayas. The word 'Yeti' comes from the Tibetan 'yache' meaning 'bear from the rocks'. It is striking that similar myths seem to recur all over the world. For instance, some people in Russia believe in Chuchuna and Americans have Bigfoot. However, the Yeti is worshipped in parts of Tibet as part of a Buddhist movement. Within that movement, there are three different types of Yeti, all of which are seen as a bad omen when they appear.

2712 – Pasteur

Is dat niet die persoon in een kerk? Nee, dat is een pastoor. Vandaag gaat over Louis Pasteur; een bioloog en scheikundige uit Frankrijk. Pasteur ontdekte in 1860 dat bacteriën mensen ziek kunnen maken. Het bestaan van bacteriën was al bekend sinds 1676, maar hun effect op andere levende wezens was nog onduidelijk. Het was pas na de ontdekking van Pasteur dat sommige voedselproducten voor het eerst verhit werden om bacteriën te voorkomen. Dit is waar 'pasteurisatie' vandaan komt! Pasteur deed en kon echter nog veel meer. Zo ontdekte hij ook een vaccin tegen hondsdolheid.

2712 – Pasteur

Isn't that the person in a church? No, that's a pastor. Today is about Louis Pasteur; a biologist and chemist from France. Pasteur discovered in 1860 that bacteria can make people sick. The existence of bacteria had been known since 1676, but their effect on other living things was still unclear. It was only after Pasteur's discovery that some food products were first heated to prevent bacteria. This is where 'pasteurisation' comes from! However, Pasteur did and could do much more. For example, he also discovered a vaccine against rabies.

2812 - Zuid Amerika

Zuid Amerika kent officieel slechts 12 verschillende landen. Misschien dat je nu aan het tellen bent en denkt: "Huh? Ik ken er toch veel meer"? Toch zijn het er maar 12. Ten eerste, Mexico, Panama en andere landen die onder 'Centraal' Amerika vallen zijn officieel onderdeel van Noord Amerika, niet Zuid. Daarnaast is Frans Guyana nog steeds onderdeel van Frankrijk en dus geen apart land. Dan

blijven Argentinië, Ecuador, Brazilië, Colombia, Venezuela, Chili, Perù, Uruguay, Paraguay, Suriname, Bolivia en Guyana over. 12 landen met 12 erg verschillende culturen.

2812 - Zuid Amerika

Officially, South America only has 12 different countries. Maybe you're counting now and thinking, 'Huh? I know many more, don't I?' Yet there are only 12. Firstly, Mexico, Panama and other countries that fall under 'Central' America are officially part of North America, not South America. In addition, French Guiana is still part of France and therefore not a separate country. That leaves Argentina, Ecuador, Brazil, Colombia, Venezuela, Chile, Perù, Uruguay, Paraguay, Suriname, Bolivia and Guyana. 12 countries with 12 very different cultures.

2912 - Cello

Op de geboortedag van beroemde cellist Pablo Casals vieren we vandaag internationale cello dag. Waarschijnlijk weet je wel een beetje hoe een cello eruit ziet. Ter herinnering: de cello is kleiner dan een contrabas en groter dan een viool. Het is in ieder geval een strijkinstrument wat in veel orkesten niet kan ontbreken. The King, de oudste cello op aarde, stamt uit de 16e eeuw en werd gebouwd door Andrea Amati. Amati bouwde tevens de oudste viool op aarde. Hoewel de instrumenten verschillen lijken hun achtergronden dus wel op elkaar.

2912 - Cello

On the birthday of famous cellist Pablo Casals, today we celebrate International Cello Day. You probably know a bit about what a cello looks like. As a reminder, the cello is smaller than a double bass and larger than a violin. In any case, it is a string instrument that cannot be omitted in many orchestras. The King, the oldest cello on earth, dates from the 16th century and was built by Andrea Amati. Amati also built the oldest violin on earth. So although the instruments differ, their backgrounds are quite similar.

3012 - Jungle

"In the jungle, the mighty jungle, the lion sleeps tonight". Ja, de Engelse variant van het nummer stamt alweer uit 1961. En dat terwijl leeuwen helemaal niet in jungles wonen! Maar ja "in the savannah" ligt toch niet helemaal hetzelfde in de mond. Jungles zijn echter veel ouder dan de jaren 60. De bossen vernieuwen zichzelf constant, maar sommigen groeien al 180 miljoen jaar lang op dezelfde plek. Die plekken komen nu echter in gevaar. Jungles worden gekapt voor hout of in brand gestoken voor vruchtbare as. Jungles reguleren het klimaat, reinigen de lucht en bevatten miljoenen soorten planten en dieren (geen leeuwen dus). Hoe zorgen we dat onze jungles blijven bestaan?

3012 - Jungle

"In the jungle, the mighty jungle, the lion sleeps tonight". Yes, the English version of the song dates back to 1961. Even though lions don't live in jungles at all! But then again, "in the savannah" doesn't quite have the same ring to it. Jungles, however, are much older than the 1960s. Forests constantly renew themselves, but some have been growing in the same place for 180 million years. Those places, however, are now under threat. Jungles are being cut down for wood or set on fire for fertile ash. Jungles regulate the climate, clean the air and contain millions of species of plants and animals (not lions, that is). How do we ensure that our jungles survive?

3112 - Druif

De champagne, prosecco of wijn die je vanavond drinkt is gemaakt van druiven. Wijn wordt al 7000 jaar gemaakt. De druif speelt alleen om die reden al een belangrijke rol in de geschiedenis van de mens. Druiven zijn echter ook op andere manieren te gebruiken. Je kunt ze gewoon eten, drogen of tot jam maken en ook de plant zelf is nuttig. De bladeren zijn namelijk ook eetbaar! Wist jij trouwens dat witte wijn niet per se van witte druiven wordt gemaakt? Witte wijn komt van druiven zonder schil en kan dus ook van rode of blauwe druiven gemaakt worden.

3112 - Druif

The champagne, prosecco or wine you drink tonight is made from grapes. Wine has been made for 7000 years. The grape plays an important role in human history for that reason alone. However, grapes can also be used in other ways. You can eat them, dry them or make them into jam, and the plant itself is also useful. In fact, the leaves are also edible! By the way, did you know that white wine is not necessarily made from white grapes? White wine comes from skinless grapes, so it can also be made from red or blue grapes.



Appendix 2 – Position Paper – Summary New European Bauhaus



European City of Science Leiden2022

NEW EUROPEAN BAUHAUS

In 2021 Leiden2022 became an official partner of the New European Bauhaus. During [European City of Science 2022](#), the Leiden edition of New European Bauhaus presented a future-oriented program at the intersection of culture, science and society, the aim of which was to strengthen and accelerate sustainable transition for the sake of future generations - for, by and with residents of Leiden, in collaboration with national and international stakeholders.



form follows planet

During Leiden European City of Science 2022, we experimented with a new [model for Public Engagement with Science](#): a scalable co-creation method sparking playful interactions between scientists and citizens, aimed at connecting science and society. Within the New European Bauhaus Leiden program, artists, scientists and citizens joined forces to help shape the living environment of the future:

- Scientists substantiated future scenarios with facts and innovations.
- Artists and designers helped us inventing new SOCIAL DESIGN solutions, and unleashed our imagination about future scenarios.
- Citizens united and set the example for all of us, how to design and define a life in balance with our natural environment.

form follows function - After 100 years, the *Bauhaus* returned to Leiden. In 1922, artist Theo van Doesburg left the city where he once founded *De Stijl* (1917) to teach at the influential Bauhaus in Weimar. The artists, designers and architects of the original Bauhaus stood at the cradle of modernism, developing a brand-new, geometrical-abstract visual language. In doing so, they left their mark on 20th-century design, focusing on light, air and space, functionality and mass production. As such, they contributed to unprecedented growth and prosperity over the past century.
Illustration: Theo van Doesburg, Contra-compositie VII (1924), collectie Museum De Lakenhal, Leiden



stadsbauhaus

Within the program of *Leiden European City of Science 2022*, all activities looking ahead to the world of tomorrow were bundled and presented at the *stadsbauhaus*. The building is located in the *Energiepark*, a former industrial district that is currently undergoing major transformations. In this temporary space the workplace of the Leiden2022 team was housed, alongside some 100 students who are living upstairs. In the 1.000 m² atrium on the ground floor all kinds of young, creative entrepreneurs were centered, such as the *Circular Warehouse*, winner of the Dutch Design Awards 2021. During 2022, diverse meetings, exhibitions, concerts and workshops were presented that help shape the living environment of the future according to the principles of the New European Bauhaus: beautiful, sustainable and inclusive. The *stadsbauhaus* was open to the public every working day from 10 a.m. to 5 p.m. Curious about the *stadsbauhaus* program? Have a look [here](#).



Circular Warenhuis is a project in collaboration with the Netherlands' largest second-hand department store, created to explore new ways of reusing everyday objects in collaboration with leading designers such as Max Lipsey and Studio Makkink & Bey. The project involves over three million kilos of goods from the store, which were then repurposed into scalable furniture designs. The Circular Warenhuis encourages a varied approach to tackling waste flows and making them relevant again.

The Ministry of the Future

Following our aim to establish new social design solutions, in 2021 New European Bauhaus Leiden co-founded the [Ministry of the Future](#). This nationwide movement unites an emerging group of positive citizens and professionals who, in their own environment and sphere of influence, put the future on the agenda, beyond polarization and haste. They do so based on the shared conviction that the focus in politics, culture, economy and society must be shifted from the short term to the long-term, in order to secure intergenerational interests.

Because every single one of us is able to take responsibility for the future of their own environment, everyone participating in the Ministry of the Future is a Minister. Following rapid growth of the movement in the past 1.5 years, it now unites hundreds of Ministers throughout the country, from Leeuwarden to Limburg. Every month there is a Council of Ministers where everyone can join and exchange. The overarching network puts pressing matters on the agenda and connects future-oriented projects, actions and interventions. With toolboxes and regular exchanges, everyone is practically helped and enabled to learn from each other.

We live now. And yes, we determine a lot for the people and life after us. The question is: are we good ancestors? With the Ministry of the Future, we are putting this question on the agenda in all kinds of places in society. Not only the politicians we elect once every four years are responsible for the state of our world. Together, we need to look beyond those four years. Instead, we need to address how our current actions and decisions will impact the lives of others in 10, 50 or maybe even 100 years. That is why we co-founded the Ministry of the Future, an emerging movement of local changemakers committed to long-term solutions and intergenerational justice.

bottom-up, local citizens assemblies: plekberaad

With the artists, citizens and scientists united in the Ministry of the Future, we developed a brand-new social design method called the *plekberaad*. A 'plek' is a place with a specific meaning, like a hometown or a home base. For our local participants, Leiden is their *plek*: it's their place-to-be. Thus, the *plekberaad* is a bottom-up, local citizen assembly dedicated to the future of the place where it's participants live and work. It preferably takes place at a scenic, high spot with a view overlooking the area. Together participants create a vision on the complex, pressing and sometimes polarizing issues at play in their society. With the help of artists and scientists, they create images of the desired future of their *plek*.

The very first *plekberaad* ever took place in Leiden, in June 2021. Young citizens got together with local politicians and changemakers (creative minds, scientists, sustainable entrepreneurs, community-builders) to deliberate on Leiden's future. Jointly they explored how to develop their *plek*, with future generations in mind. During a collaborative and intergenerational dialogue, participants mapped challenges and co-designed solutions. These were focused on, for example, social segregation, achieving green environments in urban areas, dealing with future flooding or realising comfortable, sustainable and affordable housing for young people. Working in synergy, participants pave the way forward aimed at quality of life for *all* local (and future) citizens. Together they form a time-rebel community, taking responsibility for their own environment and driving long-term change.



democratic engagement - civic participation - youth - collaborative systems - civic design - intergenerational dialogue - future generations - time-rebels - sustainable change - citizens assembly - Future Design Method - place-based long-term citizen engagement - solidarity - re-gaining sense of community and belonging - empowerment - local, direct action

With the *plekberaad*...

- we empower citizens to actively participate in the policy-making process;
- showcase how to engage citizens and changemakers in improving the lives of people in their city;
- build a local, diverse, multilevel community of time-rebels that take responsibility towards their place-to-be;
- encourage intergenerational solidarity by giving future generations a voice;
- enable local politicians to co-design solutions together with end-users;
- foster intersectoral, interdisciplinary collaborations with local changemakers;
- create a scalable and repeatable model for place-based long-term citizen engagement.

- [Plekberaad 1](#) – Kick-off New European Bauhaus Leiden, June 29, 2021
[Plekberaad 2](#) – Future of Leiden in the year 2112, June 30, 2022
[Plekberaad 3](#) – Future of housing in 2060 in Leiden, September 15, 2022
[Plekberaad 4](#) – Future of water in 2060 in Leiden, November 28, 2022
Plekberaad 5 – Masterclass Ministry of the Future, December 22, 2022

Future Design Method

We adopted the Future Design Method, which is rapidly gaining interest across the globe, thus creating a scalable and repeatable model for place-based long-term citizen engagement. The Future Design Method allows participants to include the perspectives of future generations. This intergenerational method splits a citizens assembly into two groups: one representing the current generation and the other representing a future generation. It is inspired by Japanese civil policy making traditions.



Participant, dressed in Future Design kimono, listening to an immersion exercise co-designed by activist Jan van de Venis and artist Merlijn Twaalfhoven. The kimono's for the groups representing future generations were created by the Circular Warehouse, out of flags that had been used during the EuroScience Open Forum 2022.

| AIM | TOOLS | RESULT |
|---|--|---|
| Empower young citizens | Local Citizens Assemblies | 55% of participants below 35 yrs |
| Provide model for citizen engagement | Social Design: inventing the <i>Plekberaad</i> | Local impact, national outreach: over 40 plekberaden organized throughout the Netherlands |
| Encourage intergenerational solidarity | Integrate empathic, creative, future-oriented envisioning in the methodology | Future Design Method |
| Enable local politicians to co-design solutions with local citizens | Encourage participation of local participants | Motion for Intergenerational Justice accepted by the Leiden City Council (22 December 2022) |
| Create and disseminate a model for place-based long-term citizen engagement | Active collaborations on national levels, compiling toolboxes and publish them on websites, oa Ministry of the Future , Lab Future Generations , The Turn Club | The Ministry of the Future is a rapidly growing movement of local changemakers, uniting hundreds of Ministers (and still counting...) |
| Shape a community of time-rebels with a national and international outreach | Networking on national (ao Bureau Burgerberaad) and international levels (UK, Belgium, Poland) | Being part of international networks focused on Citizens Assemblies and intergenerational justice. |

networking

New European Bauhaus Leiden is part of an extensive national and international network. We collaborated with a wide range of partners, at hyperlocal, national, European and global levels, such as UNESCO NL, Atelier Rijksbouwmeester, the Sound and Vision Institute, Fontys University of Applied Sciences, Rotterdam Architecture Biennale, Floriade and InHolland University of Applied Sciences. Regional partners include the Land van Ons and the Rijnland Water Board. In addition, we are strongly grounded locally, with partners such as the Citizen Science Lab, the Da Vinci College High School, the 2030 Foundation

dedicated to the SDGs, Students Against Fast Fashion and the Circular Warehouse. Of course we worked closely with representatives of our own Knowledge throughout the Neighbourhoods program and with our Founding Partners: the city of Leiden, Leiden University, Leiden University Medical Centre, and the Leiden University of Applied Sciences.

Leiden, with 125.099 inhabitants, is a young city: 49% of its population is aged under 35. It's also the 2nd most densely populated city in NL. Leiden has an old city-centre, with landmarks such as the 11th century circular fortress the Burcht. Its university was established in 1575. Through the ages, Leiden has become known as a City of Freedom. As a future-oriented city, Leiden recently applied for the Cities Mission of the European Commission, and is committed to becoming a sustainable city.



Gender and Inclusion

The Leiden2022-team (average age ca 30 years) had queer, trans and neuro-diverse people in it of different cultural backgrounds. As a team, we highly value safeguarding inclusion by fostering a qualitative-quantitative mix of gender, education, religion, sexual orientation, neuro-diversity, physical (dis)abilities, and urban/rural backgrounds.

Roosmarijn van de Velde
Meta Knol
Lucien Geelhoed

Chief New European Bauhaus Leiden
Director Leiden European City of Science 2022
Intendant Leiden European City of Science 2022

hello there
this is your ancestor speaking
and it may sound absurd to you
but we loved our children too
we were stuck in a system of business
that's how we survived it gave us our lives
to buy or not to buy was to be or not to be
buying things determined our identity
and you can laugh about it now
but remember it was how
we managed to get out
of poverty and wilderness
don't call it pure silliness
so we aren't flawless
your great-grand parents
but you shouldn't lay it all on us
The Homo Economicus

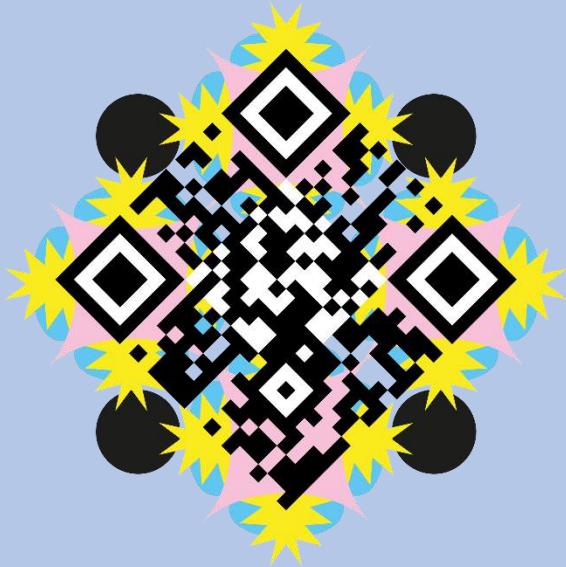
*"Your Ancestor" by Nynke Laverman,
performed during the [opening](#) of Leiden
European City of Science, on January 22, 2022*





Appendix 3 – Reports and Guide Sustainability Challenge

3a – Sustainability Challenge group 14



European City of Science Leiden2022

HOW TO SHAPE A 365-DAYS PUBLIC PROGRAM IN NEW SUSTAINABLE WAYS?

Marron Loods
David Schriever
Miguel Reyes Cabal
Lola Herrera Ximénez

Sustainability Challenge

Group 14



Leiden



Universiteit
Leiden



Leiden University
Medical Center



hogeschool
Leiden

This document represents the consultancy report for **Leiden European City of Science 2022: How to shape a 365-days public programme in new, sustainable ways?** The project is executed in the context of the course Sustainability Challenge of the master's programme Industrial Ecology at Leiden University. The course is coordinated by Valerio Barbarossa.

Authors: Lola Herrera Ximénez
Marron Loods
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David Schriever





Supervisor: Vrishali Subramanian

Commissioner: Meta Knol
Director of Stichting Leiden European City of Science 2022

Please read this before reading or using this report

This report has been written by MSc students from the joint degree master programme Industrial Ecology of Leiden University (LU) and Delft University of Technology (TUD) in partial fulfilment of their course requirements. This is a student report, intended to serve solely the purpose of education. TUD and LU do not take responsibility for the contents of this report.

TEAM MEMBERS AND ROLES

| | | | |
|---|---|--|---|
|  |  |  |  |
| Miguel Reyes Cabal <i>Industrial Design</i> | Marron Loods <i>Environmental Sciences</i> | Lola Herrera Ximénez <i>Oceanography</i> | David Schriever <i>Political Sciences</i> |

This report has been written by four Industrial Ecology students at the University of Leiden and TU Delft in the Netherlands: Miguel, Marron, Lola, and David. The different study backgrounds that we brought with helped us tackling this challenge of helping to make the events of Leiden2022 more sustainable. Despite the task division, everyone contributed equally to this report and was involved in all sections. While Miguel was mostly concerned with the development of the sustainability framework, Marron took up the coding analysis. Lola was mainly responsible for the stakeholder analysis and David was mainly responsible for the presentations and the literature review.

TEAM VISION

We see this project as an opportunity to help the Leiden European City of Science 2022 (Leiden2022) team to decrease its impact on the environment and leave a legacy towards the future. This role is fulfilled by being an example for different actors associated with Leiden2022 and producing a tangible framework that allows this and any future event to become more sustainable. The European Leiden City of Science represents an important opportunity to develop a new way of organising, evaluating, and promoting sustainable events of different types and scales.

EXECUTIVE SUMMARY

In 2022, Leiden is the European City of Science (Leiden2022). Not only is this the largest edition so far, with events throughout all 365 days of the year, the coordinating team of Leiden2022 also aims at incorporating sustainability principles in the organisation and execution of the events. This report outlines the advice for the Leiden2022 team on how to tackle this challenge in the best way. The issue at hand is the imbalance that many event managers are facing when organising large events. The success of events is typically dependent on the number of visitors, while a high turn-out can be a threat to sustainability. Moreover, another challenge is the organisation of so many diverse events throughout a whole year with multiple stakeholders, while trying to align them with the sustainability goals. There are many aspects of events that can be improved, such as travel emissions or food (waste) management.

Therefore, this report dives into the field of sustainable event organisation, to provide the team of Leiden2022 a good tool to make the events more sustainable. The purpose of the report is twofold. On the one hand side it should give sustainability recommendations to event organisers, while on the other hand a monitoring and evaluation framework is developed which can also be applied to other city-wide, multi-stakeholder events. The recommendations are structured alongside ten sustainability categories: water, energy, catering, mobility, accommodation, materials, waste, event location, guest management, and procurement. See the figure below for a the most important measures. With the framework small and large events can be monitored and evaluated regarding their sustainability performance. The framework uses the established sustainability categories to provide monitoring and evaluation tools for the event organisers.

In order to not only have generic recommendations, but rather specifically tailored ones to the needs of the event management of Leiden2022. Therefore, interviews with the organising staff and stakeholders were conducted. One of the main findings of these interviews was a lack of collaboration and communication among the actors. Accordingly, the report additionally provides an extensive stakeholder analysis to show the event coordinators relevant lacks in their communication and coordination. The stakeholder analysis consists of an actor map of the most relevant stakeholders and how they are connected and a Power-Interest matrix, showing the influence over the events and the interest in the events for each of these stakeholders. Lastly, the interviews that were conducted throughout this project lead to an extensive SWOT analysis, summarising the most important recommendations. The SWOT analysis showed that a good planning, a good coordination and communication and travelling are among other things very crucial aspects to consider. Especially making events in a hybrid form, meaning offering online possibilities could decrease the environmental impact of the events to a large extent already. Finally, these recommendations were summarised in a fact sheet to provide an easy overview for the staff and the visitors. As leaving a legacy for this event but also for sustainability, communicating properly about the importance of sustainability is also one of the main goals of this report.



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1 BACKGROUND AND CONTEXT

Sustainability is no longer a marginal theme but is an elementary part of everyone's life nowadays. Not only is it crucial for industries, but also many other branches see the importance of acting sustainably. One of these branches is the event management and organisation branch, in which there is a high potential for becoming more sustainable. Since large events around the world used to be large sources of environmental pollution, the impact on the environment and the climate by making these events more sustainable is immense. Therefore, this report sets out several recommendations to help organise the events of Leiden European City of Science 2022 in a sustainable way. To structure this report, the International Standardisation Organisations' guidelines (ISO 22379 and ISO 20121) for sustainable event management have been used.

The "European City of Science" consists of biannual events, which take place in European cities that have a connection to science. With the events people from all around the world celebrate science as such. This year's edition was issued to Leiden, a small student city in the west of the Netherlands, between The Hague and Amsterdam. Returning elements within the European City of Science the large EuroScience Open Forum (ESOF). Another main component this year is the EU Contest for Young Scientists (EUCYS). However, the organisers of Leiden2022 have decided to make this edition a full year of events, in which every day has a unique theme. The project under the name of Knowledge throughout Neighbourhoods stands (KtN) for small-scale events aimed to attract a local audience and broad target group, any organisation or person is welcome to organise an activity connected to the theme of the day. Moreover, there will be a Science in the City festival in the month before ESOF and several larger themes, such as Space Week and Life Science and Health week.

Because of the uniqueness of Leiden2022, it is important to clearly define the characteristics of the year. As mentioned previously, there will be a festival and conferences, but also a diverse set of other events. While they all relate to science, there will be no events purely consisting of a lecture. The events are meant to bring science and citizens closer together, so scientists are invited to step out of their offices and focus on citizen engagement. The events occur throughout 101 neighbourhoods in Leiden and surrounding municipalities. Mostly existing venues and infrastructure will be used for the activities, so this is a way in which Leiden2022 distinguishes itself from a more typical festival.

In addition, a large number of partners are involved in organising the events. Firstly, there is a close collaboration with the founding partners of Leiden2022, namely the municipality of Leiden, the Leiden University Medical Centre, Leiden University, and Leiden's University of Applied Sciences. Within these organisations, several people work on Leiden2022 full time and ask their colleagues to get involved with events. Next to this, the KtN events can also be organised by and in collaboration with local organisations, such as neighbourhood associations. On the other hand, the larger events involve other companies, such as Professional Conference Organisers (PCOs), caterers, and marketing companies.

To summarise, Leiden2022 is an example of a city-wide, multi-stakeholder event which takes place on multiple levels. In this report, first the goals and expectations of Leiden2022 are outlined, which lead to the research questions. Secondly, the approach to address these research questions is outlined. The findings section starts with a review of the current literature, including relevant guidelines produced by the International Organisation for Standardisation (ISO 22379 and ISO 20121). Thirdly, interview results are discussed, which ensure that the literature findings are applicable to this type of event. Fourth, in the recommendations section, advice is given which is specifically aimed at this year's events of Leiden European City of Science 2022. Finally, a Conclusion is drawn summarising the most important points of this report.

2 COMMISSIONER’S PROBLEMS AND GOALS

Leiden European City of Science 2022 is the platform responsible for organising the EuroScience series of events. They have the ambitious goal of organising 365 days of events in a sustainable way. The events have different scales and revolve around three overarching narratives: contemplate, celebrate, and participate. Leiden2022 is responsible for organising four main events:

- **EuroScience Open Forum (ESOF):** Europe's largest and most prestigious general science conference
- **European Contest for Young Scientists (EUCYS):** A competition between 14- to 24-year-old scientists which promotes the ideals of cooperation and interchange between young talents.
- **Knowledge throughout Neighbourhoods:** A variety of 200 events in 101 neighbourhoods in Leiden and surroundings
- **European Science in the City Festival:** Month-long festival leading up to the ESOF conference.

An additional number of events occurring within the context of Leiden2022 are organised by more than 200 other stakeholders and partners, but these fall outside the management scope of the core team. The annual programming will cover the neighbourhoods in Leiden as well as four adjacent municipalities, and the events aim to generate lasting impact and sustain successful results, including leaving a legacy after 2022 (Leiden2022, 2021a). Next to organising entertaining events, the aim is to bring science and citizens closer together, to spark curiosity, and to incorporate inclusivity into all activities.

Figure 1 shows the events that belong to each track created for Leiden2022 with different colours (Contemplate, Celebrate, Participate). The hexagons are activities that happen in each of the events. Parts of the annual programme will be accessible to a very large number of people, for instance, EuroScience Open Forum; other events are designed to reach people throughout the year, such as the Knowledge throughout Neighbourhoods. Events that will be organised during 2022 include different scales (from local to global). The EUCYS event is part of the “Honouring Talent” bubble and the Science in the City festival is included in “European Science is Wonderful”.

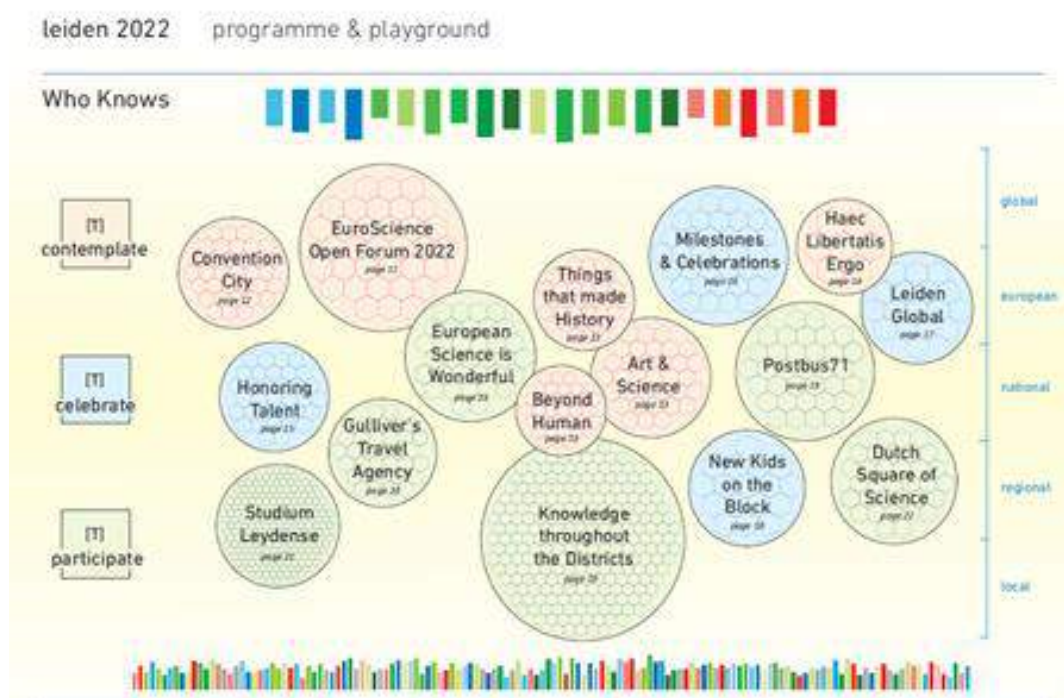


Figure 1 : A year of events: program and playground (Leiden2022, 2021b)

The Leiden2022 core team has decided to incorporate sustainability as much as possible in their organisation and activities. The team wants to put recommendations into practice that explicitly consider sustainability aspects and minimise the events' footprint. Furthermore, monitoring during the year of events and evaluation after Leiden2022 is thus required to determine success and transparency.

Some examples of best practices that the Leiden2022 core team wants to consider are promoting transport by train, minimising paper or promotional items, and vegan food for catering.

Organising a year of events with many different visitors and stakeholders in a sustainable way has some challenges, one of which is identifying the many different stakeholders and assigning roles to all of them. Furthermore, establishing a consistent policy based on sustainability principles and considering multiple sizes of events is a complicated process. Moreover, a balance must be found between attracting a large and diverse audience, while minimising environmental impacts. Furthermore, both our team and the Leiden2022 organisers must deal with time constraints and lack of data because of the one-time occurrence of Leiden2022.

Research Questions

Based on these goals and challenges, this report answers the following main research question and sub-questions: **How can the events of Leiden European City of Science 2022 be organised in a sustainable way?**

- Which measures can be implemented by Leiden2022 to decrease the environmental impact of the events?
- What is the best way to monitor the sustainability of various events at different scales during the year?
- How can sustainability measures impact stakeholders and visitors beyond the events organised in 2022?

3 APPROACH

This section outlines the research approach for this report. The main sources of data were a literature study, including two ISO standards used as the backbone for the research, and interviews with important stakeholders of Leiden2022. Based on the interviews, a SWOT analysis was used to identify generalisable characteristics of city-wide, multi-actor events. These sources were used to create general recommendations and monitoring and evaluation framework for events such as Leiden2022. By focusing on Knowledge throughout Neighbourhoods as small events and the two large conferences, ESOF and EUCYS, different scales of events have been taken into consideration. Furthermore, the findings have been translated into targeted recommendations for Leiden2022, partially informed by more detailed information gathered during the interviews. The approach is illustrated in Figure 2 below.

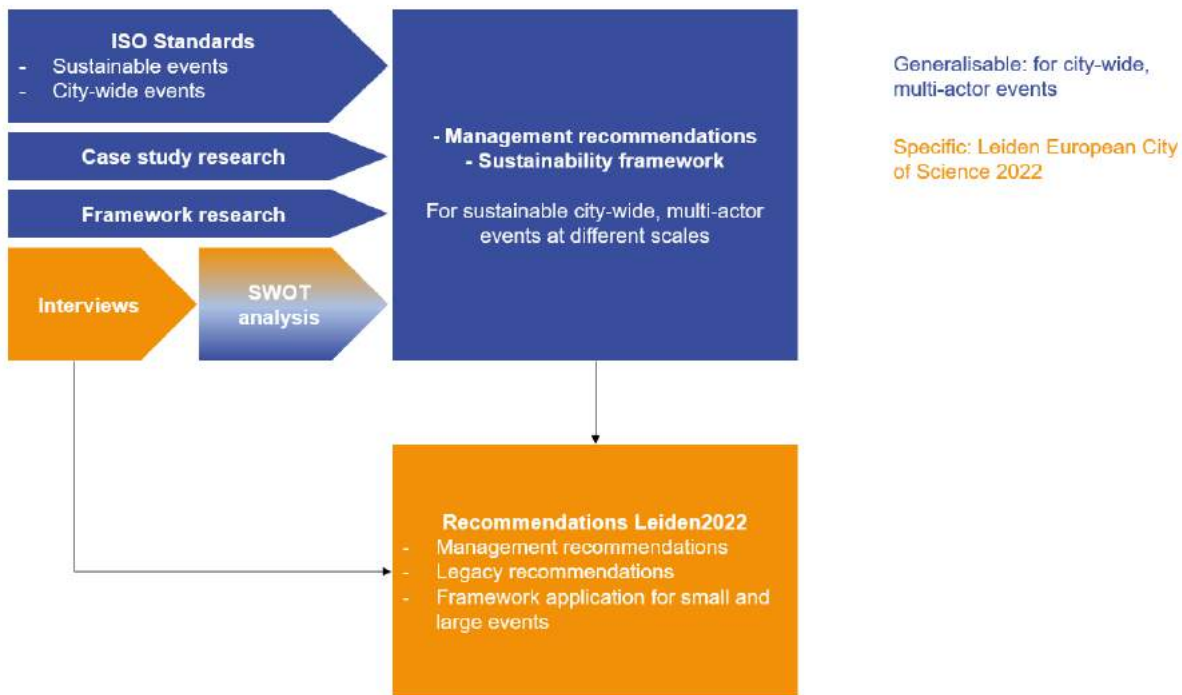


Figure 2: Research approach

3.1 ISO GUIDELINES

This report uses the ISO 20121 “Event sustainability management system” and ISO 22379 “Guidelines for hosting and organising citywide or regional events” for its structure and planning. Figure 3 and Figure 4 shows the structure that the ISO 20121 and ISO 22379 guidelines follow.

ISO 20121

ISO 20121 provides a framework to implement sustainability in the management of an event. The first step is the explanation of the organisation’s governing principles of sustainable development. Specific importance is placed on the integration of the key stakeholders. The standards then assist to identify issues and to structure the establishment of implementation policies, procedures, and processes (Griese et al, 2017).

Figure 3 shows the framework followed by this report to extract conclusions and recommendations according to this norm. The numbers between brackets stand for the different paragraphs in the full guidelines within four stages: Plan, Do, Check and Act.

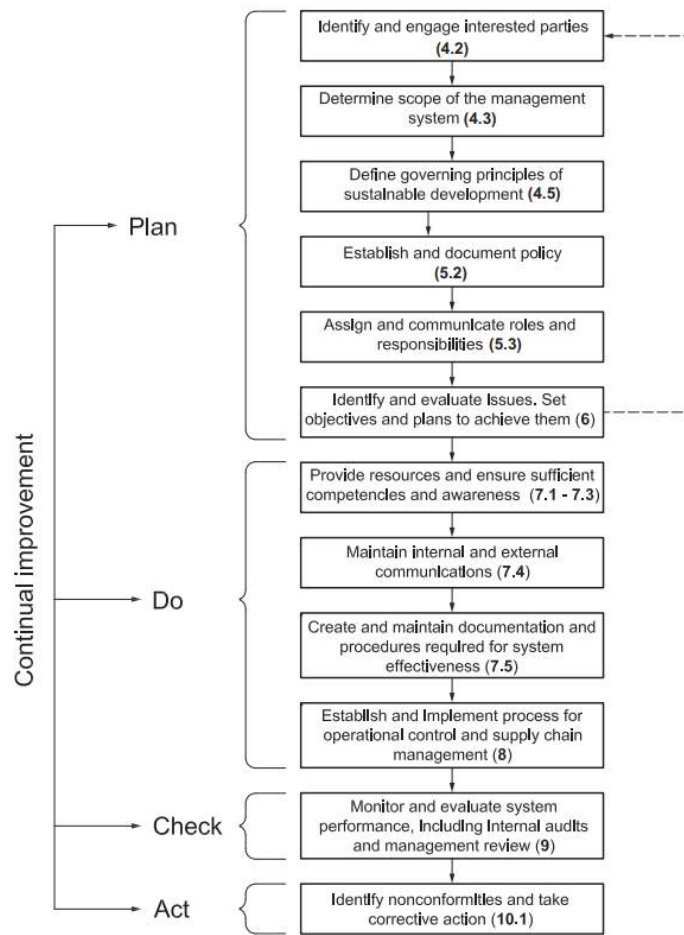


Figure 3: The ISO 20121 guidelines for sustainable event organisation

Although Leiden2022 has officially started in January, in many aspects the organisation is still in the planning phase. Therefore, our recommendations follow only the sections in this part of the standards. Table 1 indicates how all sections of the Plan phase are incorporated throughout this report. The remainder of the standards focuses mostly on maintaining a solid strategy for communication, documentation, and evaluation. Furthermore, it is important to identify any issues and resolve them. Although some of these aspects may indirectly be covered in the current report, it is strongly recommended to Leiden2022 to read these standards in full.

Table 1: Steps of ISO 20121 and ISO 22379 followed to analysed events in Leiden2022

| Contents ISO 20121 | Implementation in report |
|--|--|
| 4.2 Understanding the needs and expectations of interested parties | Chapter 5: Stakeholder Analysis |
| 4.3 Determining the scope of the event sustainability management system | Chapter 2: Problem and goals definition |
| 4.5 Define governing principles of sustainable development | Chapter 4.1: Literature review Chapter 4.2: Framework: Implementation |
| 5.2 Establish and document policy | Chapter 6: Recommendations, Appendix A.1 Factsheet |
| 5.3 Organisation roles, responsibilities, and authorities | Chapter 5: Stakeholder Analysis |
| 6 Identify and evaluate issues. Set objectives and plans to achieve them | Chapter 4.2 Framework: Monitoring and Evaluation |
| Contents ISO 22379 | Implementation in report |
| 6 Event legacy | Chapter 6.4 Legacy |

ISO 22379

ISO 22379 consists of guidelines for hosting and organising citywide or regional events. Although this standard does not focus on sustainability specifically, it refers to ISO 20121 for aspects regarding these aspects. These guidelines have been consulted because of the focus on citywide events, which is an important and distinguishing aspect of Leiden2022. ISO 22379 incorporates the regional scope of events by differentiating between the host and the organiser of any event planned in this context. In the case of Leiden2022, the core team is the organiser and the municipality of Leiden is the host.

As visible in Figure 4, identification, pre-study, and decision are the preliminary stages in the standard before the planning, execution, and post execution. These mostly align with the phases identified in ISO 20121. Because there is no specific focus on sustainability, only parts not included in ISO 20121 that are relevant for sustainability have been used in this report. An important addition of ISO 22379, as indicated in Table 1, is the definition of an event legacy in Chapter 6. Hereby, there is a distinction between the tangible and intangible event legacy. The standards state that it is important to define these in advance, to align them with the concept and vision of an event, and to write a detailed plan. A listed example of tangible event legacies is new transport infrastructure. Intangible event legacies capture the long-lasting benefits of an event and can include social and environmental aspects, for instance.

As the municipality was not available for correspondence during the production of this report, it was not possible to assess what this would mean for the role division between the municipality and Leiden2022. Therefore, it is recommended to Leiden2022 to read the full standard.



Figure 4: The ISO 22379 guidelines for hosting and organizing citywide or regional events

3.2 LITERATURE REVIEW METHODOLOGY

In order to collect all the data necessary for performing sustainability assessments and recommendations, the researchers followed qualitative research approaches comprising of literature review and interview of key stakeholders in Leiden2022. While the research consists of desk research and interviews, the methodology for the desk research is straight forward. For the desk research case studies and frameworks are researched to provide a good data basis for this report. In the research process of the desk research, the researchers searched on several platforms, such as Google scholar, Google search, Jstor, or the Leiden University online library for case studies and sustainability frameworks of large, medium, and small events. The aim of this research was to get a good overview about the sustainability assessment of other event organisers at different scales. The data obtained from these reports was then analysed and used to create a framework for the sustainability assessment of events such as Leiden City of Science events 2022.

3.3 INTERVIEW METHODOLOGY

Conducting interviews

In addition to case studies found in literature, key actors within Leiden2022 have been interviewed. Because of the one-of-a-kind nature of Leiden2022, it is important to identify characteristics that are unique to this

type of events. Due to time constraints and the lack of similar, previous editions of the European City of Science, the gathering and documentation of data has not been a priority for the Leiden2022 core team. For this reason, this information was acquired through interviews. Moreover, through the interviews, the researchers gathered detailed information about Leiden2022 for producing recommendations targeted to this event specifically.

For the interviews that were needed to adjust the sustainability recommendations as much to the needs of the Leiden2022 event organisers, convenience sampling was used. This means that the selection of interviewees was based on an assessment of who would be useful and available to interview. This led to the selection found in Table 2 below. This list firstly contains actors responsible for the four important events and contacts of the founding partners. Missing are the Leiden2022 core team member responsible for the Science in the City festival and the municipality as the fourth founding partner. Both of these were not available for an interview during the course of this project.

Table 2: List of interviewees

| Organisation | Contact person | Function |
|--|-------------------------|--|
| Leiden2022 | Chris Jaeger | Contact person Knowledge throughout Neighbourhoods |
| Leiden2022 | Marjo Buijs | Contact person EUCYS |
| Leiden2022 | Wendy Frigge | Contact person ESOF |
| Leiden2022 | Eva van Ekdom | Coordinator Communication |
| Stichting 2030 | Jasper Visser | Director Stichting 2030 |
| Leiden University Medical Centre | Ludo Westerveld | Project member Leiden2022 |
| | Frans van Nieuwpoort | Research alliance advisor |
| Leiden University Hogeschool Leiden | Marin Visscher | Project coordinator Leiden2022 |
| | Piet-Hein van der Ploeg | Liaison Leiden2022 |
| Stichting 2030 | Jasper Visser | Director Stichting 2030 |
| Leiden Convention Bureau | Daniël op den Buijsch | Account manager Congresses |

All relevant persons and organisations were contacted via email and interviews were planned and conducted to get more specific information about different events at the Leiden City of Science 2022 celebrations. These interviews were semi-structured interviews, which all contained the same questions, only with minor adjustments to the different people that were interviewed. These adjustments however do not stand in contrast to the validity and reliability of the results. The literature review also formed the basis of the list of questions. For an example of the questions lists, please see Appendix B.

The interviews were conducted online and lasted between one and one and a half hours, depending on the time availability and length of the responses. The questions were formulated in the most neutral way possible, to avoid biases and to nudge the respondents to answer the questions extensively so that they provide one with as many information as possible. There were always two different team members conducting the interviews, while one was asking the questions and the other one was taking notes of the answers given. The interviews were additionally recorded on Microsoft Teams and the transcription function was enabled to have the whole interview transcribed. A check was performed on the transcription and any errors were corrected.

Data processing

To establish a level of reliability in the way the interviews were conducted, a scheme was created for the processing of the interviews. Every interview was conducted by two people out of the group of four. One person that was not present during the interview corrected the errors produced by the automatic transcription tool.

Next, the grounded theory approach was used for the first cycle of interview processing. Without the use of a predefined list, the transcripts of the interviews were read, and concepts and ideas were coded inductively. One of the people present during the interview created the codes together with a team member that was not present. This was done to make sure that the codes related to the actual text, as opposed to a feeling based on the entire interview. Furthermore, the two people that did not create the codes checked the codes later and provided feedback. Although the coding process remains subjective to some extent, this ensured intersubjectivity among the four researchers responsible for this project. For the scheme, please see Appendix C.

After coding all interviews, the second cycle of coding was done by one team member to ensure consistency. The coding scheme of patterns was discussed with all other team members beforehand to avoid subjectivity. This step contained a combination of pattern coding, attribute coding, and simultaneous coding. Based on themes throughout the different codes, codes were grouped into different types of opportunities and threats, as well as different examples mentioned so that those could be found more easily. At the same time, two attributes of the data were coded, namely the event the quote referred to and the sustainability category as defined in the framework. These attributes were predefined, so this method was deductive. Because of the attribute coding, all themes were also coded according to both attributes. Moreover, it was also possible that multiple themes were present in the same quote. For this reason, simultaneous coding was also used. For a list of all codes, including the frequencies, please see Appendix D.1. Furthermore, Appendix D.2 contains examples of quotations for each theme. These have been selected and sometimes shortened such that they illustrate how quotes have been coded without revealing the associated interviewee.

In the analysis, the codes were considered in two different ways. Firstly, the fact that certain themes came up in the interviews at all was already reason to incorporate what was being said. Because of the convenience sampling method, it is not possible to assume a comprehensive sample of interviewees was taken. Therefore, it should not be assumed that a code is automatically less important if it is only mentioned once. In addition, it was observed if the themes and patterns co-occurred with the different attributes, namely the different events and sustainability categories. This allowed for, for instance, a distinction of patterns for small and large events, or threats that referred to specific sustainability categories only. To systematically observe potential patterns, the co-occurrence of all thematic codes has been analysed with both the events and sustainability categories. The results have been used to produce a SWOT analysis, with generalisable findings for Leiden2022 and other, similar events have been found. Moreover, this has also led to recommendations specific to Leiden2022. Finally, all attribute codes have also been analysed in terms of their co-occurrence. For the complete co-occurrence results, please see Appendix D.3.

The coding was done with the programme ATLAS.ti22. This programme allows for an easy analysis of the codes, for instance by producing co-occurrence tables and exporting lists of codes and quotes. Moreover, please see Miles, Huberman, and Saldaña (2014) for more details on the qualitative methods used.

4 FINDINGS

4.1 LITERATURE REVIEW

The importance of sustainability in the field of event organisation and its potential to reduce environmental impacts is enormous. Tao et al. (2021) argue that “the carbon footprint per participant reaches up to 3000 kg CO₂ equivalents [...], suggesting that the annual carbon footprint for the global event industry is of the same order of magnitude as the yearly GHG emissions of the entire United States (U.S.), responsible for more than 10% of global CO₂ emissions” (pp. 1-2). This shows the importance of reducing carbon emissions of big events worldwide substantially. According to Guizzardi et al. (2017) “concepts such as the ‘event footprint’ (Fredline

et al., 2005), 'event greening' (Mair and Jago, 2010), and the 'event legacy planning' (Thomson et al., 2013) have emerged in the [...] events literature" (pp. 4-5). Especially the concepts of event footprint and event legacy planning also play a crucial role for the European City of Science events in Leiden in 2022. To continue, Neugebauer (2020) shows that of this large number of emissions of the events, 98% is emitted through air travel. This does not only account for very large events, or business events worldwide, but also for festivals and other cultural celebrations. One of these festivals that is also included in the monitoring and evaluation framework is the Woodfork Folk festival in Queensland in Australia. The festival is celebrated since the 1980s and is now one of the largest festivals worldwide. Holmes and Mair (2018, in Brinkmann and Garren, 2018) argue that the festival can be considered "a leading example of best practice in terms of sustainable festivals (p. 583)". The event takes a leading role in reducing environmental impacts in many areas, such as education, sewerage, recycling and reuse and sustainable power generation. Given these points this festival can be clearly seen as a best-practise example for the sustainable implementation of events.

Many different frameworks have been created to improve the sustainability of events, although most contain very similar categories. It is very difficult to measure the exact emissions correlated with certain festivals and events. While for some categories listed below this is more realistic, other categories' impacts can only be estimated. Regardless of the measurability of the impact categories, all are very relevant for the communication of the importance to reduce emissions of festivals in general. The "Guidelines for the sustainable organisation of events" of the German Federal Ministry for the Environment, Nature Conservation Building and Nuclear Safety" offers eleven categories for the sustainable implementation of events. These guidelines are taken as a basis for the development of this report's recommendations and framework, as they offer the most complete overview about the field of sustainability. The first category is mobility, which mainly includes the promotion of public transport for participants and offering online meetings. The second aspect that is listed is the event venue and accommodation for the guests. For this category it is mentioned that especially energy, sustainable procurement, waste and water management and a barrier-free environment are important. A barrier free environment means that all venues and events should be accessible to all people, especially for people with special needs, such as people in wheelchairs for example.

The next category, Energy and Climate is mainly concerned with limiting energy consumption as much as possible, while trying to use as much electricity from renewables as possible. This could be done by using energy efficient appliances and the use of accommodations with a green energy label. Additionally, it is recommended that the overall room temperature should not be heated up to more than 20 degrees or asking participants and event organisers for financial participation in offsetting energy neutral events. To continue, the fourth category includes the sustainable procurement of products and services. The next categories are catering and waste and water management. It is recommended to serve locally produced vegetarian or vegan food and make all materials (cutlery, plates) as reusable and recyclable as possible to avoid waste. Otherwise, there should be options for composting of thrown away materials. Water should be used "economically" as it is mentioned in the guide. If there are gifts for guests, they should be as sustainable as possible. For the Communication of sustainability, a comprehensive public relations team should be formed and among other things should forward information on sustainable aspects of the event with the invitation, so that the participants are aware of the conditions of participation. Lastly, also social aspects of sustainability are mentioned, such as facilitating the access to disabled people and the use of gender-neutral language shall be promoted.

The guidelines described above build the basis for this report. However, there are further elements from other frameworks that give good additions to this framework and that are useful for analysing sustainability of events. One of these frameworks is one by the European Commission. Two important aspects that they add to the sustainable organisation of events are the focus of venues and their sustainability regarding water and energy use and waste treatment and the focus on the three Rs of sustainability, namely recycling, reusing and

reducing. As a sustainable venue selection is very crucial for the event organisers of Leiden2022, since many venues are used, this aspect also forms together with the three Rs another important part of this report. Another useful addition of this framework is a checklist to easily indicate whether the measure has been implemented, as visible in figure 5. This framework also goes in line with the United Nations framework on sustainable event organisations that also strongly recommends to only use venues that have a green energy label. A further important aspect that should be included from the GIZ Sustainable Guidelines is regarding the communication and organisation of the events. In their guidelines they stress the importance to map out and identify the most important stakeholders of the events, to be able to enhance cooperation and communication among them and therefore increase sustainability. The main findings that are also considered in this report are also summarised in Figure 5.

| 7 simple steps |
|--|
| <i>Step 0: Is a physical meeting/event necessary?</i> |
| <i>Step 1: Is the venue sustainable enough?</i> |
| <i>Step 2: Is the printed and promotional material sustainable?</i> |
| <i>Step 3: Are the 3Rs applied? (Reduce, Recycle and Reuse)</i> |
| <i>Step 4: Is the catering sustainable?</i> |
| <i>Step 5: Are the accommodation and transport environmentally friendly?</i> |
| <i>Step 6: Have social aspects been considered?</i> |
| <i>Step 7: Are you sharing environmental awareness?</i> |

Figure 5: 7 Simple Steps to make Your event more sustainable

4.2 SUSTAINABILITY FRAMEWORK

To implement chapter 6 of ISO 20121 (identify and evaluate issues) a sustainability framework has been created. This framework is based on characteristics of Leiden2022 identified through the SWOT analysis and is intended to apply to all city-wide events with multiple stakeholders. The framework contains a set of ten different categories, these are specific fields of activity that must be addressed by the team of Leiden2022. Each category describes a course of action to be taken before the start of the event, focus areas that need to be supervised during the event, and a performance evaluation that needs to be done after the event.

According to the ISO 20121 standards, the organisers of the event are responsible for providing a framework that represents the principles, purpose, and values of the organization. This framework should contain a set of policies and objectives to be achieved thought the duration of the event. To define the specific areas that the framework needed to tackle, the literature review in the previous section of this report formed the basis.

The framework is structured as a table and from top to bottom is composed of ten lines, each representing one of the categories that are going to be analysed during the events. From left to right, after “category”, there are six columns that contain information on how to address potential sustainability issues for every category. The framework on the next two pages excludes the case study references used to develop the framework. For the full framework, see appendix E.

Category: These are integral areas present in every major event, they also represent a focal point where sustainability action should take place to reduce their impact on the environment.

Target: This column describes the basic goals that the team should aim for.

Impact category: This column shows the overall impact of applying sustainability actions on the selected category.

Implementation: Planning is the first stage of the framework analysis. Here the framework describes concrete actions for each category that should be implemented previously to every event. The focus of this section is the prevention of potential emissions or excess waste.

Monitoring method: On the left side (Metrics) there is the description of actions that should take place during the events while the right side (Outcome) helps keep track of the activities. The purpose of these measures is to reduce the environmental impact of a category by monitoring the venues, attendees, equipment, and related aspects for the duration of the event,

Evaluation: After the conclusion of each event is important to gather information on the impact, of the sustainable actions that were implemented. This section compiles ideas on the measures taken in other case studies, with similar events, that help them evaluate the overall performance of the organizers.

Challenges: This section contains the remainder that the team should consider while doing the evaluation, the idea to avoid getting stuck with a task that doesn't feel feasible.

Reference: This column contains the scientific report that were research to build the framework

Implementation in reference case: This are punctual action done in the reference case study with the intention of serving as extra suggestion that the team could implement

| Category | Target | Impact category | Implementation | Monitoring method | | Evaluation | Challenges |
|-------------------------|---|---|--|---|---|---|---|
| | | | | Metric | Outcome | | |
| Water | Ensure tap water access | Legacy | Make sure venues offer tap water | Check whether visitors found tap water accessible | Yes/ No | Survey the participants of the water measures during and after the events. | Total water use not measurable |
| | Reduce water-related waste | Waste production / CO2 emissions | - Discuss with venues that no water bottles should be sold - Communicate to visitors to bring reusable water bottles - Arrange dishwasher glasses available for guests | Confirm that water bottles were not sold Confirm whether dishwasher glasses were offered | Yes/ No Yes/ No | Measure the plastic waste generated after the event | Possible that only avoided plastic use can be measured |
| Energy | Ensure efficient use of appliances | CO2 emissions | Document all appliances used during event in collaboration with venue and their energy rating | Document appliances used for event | List of devices: | Survey after the event of the usefulness of the information provided, if they stay at a green hotel, if yes where? And how long and if not why not? | Difficult to estimate electricity use, but can be complemented with information from event location |
| | | | Make good estimate of number of visitors to avoid under-use of on-site and streaming technology | Confirm whether technology was appropriate for number of visitors | Yes/ No | | |
| | Events supervisors check on electricity use: no appliances on stand-by, no lights on in unused rooms, etc. | Confirm whether electricity use was efficient | Yes/ No | Confirm whether energy goals reach the visitors | Subjective, difficult to estimate | | |
| | Encourage energy efficient behavior online and offline visitors (turn off/plug out unused appliances or lights) | Make sure the energy goals are present and visible at the event | Yes/ No | | | | |
| Catering | Contract sustainable catering | Water use/reduction, CO2 emissions/reduction | Contract a catering company which can offer vegan and ideally local/organic/seasonal food | Confirm whether food was vegan, vegetarian, organic, local, seasonal | Food offered: Vegan: Yes/ No Vegetarian: Yes/ No Organic: Yes/ No Local: Yes/ No Seasonal: Yes/ No | Evaluate if the instructions given to the eaters were followed (check the meals and the waste generated) | High data requirements for accurate measurement. |
| | Avoid food waste | Waste reduction | Make good estimate of visitors to avoid leftovers | Confirm whether food provision was appropriate for number of visitors | Yes/ No | Confirm whether leftovers (if any) were dealt with properly/ (waste separation) | Difficult to estimate total waste production Not all food appropriate to donate |
| | Donate leftovers | CO2 reduction | Look for collaboration to donate leftover meal/conservable food | Confirm whether food-related materials were reusable and rented/borrowed | Used: Rented/borrowed: Yes/ No | | Emissions from reusable cutlery difficult to allocate |
| Mobility | Encourage sustainable travel modes | CO2 emissions | Estimate transportation types and distances | Check transportation types and distances of visitors (survey) | Distance by plane: Distance by train: Distance by car: Distance by bike/foot Other: | Revise the initial survey and account for flight kilometers prevented | Estimation necessary for those who did not mention transportation type/distance |
| | | | CO2 reduction | Offer sustainable transport options such as (discounts for) bikes or public transport cards | Confirm whether sustainable transport options were offered | Yes/ No | Check for false positives and false negatives with the attendance list |
| Sustainable Procurement | Incorporate sustainability in every decision / contract | Legacy | Incorporate sustainable development principles into every contract or agreement for an event | Confirm whether every contract or agreement included sustainable development principles | Yes/ No, namely..... | Survey the staff and attendees on what they think about the goals and how they feel were achieved. | Difficult to quantify, but important for spreading awareness |
| | | | Incorporate strict sustainable development principles into as many decisions as possible | Confirm whether strict sustainable development policies have been incorporated into as many decisions as possible | Yes/ No, namely..... | | |

| Category | Target | Impact category | Implementation | Monitoring method | | Evaluation | Challenges |
|---------------------|--|--------------------------|--|---|--|--|---|
| | | | | Metric | Outcome | | |
| Guest Management | Encourage online audience when air travel is unavoidable Communicate to visitors about sustainability | CO2 reduction | Communicate about preference to avoid all air travel | Check whether people were discouraged to choose air travel (survey) | Yes / No | If there is a collaboration with the hotels, confirm how many reservations checked in | This information might be unobtainable |
| | | Legacy | If appropriate for size, ensure interactive online options | Check whether online option was entertaining (survey) | Yes / No | | |
| Accommodation | Encourage accommodation in sustainable locations CO2 emissions, water use | Legacy | All communications with visitors mention sustainability | Confirm whether sustainability was mentioned in communications | Yes / No | Check for false positives and false negatives with the attendance list | Use the surveys and event list as a comparison tool |
| | | CO2 emissions, water use | Book spots in sustainable locations close to the event | Document number of reserved accommodation spots booked | Number of spots in certified locations: Number of spots in non-certified locations: | | |
| | | CO2 emissions, water use | Promote sustainable locations that are close the event | Check selected accommodation of visitors (survey) | Number of spots in certified locations: Number of spots in non-certified locations: | | |
| Waste Management | Minimize waste production at venues Encourage low-waste behaviour | Waste reduction | Promote recycling at venues | Confirm whether recycling was possible at venues | Amount of waste: Kg | Evaluate whether low-waste behaviour and recycling was encouraged with a survey | The waste production is difficult to estimate, especially different streams |
| | | Waste production | Ask venues to estimate waste production during event | Document amount of waste production | Amount of waste: Kg | | |
| Event Location | Select sustainable venues | CO2 emissions, water use | Select venues that are certified as sustainable | Confirm whether venues were certified as sustainable | Yes / No | Survey to the attendees to determine if the information provided was useful | No all venues have a certification, try to find consumption information for official sites. |
| | | CO2 reduction | Select venues that are central or accessible by bike or public transport | Confirm whether venue was accessible and/or central | Yes, central/accessible No | | |
| Material Management | Avoid unnecessary material use and production Select sustainable and recyclable products | Material reduction | Minimise printed promotion and giveaways | Confirm whether producer material(s) were essential | Yes / No | Evaluate the reuse of conference materials from past events. Estimate how many times was a material reused during the events | Difficult to estimate avoided emissions compared to otherwise selected location |
| | | Material reduction | Rent or borrow products as much as possible | Confirm whether material(s) have been rented or borrowed | Yes / No | | |
| | | Material reduction | Make products reusable for multiple events | Confirm whether material can be used for multiple events | Yes / No | | |
| | | Material production | Avoid disposable products, make them valuable for longer use | Confirm whether products have an added value after event | Yes / No | | |
| | | Material production | Select sustainable materials | Confirm whether sustainable materials were used | Yes / No | Survey to the attendees to determine if the waste sorting system was useful | Possible to calculate with good documentation |
| | | Material production | Select recyclable materials | Confirm whether material were recyclable | Yes / No | | |

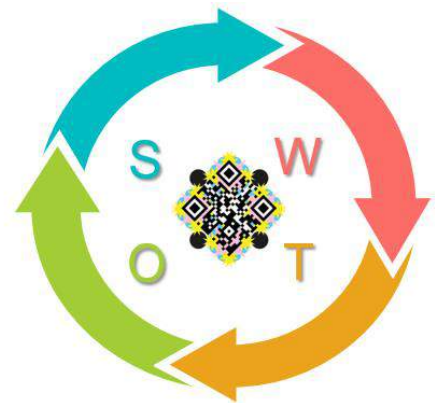
4.3 INTERVIEW FINDINGS: SWOT ANALYSIS

Leiden2022 is a unique example of a series of city-wide events with many stakeholders. To be able to provide recommendations specific to this event as well as possible further editions and similar events, the Strengths, Weaknesses, Opportunities, and Threats (SWOT) have been analysed. Although these aspects are based on Leiden2022 as a single case study, comparable events are expected to have similar properties.

Strengths and weaknesses here refer to characteristics that are inherent to the event or present in the organisation in the planning phase. Opportunities and threats are expected but can still be influenced. While some of the aspects directly link to sustainable event management, other aspects are more indirect, but still crucial to keep in mind for sustainability. Furthermore, the COVID pandemic is an important factor for Leiden2022, so aspects related to this could be generalisable only to other events during this period. Therefore, these are listed in *italics*. A one-page image of the SWOT analysis can be found in the appendix A.4.

● Strengths

- **Inclusivity** and **sustainability** considered important by organising partners
- **Dedication** from all stakeholders to make events a success and leave a legacy
- **Collaboration** between many partners
- Partners have broad local **networks**
- **Diversity** in types of events
- **Resilience** for COVID restrictions through hybrid events, also more sustainable



● Weaknesses

- Sustainability not considered by all **external parties** (catering, materials, event organisers, etc.)
- **Sustainability not discussed** during meetings and event planning
- Uncertainties regarding **sustainable events**
- Lack of **promotion about sustainability**
- **Large number of stakeholders** limits influence on sustainability and consistent strategies
- Partner **networks/knowledge not sufficiently consulted**
- **Uncertainties about planning** of the many events throughout the year
- **Inherent unsustainability** of events such as conferences
- **Capacity limits** for venues and accommodation during large events sustainable options

● Opportunities

- Develop **general guidelines** for sustainable events, ask all partners to take responsibility for sustainability
- **Improve communication** about planning and sustainability guidelines
- **Incorporate sustainability** in all decisions and meetings
- Use gaps in planning for **sustainable choices**
- **Be aware of networks and knowledge** of partners
- **Monitor and evaluate** to improve future editions/events
- Leave a **legacy through promoting** sustainability, but also Leiden, science, inclusivity, local community, new collaborations
- Use **central/accessible locations** for sustainability and inclusivity
- Use **hybrid format** to minimise environmental impacts

● Threats

- Sustainability deprioritised in case of **budget and time constraints**
- Difficult to deliver the same **experience during online events**
- **Uncertainties about sustainable events** leads to inaction
- Uncertainty about events **due to gaps in schedule and COVID**
- **Perceived lack of influence** on sustainability decisions leads to inaction
- Conflicting targets:
 - Within sustainability (e.g., inclusivity vs small audience)
 - Sustainability with other targets (e.g., quality of promotion material vs sustainable alternative)
- Uncertainty about successfully **reaching large and diverse audience**
- *Events cancelled due to **COVID restrictions***

5 STAKEHOLDER ANALYSIS

A stakeholder analysis has been performed to support the identification of relevant actors and characteristics of Leiden2022. In the following actor analysis, the relevant actors are those who have a stake and legitimate interest (Van der Lei, 2022) in the organisation and success of Leiden2022. During the interviews, information was acquired about the roles, tasks, responsibilities, and importance of sustainability in the events of Leiden2022 to produce an actor analysis table (Table 3). All interviews also contained a question about important partners for the interviewee. Based on the relations of actors and their partners, an actor map was created (Figure 6). Finally, a power-influence matrix has been created to illustrate the differences among actors in the influence they have on implementing sustainability in Leiden2022.

These figures are only based on nine interviews held with important actors for Leiden2022. It is likely that these are not comprehensive, most importantly because the municipality, as the last founding partner of Leiden2022 and the host of all events, is not included. Therefore, it is recommended to take this stakeholder analysis as a starting point to expand the figures for Leiden2022 as a whole or even to create more detailed versions per event.

5.1 ACTOR ANALYSIS TABLE

The ISO 20121 guidelines mention the importance of defining roles for relevant actors of an event in section 5.3. Therefore, the role and objectives of every actor are listed in the first column of the table. The second column describes the gaps they identified for implementing sustainability in the events of Leiden2022 that they are involved with. In the third column, their potential contributions to increasing sustainability are outlined. Section 4.2 of ISO discusses the identification of interested parties, as well as understanding their needs and expectations. These needs, in relation to their sustainability contributions, are mentioned in the last column. Suggestions in this column on how to fulfil these needs, for instance by using the sustainability policy of this report or contacting another actor with experience on the topic. This overview can provide an overview for Leiden2022 to access relevant knowledge of other parties quicker and improve communication. The intention of this overview is to solve some of the identified issues regarding the communication between partners and the insufficient use of each other's networks and knowledge.

Table 3: Stakeholder analysis Matrix Analysis

| Actor role and objectives | Current or expected gaps regarding sustainability | How can the actor incorporate sustainability into Leiden2022? | What does the actor need to incorporate sustainability into Leiden2022? |
|--|---|---|--|
| <p>Meta Knol – Director Leiden2022</p> <p>Role: Coordinating Leiden2022 team</p> <ul style="list-style-type: none"> - Connecting science with society - Leiden as a community of change makers - Hyperlocal level: sustainability and inclusivity | <p>Staff and partners do not implement sustainability targets in all decisions</p> <p>Uncertainty about sustainable events</p> | <p>Connecting Leiden2022 to sustainable initiatives such as New European Bauhaus and Sustainable Development Goals</p> <p>Sharing sustainability guidelines with team and partners</p> <p>Evaluating the sustainability of Leiden2022</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Monitoring and evaluation framework (suggestion: framework)</p> |
| <p>Chris Jaeger – Project Manager- Knowledge throughout Neighbourhoods</p> <p>Role: Connecting event organisers to KtN topics</p> <ul style="list-style-type: none"> - Making KtN inclusive and participatory - Inspiring people to participate in science events - Support networking - Science for all | <p>Sustainability is not a requirement for all event organisers</p> <p>Venues are pre-selected</p> <p>Budget constraints</p> <p>Time constraints</p> <p>Limited control over events organised by others</p> | <p>Buying sustainable and local promotion materials</p> <p>Communicating sustainability guidelines to event organisers</p> <p>Promoting sustainable behaviour to visitors</p> <p>Promoting local, sustainable businesses</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for potential event organisers (suggestion: discuss with Stichting 2030)</p> <p>Advice for the sustainable management of small events in Leiden (suggestion: discuss with Stichting 2030)</p> <p>Ideas for communicating to public about sustainability (suggestion: communication example in Appendix A.2)</p> |
| <p>Marjo Buijs - EUCYS Manager</p> <p>Role: Supervising the organisation of EUCYS</p> <ul style="list-style-type: none"> - Keeping participants, jury, and organisers happy - Discussing promotion EUCYS - Inspiring young participants | <p>Time constraints</p> <p>Budget constraints</p> <p>Decisions postponed to later stage</p> <p>Uncertainty about European funds</p> <p>Strict guidelines European Commission</p> | <p>Discussing sustainability guidelines with PCO</p> <p>Arranging transportation by train for participants (Discovery Trail)</p> <p>Contracting vegan and sustainable catering</p> <p>Selecting local and sustainable accommodation</p> <p>Decreasing promotion materials and giveaways (as far as guidelines allow)</p> <p>Using sustainable/reusable/rented materials</p> <p>Communicating about sustainability to public</p> <p>Collaborating with sustainable companies</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for sustainable subcontracts in Leiden (suggestion: discuss with Leiden Convention Bureau)</p> <p>Tips for local sustainable companies for potential collaborations (suggestion: discuss with Stichting 2030)</p> <p>Ideas for communicating to public about sustainability (suggestion: communication example in Appendix A.2)</p> <p>Guidelines for sustainable printing materials (suggestion: follow guidelines in The Ocean Race Sustainable Report 2020)</p> |

| | | | |
|--|--|---|--|
| <p>Wendy Frigge - ESOF Manager</p> <p>Role: Supervising the organisation of ESOF</p> <ul style="list-style-type: none"> - Overall manager of ESOF - Discussing promotion | <p>Limited venues in Leiden</p> <p>Limited accommodation available in Leiden</p> <p>Budget constraints</p> <p>Lack of control where participants decide to stay</p> | <p>Encouraging online audience or sustainable transport</p> <p>Discussing sustainability guidelines with PCO</p> <p>Selecting central/accessible venues</p> <p>Contracting vegan and sustainable catering</p> <p>Promoting sustainable and central accommodation</p> <p>Using sustainable/reusable/rented materials</p> <p>Decreasing promotion materials and giveaways</p> <p>Communicating about sustainability to public</p> <p>Collaborating with sustainable companies</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for sustainable subcontracts in Leiden (suggestion: Discuss with Leiden Convention Bureau)</p> <p>Tips for local sustainable companies for potential collaborations (suggestion: discuss with Stichting 2030)</p> <p>Ideas for communicating to public about sustainability (suggestion: communication example in Appendix A.2)</p> <p>Guidelines for sustainable printing materials (suggestion: follow guidelines in The Ocean Race Sustainable Report 2020)</p> |
| <p>Eva van Ekdom - Communications Manager</p> <p>Role: Supervising communications team Leiden2022</p> <ul style="list-style-type: none"> - Creating collective communication strategy for Leiden2022 - Helping with communications individual Leiden2022 events - Managing interview requests | <p>Uncertainty about sustainable promotion materials</p> <p>Physical promotion is unsustainable but cannot be eliminated completely</p> <p>Sustainability not sufficiently considered for promotion Leiden2022</p> | <p>Minimising physical promotion materials</p> <p>Using sustainable materials for promotion</p> <p>Communicating about sustainability to public and visitors to spread awareness</p> <p>Discussing sustainability with PCO, founding partners, and other promotion partners</p> | <p>Guidelines for sustainable printing materials (suggestion: follow guidelines in The Ocean Race Sustainable Report 2020)</p> <p>Ideas for communicating to public about sustainability (suggestion: communication example in Appendix A.2)</p> <p>Tips for local sustainable printing companies (suggestion: discuss with Stichting 2030)</p> |
| <p>Piet-Hein van der Ploeg - Policy Advisor Hogeschool</p> <p>Role: Liaison Hogeschool for Leiden2022</p> <ul style="list-style-type: none"> - Represents Hogeschool in executive board Leiden2022 | <p>Uncertainties in planning of year</p> <p>Uncertainties about general guidelines and sustainability guidelines</p> <p>Sustainability not discussed in event organising</p> | <p>Coordinating with Leiden2022 and founding partners to improve the sustainability of activities</p> <p>Communicating about sustainability to event organisers</p> <p>Incorporating sustainability in own events</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for local sustainable companies for potential collaborations (suggestion: discuss with Stichting 2030)</p> |

| | | | |
|---|---|--|--|
| <p>Ludo Westerveld - LUMC</p> <p>Role: Project member Leiden2022</p> <ul style="list-style-type: none"> - Coordinating LUMC activities Leiden2022 <p>Frans van Nieuwpoort - LUMC</p> <p>Role: Research alliance advisor Leiden2022</p> <ul style="list-style-type: none"> - Member executive board Leiden2022 - Fitting Leiden2022 into collaboration strategy | <p>Budget constraints</p> <p>Uncertainties about European funding.</p> <p>Uncertainties in planning Leiden2022</p> <p>Sustainability not discussed in event organising</p> <p>Conflicting targets: attracting wide audience vs minimising air travel</p> | <p>Coordinating with Leiden2022 and founding partners to improve the sustainability of activities</p> <p>Using sustainable materials</p> <p>Contracting sustainable catering options</p> <p>Promoting the importance of sustainability for health</p> <p>Combining large events to reduce mobility</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for including health aspect into sustainability (suggestion: discuss with Stichting 2030)</p> <p>Guidelines for sustainable printing materials (suggestion: follow guidelines in The Ocean Race Sustainable Report 2020)</p> |
| <p>Marin Visscher – Science Communicator University of Leiden</p> <p>Role: Activating colleagues to organise KtN events</p> <ul style="list-style-type: none"> - Encouraging citizen engagement with science - Activating and informing people about Leiden2022 - Creating events for the calendar - Looking for new collaborations | <p>Little influence in sustainability decisions</p> <p>Uncertainties in planning Leiden2022</p> <p>Sustainability not discussed in event organising</p> <p>Budget limitations</p> | <p>Coordinating with Leiden2022 and founding partners to improve the sustainability of activities</p> <p>Incorporating sustainability in events</p> <p>Deciding strategically which events can highlight sustainability</p> <p>Promoting sustainability to visitors</p> <p>Avoiding greenwashing</p> <p>Promoting hybrid events in some cases</p> | <p>Sustainability guidelines (suggestion: sustainability policy)</p> <p>Tips for local sustainable companies for potential collaborations (suggestion: discuss with Stichting 2030)</p> <p>Ideas for communicating to public about sustainability (suggestion: communication example in Appendix A.2)</p> |
| <p>Jasper Visser - Director Stichting2030</p> <p>Role: Advising Leiden2022 about sustainability</p> <ul style="list-style-type: none"> - Promoting environmental and social sustainability - Sharing local knowledge and network | <p>Conferences are inherently unsustainable (socially and environmentally)</p> <p>Conflicting sustainable development goals</p> <p>Conflicting interests between stakeholders</p> <p>Initial lack of sustainability aspects in the planning of Leiden2022</p> <p>Stichting 2030 is not always asked for input by Leiden2022</p> | <p>Sharing experience on sustainable event organising in Leiden (Festival 2030)</p> <p>Sharing knowledge about SDGs</p> <p>Sharing knowledge through former colleagues that now work at Leiden2022</p> <p>Connecting organisations in Leiden that are working towards SDGs to Leiden2022 and founding partners</p> <p>Implementing sustainability in Leiden2022 events partially organised by Stichting 2030</p> <p>Showcasing sustainability through actions, not through communication</p> | <p>Specific questions from Leiden2022 on how Stichting 2030 can help (suggestion: regular input sessions with Leiden2022 team)</p> |

| | | | |
|--|---|--|--|
| <p>Daniel op den Buijsch - Leiden Convention Bureau</p> <p>Role: Advising Leiden2022 about conferences</p> <ul style="list-style-type: none"> - Organising conferences in Leiden for clients - Attracting conferences to Leiden - Promoting Leiden as a city of science/conferences | <p>Inherent unsustainability of conferences</p> <p>Dependent on questions of clients for sustainability</p> <p>Hybrid meetings expensive</p> <p>Leiden and conference partners do not consider sustainability</p> <p>Conflicting targets: sustainability vs attracting people and conferences to Leiden</p> | <p>Suggesting sustainable partners to Leiden2022</p> <p>Promoting sustainable transport</p> <p>Suggesting Green Key locations</p> <p>Asking for sustainability policies from partners (catering, venues, etc.)</p> <p>Advocating about sustainability as a norm to clients</p> <p>Design more information and communication about sustainability</p> | <p>Specific questions from Leiden2022 on how Leiden Convention Bureau can help (suggestion: input session with Leiden2022 team)</p> |
|--|---|--|--|

5.2 ACTOR MAP

The actor analysis table is complemented with an actor map (Figure 7) that represents the relations of relevant actors with each other and other supportive actors and of Leiden2022. The actor map also indicates the close or distance relations of some actors with each other. According to the Narrative and Framework playbook, the Mission of Leiden2022 is:

“Leiden2022 is an inclusive and accessible value-driven platform for sharing, questioning, facilitating and celebrating science, knowledge, art and skills”.

This statement in the Framework encourages value systems, such as the 17 Sustainable Development Goals, the 25 routes of the National Science Agenda or the European Green Deal 2050. The Framework Playbook states that sustainability is a theme that frequently comes up in all these programmes and that Leiden2022 embraces. In the actor Map (below,) it is observed that some relations between the relevant actors and organisations are essential to promote inclusivity and the SDGs that Leiden embraces. Still, these organizations are situated at certain distance of the relevant actors, which complicate the implementation and embracement of the values that Leiden2022 encourage in its mission and goals.

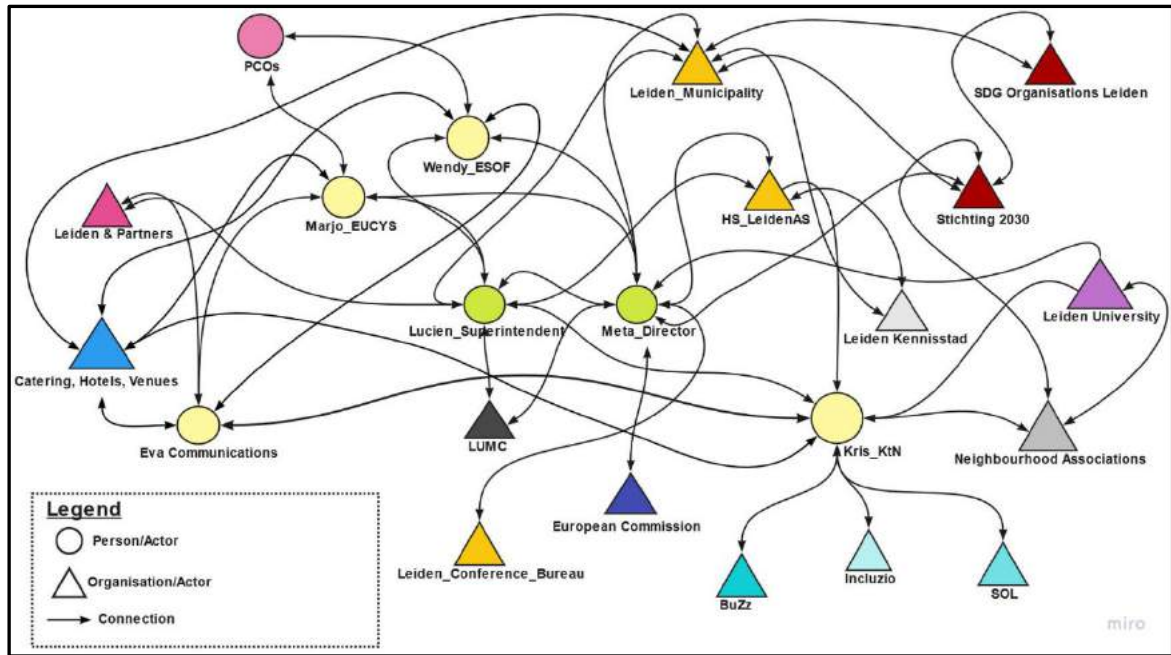


Figure 6: Actor Map

5.3 POWER-INTEREST MATRIX

In the final figure, the power and interest of actors to influence sustainability decisions have been displayed. The interest indicates whether an actor supports the objectives of the problem owner (Hermans et al. 2018). The power axis shows whether the actor actually has the means to influence decisions. Critical actors are those with a high level of power and important resources, while dedicated actors are those with high level of interest. Power-interest matrices may be used to formulate general advice concerning types of relationships a problem owner might have with actors in different quadrants (Hermans, et al. 2018). The four resulting quadrants are: Encourage and influence (high power and interest), Keep satisfied (high power, low interest), Keep informed (low power, high interest), and Monitor (low power and low interest).

It is important to note that our analysis in the following power-interest matrix is based on subjective perceptions. Also, the interviews only represent a snapshot during the months leading up to the events of Leiden2022.



Figure 7: Power – Interest matrix

The critical actors of Leiden2022 that can support the sustainability of the events have high level of power and interest. Director and Superintendent and the conference programme managers have the resources to deal with different aspects of sustainability in Leiden2022. Close to them are the partners that also have a prominent level of power and interest. They can be instrumental to influence the sustainability of the events, working in cooperation with the programme managers.

The European Commission funds Leiden2022, so has a lot of influence over Leiden2022. Moreover, visitors and neighbourhood associations can influence their own behaviour during events, and therefore are also considered to have significant power over environmental sustainability. Their interests in sustainability on the other hand are not certain. Therefore, they are placed in the Keep satisfied quadrant.

The actors with interest, but less power, are placed in the Keep informed quadrant. In this case, these are the social organisations with some contact to the critical actors, such as Stichting 2030 and BuZz, Inclusio, and SOL. These organisations are promoting and representing the sustainability in the city of Leiden but do not have a lot of means to implement measures during Leiden2022.

Finally, organising partners of Leiden2022 do not necessarily have a lot of interest in sustainability or power to decide about sustainable measures. These partners, in this case Leiden Convention Bureau, Leiden&Partners (the marketing partner), and the professional conference organisers (PCOs). These parties all follow the questions of their clients, in this case Leiden2022 and therefore do you implement any sustainability independently.

6 RECOMMENDATIONS

As outlined in chapter 3, we followed the Planning structure of the ISO 20121 for sustainable event management. This provides a good basis for the remaining phases, which focus mostly on maintaining communication, documentation, and evaluation. Additions from ISO 22379 standards for city-wide events were incorporated especially regarding the event legacy. We recommend reading the full guidelines of ISO 20121 during the year to ensure all relevant steps are taken.

In this chapter, we combine our findings from literature and Leiden2022 to give recommendations. A factsheet of the sustainability policy can also be found in Appendix A.1.

6.1 SUSTAINABILITY POLICY

In general, it is recommended to ensure sufficient time and budget to implement all measures and find sustainable options. Next to these two constraints, the main problem of Leiden2022 and other important partners was the uncertainty about how to make events more sustainable. As suggested in the ISO 20121 standards, a policy needs to be established and documented. Because of time constraints and COVID uncertainties, there are still a lot of decisions to be made about the remainder of the year. For instance, large contracts with catering companies have not been solidified and many calendar days of Knowledge throughout Neighbourhoods are not filled in. These gaps allow for a wide implementation of the policy suggestions, even when it has not been defined and shared before the start of 2022.

The suggested sustainability policy has four steps:

1. Use the sustainability framework to plan the event based on the implementation suggestions
2. Incorporate sustainable measures of Leiden2022 into the promotion strategy
3. Communicate to the visitors about sustainability
4. Evaluate the sustainability of the event with the use of the sustainability framework and a survey for visitors.

As soon as the planning for an event starts, the organiser creates a copy of the sustainability framework file and carefully reads through the entire framework, so that all possible measures can be incorporated early on. This includes the implementation measures, but in some cases instructions to event supervisors are also required, for instance. In this stage, it can also be concluded that some categories are not applicable or too conflicting with other targets. During the event, the checklist is also consulted to make sure everything is put in place as planned. For the entire compilation of implementation points, see the list below.

Before an event, all communications to visitors mention the importance of sustainability and give some suggestions for what people can do themselves. For an suggested list of communication points to place underneath every email to visitors, please see Appendix A.2.

Before an event, it is also important to incorporate some of the sustainability measures into the promotion strategy. For instance, if vegan food will be provided by an environmentally friendly catering company, this gives them extra promotion and may inspire visitors or anyone seeing the promotion to think about sustainability more.

After an event, use the monitoring and evaluation columns of the framework to assess whether the sustainability measures were implemented as planned and whether visitors found them successful. Please see Appendix A.3 for some sample questions. This is also the stage to document anything that went wrong and how it could be improved in the future.

Water

- Make sure tap water and reusable glasses are accessible
- Do not sell plastic bottles and encourage visitors to bring their own water bottles

Energy

- Document which appliances are used for an event
- Estimate the number of visitors in advance to avoid the overuse of technology (e.g., streaming technology)

- Event supervisors make sure that electricity during the event is not wasted (e.g., lights turned off in empty rooms, appliances that are not used are turned off instead of stand-by mode)
- Encourage energy efficient behaviour of both online and offline visitors (e.g., encourage to plug out chargers when batteries are full, turn off lights in empty rooms)

Catering

- Food is vegan and ideally seasonal/local/organic. See catering partners of Leiden Convention Bureau on [this site](#)
- Estimate the number of visitors for to avoid leftovers
- Contact [Voedselbank Leiden](#) about the possibilities for donating leftovers
- Do not use disposable plates, cutlery, etc.

Mobility

- Discourage air travel and car use
- Encourage public transport or bike use through discounts for rental bikes or OV

Sustainable procurement

- Incorporate sustainable development principles in every agreement or contract
- Sustainability principles implemented are as ambitious as possible

Guest management

- Encourage people to join an event online if air travel (or car) is unavoidable
- Make the virtual experience interactive and ensure it functions well
- Communicate about sustainability

Accommodation

- Book or promote Green Key hotels. Find Green Key hotels in Leiden on [this site](#)
- Book or promote accommodation close to the event or easily accessible through public transport

Waste Management

- Discuss which waste streams can be recycled at the location and promote recycling
- Estimate waste production at event
- Encourage low-waste behaviour of visitors

Event Location

- Select Green Key locations. Find Green Key venues in Leiden on [this site](#)
- Select venues that are central or easily accessible by public transport

Material Management

- Consider whether promotion material and giveaways are essential
 - o Online promotion
 - o Collaboration opportunity or discount instead of products
- Rent or borrow materials, such as technology, furniture, catering materials
- Reuse materials for multiple events (e.g, banner with logo of organisation)
- Give the materials value (e.g., shirts, gifts, posters that people want to keep)
- Select sustainable/recyclable materials
- See [the Ocean Race Sustainable Report](#) 2020 (from page 44 onwards) for advice on materials

6.2 CASE STUDY EXAMPLES

To demonstrate the use of the sustainability policy, events of Leiden2022 are used as examples for large and small events. In this way, Leiden2022 can tailor the measures to all types of events throughout the year.

Conferences (large events)

EUCYS and ESOF are two of the main events of Leiden2022 and some of the biggest ones. Of all sustainability categories, guest management, accommodation, and mobility, came up most frequently in relation to these events or conferences in general, as visible in Table 4. Furthermore, event location, materials, and catering were also mentioned several times. It makes sense that energy, waste, and water are more dependent on the venue and therefore not individually targeted.

Table 4: Co-occurrence table of all attribute codes for sustainability categories and events

| | #event: conferences 23 | #event: ESOF 57 | #event: EUC... 32 | #event: general Leide... 123 | #event: Knowledg... 89 | #event: other than Lei... 27 |
|--------------------------------|---------------------------|--------------------|----------------------|---------------------------------|---------------------------|---------------------------------|
| #category: accommo... 16 | 2 | 7 | 6 | 2 | 1 | 1 |
| #category: catering 18 | 3 | 3 | 2 | 4 | 3 | 2 |
| #category: energy 4 | | | 1 | 1 | 1 | |
| #category: event loca... 22 | 3 | 5 | 2 | 2 | 9 | |
| #category: guest man... 24 | 4 | 11 | 3 | 2 | 4 | 2 |
| #category: materials 33 | 2 | 4 | 3 | 15 | 5 | 7 |
| #category: mobility 37 | 4 | 7 | 7 | 13 | 5 | 2 |
| #category: procurem... 1 | | | | | | 1 |
| #category: waste 7 | 1 | 1 | | 4 | | |
| #category: water 2 | 1 | 1 | | | | |

Furthermore, most interviewees seemed aware of the problem that conferences are inherently unsustainable because of mobility, food, technological requirements, and other aspects. While for EUCYS, a hybrid version is not preferred, for ESOF there is a lot of potential to grow beyond the 1500 planned guests through the online option. Finally, the capacity limits for venues are most relevant for both conferences because they attract much more visitors than Leiden normally hosts. On the other hand, all EUCYS participants will be able to stay in a hotel close to all other venues and train transportation is arranged for many of the participants.

With these aspects in mind, we give an example of how the framework could be applied, although it must be said that some of these suggestions are already considered by Leiden2022. Most of the categories are directly applicable to conferences and should be incorporated from the start, by both the Leiden2022 team members and the professional conference organiser. All arranged catering can be vegan to reduce water use and greenhouse gas emissions. By encouraging ESOF visitors to use the train or join online and providing discounts for bikes or public transport passes, a lot of emissions from mobility can be reduced. Hereby, the two biggest sources of pollution for conferences are targeted (Neugebauer et al., 2020). Furthermore, reusable water bottles from Dopfer, a circular brand, are already being considered as a gift to ESOF visitors. By providing this in combination with accessible tap water, water-related waste can be prevented. Furthermore, by keeping a close eye on registrations and cancellations, it can be made sure that exactly the right amount of food and gifts are produced. Choosing to print as little as possible, using agricultural waste or other sustainable materials, and looking for a local printing company can reduce waste and support local sustainable businesses. Moreover, banners with the Leiden2022 logo can be reused between both conferences and even Knowledge throughout Neighbourhood events. A lot of other materials, such as chairs, will likely be available in the venue but should otherwise be rented. Some of the selected venues for both EUCYS and ESOF are the Stadsgehoorzaal and the Pieterskerk, which both have a Gold certification from Green Key. Waste

management and energy use are included in the Green Key assessment, but in contact with the floor manager it can be made sure that as much is recycled as possible and that the amount of waste production is estimated. Furthermore, event supervisors must be instructed to keep a close eye on turning off unused appliances and the lights in empty rooms. The venues will also have some documentation of appliances available for the event so that energy use can be estimated in the evaluation phase. Apart from the hotel spots that can be booked, centrally located hotels in the Hague are being promoted to delegates to decrease environmental impacts of accommodation and mobility. Ideally, these hotels are also Green Key certified, which can be found on the [website](#). Finally, because of the central organization of the conferences, it is possible to keep track of all procurement and whether these included sustainable development principles.

In addition to the implementation measures, it is strongly suggested to promote these sustainability measures to the public and visitors to spread awareness as much as possible. Lastly, monitoring and evaluation through keeping track of the implementation measures and a survey among visitors afterwards will ensure that future editions of these conferences can improve their sustainability even further.

Knowledge throughout Neighbourhoods (small events)

As an example for small events, the Robot day is selected. Although the original activities for this event on January 2nd have been postponed due to the lockdown in the Netherlands, this event was mentioned by several interviewees. On this day, visitors learn how to control a robot with their own laptop or tablet and compete with each other. For this event, no food other than cake and coffee will be provided. Although it makes a small difference, after 200 different KtN events it still makes an impact if these are always vegan and local. These, as well as any other materials, should involve as little packaging as possible to minimise waste production. If there are any vending machines with water bottles in the Huis van de Buurt Vogelvlucht, these can be closed for the event, and it must be ensured that tap water with glasses is offered. Lastly, one of the organisers can check whether lights and heating in empty rooms of the location are turned off and can mention to the visitors that their laptops can be plugged out if fully charged.

On the other hand, because of the small scale it is not preferable to ask people to join online. Furthermore, the venue cannot easily be selected based on sustainable principles or accessibility, also due to the aim of reaching all 101 neighbourhoods. In this case, de Vogelvlucht is understandably not Green Key certified. Also, the effort of separating waste more than usual in the venue is not in ratio with the environmental gains. Finally, documenting sustainable procurement could be excessive for such a small event and accommodation for visitors is not expected to be relevant.

In the suggested list of sustainability tips to add to the communications leading up to the event, taking the bike or bus can be encouraged. However, to ensure inclusivity in the absence of a live stream, people who can only take the car should still feel welcome. Because people register for the event it is still possible to send out a feedback survey afterwards, although most of the monitoring and evaluation will also be easy to complete by one of the present organisers.

6.3 COMMUNICATION

Because of the many actors, locations, and days of events in Leiden2022, many interviewees confirmed the complexity of incorporating sustainability principles. Next to the sustainability guidelines, it is important to communicate frequently and openly about sustainability with other. This benefits knowledge sharing and spreading awareness. In the interviews, it came up that especially the communication about sustainability to event organisers that are otherwise not involved with Leiden2022 could be improved. These responses were related to all types of events and sustainability categories. Moreover, since Leiden2022 revolves around

science, it is completely justified to strongly encourage other partners to incorporate a sustainability policy as well, even if this cannot be directly implemented by the team of Leiden2022.

The uniqueness of Leiden2022 also makes it more difficult to learn from previous events. Furthermore, the large number of partners limits the possibility of implementing a strict and consistent policy across all events. However, by making sustainability a joint effort between all partners and incorporating it into every conversation, small changes combined can create a big impact. Finally, because of the many events throughout the year, lessons learnt can still be turned into improvements in later stages. Similarly, successful changes can simply be repeated and will therefore take less time as the year and organisation evolves.

Getting a good picture of all involved actors, including their knowledge and requirements, is crucial to facilitate sustainable management. For this, we advise recommend taking the stakeholder map and matrix as an example and expand it, for Leiden2022 or even per event. For instance, for conferences such as ESOF, the sponsors play a role while they are not as relevant for Knowledge throughout Neighbourhoods. Furthermore, all parties involved expressed their dedication to the success of Leiden2022 and their value of sustainability. However, it has become clear that expressing this importance is not enough to actually create an impact. For some, receiving some guidelines will be enough to be able to do this. For others, finding out what they need to be able to contribute will therefore be very important throughout this event. The power-influence matrix is already an example of how you can identify whether and how actors can help implement sustainability in the events, but it is also advised to simply to talk to different actors and brainstorm about possible changes, using the policy as a starting point.

An example is the experience of Stichting 2030 about organising events of different scales in Leiden while implementing the sustainable development goals. This organisation can provide some useful and local recommendations, such as printing on agricultural waste. Similarly, Leiden Convention Bureau has an overview of available catering options and their sustainable policies, which can be hired for the conferences and other larger events. Furthermore, throughout the interviews, the collaboration between different partners for creating events and with the local community through the networks of partners were mentioned often as opportunities for success.

Sustainable development targets can be conflicting with each other or with other targets. For instance, using central locations to minimize mobility reduces the aim of reaching a wide audience across all 101 neighbourhoods. Also, a large audience is generally seen as a measure of success, but also creates more environmental impacts. In a similar way, preferences for food and promotion materials do not always coincide with the most sustainable option. In addition to uncertainties about how to make events more sustainable in general, this has led to a lack of sustainable measures in the organisation of Leiden2022 so far. Discussions about these dilemmas when they come up will lead to compromises and creative solutions.

Communicating to the public about your efforts and questions for sustainability has several benefits. Not only can this attract additional interest of people with a green mindset, it can also invite anyone to share local tips for sustainable businesses to collaborate with during the year. Throughout the months leading up to 2022, it was noticed that Leiden2022 has been promoting the connection to the Sustainable Development Goals less than before. Although it is important to avoid greenwashing, this promotion also provides a good opportunity to be transparent about the complexity about sustainability and that this should not be a reason or inaction. Finally, some of the environmental impacts can only be decreased by event attendees themselves. Therefore, giving recommendations and promoting sustainable behaviour through giving the right example will help to improve the sustainability of Leiden2022.

6.4 LEGACY

In line with the ISO 22379 guidelines for sustainable event organisation, this chapter engages with the legacy part of the events of Leiden2022, by pointing at the importance of communication about sustainability and by having tangible and intangible legacies left after the event. In order to actualise the ambition of leaving a legacy, it is important to clearly define this. While tangible legacy plans encompass reusing infrastructures, such as the tuktuks, intangible legacies according to the ISO 22379 guidelines include economic, social, and environmental legacies. Leaving a legacy is one of the most important goals for the event organisers of Leiden2022. In this section, the types of legacy created by Leiden2022 are summarised. It is encouraged to Leiden2022 to expand this section and document an official legacy statement based on these findings.

Firstly, by communicating the importance of sustainability to the public, one also sends an important signal to other event organisers and people, which will then lead to a domino-effect. In this regard, online-promotion of sustainability might be more sustainable than offline promotion through give-aways, as it immediately gives the right example as well. In addition, a legacy can be created by communicating catering services, or other suppliers that were especially sustainable, to other event organisers, so that these service providers are also rewarded for their good sustainable work. A third crucial part for leaving a legacy is the documentation of how the events took place and were organised. This includes important lessons learnt, meaning the documentation of crucial mistakes that should be avoided in the future. This documentation should be communicated to all people that were involved in the organisation of the events. To do so, this report provides an extensive monitoring and evaluation framework for sustainability, but this could be extended to an evaluation of Leiden2022 in its entirety.

Another important aspect for leaving a sustainability legacy, which was already mentioned as an idea from the EUCYS organisers is to offer a collective transportation by train for the participants. The idea of providing Interrail tickets to the participants or chartering a train where the participants can get to know each other can be very valuable but depends on the budget of the event organisers. If this would be possible, it would pose a great opportunity and legacy to the next years editions of this event. Through these experiences people will have positive memories that they can then share with others. Thus, inspiring the people and partners through good experiences to decrease their impacts is the main legacy that should be left at Leiden2022.

Next sustainability-related legacies, many other opportunities for leaving a legacy were mentioned throughout the interviews. For instance, an important aspect of the legacy of Leiden2022 is the involvement of citizens and locals. As Perry et al. (2020, p. 613; in Mair & Smith, 2021) argue: “linking a cultural event with natural and/or built heritage can build people’s sense of belonging and pride, especially if focused at a local or regional audience. This in turn can have positive impacts on citizens’ approach to stewardship of their environment over the longer term.” Smith and Vodicka (2020, pp. 1744-1745, in Mair and Smith, 2021) furthermore claim that “participation is critically important [...] and the best way to do this is to facilitate the co-creation of events, allowing communities to plan, produce, organise and participate in them. The challenge is to see whether this approach to organising small-scale cultural festivals and street parades can be scaled up and translated across to larger events.” This inclusivity aspect might be one of the most crucial ones for communicating the importance of sustainability as it makes people experience sustainability and makes them feel more responsible. Especially for the Knowledge Throughout Neighbourhood events this is highly relevant, as this is their concept to get people involved and reach out to as many people as possible. These events also carry a great opportunity to bridge the gap between knowledge institutions, science, and the local community by making them involved.

Finally, other types of legacy mentioned throughout the interviews revolved around stronger collaborations between partners, helping young scientists in EUCYS and the knowledge institutions with their careers. Furthermore, promoting the founding partners, all other parties involved, and the city of Leiden to the public

through Leiden2022, this has the potential to create a long-lasting legacy. This might be especially important for the next years editions of the city of science events.

6.4 COVID

Next to all other properties which make Leiden2022 unique, the COVID pandemic is another factor to be taken into consideration throughout the year. Every interviewee mentioned COVID as a potential threat, so clearly the organisers consider potential restrictions with all events and decisions. However, everyone understandably also had preference for live events and a hybrid version is not suitable for all events. In addition, it is already a challenge to ensure an audience for such a long list of events, so there is a risk that visitors are discouraged to attend because of health and safety concerns. Therefore, uncertainties about what the year will look like remain. For this reason, some expensive contracts have also been postponed.

A hopeful aspect mentioned in the interviews is that the larger Leiden2022 events, EUCYS and ESOF, take place in the summer months. Looking at previous COVID years, this points to a high chance of minimal restrictions. Still, when a hybrid version is suitable, there are also benefits of the built-in flexibility due to COVID. There is a higher chance that events can continue in at least some form, they can be more interactive than live events if organised well, and they can lead to more inclusivity (Skiles et al, 2021). Furthermore, they allow for an event such as ESOF to grow almost infinitely, without increasing organisational difficulties or environmental impacts. As calculated by Borggren et al. (2013), online attendance is more environmentally sustainable as long as the required technology is not underused. On the other hand, technology for a hybrid version is expensive. Because of this, some events are only recorded, which thereby take away the interactivity and significantly diminish the experience.

In terms of sustainability, Leiden2022 has the opportunity to showcase how successful events can be in hybrid form. For this reason, we would recommend selecting a number of events for which a hybrid version is suitable and to attempt to make this equally as entertaining as being present. For instance, the minimum number of live participants required for the physical activities could be estimated. When the number of attendees exceeds this number, this part of the audience could all be encouraged to join online. It is likely that online events will persist after the pandemic. Leiden2022 could therefore be an example for how future events can implement this, both by illustrating how to do this and potential improvements.

7 CONCLUSION

This report has investigated the field of sustainable event management to answer the initially posed research question: **How can the events of Leiden European City of Science 2022 be organised in a sustainable way?** While an extensive sustainability framework provides important tips and monitoring tools for making events more sustainable, more specific sustainability recommendations for the events of Leiden2022 were made through interviews and an extensive stakeholder analysis. The analyses also help answering the three sub-questions that were posed in this report:

Q1: Which measures can be implemented by Leiden2022 to decrease the environmental impact of the events?

The most important measures that can be recommended to decrease the environmental impact of the events of Leiden2022 are presented in the following. Firstly, it is very important for Leiden2022 to have the right focus on the events that they can influence themselves. For Leiden2022, this would mean the festival, Knowledge throughout Neighbourhoods, and the two big conferences ESOF and EUCYS. Because of the large collection of different types of events and stakeholders, it will still be difficult to influence every decision made for Leiden2022. Therefore, communicating about sustainability can incite small changes which collectively, after

a year of events, still make a big impact. Moreover, communicating with stakeholders will lead to the best solutions when there are conflicting targets and improves knowledge sharing among the many partners.

The main category to focus on are travel-related emissions, as many participants are coming from all around the world and air travel is the cause of the biggest environmental impacts of conferences, for instance. Therefore, it is important to offer on the one hand side an online alternative for people and to assure sustainable transportation of those that are physically participating in the events. In addition, lowering the environmental impact in the field of water and energy encompasses mostly the reduction of the overall consumption, providing reuse options especially for water (reusable water bottles that can be refilled) and using energy and water efficient technologies. Avoiding food waste and providing sustainable food are further important measures to reduce the climate impact of the Leiden2022 events. This should be done by raising awareness on food waste during the events and by providing vegan and vegetarian food that has a low impact on the climate. Concerning waste, it is also very important to not only raise awareness on food waste, but on waste in general and therefore lowering the material footprint of the event. Especially plastic items should be completely banned, but also the use of non-recyclable materials should be decreased a lot. Following the three Rs of circularity, namely reduce, reuse and recycle should be guiding principles of a sustainable material management and procurement. The selection of event locations and accommodations for the events and the visitors is another crucial part of lowering one's environmental impact. Event locations should be sustainably certified and well accessible for all visitors. This means that they should be centrally located and well reachable by public transport. Accommodations should be Green Key locations, which are sustainable accommodations with a higher energy efficiency and low water footprint. Finally, it is ideal if these measures are incorporated as early-on as possible in the organisation of events

Q2: What is the best way to monitor the sustainability of various events at different scales during the year?

The points above give clear guidelines for making the events of Leiden2022 more sustainable. Therefore, the second research question can also be answered with reference to these recommendations. The monitoring should be done thoroughly, by constantly checking to what extent these sustainability requirements could have been fulfilled. If a proper evaluation has been done, leaving a legacy for future events is also easier, as the organisers will know where room for improvement is still. This requires nonetheless full transparency of all actors involved to have the best outcome possible. The use of the sustainability framework provided in this report is recommended to use for each event in Leiden2022 as well as other, comparable events that span over a large region, longer periods of time, and include a large number of stakeholders.

Q3: How can sustainability measures impact stakeholders and visitors beyond the events organised in 2022?

Lastly, leaving a legacy must be integral part of the event plan. Spreading awareness on sustainability, providing best practice examples for visitors and let them experience sustainability should be a very big part of making Leiden2022 more sustainable. Through including as many people as possible in the events and communicating the importance of sustainability, the message will spread and will be continued in the future editions of City of Science and other events. Communication not only to visitors is very important, but also within the team and with other stakeholders to assure the best coordination possible to implement sustainable measures, also after 2022. Therefore, a clear and precise monitoring of the event is of high importance to know which sustainability measures could be implemented and therefore being able to make recommendations for future events. The many types of legacies unrelated to environmental sustainability should also be documented to ensure the biggest impact of Leiden2022.

8 GENERALISABILITY

The findings of this study are generalisable for other events, especially ones that are city-wide and incorporate many stakeholders. Especially the framework and SWOT analysis are based on characteristics of Leiden2022 as a case study for a wider range of events. The interviews with the stakeholders were done to get to know more about the specifics of these events, so that general recommendations for these events could be extracted. Another important factor that makes the recommendations more generalisable is that the events of Leiden2022 encompass events of different scales for which the framework is all applicable. Similarly, the recommendation to follow the ISO standards and perform a stakeholder analysis is advisable for any type of event. Only the findings of the stakeholder analysis and recommendations chapter more specifically tailored towards the specific events, namely ESOF, EUCYS, and Knowledge throughout Neighbourhoods.

9 LIMITATIONS

Despite the generalisability and applicability of the report to Leiden2022, there are some limitations.

Firstly, due to time constraints of both the writers of this report and involved actors of Leiden2022, a more in-depth and up-to-date assessment and report was not possible. For instance, it is likely that some recommendations are not possible anymore or have already been incorporated since the interviews on which they were based. Time constrains also hindered some actors' ability of participating in the interviews.

Another limitation of this report is the fact that it had to be written simultaneously with the end phase of preparations as well as the start of Leiden2022. If the event had already started, it would have been possible to base more recommendations on experiences of earlier events. Alternatively, more time and possibilities for implementation would have been possible if sustainability recommendations had been produced at the very start of the organisation of Leiden2022.

Finally, our analysis consisted of a single case study to develop generalisable recommendations and was based on interviews, of which the analysis is subjective to the perception of the writers. Further research is necessary to assess the applicability of the SWOT analysis, framework, and recommendations to other events.

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11 APPENDIX

A EXTRA DELIVERABLES

A.1.1 Fact Sheet (Short Version)

The Big 6 – How to be Sustainable



Offer **Tap Water** for **Reusable Water Bottles**



Reduce Energy Consumption and **Encourage** Energy Friendly Behavior



Provide **Sustainable Food** and **Avoid** Food Waste



Offer Sustainable Transport Options, **Encourage** Online Events and **Estimate** Transport Distances



Promote and **Encourage** Low-Waste and Recycling Behavior



Offer and **Promote** Green Key Locations

Sustainability Policy Leiden 2022



Offer Tap Water for Reusable Water Bottles.



Incorporate Sustainable Development Principles into Contracts/Agreements/Decisions.



Reduce Energy Consumption and **Encourage** Energy Friendly Behavior.



Encourage Sustainable Travelling and **Ensure** interactive Online Options.



Provide Sustainable Food and **Avoid** Food Waste.



Select Sustainably Certified and Accessible Event Locations.



Offer Sustainable Transport Options, **Encourage** Online Events and **Estimate** Transport Distances.



Reuse old Product, **Recycle** used Products and **Reduce** Material Waste.



Promote and **Encourage** Low-Waste and Recycling Behavior.



Offer and **Promote** Green Key Locations.

A.2 Communication example to visitors

Thank you for registering for our event! Leiden2022 is trying to be as sustainable as possible. Will you help us? Below are some suggestions for decreasing your environmental impact during our event. Thank you!

- Virtual event: Consider joining the event online if you are not able to come by foot, bike, or public transport
- Mobility: Walk, take your bike or use public transport to come to the event (see *this discount that we are offering*)
- Food: Eat vegan food
- Water: Bring your own reusable bottle
- Energy: During the event, turn off any lights/appliances/chargers that you are not using
- Waste: Please avoid producing unnecessary waste during the event by buying less/packaging-free products and otherwise recycle if possible.
- Materials: Consider only using materials that are reusable or valuable for you to preserve.
- Accommodation: If you need a place to stay, please consider accommodation that is close to the event, accessible by public transport, and/or certified by [Green Key certified](#)
- Feedback: After the event we may ask you for your feedback. Please help us improve by letting us know what you thought about the event and our sustainability measures!

Before the event

Event registration

Leiden European City of Science 2022 is a 365-day science festival packed with activities, lectures, workshops, excursions, exhibitions, and events, for anyone with a curious mind.

Address:

Langegracht 72

2312NH Leiden

* Required

1. Name *

2. Email *

3. My Organisation

Mark only one oval.

- I am a student
- I am part of the staff
- I am presenting at the event
- I will be attending as press
- I am a working professional (Scientist, researcher, engineering, etc.)
- Other:

4. How did you find out about Leiden2022?

Mark only one oval.

- Social Media
- My University
- My Work
- Colleague recommendation Other:
- _____

5. Which events are you attending? *

Check all that apply.

- ESOF
- EUCYS
- Knowledge Throughout Neighbourhoods
- European City of Science Festival

6. Have you read the Sustainability Goals of Leiden2022?

Mark only one oval.

- Yes
- No

7. Are you aware of any of this Sustainability Goals of Leiden2022?

Check all that apply.

- Promoting the use of reusable utilities (water bottles, caring bags, face masks, etc.).
- Reducing the use of electronics during the events (laptops, phone, chargers, etc).
- Encouraging the use of accommodations which are "green venues".
- Spreading awareness on waste separation methods.
- I wasn't aware of any of these goals.

8. Do you have any dietary restrictions be should we aware of? *

Mark only one oval.

- None
 - Vegetarian
 - Vegan
 - Kosher
 - Gluten-free
 - Other:
-

Accommodation

9. How are you attending the event? *

Check all that apply.

- Online
- On Site
- Both

10. From where are you visiting?

Mark only one oval.

- Europe
- North America
- South America
- Asia
- Oceania

11. How do you intend to travel?

Mark only one oval.

- By Plane
- By Car
- By Train
- I live in Leiden

12. Have you booked any accommodation?

Mark only one oval.

- Yes
- No

13. Where are you planning to stay?

Mark only one oval.

- Hotel/Hostel
- Rented Apartment (Airbnb)
- With a family member
- I haven't decided yet
- Other: _____

14. Has the website information have helped you deciding which accommodation to take?

Mark only one oval.

- Yes
- No, (elaborate if possible)

Mobility

15. Have you planned how to move within Leiden?

Mark only one oval.

- Yes
- No, haven't decided yet

16. How would you move within Leiden?

Check all that apply.

- By Car (Rented)
- By Bike
- By Public transport
- I will walk
- Other: _____

17. Has the website information helped you deciding on one of the mobility options?

Mark only one oval.

- Yes
- No, (elaborate if possible)

18. Any additional comments or recommendations?

Your opinion is important to us!

After the event

Event Experience

Please submit feedback regarding the event you have just attended, including feedback on structure, content, and instructor.

* Required 1.

Events Attended *

Check all that apply.

- ESOF
- EUCYS
- Knowledge Throughout Neighbourhoods
- European City of Science Festival
- Other: _____

2. I attended as a:

Mark only one oval.

- Student
- Staff member
- Presenter at the event
- Press
- Working professional (Scientist, researcher, engineering, etc.)
- Other: _____

3. The sustainable goals of the event were clear BEFORE I attended the event

There were banners with instructions and the staff helped with any doubts and questions about them

Mark only one oval per row.

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ESOF | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| EUCYS | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Knowledge Throughout Neighbourhoods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| European City of Science Festival | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

4. The sustainable goals were clear DURING the event I attended

There were banners with instructions and the staff helped with any doubts and questions about them

Mark only one oval per row.

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ESOF | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| EUCYS | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Knowledge Throughout Neighbourhoods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| European City of Science Festival | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

5. I was able to follow the introduction related to sustainability

Mark only one oval.

- Yes
- No, (elaborate if possible)
- Other _____

6. How was the organisation of the event?

Mark only one oval per row.

| | Poor | Fair | Satisfactory | Very good | Excellent |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The condition of the venue | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The performance of the staff | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Level of effort you put into the event | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

7. How would you classify the clarity of instructions during the event regarding these sustainability goals?

Mark only one oval per row.

| | Poor | Fair | Satisfactory | Very good | Excellent |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Promote the use of reusable utilities (water bottles, caring bags, face masks, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reduce the use of electronics during the events (laptops, phone, chargers, etc) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Encourage accommodation in green venues | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Spread awareness on waste separation methods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Accommodation

8. How did you travel to Leiden?

Mark only one oval.

- By Plane
 By Car
 By Train
 I live in Leiden
 No

9. Where you able to book an accommodation with enough time in advance?

enough time is considered to be two weeks prior to the event

Mark only one oval.

- Yes
 No

10. How useful was the information about accommodations from the Leiden2022 website?

There were banners with instruction and the staff helped with any doubts and questions about them

Mark only one oval.

| | | | | | | |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | |
| No useful at all | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very useful |

11. I used the website information to book my accommodation

Mark only one oval.

- Yes
 No (elaborate if possible)

12. Could you share the Post code where you stayed?

Mark only one oval.

- Yes,
- No, I don't want to share it
- No, I don't know

Mobility

13. How useful was the information about mobility from the Leiden2022 website?

There were banners with instruction and the staff helped with any doubts and questions about them *Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| No useful at all | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very useful |

14. Did you use the website information to plan how to be mobile during the event?

Mark only one oval.

- Yes
- No (elaborate if possible)

15. What kind of mobility method did you use during the event?

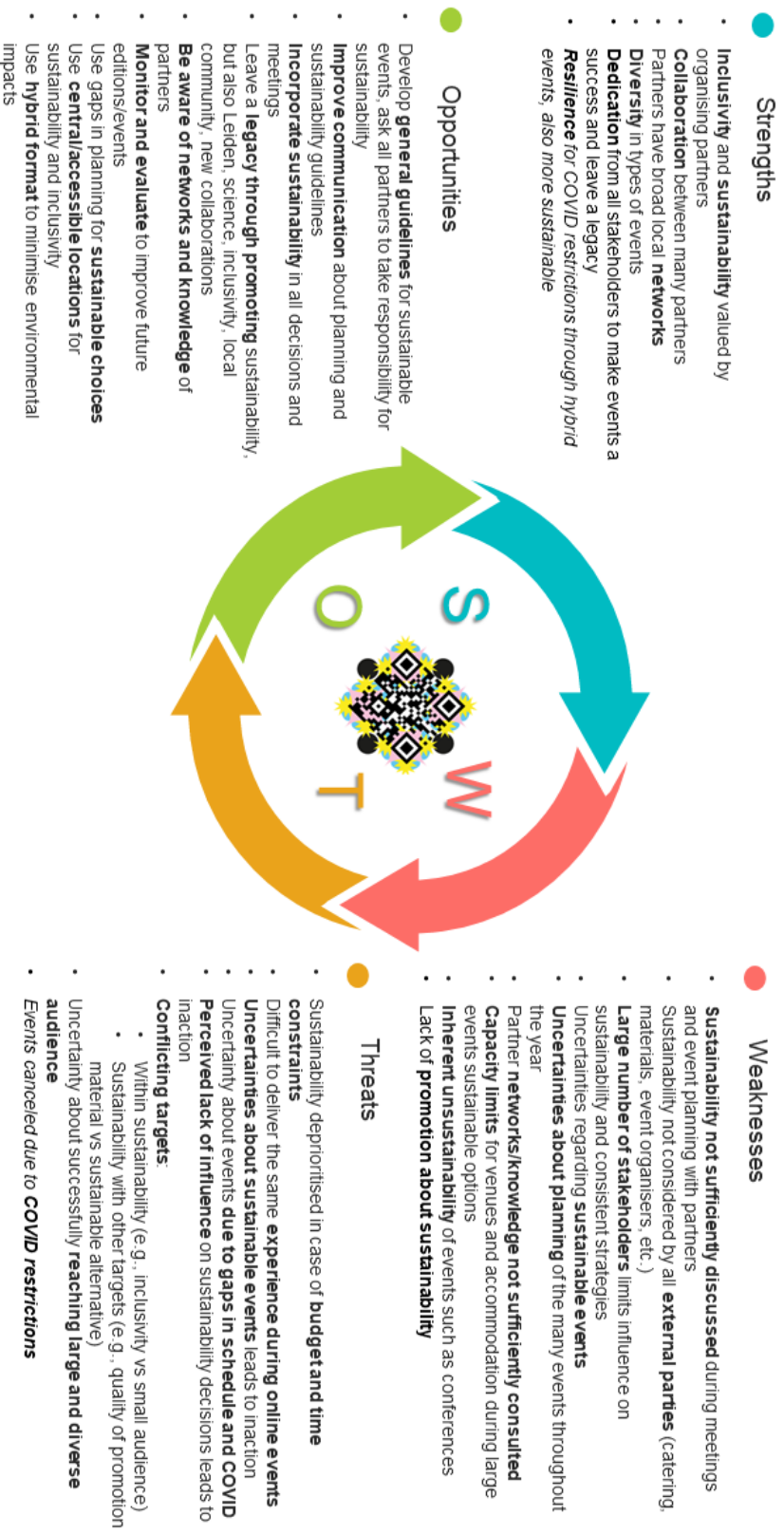
Check all that apply.

- Ccar
- Bike
- Public transport
- I walked to the events

16. Any additional comment or recommendations?

Your opinion is important to us!

SWOT Analysis Leiden 2022



A.4 SWOT Analysis figure

B SAMPLE QUESTIONS LIST

Examples of interview questions

Example 1: Interview with Chris Jaeger- Responsible and manager for Knowledge throughout Neighbourhoods.

General questions

- 1 Which is your role in the Knowledge throughout Neighborhoods within Leiden 2022?
- 2 What are your vision and expectations for KtN?
What type of events will be held?
How many people do you expect to attend?
How long will the event take place?
Will there be food/drinks provision? If so, who will provide food and drinks for the event, what type of food, which meals?
What type of locations will be used for the event?
ASK ABOUT THESE DETAILS AT THE END OF MOST QUESTIONS IF NOT ANSWERED
- 3 Which legacy would you like to leave with Knowledge throughout Neighborhoods?
- 4 What do you think are the biggest opportunities for a successful and impactful KtN?
- 5 What are the challenges for the organization of KtN?
- 6 What type of audience do you expect for the KtN events?
- 7 Who are important partners for you in the organization of KtN?
- 8 Which services do you need to subcontract for every event and how do you select them? (catering, printing, waste, furniture)
- 9 How do you select venues for an event? Which are important factors?
- 10 What communication do you (and Eva) plan to have for the event?
- 11 Are there already events of KtN where you have detailed information regarding content or number of people, etc?
Or do you have a reference event in mind for the organization of KtN?

Sustainability questions

- 12 What are different categories in terms of sustainability that you are considering for KtN?
(Energy Mobility Waste Inclusivity Food and Beverage) (We don't mention this in the interview)
How did you already plan to incorporate them?
Which do you find most important?
- 13 What are in your opinion the challenges for the sustainability of the KtN events?
- 14 Have you got an event in mind as a reference (event) for the sustainable measures that you want to consider in KtN?
- 15 For KtN, are you considering virtual events?
- 16 How do you want to communicate about sustainability during the events of KtN?

Practical questions

- 17 Do you have any other useful documents or data?
- 18 Are there any other important factors in KtN that we should consider?
- 19 Are there any recent influences (COVID) that you foresee but that are likely not discussed in literature/case studies)?
- 20 Are there any aspects that you don't want to sacrifice for the sake of sustainability?
- 21 Which decisions do you think will be made in the period until January (during our project)?
- 22 Do you have any other questions or ideas about sustainability during this event?

Example 2: Interview to Jasper Visser - Director Stichting 2030

General questions

- 1 What is your role in the Leiden2022 events?
- 2 What is your vision for the Leiden2022 events?
- 3 Which legacy would you like to leave for the city from Leiden2022?
- 4 How can Leiden2022 and Stichting 2030 benefit from their partnership in the best way?
- 5 What do you think are the biggest opportunities for a successful and impactful Leiden2022?
- 6 What are challenges for the organization of Leiden2022?
- 7 Who are important partners for you in the organization of Leiden2022 and other events?
- 8 Are you responsible for (helping with) organizing certain events? Days in KTN? Conferences?
Can you tell us some more details?
Type of audience, food/drinks, locations
- 9 Which services (e.g., for catering, waste) do you need to subcontract for events and how do you select them?
Also for example: waste, catering, printing, furniture
- 10 How do you usually organize communications about (different activities in big) events?
- 11 Do you have any recommendations with regards to large events and for subcontracts, such as waste management?
- 12 Have you got a example of best practices applied to this type of event that you want to replicate in Leiden2022?

Sustainability questions

- 13 What are different categories in terms of sustainability that you consider? Which are the most important for you as event coordinator?
Energy Mobility Waste Inclusivity Food and Beverage
Do you find any of them more important?

Important!!!

- How did you incorporate them into Festival 2030 and how do you plan to incorporate them in Leiden2022?
- 14 What are in your opinion the challenges for the sustainability of Leiden2022?
 - 15 What do you communicate about your efforts for sustainability during events?
 - 16 What role could Leiden2022 play in the accomodation/transport methods of speakers, guests, or visitors?
 - 17 Are there any aspects you wouldn't want to sacrifice for the sake of sustainability?

Practical questions

- 18 How can we best help you in ensuring a sustainable Leiden2022?
- 19 Do you have any other useful documents or data? Example: report/document of Leiden2030 events, sustainability policies/guidelines, etc.
- 20 Which decisions do you think will be made from your side in the period until January (during our project) for Leiden2022?
- 21 Do you have any other suggestions or questions about sustainability during this event?

C CODING SCHEME

| Interview | Present | Clean transcript | Coder 1 | Coder 2 | Check 1 | Check 2 | Feedback on coding framework |
|-----------------------------------|-----------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------------|
| Chris – KtN | Marron + Lola | Marron | Lola | David | Miguel | Marron | All |
| Marin - LU | Marron + David | David | Marron | Lola | Miguel | Marron | All |
| Eva - Communication | Lola + David | Lola | David | Miguel | Marron | Marron | All |
| Piet-Hein – HSLeiden | Lola + Marron | Lola | Marron | Miguel | David | Marron | All |
| Ludo + Frans – LUMC | Lola + Miguel | Lola | Miguel | Marron | David | Marron | All |
| Wendy – ESOF | David + Miguel | David | Miguel | Lola | Marron | Marron | All |
| Marjo - EUCYS | Miguel + Lola | Miguel | Lola | Marron | David | Marron | All |
| Jasper – Stichting 2030 | Marron + David | Marron | David | Miguel | Lola | Marron | All |
| Daniël – Leiden Convention Bureau | Marron + Miguel | Marron | Miguel | David | Lola | Marron | All |
| Meta Knol | All | <i>No formal processing</i> | <i>No formal processing</i> | <i>No formal processing</i> | <i>No formal processing</i> | <i>No formal processing</i> | <i>No formal processing</i> |

D INTERVIEW RESULTS

D.1 All codes found in the interviews

| Code | Frequency |
|--|------------|
| #category | 355 |
| accommodation | 16 |
| catering | 18 |
| energy | 4 |
| event location | 22 |
| general organization | 181 |
| general sustainability | 61 |
| guest management | 24 |
| materials | 33 |
| mobility | 37 |
| procurement | 1 |
| social sustainability | 16 |
| waste | 7 |
| water | 2 |
| #event | 333 |
| conferences | 23 |
| ESOF | 57 |
| EUCYS | 32 |
| general Leiden2022 | 123 |
| Knowledge throughout Neighbourhoods | 89 |
| other than Leiden2022 | 27 |
| examples | 151 |
| alternative accommodation | 1 |
| of events Leiden2022 | 16 |
| other events | 7 |
| partners | 14 |
| partners: founding partners | 3 |
| partners: social organisations | 4 |
| partners: subcontracts | 11 |
| promotion | 18 |
| promotion: calendar | 7 |
| promotion: European guidelines | 1 |
| promotion: intranet | 1 |
| promotion: list of conferences | 1 |
| promotion: of Leiden during online events | 1 |
| promotion: website | 8 |
| survey | 2 |
| sustainability measures | 46 |
| sustainability tradeoffs | 1 |
| venue selection | 15 |
| opportunities | 238 |
| collaboration: being critical about sustainability | 1 |
| collaboration: between knowledge institutions | 8 |

| | |
|---|-----------|
| collaboration: for creating events | 10 |
| collaboration: for promotion | 13 |
| collaboration: of multiple disciplines | 3 |
| collaboration: to come up with sustainability measures | 1 |
| collaboration: use experience partners | 6 |
| collaboration: with local community | 2 |
| collaboration: with local community through networks of partners | 13 |
| collaboration: with local companies | 2 |
| collaboration: with students | 1 |
| total collaboration | 60 |
| communication: guidance from Leiden2022 for events | 2 |
| communication: to other event organizers about sustainability | 9 |
| communication: to sponsors | 1 |
| total communication | 12 |
| COVID: events in summer less affected | 1 |
| COVID: flexibility/resilience for events | 13 |
| COVID: small events less affected | 1 |
| total COVID | 15 |
| dedication: importance of sustainability | 31 |
| dedication: success of Leiden2022 | 5 |
| total dedication | 36 |
| hybrid events: can be interactive | 1 |
| hybrid events: more flexible | 3 |
| hybrid events: more sustainable | 6 |
| total hybrid events | 10 |
| inclusivity: broad target group/accessibility | 12 |
| inclusivity: equal pay | 2 |
| inclusivity: of different opinions/scientific results | 1 |
| inclusivity: reaching local community | 9 |
| inclusivity: through online events | 2 |
| total inclusivity | 26 |
| legacy: bridge gap between knowledge institutions and local community | 13 |
| legacy: bringing people (with different opinions) together | 2 |
| legacy: collaboration knowledge institutions | 4 |
| legacy: document lessons learnt | 1 |
| legacy: for participants | 2 |

| | | |
|----------------|--|------------|
| | legacy: inspire and spark curiosity | 2 |
| | legacy: new collaborations | 8 |
| | legacy: promote Leiden | 3 |
| | legacy: promote Leiden as city of Science | 4 |
| | legacy: promote science | 7 |
| | legacy: promote sustainability | 5 |
| | legacy: showcase talent | 2 |
| | legacy: strengthen collaborations | 1 |
| | legacy: support local community | 1 |
| | total legacy | 55 |
| | other: different types of events | 1 |
| | other: experience with sustainable events | 3 |
| | other: interactive events | 3 |
| | other: small events have low impacts | 3 |
| | other: transportation by train | 1 |
| | other: venues in central/accessible location | 5 |
| | total other | 16 |
| | promotion: budget freedom | 1 |
| | promotion: of accommodation | 1 |
| | promotion: of applied sciences | 4 |
| | promotion: of collaborations | 3 |
| | promotion: of individual founding partners | 10 |
| | promotion: of Leiden | 1 |
| | promotion: of Leiden as a city of science | 9 |
| | promotion: of Leiden Kennisstad | 1 |
| | promotion: of Leiden2022 | 15 |
| | promotion: of public engagement | 3 |
| | promotion: of science/research | 6 |
| | promotion: of sustainability by acting as if it's normal | 2 |
| | promotion: of sustainable behaviour | 12 |
| | promotion: of sustainable choices Leiden2022 | 9 |
| | promotion: reusable for entire year | 1 |
| | promotion: through sustainability topics | 4 |
| | total promotion | 82 |
| threats | | 159 |
| | capacity limits: for people in selected venue | 2 |
| | capacity limits: of accommodation for guests | 4 |

| | | |
|--|---|-----------|
| | capacity limits: of venues in Leiden | 6 |
| | total capacity limits | 12 |
| | collaboration: different objectives of stakeholders | 3 |
| | collaboration: resistance against sustainability measures | 2 |
| | total collaboration | 5 |
| | communication: among main organizers (Leiden2022 and founding partners) | 2 |
| | communication: insufficient among all stakeholders | 1 |
| | communication: more guidance from Leiden2022 needed/expected | 7 |
| | communication: networks of partners not sufficiently used | 1 |
| | total communication | 11 |
| | conferences: inherent unsustainability (emissions) | 6 |
| | conferences: inherent unsustainability (social) | 1 |
| | total conferences | 7 |
| | COVID: limits venue availability | 1 |
| | COVID: preference for live events | 13 |
| | COVID: prevents visitors from coming | 1 |
| | COVID: restrictions | 17 |
| | total COVID | 32 |
| | implementation: budget constraints | 19 |
| | implementation: dependency on European funding | 3 |
| | implementation: different/conflicting sustainability aspects | 5 |
| | implementation: difficult to make hybrid events equally entertaining | 3 |
| | implementation: little influence on (sustainability) choices | 19 |
| | implementation: organising difficult because of uniqueness of events | 2 |
| | implementation: strict European guidelines | 2 |
| | implementation: time constraints | 6 |
| | implementation: uncertainty about sustainable options | 5 |
| | total implementation | 64 |
| | inclusivity: difficult to actually achieve | 2 |
| | inclusivity: difficult to combine hyperlocal and international audience | 1 |
| | inclusivity: difficult to combine with limiting number of visitors | 1 |
| | inclusivity: difficult to reach all neighbourhoods | 1 |
| | total inclusivity | 5 |
| | planning: decisions are made in later stage | 13 |
| | planning: gaps in schedule/organization | 15 |
| | planning: sustainability not discussed | 14 |
| | total planning | 42 |
| | promotion: delayed by gaps in schedule | 1 |
| | promotion: offline promotion less sustainable | 4 |
| | promotion: sustainability not promoted | 6 |
| | promotion: uncertainty about attracting enough audience | 3 |
| | total promotion | 14 |

D.2 Examples of quotations

| Code | | Example quotation |
|----------------------|-------------------------------------|--|
| #category | | |
| | accommodation | I hope this will be possible, because these hotels are more expensive. |
| | catering | And so, I'm doing that as late as possible, but in the end, definitely there will be catering |
| | energy | Exactly in a festival, you can just order a green box that will provide you power, but in the church there is just the power in the church. |
| | event location | accessibility is an important one to have locations that are accessible for all types of people who come who come by foot or who come with assistance |
| | general organisation | I expect that we get a lot of events and I hope hope hope that we manage to inspire people and make people curious. |
| | general sustainability | I think it would be great to it's to know first what could be more sustainable. |
| | guest management | I think that's uh one of the most important decisions we have to make how are we going to organise to meetings will there be hybrids will there be completely uh virtual or can we have an actual let's see face-to-face meeting |
| | materials | we will have volunteers working with us and they will get their own T shirts for example |
| | mobility | We are trying to promote a public transportation within the city, so its either walk or cycle. |
| | procurement | They're catering, it's print services, it's small consulting services, it's accountants and u, that sort of thing. |
| | social sustainability | I feel that we that we feel that this is something that is going to be very unsustainable because it's really good in another way, of course. Very societally relevant in in other ways. |
| | waste | I think mostly waste is also very important that I think we need to figure out how to make sure that we don't buy too much and then throw everything away. |
| | water | The time that you can buy plastic bottles of water in every corner in your venue. That's long gone. And especially in the Netherlands, where the tap water is of such high quality. |
| #event | | |
| | conferences | I'm curious to see what kind of innovations they're people make to organise conferences more sustainably. |
| | ESOF | We have several locations that we're going to use for ESOF |
| | EUCYS | For ESOF or EUCYS really depends on the organisation so they will get in a contract with the PCO. |
| | general Leiden2022 | because of course you know we put a lot of effort and funds into this, so we want to make it a success. |
| | Knowledge throughout Neighbourhoods | Well, there's a lot on the website right now for the first quarter that we do know, but there's still a lot unknown. |
| | other than Leiden2022 | whenever we were in like humongous amount of stress and we needed something, we also went there |
| examples | | |
| | partners: social organisations | Yeah, but also like important partners are also like Includio and SOL and BuZz and so those are three social organisations |
| opportunities | | |

| | | |
|----------------|---|--|
| | collaboration: being critical about sustainability | So we need everybody to get together and I think, you know, you as students with the knowledge you have and the experiences you have. I think being critical is not just good for Leiden2022. But it's also good for yourself because it it forces you to make thoughts and ideas about sustainability more explicit |
| | communication: guidance from Leiden2022 for events | also a question that we would have to discuss this the foundation with Leiden2022 foundation and hopefully also get a bit of a guideline from them |
| | COVID: events in summer less affected | So, for COVID, normally if you look back last year and this year, July often you know there are less people that have colds and stuff like that. |
| | dedication: importance of sustainability | we're uh, of course, an organisation that sustainability is quite important |
| | hybrid events: more flexible | So from that perspective, it's also if you wanna grow with events we try to grow as much online instead of physical. |
| | inclusivity: broad target group/accessibility | And I also think it's important to make knowledge accessible and for everyone |
| | legacy: bridge gap between knowledge institutions and local community | But, uh, Leiden definitely needs to integrate all knowledge, including practical wisdom embedded in neighbourhoods and communities, better into the overall structure of the city |
| | other: small events have low impacts | I think all of it is going to be quite small-scale, but maybe if it's bigger scale than we should have should make like a preferred supplier list, and definitely for catering and stuff like that. |
| | promotion: of Leiden as a city of science | The opportunities for Leiden. As a city to attract more scientist that can come in the future, to see Leiden as a city to make more science or conferences or congresses. |
| threats | | |
| threats | capacity limits: of accommodation for guests | And also Leiden's got limited hotel rooms so people will have to stay in The Hague and Amsterdam and you know places around as well |
| | collaboration: different objectives of stakeholders | the discussion that you see in our organisation right now is the year scientific enough? Or is it too much aimed at the local at the local level at this science through the neighbourhoods |
| | communication: insufficient among all stakeholders | There is a lot still to be done when it comes to coordination of the events and the activities and the communication about it with all the stakeholders. |
| | conferences: inherent unsustainability (emissions) | We want people to come here and but that also counters with sustainability in many ways of travel, accommodation of I don't know waste of all these kind of things, so that's a bit of a dilemma for us. |
| | COVID: preference for live events | So one of the challenges we have is to persuade people not all to come to Leiden. |
| | implementation: budget constraints | I would say the price is a factor because hybrid meetings are crazy expensive |
| | inclusivity: difficult to combine with limiting number of visitors | This is a balancing act because you don't want to, you don't want people not to feel welcome to Leiden |
| | planning: decisions are made in later stage | I'm a little bit hesitant to make financial agreements with caterers because we don't know yet. |
| | promotion: uncertainty about attracting enough audience | And other things may be getting enough attention through these small events that are happening, like in an outside location. How are we going to reach those specific people in at that location, so it's come to something like that can also be a challenge. |

D.3 Co-occurrence tables

The codes for opportunities and threats have been combined according to the groups listed in Appendix B.1 and counted throughout all interviews.

Co-occurrence of attributes: events and sustainability categories

| | #event: conferences 23 | #event: ESOF 57 | #event: EUC... 32 | #event: general Leide... 123 | #event: Knowledg... 89 | #event: other than Lei... 27 |
|-----------------------------|---------------------------|--------------------|----------------------|---------------------------------|---------------------------|---------------------------------|
| #category: accommo... 16 | 2 | 7 | 6 | 2 | 1 | 1 |
| #category: catering 18 | 3 | 3 | 2 | 4 | 3 | 2 |
| #category: energy 4 | | | 1 | 1 | 1 | |
| #category: event loca... 22 | 3 | 5 | 2 | 2 | 9 | |
| #category: guest man... 24 | 4 | 11 | 3 | 2 | 4 | 2 |
| #category: materials 33 | 2 | 4 | 3 | 15 | 5 | 7 |
| #category: mobility 37 | 4 | 7 | 7 | 13 | 5 | 2 |
| #category: procurem... 1 | | | | | | 1 |
| #category: waste 7 | 1 | 1 | | 4 | | |
| #category: water 2 | 1 | 1 | | | | |

Opportunities and threats co-occurring with events

Because of a much higher count for general Leiden2022, this column has been given a different colour scheme.

| | #event: conferences | #event: ESOF | #event: EUCYS | #event: KtN | #event: other than Leiden2022 | #event: general Leiden2022 |
|------------------------------|---------------------|--------------|---------------|-------------|-------------------------------|----------------------------|
| opportunities: collaboration | 0 | 4 | 3 | 20 | 6 | 32 |
| opportunities: communication | 4 | 1 | 0 | 4 | 1 | 3 |
| opportunities: COVID | 0 | 5 | 1 | 5 | 0 | 3 |
| opportunities: dedication | 5 | 10 | 2 | 6 | 1 | 11 |
| opportunities: hybrid events | 2 | 9 | 0 | 0 | 0 | 0 |
| opportunities: inclusivity | 1 | 3 | 0 | 18 | 3 | 2 |
| opportunities: legacy | 0 | 3 | 9 | 14 | 3 | 26 |
| opportunities: other | 1 | 3 | 3 | 6 | 1 | 3 |
| opportunities: promotion | 5 | 5 | 6 | 15 | 4 | 51 |
| threats: capacity limits | 1 | 7 | 3 | 1 | 0 | 2 |
| threats: collaboration | 1 | 0 | 0 | 1 | 0 | 3 |
| threats: communication | 0 | 0 | 0 | 4 | 0 | 7 |
| threats: conferences | 2 | 1 | 0 | 0 | 0 | 3 |
| threats: COVID | 0 | 7 | 3 | 12 | 1 | 7 |
| threats: implementation | 6 | 8 | 9 | 26 | 6 | 10 |
| threats: inclusivity | 0 | 1 | 0 | 2 | 0 | 2 |
| threats: planning | 3 | 7 | 4 | 11 | 1 | 16 |
| threats: promotion | 2 | 0 | 1 | 4 | 0 | 8 |

Opportunities and threats co-occurring with sustainability categories

Because of a higher count for the general columns, these have been given a different colour scheme.

| | #category: accommodation | #category: catering | #category: energy | #category: event location | #category: guest management | #category: materials | #category: mobility | #category: procurement | #category: social sustainability | #category: waste | #category: water | #category: general organization | #category: general sustainability |
|------------------------------|--------------------------|---------------------|-------------------|---------------------------|-----------------------------|----------------------|---------------------|------------------------|----------------------------------|------------------|------------------|---------------------------------|-----------------------------------|
| opportunities: collaboration | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 3 | 0 | 0 | 52 | 5 |
| opportunities: communication | 0 | 3 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 5 |
| opportunities: COVID | 0 | 0 | 0 | 1 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 0 |
| opportunities: dedication | 0 | 3 | 1 | 1 | 4 | 7 | 6 | 0 | 1 | 3 | 0 | 6 | 16 |
| opportunities: hybrid events | 0 | 0 | 0 | 1 | 9 | 0 | 5 | 0 | 0 | 0 | 0 | 2 | 0 |
| opportunities: inclusivity | 0 | 0 | 0 | 0 | 5 | 1 | 3 | 0 | 7 | 0 | 0 | 16 | 1 |
| opportunities: legacy | 0 | 0 | 0 | 0 | 3 | 0 | 7 | 0 | 2 | 0 | 0 | 46 | 5 |
| opportunities: other | 2 | 0 | 1 | 3 | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 5 | 4 |
| opportunities: promotion | 2 | 2 | 0 | 0 | 0 | 1 | 9 | 0 | 2 | 1 | 0 | 50 | 18 |
| threats: capacity limits | 3 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| threats: collaboration | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 1 |
| threats: communication | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 2 |
| threats: conferences | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 3 | 0 | 0 | 0 | 3 |
| threats: COVID | 0 | 1 | 0 | 1 | 13 | 0 | 4 | 0 | 0 | 0 | 0 | 21 | 0 |
| threats: implementation | 5 | 5 | 3 | 4 | 5 | 7 | 7 | 0 | 1 | 2 | 1 | 22 | 17 |
| threats: inclusivity | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 |
| threats: planning | 2 | 4 | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 17 | 16 |
| threats: promotion | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 5 | 6 |

D5 Surveys:

Before the event

Event registration

Leiden European City of Science 2022 is a 365-day science festival packed with activities, lectures, workshops, excursions, exhibitions, and events, for anyone with a curious mind.

Address:

Langegracht 72

2312NH Leiden

* Required

19. Name *

20. Email *

21. My Organisation

Mark only one oval.

- I am a student
- I am part of the staff
- I am presenting at the event
- I will be attending as press
- I am a working professional (Scientist, researcher, engineering, etc.)
- Other:

22. How did you find out about Leiden2022?

Mark only one oval.

- Social Media
 - My University
 - My Work
 - Colleague recommendation
 - Other:
-

23. Which events are you attending? *

Check all that apply.

- ESOF
- EUCYS
- Knowledge Throughout Neighbourhoods
- European City of Science Festival

24. Have you read the Sustainability Goals of Leiden2022?

Mark only one oval.

- Yes
- No

25. Are you aware of any of this Sustainability Goals of Leiden2022?

Check all that apply.

- Promoting the use of reusable utilities (water bottles, caring bags, face masks, etc.).
- Reducing the use of electronics during the events (laptops, phone, chargers, etc).
- Encouraging the use of accommodations which are "green venues".
- Spreading awareness on waste separation methods.
- I wasn't aware of any of these goals.

26. Do you have any dietary restrictions be should we aware of? *

Mark only one oval.

- None
- Vegetarian
- Vegan
- Kosher
- Gluten-
- free

Other:

Accommodation

27. How are you attending the event? *

Check all that apply.

- Online
- On
- Site
- Both

28. From where are you visiting?

Mark only one oval.

- Europe
- North America
- South America
- Asia
- Oceania

29. How do you intend to travel?

Mark only one oval.

- By Plane
- By Car
- By Train
- I live in Leiden

30. Have you booked any accommodation?

Mark only one oval.

- Yes
- No

31. Where are you planning to stay?

Mark only one oval.

- Hotel/Hostel
- Rented Apartment (Airbnb)
- With a family member
- I haven't decided yet
- Other: _____

32. Has the website information have helped you deciding which accommodation to take?

Mark only one oval.

- Yes
- No, (elaborate if possible)

Mobility

33. Have you planned how to move within Leiden?

Mark only one oval.

- Yes
- No, haven't decided yet

34. How would you move within Leiden?

Check all that apply.

- By Car (Rented)
- By Bike
- By Public transport
- I will walk
- Other: _____

35. Has the website information helped you deciding on one of the mobility options?

Mark only one oval.

- Yes
- No, (elaborate if possible)

36. Any additional comments or recommendations?

Your opinion is important to us!

After the event

Event Experience

Please submit feedback regarding the event you have just attended, including feedback on structure, content, and instructor.

* Required 1.

Events Attended *

Check all that apply.

- ESOF
- EUCYS
- Knowledge Throughout Neighbourhoods
- European City of Science Festival
- Other: _____

17. I attended as a:

Mark only one oval.

- Student
- Staff member
- Presenter at the event
- Press
- Working professional (Scientist, researcher, engineering, etc.)
- Other: _____

18. The sustainable goals of the event were clear BEFORE I attended the event

There were banners with instructions and the staff helped with any doubts and questions about them

Mark only one oval per row.

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ESOF | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| EUCYS | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Knowledge Throughout Neighbourhoods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| European City of Science Festival | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

19. The sustainable goals were clear DURING the event I attended

There were banners with instructions and the staff helped with any doubts and questions about them

Mark only one oval per row.

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ESOF | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| EUCYS | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Knowledge Throughout Neighbourhoods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| European City of Science Festival | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

20. I was able to follow the introduction related to sustainability

Mark only one oval.

- Yes
- No, (elaborate if possible)
- Other _____

21. How was the organisation of the event?

Mark only one oval per row.

| | Poor | Fair | Satisfactory | Very good | Excellent |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The condition of the venue | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The performance of the staff | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Level of effort you put into the event | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

22. How would you classify the clarity of instructions during the event regarding these sustainability goals?

Mark only one oval per row.

| | Poor | Fair | Satisfactory | Very good | Excellent |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Promote the use of reusable utilities (water bottles, caring bags, face masks, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reduce the use of electronics during the events (laptops, phone, chargers, etc) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Encourage accommodation in green venues | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Spread awareness on waste separation methods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Accommodation

23. How did you travel to Leiden?

Mark only one oval.

- By Plane
 By Car
 By Train
 I live in Leiden
 No

24. Where you able to book an accommodation with enough time in advance?

enough time is considered to be two weeks prior to the event

Mark only one oval.

- Yes
 No

25. How useful was the information about accommodations from the Leiden2022 website?

There were banners with instruction and the staff helped with any doubts and questions about them

Mark only one oval.

| | | | | | | |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | |
| No useful at all | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very useful |

26. I used the website information to book my accommodation

Mark only one oval.

- Yes
 No (elaborate if possible)

27. Could you share the Post code where you stayed?

Mark only one oval.

- Yes,
- No, I don't want to share it
- No, I don't know

Mobility

28. How useful was the information about mobility from the Leiden2022 website?

There were banners with instruction and the staff helped with any doubts and questions about them *Mark only one oval.*

| | 1 | 2 | 3 | 4 | 5 | |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| No useful at all | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Very useful |

29. Did you use the website information to plan how to be mobile during the event?

Mark only one oval.

- Yes
- No (elaborate if possible)

30. What kind of mobility method did you use during the event?

Check all that apply.

- Ccar
- Bike
- Public transport
- I walked to the events

31. Any additional comment or recommendations?

Your opinion is important to us!

E FULL SUSTAINABILITY FRAMEWORK

| Category | Target | Impact category | Implementation | Monitoring method | |
|---|---|--|---|---|--|
| | | | | Metric | Outcome |
| Water | Ensure tap water access | Legacy | Make sure venues offer tap water | Check whether visitors found tap water accessible | Yes / No |
| | Reduce water-related waste | Waste production / CO2 emissions | - Discuss with venues that no water bottles should be sold - Communicate to visitors to bring reusable water bottles | Confirm that water bottles were not sold | Yes / No |
| | | | Arrange dishwashable glasses available for guests | Confirm whether dishwashable glasses were offered | Yes / No |
| Energy | Ensure efficient use of appliances | CO2 emissions | Document all appliances used during event in collaboration with venue and their energy rating | Document appliances used for event | List of devices:: |
| | | | Make good estimate of number of visitors to avoid under-use of on-site and streaming technology | Confirm whether technology was appropriate for number of visitors | Yes / No |
| | | CO2 reduction | Event supervisors check on electricity use: no appliances on stand-by, no lights on in unused rooms, etc. | Confirm whether electricity use was efficient | Yes / No |
| Encourage energy efficient behavior online and offline visitors (turn off/plug out unused appliances or lights) | Make sure the energy goals are present and visible at the event | | Yes / No | | |
| Catering | Contract sustainable catering | Water use/reduction, CO2 emissions/reduction | Contract a catering company which can offer vegan and ideally local/organic/seasonal food | Confirm whether food was vegan, vegetarian, organic, local, seasonal | Food offered: Vegan: Yes / No Vegetarian: Yes / No Organic: Yes / No Local: Yes / No Seasonal: Yes / No |
| | Avoid food waste | Waste reduction | Make good estimate of visitors to avoid leftovers | Confirm whether food provision was appropriate for number of visitors | Yes / No |
| | Donate leftovers | CO2 reduction | Look for collaboration to donate leftover meals/conservable food | | |
| | Avoid disposable food-related materials | Waste reduction | Use dishwashable cutlery, plates, etc. (rent or from venue) | Confirm whether food-related materials were reusable and rented/borrowed | Used: Yes / No Rented/borrowed: Yes / No |
| Mobility | Encourage sustainable travel modes | CO2 emissions | Estimate transportation types and distances | Check transportation types and distances of visitors (survey) | Distance by plane: Distance by train: Distance by car: Distance by bike/foot: Other: |
| | | CO2 reduction | Offer sustainable transport options such as (discounts for) bikes or public transport cards | Confirm whether sustainable transport options were offered | Yes / No |
| Sustainable Procurement | Incorporate sustainability in every decision / contract | Legacy | Incorporate sustainable development principles into every contract or agreement for an event | Confirm whether every contract or agreement included sustainable development principles | Yes / No, namely |
| | | Legacy | Incorporate strict sustainable development principles into as many decisions as possible | Confirm whether strict sustainable development policies have been incorporated into as many decisions as possible | Yes / No, namely |
| Guest Management | Encourage online audience when air travel is unavoidable | CO2 reduction | Communicate about preference to avoid all air travel | Check whether people were discouraged to choose air travel (survey) | Yes / No |
| | | Legacy | If appropriate for size, ensure interactive online options | Check whether online option was entertaining (survey) | Yes / No |
| | Communicate to visitors about sustainability | Legacy | All communications with visitors mention sustainability | Confirm whether sustainability was mentioned in communications | Yes / No |
| Accommodation | Encourage accommodation in sustainable locations | CO2 emissions, water use | Book spots in sustainable locations close to the event | Document number of reserved accommodation spots booked | Number of spots in certified locations: Number of spots in non-certified locations: |
| | | CO2 emissions, water use | Promote sustainable locations that are close the event | Check selected accommodation of visitors (survey) | Number of spots in certified locations: Number of spots in non-certified locations: |
| Waste Management | Minimize waste production at venues | Waste reduction | Promote recycling at venues | Confirm whether recycling was possible at venues | Types of waste streams: Residual / Paper / Glass / Organic / Plastic / Other: |
| | | Waste production | Ask venues to estimate waste production during event | Document amount of waste production | Amount of waste: Kg |
| | Encourage low-waste behaviour | Legacy | Communicate about low-waste behaviour and recycling to visitors | | |
| Event Location | Select sustainable venues | CO2 emissions, water use | Select venues that are certified as sustainable | Confirm whether venues were certified as sustainable | Yes / No |
| | | CO2 reduction | Select venues that are central or accessible by bike or public transport | Confirm whether venue was accessible and/or central | Yes, central/accessible No |
| Material Management | Avoid unnecessary material use and production | Material reduction | Minimise printed promotion and give-aways | Confirm whether produced materials were essential | Yes / No |
| | | Material reduction | Rent or borrow products as much as possible | Confirm whether materials have been rented or borrowed | Yes / No |
| | | Material reduction | Make products reusable for multiple events | Confirm whether materials can be used for multiple events | Yes / No |
| | | Material production | Avoid disposable products, make them valuable for longer use | Confirm whether products have an added value after event | Yes / No |
| | Select sustainable and recyclable products | Material production | Select sustainable materials | Confirm whether sustainable materials were used | Yes / No |
| | | Material production | Select recyclable materials | Confirm whether materials were recyclable | Yes / No |

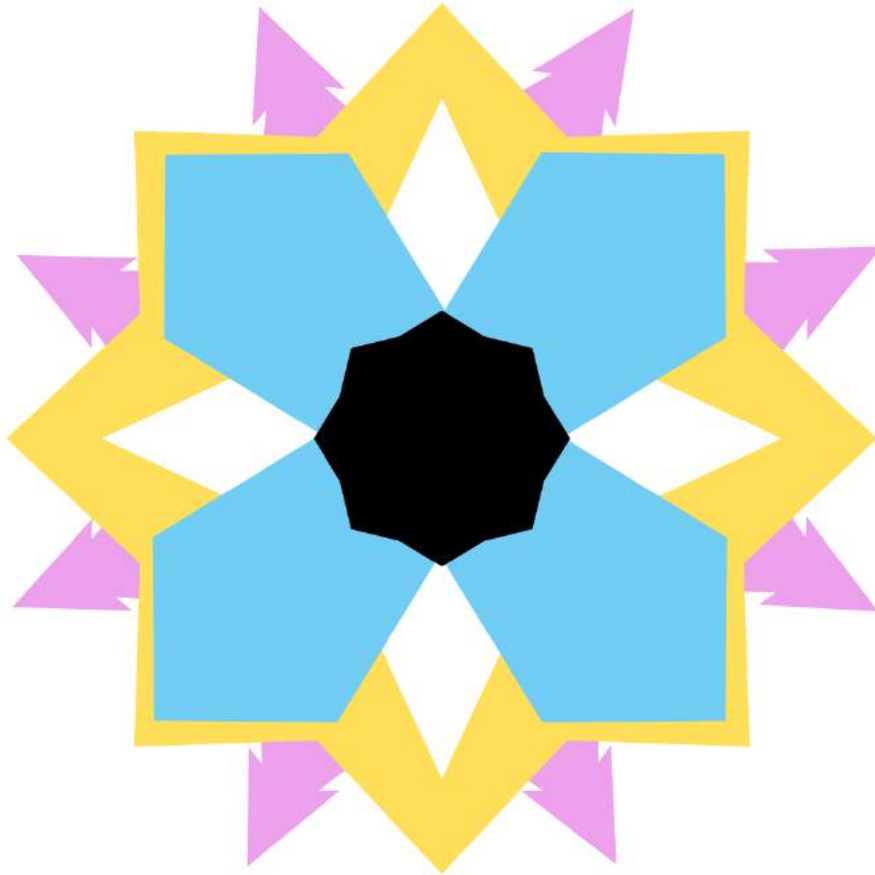
| Evaluation | Challenges | Reference | Implementation in reference case |
|---|---|--|---|
| Survey the participants of the water measures during and after the events. | Total water use not measurable | Julie's Bicycle Practical Guide: Water Management at Outdoor Events (1) | Encourage festivalgoers, crew and artists to bring a re-usable bottle with them. Sell re-usable bottles onsite as merchandise. |
| Measure the plastic waste generated after the event | Possible that only avoided plastic use can be measured | | Ensure that there are plenty of accessible points where bottles can be refilled with drinking water. Provide crew and performers with re-usable bottles and access to drinking water taps instead of bottled water. Ban the sale of bottled water (and other drinks) altogether. Use hand sanitiser dispensers rather than taps where appropriate. |
| Survey after the event of the usefulness of the information provided, if they stay at a green hotel, if yes where? And how long and if not why not? | Difficult to estimate electricity use, but can be complemented with information from event location | Guidelines on organising sustainable meetings and events at the Commission (2) | Preference should be given to energy efficient buildings that maximise the use of daylight and are managed in an energy-efficient manner. |
| Confirm whether energy goals reach the visitors | Subjective, difficult to estimate | Woodford Folk Festival (3) | Estimate energy demand: Understanding likely power demand (from what, by whom, from where and for how long) is the most critical aspect when trying to design-in energy efficiency. Woodford Folk Festival requires food traders to complete a detailed equipment inventory of every item regarding power supply, which is entered online. The trick to this being useful is ensuring that traders only have on-site what they have said they will bring – and this must be monitored through an audit upon set up and spot checks throughout the event. |
| | | Business meetings at a distance (4) | Calculated that online meetings are always better in terms of GHG emissions and cumulative energy use than meetings for which people travel by car or plane. If the virtual meeting technology is not under-used, it is also better than travel by train |
| Evaluate if the instructions given to the caterers were followed (check the meals and the waste generated) | High data requirements for accurate measurement | Guidelines on organising sustainable meetings and events at the Commission (2) | Select a regional caterer with proven sustainability in operations: - Use of water-saving appliances in the kitchen - Avoidance of unnecessary packaging and single-use packaging - Use multiple-use dishes, cutlery and glasses, for both guest and crew catering. - Require that the kitchen is equipped with appropriate collection bins for professional disposal of food waste. |
| Confirm whether leftovers (if any) were dealt with properly (waste separation) | Difficult to estimate total waste production Not all food appropriate to donate Emissions from reusable cutlery difficult to allocate | | |
| Revise the initial survey and account for flight kilometres prevented | Estimation necessary for those who did not mention transportation type/distance | Guidelines on organising sustainable meetings and events at the Commission (2) | Participants should be provided with clear and visible information about how to reach the conference venue on foot, by bike or by public transport, or even by carpooling and car sharing (ideally of hybrid and electric cars), including maps, timetables and practical information. You could suggest that they choose more sustainable modes of transport wherever possible, for example, train instead of air travel |
| Check for false positives and false negatives with the attendance list | Difficult to estimate avoided emissions compared to otherwise selected transport types | | |
| Surveys the staff and attendees on what they think about the goals and how they feel were achieved. | Difficult to quantify, but important for spreading awareness | Sustainable procurement in the UK (5) | In order for an organization to be able to effectively implement SP activities, it is vital that organizations understand the concept of SP and government policies with respect to it and that they have the tools necessary to make SP happen. |
| | | | The second factor emphasizes the role of financial aspects of sustainable procurement (SP). In particular, the perceptions of the financial viability. |
| | | | The third influence on the degree to which SP is implemented in organizations concerns organizational attitudes and incentives for SP The final driver of SP implementation centres on the supply side of the SP transaction by emphasizing the importance of sustainably produced goods and services for the ability of public sector organisations to implement SP. |
| if there is a collaboration with the hotels, confirm how many reservations checked in | This information might be unobtainable | German Council for Sustainable Development (6) | Together with an agency, they executed the invitation process entirely electronically and avoided using paper as far as possible |
| Check for false positives and false negatives with the attendance list | Use the surveys and event list as a comparison tool | | They reduced the guest no-show rate to approximately ten per cent (based on experience of past years) by sending reminder emails and requesting that recipients send a cancellation if participation is not possible. |
| Survey to the attendees to determine if the information provided was useful | Actual electricity/water use not measurable | German Council for Sustainable Development (6) | They make recommendations for hotels situated near the event location that ideally also have environmental certification (e.g. Green Certified, Bio Hotel, Green Key) |
| | Difficult to estimate for people who did not fill in survey | | |
| Evaluate whether low-waste behaviour and recycling was encouraged with a survey | The waste production is difficult to estimate, especially different streams | The Rock in Rio (7) | To facilitate separation, four categories of waste were defined for the event 1 – Organic 2 – Non-recyclable waste 3 – Recyclable waste 4 – Waste from sweeping |
| Supervise that separation was done after the event. | | | A portion of the recycled waste was separated by the organization before leaving the site. All of the waste, both already separated and still mixed, went to a waste processing facility and, when appropriate, was brought to a recycling site afterwards Organic waste was sent directly to the composting industry |
| Survey to the attendees to determine if the information provided was useful | No all venues have a certification, try to find consumption information for official sites. | German Council for Sustainable Development (6) | They look for a location that offers the best-integrated sustainability concept possible such as: - Green electricity - Energy-saving technology - Resource conservation - Sustainable handling of paper and cleaning agents - Water-saving toilet - Use of sustainable material like FSC paper, etc. |
| | Difficult to estimate avoided emissions compared to otherwise selected location | | They select an event location that is easily reachable via public transport. |
| Evaluate the re-use of conference materials from past events. Estimate how many times a material reused during the events | Feasible to calculate with good documentation | Guidelines on organising sustainable meetings and events at the Commission (2) | Use of on-line promotional tools (e.g. on-line registration, on-line communication material and resources) No use, or limited and optimised use, of printed promotional material (e.g. eco-friendly design & printing) Avoid and limit distribution of promotional gadgets and gifts (e.g. minimise the number and include eco-friendly criteria) Request the minimum office supplies, choose them recycled, rechargeable and made of natural |
| Survey to the attendees to determine if the waste sorting system was useful | | | |



3b – Sustainability Challenge group 15

SUSTAINABILITY CHALLENGE

LEIDEN CITY OF SCIENCE FESTIVAL



COMMISSIONER: META KNOL
SUPERVISOR: CRISTINA RICHIE

GROUP 15:

| | |
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February 2023

Wordcount: approx. 8000 words

Please read this before reading or using this report

This report has been written by MSc students from the joint degree master programme Industrial Ecology of Leiden University (LU) and Delft University of Technology (TUD) in partial fulfillment of their course requirements. This is a student report, intended to serve solely the purpose of education. TUD and LU do not take responsibility for the contents of this report.



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Leiden



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The Team

Pictured below are the members of the team and their corresponding roles. Team members come from a diverse academic background and each brings unique knowledge to the project. Tara as the communications manager, Justine as head of research, Laura as editor, Annabelle as content manager, and Céline as the interview manager.



Figure 1. The Team members and their main tasks.

While each team member had an official role, all team members contributed equally to data collection, interviewing the different stakeholders and organizing staff of the events, and writing the final report. Regular team meetings were held to discuss progress and divide tasks throughout different stages of the project.

Team Vision

This project is an opportunity to evaluate the European City of Science Leiden2022 event and use the outcomes as an example and inspiration for future events in cities worldwide. Our vision for this project is to create general guidelines for sustainability that can be used by event managers to organize, promote and evaluate events of different types and scales in a sustainable manner and decrease their overall environmental impact.

Executive summary

The Leiden European City of Science Festival (Leiden2022) is a 365-day festival in Leiden. The organizing team of Leiden2022 believe that sustainability has been a key element in planning and decision-making related to the main events taking place throughout the year. Last year's elected team of students from Leiden University created a framework providing a tool for the sustainable organization of events. The objective of this current research is to apply the framework for evaluation of the sustainability of Leiden2022 and to identify how it can be improved. Due to a lack of available quantitative data for some of the categories, and the time scope of the project, only three of the ten categories from last year's framework will be studied: event location, material management, and catering. In the following sections, the problems and goals are summarized and the following two research questions are proposed:

1. How did Leiden European City of Science perform based on the three categories (event locations, material management, catering) for sustainability?
2. How can the previous framework be improved and expanded to be better applicable in practice for future events?

In order to evaluate the sustainability of the Leiden2022, semi-structured interviews were conducted with the project managers of different events and other relevant stakeholders involved in the organization of the festival. The qualitative data gathered through interviews was evaluated with a focus on the main challenges of applying the existing framework and more general challenges related to sustainable event organization. Insights from interviews, combined with extensive review of the literature in this area allowed for improvements to be made and the creation of new policy guidelines in the form of a checklist. The final deliverable is a practical tool for future European City of Science organizers, along with other events of similar size and scope, to utilize in the planning of their events in order to improve their sustainability.

Introduction

European City of Science is a European event, which takes place in a different European city every two years. For 2022, Leiden was chosen to host the event. The team of European City of Science Leiden2022 (hereafter referred to as Leiden2022) organized the event as a year-long event with a focus on connecting science with society. The year consists of: 'Knowledge throughout the neighborhood' (365 days), EuroScience Open Forum (ESOF) with the European Science in the City Festival wrapped around it (in July 2022), Young Bright Minds Week with EU Talenton and EU Contest for Young Scientists (EUCYS) (in September 2022) and Year of Events (year long programme with a Life Sciences & Health Week).

Last year's Sustainability Challenge team was challenged with developing a framework to make Leiden2022 more sustainable to decrease the event's environmental impact and leave a legacy for the future. This framework was solely based on theory and literature, as the event had not yet started when the team wrote their report. It proposed the following ten sustainability categories: water, energy, catering, mobility, accommodation, materials, waste, event location, guest management, and procurement.

Problem statement and goals

The commissioner posed several problems. First, the feasibility of the report and developed framework of last year was not optimal: it was too technical and contained too much information. The report had to be summarized for the organizing team to make the implementation of the sustainability measures possible. Secondly, not all stakeholders were enthusiastic about implementing the sustainability goals or may not have had the tools nor funds for implementation. Lastly, there has not currently been any research conducted or resources put towards evaluating the extent to which Leiden2022 has been successful in organizing a sustainable event.

Therefore, the commissioner's goals are to evaluate the sustainability of Leiden2022 through the framework made by last year's team. Thereafter, this year's team has been challenged to improve the framework and expand it so that it can be applicable to future events beyond the borders of the city of Leiden, shifting the focus of the framework from theory to a practical guide. The final objective would be to present the new improved guidelines to the partners and stakeholders of the festival as well as the European Commission. The third goal is to create a checklist that can be implemented as a generic model for event-organizers, inspired by Leiden2022 and the obtained lessons through experience. The fourth, less significant goal, is to communicate the sustainability of the event in order to inspire others. This can be achieved through successfully accomplishing the first two aims of this project.

Research questions

For this report, three events are chosen out of the overall programme. The three events - ESOF, EUCYS and 'Knowledge throughout the neighbourhood' - will be evaluated on three out of the ten sustainability categories that were developed last year, namely: event locations, material management and catering. Additionally, this will be supplemented by interviews with other organizers of smaller events held throughout the year and other organizers of the event as a whole. The number was reduced to maintain feasibility of the research, which will be further explained in the next section. The following research questions were formulated:

1. How did Leiden European City of Science perform based on the three categories (event locations, material management, catering) for sustainability?
2. How can the previous framework be improved and expanded to be better applicable in practice for future events?

Research Approach & Methodology

To address the research questions, the diagram below in Figure 1 provides an overview of the methods and data gathering process for the project. It begins with the problem statement, which is the need for an evaluation of the previous framework and its improvement. A combination of literature and interviews will be used to provide both an evaluation of the festival and an improved sustainability strategy in the form of policy guidelines

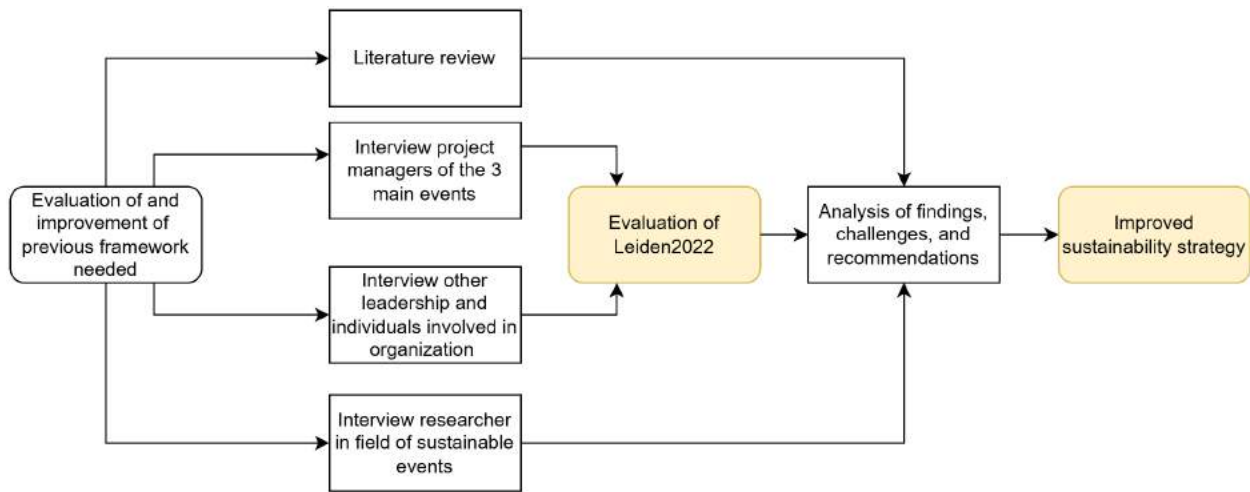


Figure 2. Flow diagram of research approach and methods.

Evaluation

The first part of this project, the ‘Evaluation of Leiden2022’ is motivated by the detailed, multi-criteria framework of last year’s Sustainability Challenge team. Interview questions will be developed from the monitoring methods created by last year’s team for the three categories in question as shown in Table 1 below.

Table 1. Categories, targets, monitoring methods, and challenges from last year's framework to be used in evaluation of Leiden 2022 (Loods et al., 2022).

| Category | Target | Monitoring method | Challenges |
|--|---|--|---|
| Event location | Select sustainable venues | Confirm whether venues were certified as sustainable (Yes/No) | Not all venues have certifications |
| | | Confirm whether venues was accessible/central (Yes, central/accessible, No) | Difficult to estimate avoided emissions compared to other selected location |
| Material management | Avoid unnecessary material use and production | Confirm whether produced materials were essential (Yes/No) | Good documentation is needed to make these calculations feasible |
| | | Confirm whether materials have been rented or borrow (Yes/No) | |
| | | Confirm whether materials can be used for multiple events (Yes/No) | |
| | Select sustainable and recyclable products | Confirm whether products have an added value after event (Yes/No) | |
| | | Confirm whether materials were recyclable (Yes/No) | |
| Confirm whether sustainable materials were used (Yes/No) | | | |
| Catering | Contract sustainable catering | Confirm type of food offered (Vegan/Vegetarian/Organic/Local/Seasonal) | High data requirements for accurate measurement |
| | Avoid food waste | Confirm whether food provision was appropriate for number of visitors (Yes/No) | Difficult to estimate total waste production |
| | Donate leftovers | | Not all food appropriate to donate |
| | Avoid disposable food-related materials | Confirm type of food-related materials used (Used/Rented or borrowed) | Emissions from re-usable cutlery difficult to allocate |

The information gathered for this part of the project comes from interviews of project managers for the three main events and other individuals involved in the organization of the Leiden2022 festival. This evaluation also provides a basis for analyzing the findings including challenges and recommendations. All data is secondary and qualitative, and once aggregated can be used in the improvement of the existing framework. In social sciences, interview data has proven to be of great importance in qualitative research (Campbell et al., 2013). It is, therefore, used as a tool to collect the data and generate results to use in updating the framework. Appendix A includes the interview scheme used in this research.

Informed consent from interview participants was obtained by providing an information letter and signing a consent form (in both English and Dutch). The guidelines from TU Delft on human research ethics were followed. The information letter and the privacy declaration are included in Appendix B.

Listed below are the different functions of the individuals who have been interviewed as part of the data gathering process. Quotations from interviews will be used to support the analysis later in the report, but the quotes have been anonymised.

Table 2. Different functions of individuals interviewed throughout the research process.

| Interviewee | Function |
|--------------------|--|
| Interviewee 1 | Project Manager ESOF |
| Interviewee 2 | Project Manager EUCYS |
| Interviewee 3 | Project Manager EUTalentOn |
| Interviewee 4 | Project Manager Knowledge throughout the Neighborhoods |
| Interviewee 5 | Project Manager Knowledge throughout the Neighborhoods |
| Interviewee 6 | Director of Business |
| Interviewee 7 | Chief New European Bauhaus |
| Interviewee 8 | Director Leiden 2022 |
| Interviewee 9 | Researcher Sustainability in Hospitality and Tourism |
| Interviewee 10 | Account Manager at Leiden Convention Bureau |

Due to the different levels of involvement in specific events and the general organization of the festival, the standard interview scheme in Appendix A was modified depending on the function of the individual. For project managers of the three large events, questions specific to the three main categories (event location, material management, and catering) are asked in order to assist in the evaluation of the festival in these areas. For those involved in the general organization of the festival, only the more general questions were asked.

Following the completion of the interviews, each interview was analyzed using a color coding approach. A legend was created where each category of interest was given a corresponding color. The categories of interest were chosen based on the desired data and are listed below along with a short description.

- General sustainability

- Communication of sustainability goals, internal
- Communication of sustainability, external
- Catering [food, waste management, challenges]
- Location [selection, transport, materials]
- Materials [materials used, waste management, challenges]
- Challenges in organizing sustainable events
- Ranking of themes

By identifying common challenges and opportunities for improvement within each theme, it became possible to apply these insights into a qualitative evaluation of the event and for the creation of recommendations for an improved, more usable sustainability strategy tool for event organizers.

Event recommendations and policy recommendations

To answer the second research question, policy guidelines for sustainable event organization will be designed. The main approach underlying this research step is a modified version of what Geul (2005) characterizes as the *Japanese Method* for policy design. This policy design method is based on the philosophy that one can learn from the experiences of others. This means taking policy from one context and applying it to comparable circumstances, albeit with modification where necessary (Geul, 2005).

The modified version used in this research will consist of three main steps:

1. *Identification of comparable policies for sustainable event organisation;*
2. *Selection of the most applicable policy framework;*
3. *Reworking the framework to the context of events of similar size and scope as Leiden2022*

The first step will consist of a literature review of scientific articles discussing policies for sustainable event organization, but will also include looking for examples of already existing policies for the event sector. Here, it is kept in mind that the goal is to use the example policy framework as a baseline to create a more practical version of last year's guidelines. As a second step, one of these examples will be selected to further rework to the context of Leiden2022. This will be done in close collaboration with the commissioner to prevent last year's mistake of creating theory-heavy framework and to make sure that the end-product can be successfully applied in practice.

In the third step, the chosen example will be reworked to fit this research. This will not include the content of the chosen example policy, but only the structure used in the policy framework. For example, if the selected example is a yes/no checklist about sustainable catering, the only part that will be taken over is the yes/no structure. The content of the new set of policy guidelines will come from the evaluation of last year's framework. This will show the subcategories of last year's framework that are to be included or excluded, and might also show subcategories that need to be added/improved. Additionally, the guidelines will only concern the three categories of last year's framework that were evaluated in this research. A potential pitfall

in reworking policies for different contexts is that it can easily become unstructured and one can lose sight of the end goal (Mukhtarov, 2014). By clearly documenting the process and justifying the choices underlying the design, it is hoped to avoid this.

Risk mitigation measures

The main risks of this research are related to data collection. A risk was that (due to any kind of circumstances) staff and third parties cannot be interviewed/contacted or that the interviews do not yield the data needed to give a good assessment. This was, fortunately, not the case in this research, but an alternative strategy was to search for an alternative interviewee. In the case of insufficient data from the interviews, follow-up questions were sent to the interviewee. A follow-up interview could also have been scheduled, but that was, fortunately, not necessary. Planning problems were prevented during the research by regularly planning group meetings and making sure that all the group members kept each other updated about any progress. Every meeting, a short review of the planning was done to make sure that the project would be finished in time.

Literature Review

Sustainable event policy is a relatively new discipline that emerged in the first decade of the 2000s and has continued to grow since then (Foley et al., 2009). The events industry has easy access to environmental and social resources and while its continued growth has positive effects, it also brings forth negative environmental externalities (Musgrave & Raj, 2009). A good sustainability policy can be extremely beneficial as this states the absolute plan for event organization and can give the necessary clarity to all involved stakeholders about how sustainability will be implemented in practice (Musgrave & Raj, 2009). This review will function as background theory for the rest of this research, especially the redesign of the sustainability guidelines, and will first cover literature about sustainable event organization, which will be followed by a short discussion of several example sustainable event policies.

Previous research on sustainable event organization

Foley et al. (2009) do not go into specific approaches for organizing and/or evaluating sustainable events. Instead, they write that events cannot truly be sustainable if they do not consider the social dimension. The organization must remember “*to engage and empower community groups to contribute to community building long after the ‘signature’ event itself has moved on*” (p. 20) and they have to put a suitable institutional infrastructure in place for this. This is to prevent that the event (unintentionally) reinforces already existing inequalities (Foley et al., 2009). When organized well, community events contribute to social sustainability by providing a platform to interact and participate with each other, expanding social capital, and developing community wellbeing and a sense of place (Stevenson, 2021). The crucial role of considering the social aspects of events is also mentioned by Boggia et al. (2008). These authors argue that a participatory approach is crucial in managing the sustainable aspect in social events.

Meinen (2022) explains the benefits of indicator-based approach, especially their ease of use and practical results. Additionally, the author argues that the best way to implement an indicator-based strategy is to incorporate the indicators in a checklist for event organizers, because these can both help illustrate the effects of implementing sustainability measures and point to areas for improvement (Meinen, 2022).

The sustainability strategy of Figge et al. (2002), the Sustainability Balanced Scorecard (SBSC), is widely referenced in literature. SBSC is mainly focussed on strategic business management, but Meinen (2022) mentions opportunities for implementation in event management. The SBSC includes indicators for the environmental, economic, and social dimensions of sustainability (Figge et al., 2002). These three dimensions of sustainability should be at the heart of any long-term goals for event organization. However, a main challenge with these types of approaches is to appropriately quantify the social and environmental impacts (Fredline et al., 2005). Musgrave & Raj (2009) also argue for the wide-spread and integral consideration of sustainability in event management: all attempts of applying sustainable policy should cover all elements and scales of the event. In order to standardize this process, Mokhtar (2021) created

a framework for sustainable environmental analysis of events with five simple steps that consist of *identifying information needs, collecting data, filtering data, analysis and application*. Each of these steps should be done for both the external environment where an event is taking place, but also internally to ensure that sustainability is built into the organizational structure of the event organizer.

Existing policies for sustainable event organization

One of the first policies of this kind were 'The Hannover Principles: Design for Sustainability' by McDonough and Partners (1992) for the organization of the WorldFair in 2000. The theme of the Fair encouraged and imagined a sustainable future and, thus, the fair needed to be organized sustainably. The Principles first outline 9 principles for sustainable organization and then refines those in guidelines (Box 1) (McDonough and Partners, 1992). A Dutch example with a similar structure are the sustainability criteria of the Gemeente Amsterdam that need to be met to obtain a permit for an event in the city (Gemeente Amsterdam, 2020). In both cases, there are no concrete indicators nor a checklist, as recommended for good practical use by Meinen (2022).

Box 1. Example of the Hannover Principles & Guidelines. Adapted from McDonough and Partners (1992).

Principle 1: Insist on rights of humanity and nature to co-exist in a healthy, supportive, diverse and sustainable condition.

Guideline:

- Design solutions should benefit flora and fauna as much as humans, upon the notion that natural processes take care of themselves best when left alone. The overall sense of community, linking humanity and nature, should be enhanced.
- A premium value should be placed on unbuilt space, particularly existing undeveloped lands. Re-use and expansion of the existing fabric may offer alternatives to new construction that will preserve the natural landscape.

Internationally, there are three very well-known policies: the *UNEP Green meeting guide 2009*, *ISO standards 20121 'Event sustainability management system'* and *ISO 22379 'Guidelines for hosting and organizing citywide or regional events'*. The latter two formed the basis of the guidelines developed in last year's sustainability challenge. Being heavily based on scientific research, the previously developed framework was hard to implement in practice.

UNEP's Green meeting guide 2009, titled "*Roll out the green carpet for your participants*", is part information guide, part guideline for United Nations meetings (UNEP, 2009). First, the '*What to know*' section gives the user necessary background information about sustainable events, such as the main sources of GHG emissions or information about sustainable accommodations. Secondly, the '*What to do*' section is a checklist for the actual organization of the event. It is made-up of '*core recommendations*', the key considerations regarding environmental impacts, '*going further*', with more detailed indicators, and '*regional considerations*' (UNEP, 2009). All in all, the UNEP green meeting guide is considered to be one of the most exhaustive guides for event organization (Kim et al., 2020).

Table 3. A selection of the different recommendations made in the UNEP Green meeting guide for sustainable food and drink provision. Adapted from UNEP (2009, p. 53- 54).

| Core Recommendations | | |
|---|--------|-------|
| Recommendation | Yes/No | Notes |
| Use products that are locally grown and produced (including seasonal produce). | | |
| Minimise the number of meat dishes offered, and always provide vegetarian options. | | |
| Inform the caterer beforehand about the exact number of visitors to minimise food waste. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| Livestock products should be produced according to high welfare standards. Marine and aquaculture products should be caught/produced using sustainable methods. | | |
| Regional considerations | | |
| Recommendations | Yes/No | Notes |
| Consider if there are any cultural/religious considerations that need to be respected. | | |

The UNEP guide also formed the basis for the 2018 guidelines for meetings and events formulated by the European Commission. Titled ‘Sustainable@Work: *Guidelines on organising sustainable meetings and events at the Commission*’ aims to help organize an event “that minimizes potential negative impacts and leaves a beneficial legacy for the host community and all involved” (European Commission, 2018, p. 2). It has a similar structure as the UNEP guide mentioned above.

The final example is the policy developed by Brook et al. (2007) ‘*The Sustainable Music Festival - A Strategic Guide*’. Compared to the other policies discussed, this guide has a wider target audience: from professional organizers to ordinary music enthusiasts with an interest in sustainability. It presents a nested strategy that centers around six higher-level sustainability goals and is heavily based on stakeholder participation and forming partnerships (Brooks et al., 2007). It does not propose strict goals or criteria, but rather optional actions that organizers can take. There is also a scale provided that ranks whether the proposed actions are challenging or expensive and that indicates their perceived effect on the sustainability (Brooks et al., 2007).

Main insights

The literature confirms several assumptions upon which this research is based. First of all, the review confirms the benefits of having a good sustainability policy in place to create clarity about the measures taken for sustainability. Secondly, it also confirms that an indicator-based framework as designed by last-year's team provides a good starting point, but that the highest usability is achieved when these indicators are incorporated in a checklist with clearly defined actions. A returning theme in the review is also the importance of stakeholder participation when creating and using a sustainability policy.

Findings

The results of this project are collected through interviews and a survey conducted by attendees of the larger events. The outcomes are gathered and subdivided within the four proposed categories. During the interviews, questions are focused on event location, material management, catering and general sustainability issues. In the sections below the most notable results per category are mentioned and substantiated with quotes to support the final results. Quotations used from interviews conducted in Dutch have been translated to English.

Event Location

For the large events, most locations were already established as capacity limited venue options in Leiden. Accessibility and walkability were the main focus and transportation was clearly communicated to attendees (use of public transport).

Interviewee: *“Locations are walkable distance. If it was not the case, bikes were available for the attendees.”*

The locations, however, did require a Green Key eco-label certificate, which provides a standard of environmental responsibility and sustainable operation in public buildings, hotels and other buildings related to the tourism industry. No quantitative data was collected during the events about energy use, water use. A noticeable finding here was that Leiden2022's HQ, The Bauhaus building, is 'anti-kraak' (temporary usage of vacant building) and was provided as a public space for people to interact and meet. Here, they also collaborate with sustainable start-ups. Moreover, to have different actors sharing a common space. The municipality provided subsidies to pay for rent.

Interviewee: *“This building has students living on the upper floor and it has a lot of start-ups and artists. We sought cooperation with Circulair Warenhuis, who are also present.”*

Material Management

In all interviews it was clear that the process of materials was well-thought. Materials were collected secondhand (e.g., furniture at location 'Bauhaus') and the future after Leiden2022 of the materials were taken into account (e.g., tuktuks taken back by supplier).

Interviewee: *“Everything is secondhand and only a few things are newly made (...) The Tuktuks that drive around are secondhand and we have electrified them to make them more sustainable, since they are important in our branding.”*

Interviewee: *“The Tuktuks might live on. There are multiple parties that want to buy them from us and we are also looking into options of donating them.”*

For large events a critical approach was used to follow the guidelines of the European Commission. Solely vital materials were rented, which depended on the provided location. Catering materials were provided by the locations and used their plates, glasses and cutlery. During day events, they opted for biodegradable cutlery and no plastic bottles were sold [water taps were available]. Promotion materials were carefully selected for the most environmentally friendly option.

Interviewee: *“An external party investigated the most sustainable option for paper. So, first a research was conducted before the specific paper option was chosen.”*

Additionally, there was good communication with their partner Circular Warenhuis, to take in materials including shirts and promotion flags. A less successful promotion item was the calendar, as many copies remained in storage. It ought to be noted that at the beginning of Leiden2022, COVID restrictions were in place and it affected the possibility to distribute the calendars to the wide audience. A big step towards sustainability has been digital information provision about the events. These digital platforms replaced paper information pamphlets and booklets.

Interviewee: *“Digital information provision has been a big contributor for sustainable solutions before and during the events. They provided information on an app and the website.”*
Leiden2022 used an app to provide information for routes, maps of Leiden and replaced the printed schedule.

Interviewee: *“There were multiple locations to the event and the walking routes were explained with an app (...) The app replaced the printed booklet with the programme of the event, which is normally quite a big and serious book.”*

Catering

For the events, catering has been an interesting topic of debate. It was not relevant for the smaller events, as there was no catering available or the location provided drinks and snacks without a caterer. External caterers provided catering for the larger events and the focus on sustainability was communicated. For example, ESOF and EUCYs organized multiple network dinners and opted for a vegetarian concept with local suppliers. For catering, the wide-spread pushback for vegetarian food was the most notable outcome.

Interviewee: *“In the feedback on the catering, they saw large differences. The event is EU-wide, so they saw a difference between north, south, and east of the EU. For example, Southern European participants were not excited, while Scandinavian participants really liked the food, even though there was no meat.”*

Some participants even left the venue to eat meat or fish at another location. The organizers were very much aware of the possible reaction, but the choice was deliberate to set an example.

Interviewee: *“The world’s changing. They’re part of it. So we take our loss, we take that lack of satisfaction for granted because we still think that it’s important to somehow set an example.”*

In order to prevent large amounts of food leftovers, conscious decisions were made regarding the quantity of food during the events and the limited food options, both have proven to be effective. Additionally, leftovers were taken to the local foodbank.

Interviewee: *“We investigated the amount of people attending and adjusted the quantity of food, to prevent food waste.”*

General

Last-year’s guidelines were mostly used as an inspiration to organize the events, and therefore lacked a structural foundation.

Interviewee: *“The golden rules were communicated in a general management meeting, but many organizers already thought of their own set of sustainable guidelines.”*

Interviewee: *“Sustainability, it just came in as an afterthought (...) Whereas if it’s the starting point, then it would be part of every choice made and if it is the most sustainable option.”*

Additionally, when asked about ranking the categories in terms of their importance for sustainability, there was no general agreement. Additionally, not all categories were applicable or of interest for events.

Interviewee: *“I think catering, since this has an enormous impact. In general, this is really important for events.”*

Interviewee: *“It all starts at the location. The better the location (for example, its energy-use and its accessibility, etc) and the more choices the location itself makes in this that are beneficial for sustainability, the bigger the effect on the overall sustainability of the event.”*

Recommendations

The recommendations that are formulated based on the interviews, are subdivided into the four proposed categories: 'Event Location', 'Material Management', 'Catering', and 'General'. The category 'General' contains recommendations on general sustainability issues concerning the organization of events.

Event Location

Challenges for this category mainly lie in the location availability for the expected number of visitors. Furthermore, challenges were identified by the interviewees in terms of control over certain aspects of the location, such as water and energy use. The first challenge can, unfortunately, not always be tackled. In the case of large numbers of attendees, event organizations are usually bound to a small number of locations that can host the expected number of visitors and sustainability aims can, therefore, not always be achieved. For smaller events there are usually more options available.

Even in the face of limited options, the surroundings of the location should be taken into account. The main focus should be the distance between locations and origin of travel of attendees. Walking distances of maximum 20 minutes, as indicated by two of the interviewees between different locations of the event should be maintained and promoted by the event organization. Attendees should preferably be able to travel to the event by public transport to increase the sustainability of their trip, which is especially important for international events. Additionally, a hybrid form of the event could be considered. Attendees that do not have the option to travel to the event with public transport could, in this case, follow the event online. This would save financial costs and reduce environmental impacts. Zotova et al. (2020) illustrate the point of avoiding air travel for events to restrain climate change, as attendees that travel by plane typically emit one to two times the yearly limit of carbon dioxide per person.

Tackling the second challenge, control of sustainability of the location, we recommend setting up dialogue between organizing staff and location proprietors well in advance. Here, expectations of both parties can be discussed and aligned. Moreover, the event organization can potentially request data on sustainability indicators (e.g., water use and energy use) from the proprietor. Another solution is the selection of the venues with sustainability certificates, such as the Green Key. This is an international and voluntary eco-label for event locations, ensuring accommodations with high environmental standards, focussing on energy and water use (Green Key Home, n.d.).

Material Management

From the conducted interviews it became apparent that materials, such as furniture, cutlery, and technical equipment, were reused, borrowed or second-hand following circular principles.

Promotion materials posed as more challenging. Recommendations for this category are, thus, focussed on the decrease of single-use materials and improved waste management.

Firstly, we propose to digitize promotion materials to a large degree. This has been reported by organizations such as Greenpeace as a solution to paper and plastic waste and to move to a zero-waste event (Greenpeace International, n.d.). It has a financial aspect to it as well: digital marketing reduces the costs of printed media, banners and other promotional materials. Furthermore, research has shown that digital promotion materials have a bigger influence on attendees' intention to visit than printed materials (Suryawardani & Wiranatha, 2017). Nevertheless, it is evident that digital materials are not without a footprint. A digital environment needs energy, production of devices, and raw materials that all add to its footprint. It is of great difficulty to estimate the carbon costs of the complete supply chains of digital and printed materials because of the many elements involved, but in general the carbon footprint of digital materials is smaller than that of printed materials (Nazaruk, 2022). It can be assumed that attendees already possess electronic devices to access the environment for the event. This further decreases the footprint of the digital materials as the footprint would mainly come from energy use and not raw material mining or other elements of the supply chain.

Secondly, we recommend making thorough estimations of the needed materials. Important in this is to not buy the materials in bulk, but in smaller batches. This was reported by the interviewees as a solution for waste minimization, as it allows for re-ordering materials while the event is happening to the needs of the consumer as compared to ordering beforehand in bulk without knowing the exact needs during the event.

Lastly, we propose to make generic promotion materials that are suitable for reuse, thus without dates and with a consistent graphic design. Hereby, the materials can be reused in future editions of the event. For example, flags and banners from a first event could also be used at a later event. This reduces the number of materials needed in the future as well as material waste from the current event.

Catering

For the catering, the main challenges that were identified by the interviewees were related to food waste and single-use packaging of the foods. These challenges are inherently connected to each other, as more food waste also means more packaging waste. Therefore, we recommend addressing these challenges in an integrated way.

In the planning phase, the number of visitors should be estimated. When planning the catering, it is recommended to slightly underestimate the number of attendees, to account for no-shows (Hungarian Food Bank Association, 2018). Hereby, a 5% margin is recommended, as indicated by one of the interviewees.

Surveys showed that attendees of Leiden2022 were unsatisfied with the fully vegetarian menu, as some felt pressured into eating vegetarian and therefore decided to eat out. Dietary habits

are significantly tied to cultural and social norms. When such a norm is targeted by an intervention, such as done with the vegetarian catering in Leiden2022, this can come across to the group in question as a threat to their identity and causes negative feelings towards the intervention (Constantino et al., 2022). A solution would be to explain the necessity for less meat consumption. However, this was already actively promoted for Leiden2022 and is believed to be ineffective on its own, due to the large backlash. This resulted in leftovers and a certain amount of meat being eaten by attendees elsewhere, even though the organization aimed at avoiding this. This is illustrated by one of the interviewees indicating that during the event, vegan food packages were left over. Therefore, it is recommended to provide a varied menu with a small amount of meat, especially when attendees from different cultural backgrounds are expected. In addition, we also recommend making a food waste policy beforehand, by making arrangements with local parties, such as homeless shelters, food banks, or even schools, to donate the leftovers. This contributes to zero waste, even in the case of unforeseen leftovers.

Lastly, it is recommended to develop a policy beforehand for packaging waste. Herefore, it is important that packaging is avoided by using reusable plates and cutlery, instead of packaging the catered food. Furthermore, it is recommended to make sure that the policy complies with regional waste policies to avoid inconsistencies in recyclability. Interviewees indicated separation of different types of waste streams at the event did not always lead to waste recycling, as municipal waste regulations did not allow for the waste to be separated in the waste processing phase. Additionally, to be able to recycle waste, it is of significance to avoid contamination of the different waste streams. An experiment at a UBC event showed trained volunteers informing people about where to throw away their waste, largely decreases the contamination of the waste, consequently increasing the recyclability of materials related to food (Zelenika et al., 2018).

General

The main general challenge that was identified by the interviewees was the limited reach of the '10 golden rules' (the summarized framework from last years' group) which can be found in Appendix C. The interviewees experienced that these rules were more of an extra addition that was communicated late in the organization process. Zotova et al. (2020) agree with making sustainability a more foundational aspect of the organization of an event. They argue that within the event organization a separate group focussing on sustainability should be formed. Prior expertise is not needed according to Zotova et al. (2020), however an evidence-based approach combined with systematic thinking are necessary qualities of this part of the organization. Hereby, evaluation of the event through the entire duration and after the end of the event is of significance. This allows for measurements of the performance of the event, enabling the identification of improvement opportunities and implementation into the planning of future events.

Another major challenge was the lack of data recording. Interviewees identified this as a disadvantage of the organization of the event, as meaningful improvement opportunities could

not be considered. Starting the dialogue with partners beforehand, explaining and aligning expectations could resolve this issue. Hereby, developing a clear picture of what kind of data and approach the partners would like to see is of importance in solving this.

Additionally, evaluation of the recorded data is needed to improve the sustainability of future events. When organizing a sustainable event it is important to look back on the organization's performance. This is also where the general recommendations build up to. In the evaluation phase, the objectives and targets of the event should be evaluated using the data that has been collected to check progress and adjust where needed. To, in the end, be able to take any lessons on board.

Improving the previous framework

Figure 3 shows an overview of the recommendations and the relations between them. The recommendations are categorized into seven categories. As visible from Figure 3 some of these categories are empty. Recommendations for these categories are to be developed in future research. In this research, only recommendations for three analyzed categories are developed.

Last year's framework was experienced as "overwhelming" and "too extensive". In Figure 3, this feedback is considered by selecting the most relevant categories from last year's framework, including the ones analyzed in depth in this report, and integrating the other categories to create a more comprehensive overview. 'Accommodation' as well as 'guest management' and 'mobility' are not included separately as they overlap and can be integrated into 'Location'. 'Sustainable procurement' was integrated into 'Planning', a new category in the improved framework. 'Evaluation and reporting' was also added following the recommendations of this research. By doing so, the improved framework is less overwhelming and better structured while still including the necessary actions.

As Zotova et al., (2020) suggest, a more holistic view should be adopted in which sustainability is considered as the foundation of an event and throughout the entirety of the event. Organizing a sustainable event is therefore an iterative process in which you move back and forth between planning and evaluation to adjust actions along the way. Figure 3, therefore, follows the shape of a spiraling pyramid to illustrate this. The spiral is an unbroken shape, for the purpose of the framework this means that one cannot select or 'pick and choose' recommendations as that would interrupt the structure of the event. The framework, therefore, requires that in every decision one needs to reconsider whether it builds upon the foundation of sustainability and the vision of the event.

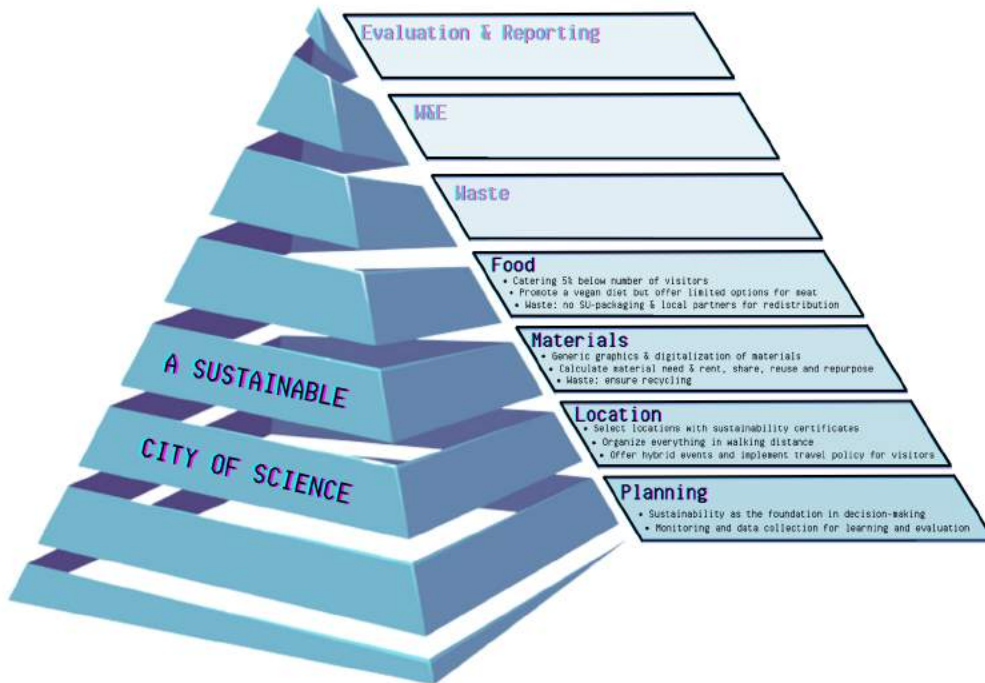


Figure 3. Visualization of recommendations

Event guidelines

The literature review about previous research and example policies for sustainable events served as the first step in the policy design process. From the review, it became clear that the policies that are the most effective and usable often take the shape of a checklist. Of the example policies that were reviewed, the UNEP Green meeting guide (UNEP, 2009) was selected to form the basic structure of the newly designed event guidelines. The UNEP guidelines are widely praised in literature for their ease of use and clearly formulated actions. The UNEP guidelines also formed the basis for existing sustainable event guidelines of the European Commission (EC). Since Leiden2022 and other European City of Science events are for a large part funded by the EC, it is beneficial to streamline the structure of these guidelines with those of the EC. Furthermore, the checklist format of the UNEP guidelines is also in line with the wishes of the commissioner to have a policy that is easy to use.

To reiterate the method section, the evaluation of Leiden2022, the recommendations based on that, the visualisation in Figure 3, and last year's framework determined the content of guidelines. The UNEP/European Commission guidelines only provided the appropriate checklist structure. The two were combined into a separate deliverable 'Sustainable Event Organisation: *A Guide for Location Selection, Material Management, and Catering*' that will be provided as an Annex to this report for the commissioner and their partners (see Annex 1). Following the structure of the UNEP guide's 'What's to know' introduction, the guidelines start with a short

summary of this research and its main findings. This is followed by guidelines for the categories ‘Event Location’, ‘Material Management’, and ‘Catering’ as well as some general guidelines.

For this academic report, the guidelines are included as Tables below. The ‘Minimum requirements’ include the efforts that should be at least taken for sustainable event organisation and are primarily based on last-year’s recommendations. The ‘Going further’ category includes more advanced actions to further improve sustainability that follow from this year’s conclusions. For each dimension, a ‘Starting Action’ is also suggested that forms the start of the sustainability strategy for that sustainability category. The aim is that with future research and experiences, the guidelines will be expanded to include the other dimensions of sustainability that are mentioned in Figure 3.

Event Location

Table 4. Checklist for sustainable location selection.

| Starting Action | | |
|--|--------|-------|
| Suggested action | Yes/No | Notes |
| Consider if an online or hybrid format is desirable. | | |
| Minimum Requirements | | |
| Recommendation | Yes/No | Notes |
| Where possible, select venues that are certified as sustainable. | | |
| Select venues that have a good connection with public transport. | | |
| Encourage visitors to travel to the event with public transport. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| In the case of multiple locations, keep everything within walking distance (max. 20 minutes walk). | | |
| Set-up dialogue with venue proprietors early in the collaboration to align expectations about desired level of sustainability. | | |

Material Management

Table 5. Checklist for sustainable material use.

| Starting Action | | |
|---|--------|-------|
| Suggested action | Yes/No | Notes |
| Make a thorough estimate of required materials. | | |
| Minimum requirements | | |
| Recommendation | Yes/No | Notes |
| Consider if renting or using shared materials is possible. | | |
| Buy only what is necessary. Prevent buying in bulk to save costs and use sustainable/recyclable materials where possible. | | |
| Avoid using single-use products. | | |
| Minimise printed promotion and give-away products. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| Digitize promotion material as much as possible. | | |
| Design physical promotion material with re-use in mind. Consider creating a consistent graphic design that can be used for multiple events. | | |

Catering

Table 6. Checklist for sustainable catering.

| Starting Action | | |
|--|--------|-------|
| Suggested action | Yes/No | Notes |
| Make a thorough assessment of the number of visitors. | | |
| Minimum requirements | | |
| Recommendations | Yes/No | Notes |
| Inform the caterer in due time about the expected number | | |

| | | |
|---|---------------|--------------|
| of visitors to prevent overbuying of food. | | |
| Offer a largely vegetarian menu with a smaller number of meat and vegan options. | | |
| Aim to provide locally-sourced and preferably organic food. | | |
| Use reusable plates and cutlery where possible. | | |
| Design policy for leftover food. Explore options for collaboration with local partners. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| Provide catering 5% under the expected number of visitors to account for no-shows. | | |
| Make sure to account for cultural/religious preferences in setting the menu and, if needed, offer a limited number of those food items. | | |
| Develop a packaging waste policy. Ensure compatibility with regional recycling policies. | | |
| Set-up strategy to promote proper recycling by visitors. | | |

General

Table 7. Checklist for general sustainability considerations.

| | | |
|---|---------------|--------------|
| Minimum Requirements | | |
| Recommendation | Yes/No | Notes |
| Communicate sustainability strategy clearly and regularly with the organizing staff and all involved stakeholders/partners. | | |
| Set-up data gathering strategy for sustainability information early in the organization process. Communicate data needs clearly with stakeholders/partners. | | |
| Evaluate the sustainability of the event extensively after completion. Discuss lessons learned and formulate recommendations for future events. | | |
| Share and discuss lessons learned and recommendations | | |

| | | |
|-----------------------------|--|--|
| with stakeholders/partners. | | |
|-----------------------------|--|--|

Discussion

Throughout the process of evaluating the Leiden2022 event and improving the framework, there were a number of valuable insights, challenges, and areas that could provide opportunities for further research which will be discussed in this section.

Firstly, when considering the previous framework and the policy guidelines for sustainable events, it becomes clear that sustainability indeed can only be considered as a multi-dimensional concept (Holden et al., 2014). When asked about ranking the importance of the different areas of focus for this project, most interviewees had difficulty ranking one of the three as more or less important. The reason for this was not due to a lack of complete information, but rather by the need to make all dimensions equally important in order to maximize sustainable decision making and outcomes. For this reason, each category should be considered as highly important and included from the very start of organizing an event. By considering all categories from the beginning, one can also ensure that appropriate monitoring methods are in place for the duration of the event. One of the challenges faced during this project was a lack of hard data, which can be mitigated by incorporating this into the organization of the event itself. If this is done, organizations can gauge how well they performed and strive to improve over time.

It was mentioned in one of the interviews that “*events are inherently unsustainable*,” implying that improvements will require a change in the organization of events, especially international in-person events, and greater overall awareness of the unsustainable nature of these functions. However, as has been demonstrated in this report, there are huge opportunities for event organizers to make decisions which will improve the sustainability of an event. Furthermore, one study found that 70% of the individuals are willing to contribute and take actions to reduce the environmental impact of the overall event they are attending when given the knowledge and information needed to do so (Ferdinand & Kitchin, 2022). With this in mind, event organizers should consider how they can involve and motivate attendees by communicating specific pro-environmental actions they can take before, during, and after the event.

Limitations

As this research is based on a case study several methodological limitations apply. First, a case study only measures the situation as it is now, but not how it will develop overtime (Merriam, 1995). As knowledge, literature and actions in event planning on sustainability are developing rapidly the study could be ‘outdated’ fast. Nonetheless, the study provides Leiden2022 and future events with recommendations that can be applied in the near future to increase the sustainability of the event.

Secondly, generalizing findings is difficult in social research and specifically in case study research (Merriam, 1995). Making it difficult to ensure the extent to which findings apply across social contexts (Merriam, 1995). The findings, therefore, mainly apply to the Leiden City of Science Festival. Steps were taken to make the improved framework and policy note as

applicable to other events as possible. Such as using multiple data sources (websites, reports, interviews with external parties to Leiden2022). This needs to be acknowledged when using this report and its Annex for other events and future editions of European City of Science events.

Furthermore, the data collection is focussed on information from the interviews with the company themselves. The research is, therefore, subject to interviewee bias as information could have been presented or framed more positively than it was. The interviewees might have been prone to focus on the strong elements of the event rather than its weaknesses. Nonetheless, all interviewees were considered to be transparent, as they were also open to disclose more sensitive information about the event weaknesses.

The main limitation of the research is, however, that it is anecdotal. During the event no data was collected on the performance of the event regarding sustainability. Data could not be collected on food or material waste, water or energy use, or any other relevant variables. The research therefore relies on how the interviewees experienced the sustainability of the events. This is limiting to the research as none of the interviewees were experts on sustainability. Their experience of the sustainability of the event is thus not only biased due to their position in the company, but also somewhat unreliable. If data was collected over the past year, this would have greatly increased the reliability and accuracy of this research's results.

The limitations of this research are partly due to the lack of data collection by Leiden2022. Which can be considered a result of the limitations in the assignment. The assignment stated that Leiden2022 applied last year's framework during the event and that this year's research group would evaluate the event based on the framework. Leiden2022 however did not apply last year's framework, making it complicated to evaluate its use. Additionally, the lack of data collection and thus quantifiable outcomes of the event limits the ability to make quantified recommendations for future editions. For example, if data was collected on the amount of food waste, recommendations could have been made on an appropriate reduction in catering based on a percentage. Unfortunately, these types of recommendations could thus not be made.

Nonetheless, the research provides Leiden2022 as well as future organizers of the City of Science Festival with a set of recommendations that function as a knowledge-based input to improve the overall sustainability of the event.

Conclusion

The team of the year-long festival Leiden City of Science has attempted to incorporate the sustainability framework of last years' Sustainability Challenge group into their organization. The framework was heavily theoretical and had to be summarized to be able to use it. Consequently, the framework was used as a check-off list and not a foundational part of the organization. Evaluating the categories catering, materials and locations through the core events of the festival, allowed for improvement of the previous framework and new recommendations. Moreover, more practical policy guidelines were developed that can be used in future event planning.

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Appendix A- Interview questions

General Opening Questions

1. Which events did you organize?
2. Were the sustainability goals communicated to you? Team meeting, 10 golden rules based on the things that my team for the event designed. For us, nothing changed.
3. Did you use last year's framework?
 - a. What are the sustainability goals?
 - b. How did you take these into consideration in organizing the event?
 - c. How, if applicable, did you implement the framework of last year's group?
4. Did external parties take the sustainability goals into consideration?

Event Locations

1. Which venue did you choose?
2. Overall, how did you go about selecting the event location/venue?
3. Is the venue considered to be a sustainable location?
4. How can the venue be reached by attendees?
5. What were the challenges with selecting sustainable venues?
6. If you were to do it again, what would you do differently?
7. How did you incorporate last year's recommendations in selecting venues?

Material Management

1. What were the main material needs in your event?
2. Overall, how much consideration did you give to sustainability when buying/producing/using materials (think promotion material, furniture at venues, waste management, etc) for the events?
3. Were the materials rented or borrowed? If not, could they have been?
4. Did you consider the reusability/recyclability of the materials?
5. Shortly explain the waste management strategy (if it was there)?
6. What were the challenges with selecting sustainable materials?
7. If you were to do it again, what would you do differently?
8. How did you incorporate last year's recommendations in material management?

Catering Questions

1. Did you take the sustainability goals into account when selecting a catering service?
2. Which types of food were offered?
 - i. Vegan
 - ii. Vegetarian

- iii. Non-vegetarian
3. Was the amount of food appropriate for the number of visitors?
 - i. What happened to the leftovers?
 - ii. Plan to avoid food waste? Did you make an estimation of the number of visitors and how much food was needed? Based on what did you make the estimation?
 4. Were the food-related materials (cutlery, plates etc) used, rented, or borrowed? If so, from where?
 5. Was the sustainability of the packaging considered?
 6. Did you consider how far from the event the catering service was located?
 7. What were the challenges with the catering?
 8. If you were to do it again, what would you do differently?
 9. How did you incorporate last year's recommendations in planning the catering?

Concluding Sustainability Questions

1. How would you rank the three categories (catering, event location, material management) in order of importance when considering sustainability? Why?
2. In general, how would you rank the sustainability of your event?
3. How did you communicate the possibility for sustainable options to visitors? (walking routes in between locations, available bikes, signs to water filling points etc.)

Appendix B - Research Ethics

Information Letter

Laura van Geene (Contact Research ethics Group 15)
Student Industrial Ecology, Universiteit Leiden & TU Delft
lauravangeene1@gmail.com

October 2022

Dear...

Thank you for your willingness to participate in our research. Our research is part of our Sustainability Challenge, a course of our Master Industrial Ecology at Leiden University and TU Delft. The research focusses on evaluating the sustainability of Leiden 2022 using three categories: Catering, Material Management and Event Locations. We would like to use this evaluation to develop guidelines for the sustainability organisation of events like Leiden2022. Our interview would take a maximum of one hour. Information from this interview will, possibly, be incorporated in our research report in form of transcriptions of the interview in the appendix of the report. There are no direct risks, inconveniences, or benefits to participating in the research. All information will be handled confidentially and will only be accessible to the research team for the duration of the research. If you do not give explicit information for this, no part of the research will mention your name or any information that could possibly reveal your identity. Your participation in the interview is completely voluntary. You can refuse participation or stop your participation at any given moment without consequence.

In case you have any questions about the above, you can reach me at the aforementioned emailadress. To fulfill the requirements of Leiden University and TU Delft concerning privacy protection and research ethics, I kindly request to fill in and sign the attached declaration and return it to me.

Thanks in advance,

Laura van Geene

on behalf of Annabelle de Groot, Tara van Hoorn, Justine Kwiatkowski, Céline Stortelers (Group 15)

Attachment: Privacy declaration Interview

Privacy declaration

The interviewee declares to:

- participate voluntarily in the interview..
- have understood that he/she can withdraw from the interview or refuse any questions without any consequences.
- have understood that the permission to use any specific information from the interview can be withdrawn within two after the interview, after which the material will be removed.
- have understood that participation includes an interview of maximum an hour.
- have understood that all information that he/she provides will be handled confidentially.
- have understood that the results of the interview can be used and published in the eventual research report.
- have understood that audio/video-recordings will only be made in case he/she gives explicit permission for this.
- have understood that their identity will only be made known in case he/she gives explicitly permission for this.
- have understood that the transcription of the interview and the signed declaration which can reveal the identity of the interviewee will only be stored until the Sustainability Challenge has been officially completed.
- have understood that he/she has access to the collected information at any time while this is stored by the research team.
- have understood that he/she is encouraged to contact the research team at any time for questions, information, and clarifications.
- confirm that the purpose and nature of the research have been explained in writing and that the interviewee has had the opportunity to ask questions about the research.

(declaration continues on next page)

The interviewee, hereby, gives permission to:

- make an audio or video recording of the interview
- reveal their identity in the deliverables of the research

| | | |
|--------------------------|-----|----|
| <input type="checkbox"/> | Yes | No |
| <input type="checkbox"/> | Yes | No |

The interviewee declares to have read and understood the information above and, hereby, gives permission to participate in the interview.

Name of interviewee

Signature of interviewee

Date

I, Laura van Geene (on behalf of Group 15), promise to follow the research procedures described in this declaration.

Signature of researcher

Date

Appendix C - Golden rules

De tien golden rules:

1. We dragen uit dat Leiden2022 een nieuwe, duurzame route kiest. Dat vertellen we aan iedereen.
2. We practice what we preach: bij alles wat we doen kijken we of het ook anders cq duurzamer kan.
3. We bieden kraanwater aan en stimuleren het gebruik van tappunten en hervulbare flessen.
4. We werken, zeker bij grote evenementen, met vega of vegan catering.
5. We werken met cateraars die vermijden om voedsel en verpakkingsmaterialen weg te gooien.
6. We maken zoveel mogelijk gebruik van Green Key locaties (hotels, evenementenlocaties).
7. We wandelen, fietsen, of maken gebruik van het openbaar vervoer. Binnen Europa adviseren we treinreizen.
8. We scheiden ons afval, op het Stadsbauhaus én bij de grote evenementen die we organiseren.
9. We maken zoveel mogelijk gebruik van gebruikte of herbruikbare materialen, meubilair etcetera.
10. We sparen energie waar mogelijk en maken geen gebruik van overbodige lichtbronnen.

Translated to English:

1. We communicate to everyone that Leiden2022 opts for a new, sustainable route.
2. We practice what we preach: everything we do we examine if there is a more sustainable option.
3. We offer tap water and stimulate the use of water tap points and refillable bottles.
4. We offer, especially during bigger events, vegan or vegetarian catering.
5. We collaborate with caterers who avoid disposing of food and packaging.
6. We aim to use Green Key locations (hotels, event locations).
7. We walk, bike or use public transport. Within Europe we advise using the train.
8. We separate our trash, at the Stadsbauhaus and during the big events.
9. We use used or reusable materials, furniture etc.
10. We save energy where possible and do not use unnecessary lights.

Appendix D - Project Poster

On the next page, the project poster made for this research can be found. The poster was made for the Sustainability Challenge Symposium and was made when the research project was in its final stages. Yet, the recommendations mentioned on the poster were not entirely finalized at the point of creation. Therefore, the recommendations on the poster can differ from the ones found in the chapter 'Recommendations'.

Sustainability

At the

LEIDEN CITY OF SCIENCE FESTIVAL

ASSIGNMENT

The Leiden City of Science year-long event was evaluated on its sustainability based on a framework that was developed by last year's group. The largest three core events were judged on materials, catering and the event locations.

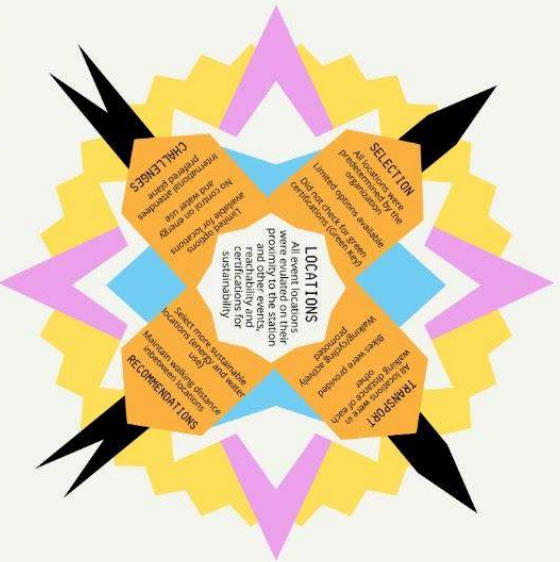
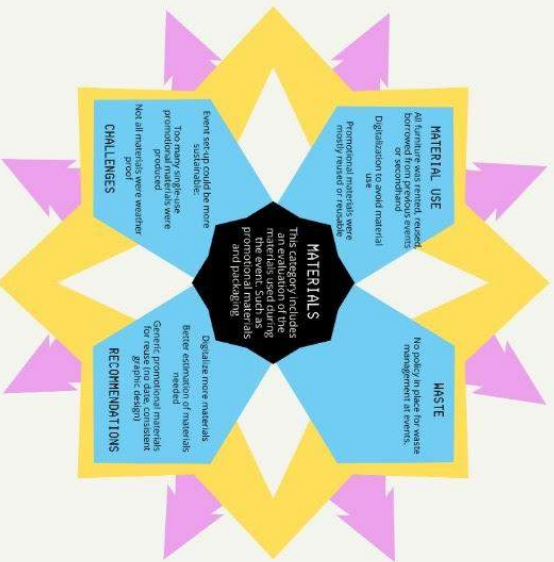
RESEARCH QUESTION

The research aims to answer the research question:

How did Leiden City of Science perform for sustainability based on the three categories: event locations, material management, catering and how can this be used to optimize the framework?

METHODS

The research takes a qualitative approach through semi-structured interviews with event managers, the director, academics and experts. The data is thematically coded and analyzed. After which recommendations follow. In addition, an improved framework on sustainability for large events is developed from the results.



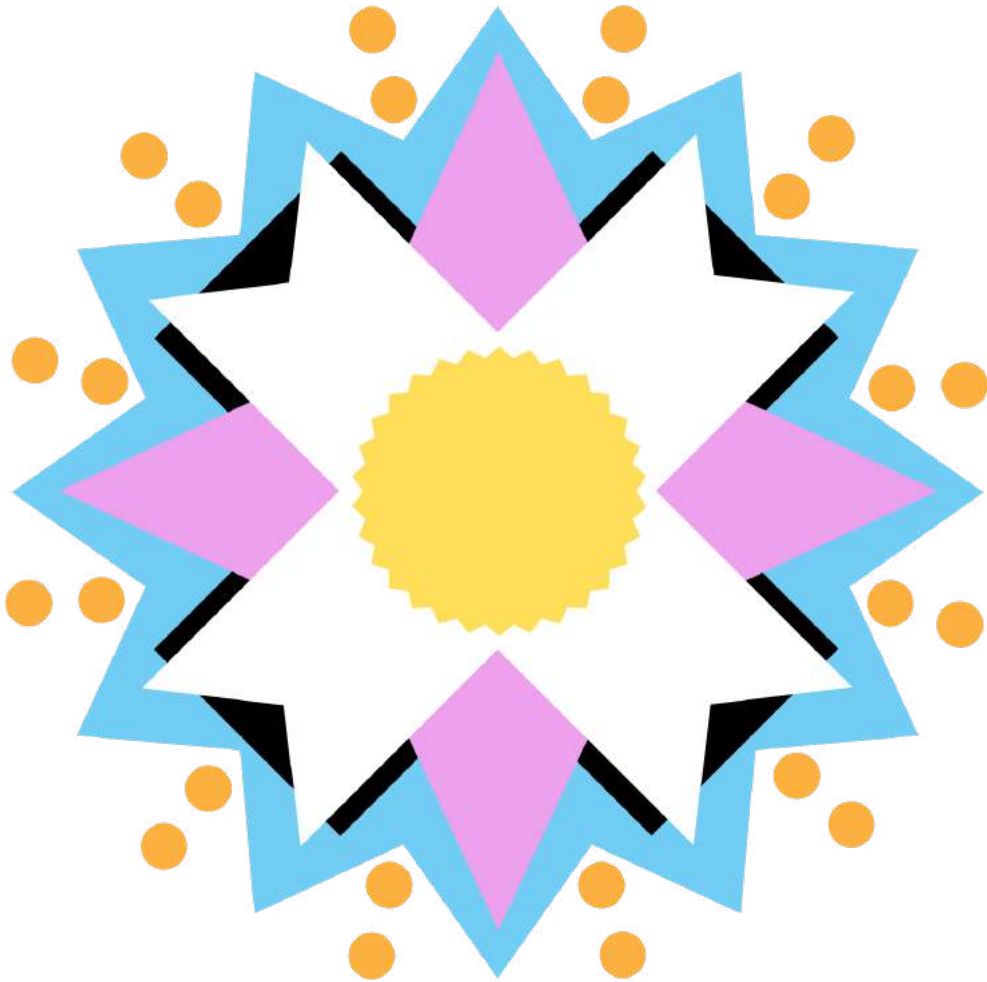
*ALL FINDINGS ARE PRELIMINARY

GROUP 15
FOR LEIDEN 2022



3c – Sustainable Event Organisation – Guide

Sustainable Event Organisation: A Guide for Location Selection, Material Management, and Catering



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February 2023

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Guidelines based on:

van Geene, L., de Groot, A., van Hoorn, T., Kwiatkowski, J., Stortelers, C. (2023). *Sustainability Challenge. Leiden City of Science Festival.*

Loods, M., Schriever, D., Cabal, M.R., Ximenez, L.H. (2022). *How to Shape a 365-Days Public Program in New Sustainable Ways?*

Please read this before reading or using these guidelines

These guidelines have been written as an Annex to a student report written by MSc students from the joint degree master programme Industrial Ecology of Leiden University (LU) and Delft University of Technology (TUD) in partial fulfillment of their course requirements. This is a student report, intended to serve solely the purpose of education. TUD and LU do not take responsibility for the contents of this report.



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Introduction

Sustainability is becoming increasingly important in event organisation. However, setting up a truly sustainable event is a complicated task. These guidelines were created with the aim of providing practical support for event-organisers that want to organise a sustainable event. These guidelines are developed based on two research projects by MSc students of Leiden University and TU Delft commissioned by the organisation of European City of Science Leiden2022. While these guidelines have been inspired by the research for Leiden2022, they can be used by everyone that wants to organise a sustainable event.

The first chapter of this guide includes a short summary of the final recommendations made to Leiden2022. The second chapter will delve deeper into the guidelines.

Final Recommendations to Leiden2022

The recommendations to further improve the sustainability of Leiden2022 and other future events focus on the three dimensions covered in the research for Leiden2022: 'Event Location', 'Material Management', 'Catering'. These recommendations are shortly summarized below. Additionally, some recommendations relating to the general sustainability of events are also included. For a more detailed explanation, please refer to Van Geene et al. (2023).

Event Location

- If possible, consider an online/hybrid format for the event.
- Choose locations that are well-reachable with public transport
- In the case of multiple locations within a city, choose locations that are within walking distance
- Choose locations that are certified as sustainable locations
- Set-up dialogue with proprietor of location to improve sustainability of event and align expectations (for example, about waste separation at the location or water/energy-use)

Material Management

- Digitize promotion materials as much as possible.
- Make exhaustive assessment of material needs.
- Buy only as much as needed. Prevent buying in bulk to save costs.
- Design physical promotion material with re-use in mind.

Catering

- Make a thorough assessment of the expected number of visitors.
- Provide catering for 5% under the expected number visitors
- Provide varied menu that balances sustainable and cultural preferences:
 - Largely vegetarian & vegan
 - Limited amount of meat options
- Set-up waste policy for event, including:
 - Packaging waste policy
 - Food waste policy

General Sustainability

- Communicate the sustainability strategy clearly and regularly with all the organising staff and all involved stakeholders/partners.
- Set-up data gathering strategy for sustainability information early in the organisation process. Communicate data needs clearly with stakeholders/partners.
- Evaluate the sustainability of the event extensively after completion. Discuss the lessons learned and formulate recommendations for future events.
- Share lessons learned and recommendations with stakeholders/partners.

Guidelines

The guidelines are structured following the three research dimensions ‘Event Location’, ‘Material Management’, ‘Catering’. Several ‘General Sustainability’ recommendations are also included. It should be noted here that sustainability goals are formulated in the form of a checklist here, but they should not be treated as add-ons to the event. The goals and the aim to organize a sustainable event should be at the core of the organisation process.

Event Location

Table 1. Checklist for sustainable event locations.

| Starting Action | | |
|--|--------|-------|
| Suggested action | Yes/No | Notes |
| Consider if an online or hybrid format is desirable. | | |
| Minimum Requirements | | |
| Recommendation | Yes/No | Notes |
| Where possible, select venues that are certified as sustainable. | | |
| Select venues that have a good connection with public transport. | | |
| Encourage visitors to travel to the event with public transport. | | |
| If not yet present at the location, accommodate waste separation at the location (in collaboration with location proprietor) | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| In the case of multiple locations, keep everything within walking distance (max. 20 minutes walk). | | |
| Set-up dialogue with venue proprietors early in the collaboration to align expectations about desired level of sustainability. | | |

Material Management

Table 2. Checklist for sustainable material management.

| Starting Action | | |
|---|--------|-------|
| Suggested action | Yes/No | Notes |
| Make a thorough estimate of required materials. | | |
| Minimum requirements | | |
| Recommendation | Yes/No | Notes |
| Consider if renting or using shared materials is possible. | | |
| Buy only what is necessary. Prevent buying in bulk to save costs and use sustainable/recyclable materials where possible. | | |
| Avoid using single-use products. | | |
| Minimise printed promotion and give-away products. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| Digitize promotion material as much as possible. | | |
| Design physical promotion material with re-use in mind. Consider creating a consistent graphic design that can be used for multiple events. | | |

Catering

Table 3. Checklist for sustainable catering.

| Starting Action | | |
|---|--------|-------|
| Suggested action | Yes/No | Notes |
| Make a thorough assessment of the number of visitors. | | |
| Minimum requirements | | |
| Recommendations | Yes/No | Notes |
| Inform the caterer in due time about the expected number of visitors to prevent overbuying of food. | | |
| Offer a largely vegetarian menu with a smaller number of meat and vegan options. | | |
| Aim to provide locally-sourced and preferably organic food. | | |

| | | |
|---|---------------|--------------|
| Use reusable plates and cutlery where possible. | | |
| Design policy for leftover food. Explore options for collaboration with local partners. | | |
| Going further | | |
| Recommendations | Yes/No | Notes |
| Provide catering 5% under the expected number of visitors to account for no-shows. | | |
| Make sure to account for cultural/religious preferences in setting the menu and, if needed, offer a limited number of those food items. | | |
| Develop a packaging waste policy. Ensure compatibility with regional recycling policies. | | |
| Set-up strategy to promote proper recycling by visitors. | | |

General Sustainability

Table 4. Checklist for general sustainability considerations.

| | | |
|---|---------------|--------------|
| Minimum Requirements | | |
| Recommendation | Yes/No | Notes |
| Communicate sustainability strategy clearly and regularly with the organising staff and all involved stakeholders/partners. | | |
| Set-up data gathering strategy for sustainability information early in the organisation process. Communicate data needs clearly with stakeholders/partners. | | |
| Evaluate the sustainability of the event extensively after completion. Discuss lessons learned and formulate recommendations for future events. | | |
| Share and discuss lessons learned and recommendations with stakeholders/partners. | | |



Appendix 4 – Media Monitor Leiden2022

Cijferoverzicht

| Maand | Aantal | Populaire onderwerpen | Aantal | Organisaties die het meest bericht hebben | Aantal | Schaalniveau van organisaties | Aantal |
|-----------------|------------|-------------------------------|------------|---|------------|-------------------------------|------------|
| Januari | 1 | Leiden2022 (ECS vermeldingen) | 39 | Leidsch Dagblad | 57 | Regionaal | 205 |
| | | Seeing Stars | 27 | | | | |
| Februari | 1 | | | Sleutelstad | 56 | Lokaal | 189 |
| Maart | 25 | ESOF | 20 | Universiteit Leiden | 49 | Nationaal | 67 |
| April | 61 | ECS terugblik | 16 | Unity.nu | 28 | Europees | 42 |
| Mei | 77 | Citizen Science | 9 | LUMC | 18 | Internationaal | 13 |
| Juni | 41 | Wijsneus Festival | 9 | Liever in Leiden | 12 | Totaal | 516 |
| | | Meten is weten | 9 | | | | |
| Juli | 57 | | | Leids Nieuwsblad | 10 | | |
| Augustus | 37 | Biodiversiteit | 7 | <i>Overige organisaties</i> | 286 | | |
| September | 70 | EU TalentOn | 7 | Totaal | 516 | | |
| Oktober | 48 | Intuïtie | 7 | | | | |
| November | 32 | Mobiel Planetarium | 7 | | | | |
| December | 24 | Muurformules in de Stad | 6 | | | | |
| Januari (2023) | 12 | Buskruit | 6 | | | | |
| | | Boter, kaas en Leiden | 6 | | | | |
| Februari (2023) | 2 | | | | | | |
| Maart (2023) | 11 | <i>Overige onderwerpen</i> | 341 | | | | |
| Overige maanden | 5 | Totaal | 516 | | | | |
| Onbekend | 12 | | | | | | |
| Totaal | 516 | | | | | | |

New European Bauhaus Media

| Datum | Maand | Type | Onderwerp / dagthema | Project | Organisatie | Schaalniveau | Link |
|-----------|----------------|----------------------|---|---------|-----------------------------|----------------|---|
| 2/11/2022 | Februari | Radio uitzending | Brugklassers bouwen de toekomst | NEB | Sleutelstad | Regionaal | https://sleutelstad.nl/2022/02/11/brugklassers-da-vinci-bouwen-leiden-van-de-toekomst/ |
| 3/25/2022 | Maart | Online bericht | Leidse Dag tegen Snelle Mode | NEB | Sleutelstad | Lokaal | Leidse Dag tegen Snelle Mode, tweedehands is weer hip Sleutelstad |
| 3/29/2022 | Maart | LinkedIn | NRC Future Affairs | NEB | NRC Future Affairs | Nationaal | (1) Plaatsen LinkedIn |
| 4/2/2022 | April | Online bericht | NRC Future Affairs | NEB | NRC | Nationaal | NRC (nrcmedia.nl) |
| 4/14/2022 | April | Online bericht | Stadsbauhaus | NEB | TakeToNews | Internationaal | https://taketonews.com/leiden2022-until-the-end-of-the-year-in-stadsbauhaus/ |
| 4/14/2022 | April | Twitter | Stadsbauhaus | NEB | TakeToNews | Internationaal | https://t.co/xTxJFnY8G9 / Twitter |
| 4/14/2022 | April | Online bericht | Stadsbauhaus | NEB | Sleutelstad | Lokaal | Leiden2022 tot eind van het jaar in 'Stadsbauhaus' Sleutelstad |
| 4/14/2022 | April | Online bericht | Stadsbauhaus | NEB | NU.nl | Nationaal | Leiden2022 tot eind van het jaar in 'Stadsbauhaus' NU - Het laatste nieuws het eerst op NU.nl |
| 4/15/2022 | April | Twitter | Stadsbauhaus | NEB | Emile van Aelst | Lokaal | Emile van Aelst op Twitter: "Check out this article: Leiden European City of Science zit tot het eind van het jaar in het Stadsbauhaus - https://t.co/GJuM0QOg9 @GemeenteLeiden @CultuurLeiden @leiden2022 @SRLeidenUniv" / Twitter |
| 4/15/2022 | April | Online bericht | Stadsbauhaus | NEB | Leidse Glibber | Lokaal | https://www.leidseglibber.nl/2022/04/15/leiden-european-city-of-science-zit-tot-het-eind-van-het-jaar-in-het-stadsbauhaus/ |
| 4/27/2022 | April | LinkedIn | NRC Future Affairs | NEB | Claudy Jongstra | Europees | (2) Plaatsen LinkedIn |
| 5/13/2022 | Mei | Online bericht | Stadsbauhaus | NEB | Unity.nu | Regionaal | Circulair Warenhuis opent in Stadsbouwhuis Leiden Leiden (unity.nu) |
| 6/1/2022 | Juni | Online bericht | New European Bauhaus Festival | NEB | New European Bauhaus | Europees | New European Bauhaus (new-european-bauhaus-festival.eu) |
| 9/1/2022 | September | Nieuwsbrief | Plekberaad voor de Toekomst | NEB | Week Toekomstige Generaties | Nationaal | https://weektoekomstigegeneraties.nl/category/nieuws/ |
| 9/7/2022 | September | Online bericht | Klimaatmakers | NEB | Mare College | Lokaal | https://www.marecollege.nl/tips-en-nieuws/techniekweek |
| 9/17/2022 | September | Online bericht | Plekberaad voor de Toekomst | NEB | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/leids-plekberaad-over-duurzame-toekomst-van-leiden- |
| 9/19/2022 | September | Online bericht | Plekberaad voor de Toekomst | NEB | Leiden Into Business | Lokaal | https://leiden.intobusiness.nu/nieuws/derde-leidse-plekberaad-over-duurzame-toekomst-van-de-stad-leiden-creeert-oplossingen-voor-woningtekort.html |
| 9/28/2022 | September | Nieuwsbrief | Seeing Stars, Plekberaad voor de Toekomst | NEB | Leiden Kennisstad | Regionaal | https://gemeente-leiden.email-provider.eu/web/ruoiocjgwz/zscrnktgl/hddtvxoqlx/cosp9aftcz |
| 12/8/2022 | December | Online nieuwsbericht | Toekomstige generatie | NEB | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221208_54236012?utm_source=google&utm_medium=organic |
| 1/9/2023 | Januari (2023) | Online bericht | Toekomstige generatie | NEB | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/gemeenteraad-leiden-gaat-vaker-in-schoenen-toekomstige-generaties-staan- |
| Onbekend | Onbekend | Online bericht | Plekberaad voor de Toekomst | NEB | Tegentijd | Nationaal | https://tegentijd.nl/plekberaden-voor-de-toekomst/ |

Kennis door de Wijken Media

| Datum | Maand | Type | Onderwerp / dagthema | Project | Organisatie | Schaalniveau | Link |
|------------|-----------------|----------------|------------------------------------|---------|------------------------|--------------|---|
| 12/28/2021 | December (2021) | Online bericht | Morse | KDDW | A28 VERON | Lokaal | https://a28.veron.nl/leiden2022/ |
| 1/27/2022 | Januari | LinkedIn | Poëzieweek, muurgedichten | KDDW | Leiden Education Fielc | Regionaal | https://www.linkedin.com/posts/het-lef_leiden2022-leidenkennisstad-activity-6892446194610581504-Zyol/ |
| 1/28/2022 | Januari | Online bericht | Privacy, Hans Henseler | KDDW | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectorat-digital-forensics-e-discovery/hans-henseler-bij-radio-weetlust.html |
| 2/1/2022 | Februari | Online bericht | Wetenschapsdag van de Aarde | KDDW | Hortus Leiden | Regionaal | https://hortusleiden.nl/nieuws/hortus-botanicus-legt-planten-onder-de-loep-tijdens-leiden2022 |
| 2/16/2022 | Februari | Online bericht | Workshop weegmoment | KDDW | Proud2BErne | Nationaal | https://www.proud2bme.nl/Artikelen_over_gezondheid/Het_weegmoment_hoe_zwaar_til_jij_aa_n_ie_gewicht?%7C_workshop |
| 2/22/2022 | Februari | Online bericht | Postbus71 | KDDW | Universiteit Leiden | Regionaal | https://www.medewerkers.universiteitleiden.nl/mededelingen/2022/02/help-ij-mee-om-publieksvragen-aan-postbus71-te-beantwoorden |
| 2/23/2022 | Februari | Artikel | Blaauwe plekken | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20220222_122241867 |
| 2/23/2022 | Februari | Artikel | LOHC | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 2/23/2022 | Februari | Online bericht | Gemeente Voorschoten | KDDW | Gemeente Voorschote | Lokaal | https://www.voorschoten.nl/gemeente-voorschoten-zoekt-initiatiefnemers-voor-leiden-european-city-of-science-2022 |
| 2/23/2022 | Februari | Online bericht | Gemeente Voorschoten | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/voorschoten/voorschoten-zoekt-initiatiefnemers-voor-wetenschapsfestival |
| 2/25/2022 | Februari | Online bericht | Blaauwe plekken | KDDW | Universiteit Leiden | Nationaal | https://www.universiteitleiden.nl/agenda/2022/02/blauwe-plekken |
| 3/2/2022 | Maart | Artikel | Dag van het oor | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/2/2022 | Maart | Artikel | Wetenschappers op bezoek bij LOHC | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/2/2022 | Maart | Advertentie | Dag van het oor | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/2/2022 | Maart | Advertentie | Wetenschappers op bezoek bij LOHC | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/7/2022 | Maart | Online bericht | Oor | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/03/kinderen-een-en-al-oor-tijdens-leiden2022-event |
| 3/9/2022 | Maart | Artikel | Oor | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/9/2022 | Maart | Artikel | Tulp | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 3/10/2022 | Maart | Online bericht | Tulp | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/oegstgeest/interessante-middag-georganiseerd-voor-de-dag-van-de-tulp- |
| 3/14/2022 | Maart | Online bericht | Geluk | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/dag-van-geluk-bij-leiden-european-city-of-science |
| 3/21/2022 | Maart | Online bericht | Dag van Placebo-effect | KDDW | Universiteit Leiden | Regionaal | De dag van het placebo-effect met Team Andrea Evers - Universiteit Leiden |
| 3/25/2022 | Maart | Online bericht | Seeing Stars | KDDW | Sleutelstad | Lokaal | Leiden doet op 25 september de lichten uit voor Seeing Stars Sleutelstad |
| 3/25/2022 | Maart | Nieuwsbrief | Biologische klok | KDDW | LUMC | Regionaal | https://c.spotler.com/ct/m8/k1/83YBK_luAmj6lWW-7V9VWTVW/Gamx--5X-qVg1XlMf0HONLdkq1n26CkzC8zGi-Aczw9P-r13H8bNlgr6EPtAg/vA3PxHpnFlghZa |
| 3/26/2022 | Maart | Online bericht | Urban Jungle | KDDW | Vreewijk te Leiden | Lokaal | https://vreewijk.wordpress.com/category/nieuws/ |
| 3/28/2022 | Maart | Online bericht | Dag van Placebo-effect | KDDW | Universiteit Leiden | Regionaal | De Dag van het Placebo-Effect - Universiteit Leiden |
| 3/29/2022 | Maart | Online bericht | Dag van de verhalen | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/dag-van-de-verhalen-in-energiepark-leiden-met-leiden2022 |
| 3/29/2022 | Maart | Online bericht | Terugblik Leidse Kringloopmarkt | KDDW | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/terugblik-de-leidse-kringloopmarkt/science2022/ |
| 3/31/2022 | Maart | Online bericht | Meten is weten | KDDW | Hart Long Centrum Lei | Regionaal | Maori weekend Volkenkunde in Leiden |
| 4/1/2022 | April | Online bericht | Maori | KDDW | Museum Volkenkunde | Regionaal | https://www.begraafplaatsgroenesteeg.nl/nieuwsbrief_86_2.html |
| 4/2/2022 | April | Online bericht | Bijzondere verhalen op Groenesteeg | KDDW | Begraafplaats Groenes | Lokaal | https://www.andreaevers.nl/news/4-april-2022-dag-van-het-placebo-effect/ |
| 4/4/2022 | April | Online bericht | Dag van Placebo-effect | KDDW | Andrea Evers | Nationaal | Singelloop Leiden op Instagram: "We werken samen met Leiden European City of Science. 2022. https://leiden2022.nl/activiteiten/45e-singelloop" |
| 4/6/2022 | April | Instagram | Singelloop | KDDW | Singelloop | Lokaal | Gratis hartfilmpjes voor Leiden2022 Leiden (unity.nu) |
| 4/9/2022 | April | Online bericht | Meten is weten | KDDW | Unity.nu | Regionaal | https://wecam.care/discover-the-rythm-of-your-heart/ |
| 4/11/2022 | April | Online bericht | Hartritm | KDDW | Wecam | Europees | n.v.t. |
| 4/11/2022 | April | Informatiegids | Kennis door de Wijken | KDDW | Gemeente Oegstgeest | Lokaal | LUMC-artsen maken gratis hartfilmpjes op Stationsplein Sleutelstad |
| 4/11/2022 | April | Online bericht | Meten is weten | KDDW | Sleutelstad | Lokaal | Leiden European City of Science - Universiteit Leiden |
| 4/11/2022 | April | Online bericht | Bijzondere collecties | KDDW | Universiteit Leiden | Regionaal | Leiden European City of Science - Universiteit Leiden |
| 4/12/2022 | April | Online bericht | Meten is weten | KDDW | Postzegelblog | Lokaal | https://www.postzegelblog.nl/2022/04/12/willem-eindhoven-op-12-april-2022-in-leiden/ |
| 4/12/2022 | April | Youtube video | Meten is weten | KDDW | Sleutelstad | Lokaal | https://www.youtube.com/watch?v=m4KvN3qAVmk |

| | | | | | | | |
|-----------|-------|----------------|-------------------------------|------|----------------------|-----------|--|
| 4/12/2022 | April | Online bericht | Vacuüm | KDDW | NEVAC | Nationaal | NEVAC NEDERLANDSE VACUÛMVERENIGING |
| 4/12/2022 | April | Online bericht | Meten is weten | KDDW | NU.nl | Nationaal | LUMC-artsen maken gratis hartfilmpjes op Stationsplein NU - Het laatste nieuws het eerst op NU.nl |
| 4/12/2022 | April | Online bericht | Meten is weten | KDDW | Omroep West | Regionaal | Artsen meten hartslagen naast Leiden Centraal ter ere van de uitvinder van de ECG - Omroep West |
| 4/12/2022 | April | Online bericht | IJskou te koop | KDDW | Universiteit Leiden | Regionaal | IJs Kou te koop! - Universiteit Leiden |
| 4/13/2022 | April | Online bericht | Quantum | KDDW | De Vreewijker | Lokaal | https://vreewijk.files.wordpress.com/2022/03/vreewijker-maart-2022.pdf |
| 4/13/2022 | April | Online bericht | Meten is weten | KDDW | Leidse Glibber | Lokaal | Monumentje voor Willem Einthoven (1860 – 1927) de uitvinder van de ECG – Leidse Glibber |
| 4/13/2022 | April | Online bericht | Meten is weten | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/04/13/artsen-meten-hartslagen-naast-leiden-centraal-ter-ere-van-de-uitvinder-van-de-ecg/ |
| 4/13/2022 | April | Online bericht | Quantum | KDDW | Vreewijk te Leiden | Lokaal | https://vreewijk.wordpress.com/leiden-2022/ |
| 4/13/2022 | April | Online bericht | Vacuüm | KDDW | NEVAC | Nationaal | https://docplayer.nl/230080460-Blad-nevac-60-jaar-woensdag-13-april-2022-rijksmuseum-boerhaave-leiden-jaargang-60-nummer-1-maart-2022.html |
| 4/14/2022 | April | Krantenartikel | Kennis door de Wijken | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |
| 4/14/2022 | April | Online bericht | Quantum | KDDW | Unity.nu | Regionaal | Quantum verstrengeld in de Vreewijk in Leiden Unity.NU Nieuws unity.nu-nieuws Kijk terug |
| 4/15/2022 | April | Online bericht | Lezing ecologische voetafdruk | KDDW | Haagwegkwartier | Lokaal | https://www.haagwegkwartier.nl/blog/nieuws/speeltuin/15-april-lezing-ecologische-voetafdruk/ |
| 4/15/2022 | April | Online bericht | Quantum | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/04/15/vreewijkers-krijgen-lesje-quantummechanica/ |
| 4/16/2022 | April | Online bericht | Helpdesk migranten | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitgendas/de-stem-van-energie-helpdesk-migranten-1/ |
| 4/19/2022 | April | Online bericht | Empathie | KDDW | Universiteit Leiden | Regionaal | De Dag van de Empathie - Universiteit Leiden |
| 4/21/2022 | April | Artikel | Mobiel Planetarium | KDDW | Oegstgeester Courant | Lokaal | n.v.t. |
| 4/21/2022 | April | Online bericht | DNA | KDDW | Hogeschool Leiden | Lokaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-metagenomics/lezing-dna-technieken-en-verborgen-biodiversiteit.html |
| 4/21/2022 | April | Online bericht | DNA | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/lunchlezing-over-dna-technieken-op-wereld-dna-dag- |
| 4/23/2022 | April | Bericht | Aarde | KDDW | Hortus botanicus | Regionaal | n.v.t. |
| 4/25/2022 | April | Online bericht | Dag van DNA | KDDW | BplusC | Lokaal | https://www.bplusc.nl/agenda/de-dag-van-het-dna/ |
| 4/25/2022 | April | Online bericht | Quantum | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/04/sfeervol-wijkfeestje-quantum-verstrengeld-in-de-vreewijk-in-leiden |
| 4/27/2022 | April | Online bericht | Lezing wolk van Oort | KDDW | Leidsch Dagblad | Regionaal | Lezing Ton van Raan over Jan Hendrik Oort en de structuur van de Melkweg Leidschdagblad |
| 4/28/2022 | April | Online bericht | Herdenking Arie Bijl | KDDW | Sleutelstad | Lokaal | Oegstgeest staat stil bij natuurkundige Arie Bijl Sleutelstad |
| 4/28/2022 | April | Online bericht | Herdenking Arie Bijl | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/04/28/oegstgeest-staat-stil-bij-natuurkundige-arie-bijl/ |
| 4/29/2022 | April | Online bericht | Mobiel Planetarium | KDDW | Oegst! | Lokaal | https://www.oegst.nl/17128/retourtje-oerknal-met-mobiel-planetarium.html |
| 4/29/2022 | April | Online bericht | Herdenking Arie Bijl | KDDW | Oegstgeester Courant | Lokaal | https://www.oegstgeestercourant.nl/nieuws/algemeen/75897/arie-bijl-herdacht-in-arie-bijlhof |
| 4/29/2022 | April | Online bericht | Herdenking Arie Bijl | KDDW | Unity.nu | Regionaal | https://www.unity.nu/TV/unity.nu-nieuws/herinneringen-aan-natuurkundige-en-verzetstrijder-arie-bijl |
| 4/29/2022 | April | Online bericht | Mobiel Planetarium | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/04/retourtje-oerknal |
| 5/1/2022 | Mei | Nieuwsbrief | Dag van Copernicus | KDDW | Stedenband Leiden-To | Europees | https://www.leiden-torun.eu/nieuwsbrieven/Nieuwsbrief%20Leiden%20Torun%20mei%202022.pdf |
| 5/1/2022 | Mei | Online bericht | Maori | KDDW | Museum Volkenkunde | Regionaal | https://www.volkenkunde.nl/nl/zien-en-doen/activiteiten/maori-weekend# |
| 5/2/2022 | Mei | Online bericht | Zuidwest Symphonies | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/zuidwest-symphonies-ontdek-de-muzikale-straten-van-leiden-zuidwest |
| 5/3/2022 | Mei | Online bericht | Herdenking Arie Bijl | KDDW | Leidsch Dagblad | Regionaal | Oegstgeestse verzetsheld kon zich meten aan Nobelprijswinnaars voor zijn dood in een concentratiekamp Leidsch Dagblad |
| 5/4/2022 | Mei | Online bericht | Empathie | KDDW | Universiteit Leiden | Regionaal | Kennis naar de wijk op de Dag van de Empathie - Universiteit Leiden |
| 5/7/2022 | Mei | Online bericht | Zuidwest Symphonies | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20220506_20194200 |
| 5/9/2022 | Mei | Online bericht | Gaan als de brandweer | KDDW | Sleutelstad | Lokaal | Lezing: hoe snel is de brandweer ter plaatse? Sleutelstad |
| 5/10/2022 | Mei | Online bericht | Biodiversiteit | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/diverse-activiteiten-tijdens-biodiversiteitsdag-bij-tuinvereniging-ons-buiten |
| 5/10/2022 | Mei | Online bericht | Gaan als de brandweer | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/lezing-over-opkomsttijden-van-de-brandweer-op-21-mei---- |

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| 5/11/2022 | Mei | Online bericht | Hooikoorts | KDDW | Hogeschool Leiden | Lokaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/leiden-centre-for-applied-bioscience/leer-alles-over-pollen-en-hooikoorts.html#:~:text=De%20Hooikoortsdag%20is%20onderdeel%20van,(Katoenpark%20)1%20in%20Leiden |
| 5/11/2022 | Mei | Online bericht | Nightingale Dag | KDDW | Leiden Into Business | Lokaal | https://leiden.intobusiness.nu/nieuws/12-mei-nightingale-dag-bij-mborijnland-open-huis-bij-zorgopleidingen-leiden.html |
| 5/12/2022 | Mei | Online bericht | Biodiversiteit | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/05/biodiversiteitsdag-bij-tuinvereniging-ons-buiten/ |
| 5/12/2022 | Mei | Online bericht | Stevenshof | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/05/erfgoed-leiden-is-op-zoek-naar-verhalen-over-de-stevenshof/ |
| 5/12/2022 | Mei | Online bericht | Stevenshof | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/05/20/zoektocht-naar-het-levend-geheugen-van-de-stevenshof/ |
| 5/12/2022 | Mei | Online bericht | Nightingale Dag | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/nightingale-dag-bij-mborijnland-open-dag-in-lokatie-breestraat |
| 5/12/2022 | Mei | Online bericht | Stevenshof | KDDW | Unity.nu | Regionaal | Erfgoed Leiden is op zoek naar verhalen van de Stevenshof Leiden (unity.nu) |
| 5/13/2022 | Mei | Online bericht | Nightingale Dag | KDDW | NieuwsLeiden | Lokaal | https://www.nieuwsleiden.nl/leiden/nightingale-dag-bij-mborijnland-open-dag-in-lokatie-breestraat/ |
| 5/13/2022 | Mei | Online bericht | Zwart gat | KDDW | Sleutelstad | Lokaal | Wereldnieuws in wetenschapsland: nieuwe foto van zwart gat in onze Melkweg Sleutelstad |
| 5/14/2022 | Mei | Online bericht | Stevenshof | KDDW | Erfgoed Leiden en Om | Regionaal | 19 mei: Levend Geheugen #Stevenshof (erfgoedleiden.nl) |
| 5/16/2022 | Mei | Online nieuwsbericht | Stevenshof | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220516_27884813 |
| 5/16/2022 | Mei | Online bericht | Empathie | KDDW | Universiteit Leiden | Regionaal | Leiden 2022: Living Library op de Nationale Dag van de Empathie - Universiteit Leiden |
| 5/17/2022 | Mei | Online blog | Biodiversiteit | KDDW | Science Business | Europees | HORIZON BLOG: European R&D policy newsbytes Science Business |
| 5/17/2022 | Mei | Online nieuwsbericht | Biodiversiteit | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220517_79522533?utm_medium=organic&utm_source=google |
| 5/19/2022 | Mei | Online bericht | Stevenshof | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/levend-geheugen-stevenshof/ |
| 5/19/2022 | Mei | Online bericht | Presentatie Leren met de Stad | KDDW | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/lerenmetdestad-nieuwe-editie-van-presenteren-met-de-stad/ |
| 5/19/2022 | Mei | Online bericht | Stevenshof | KDDW | Erfgoed Leiden en Om | Regionaal | https://www.erfgoedleiden.nl/nieuws/1291-19-mei-levend-geheugen-leiden2022 |
| 5/19/2022 | Mei | Online bericht | Biodiversiteit | KDDW | Unity.nu | Regionaal | Activiteit voor jong en oud bij Plantsoen Leiden Leiden (unity.nu) |
| 5/22/2022 | Mei | Facebook | Biodiversiteit | KDDW | Buurtcomite Hogewoer | Lokaal | https://www.facebook.com/events/1172115243591628/?ref=newsfeed |
| 5/22/2022 | Mei | Online bericht | Stevenshof Muziekfestival | KDDW | Stevenshof Muziekfest | Lokaal | Stevenshof Muziekfestival |
| 5/22/2022 | Mei | Online bericht | Leiden Science Family Day | KDDW | Universiteit Leiden | Regionaal | A look behind the scenes at the Leiden Science Family Day - Leiden University (universiteitleiden.nl) |
| 5/22/2022 | Mei | Online bericht | Virus | KDDW | Universiteit Leiden | Regionaal | Virus en virus - Universiteit Leiden |
| 5/22/2022 | Mei | Online bericht | Levend lab | KDDW | Universiteit Leiden | Regionaal | Wat()er leeft - Universiteit Leiden |
| 5/22/2022 | Mei | Online bericht | Biodiversiteit | KDDW | UrbanSync | Regionaal | https://urbansync.nl/2022/05/19/de-dag-van-de-biodiversiteit/ |
| 5/23/2022 | Mei | Online bericht | Boter, kaas en Leiden | KDDW | NieuwsLeiden | Lokaal | https://www.nieuwsleiden.nl/unity/1-juni-inloopdag-bij-museum-de-lakenhal-over-boerenleidse-kaas/ |
| 5/23/2022 | Mei | Online bericht | Boter, kaas en Leiden | KDDW | Sleutelstad | Lokaal | 'Boter, kaas en Leiden' in De Lakenhal Sleutelstad |
| 5/23/2022 | Mei | Youtube video | Gaan als de brandweer | KDDW | Brandweer Hollands M | Regionaal | https://www.youtube.com/watch?v=2t1qqVG0HcY |
| 5/23/2022 | Mei | Online bericht | Boter, kaas en Leiden | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/1-juni-inloopdag-bij-museum-de-lakenhal-over-boerenleidse-kaas |
| 5/26/2022 | Mei | Online bericht | Cancelled | KDDW | Sleutelstad | Lokaal | Paneldiscussie: 'Cancelcultuur: monddood!?' Sleutelstad |
| 5/26/2022 | Mei | Online bericht | Boter, kaas en Leiden | KDDW | Agraaf | Regionaal | Leidse kaas in de spotlight tijdens 'Boter, kaas en Leiden' Agraaf.nl - Landbouwnieuws voor West-Nederland |
| 5/29/2022 | Mei | Online bericht | The Power of ADHD | KDDW | ADHD Europe | Europees | https://adhd-europe.eu/2022-10-15-october-2022-nederland-in-english/ |
| 5/30/2022 | Mei | Online bericht | Klimaatmakers | KDDW | Klimaat Museum | Nationaal | https://www.klimaatmuseum.nl/projecten/klimaatmakers-marecollege-leiden/ |
| 6/1/2022 | Juni | Online bericht | Expositie tulpenmanie | KDDW | Anna Fine Foer | Lokaal | https://www.annafineart.com/news-2/ |
| 6/1/2022 | Juni | Online bericht | Plant | KDDW | Singelpark | Lokaal | https://www.singelpark.nl/project/overzichtspagina-dag-van-de-plant/overzicht/ |
| 6/1/2022 | Juni | Online blog | Expositie tulpenmanie | KDDW | Tulpenmania Leiden | Lokaal | https://www.tulpenmania.org/ |
| 6/1/2022 | Juni | Online bericht | Boter, kaas en Leiden | KDDW | AgriHolland | Regionaal | Boter, kaas en Leiden AgriHolland Agenda |
| 6/2/2022 | Juni | Online bericht | Levend lab | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/en/events/2022/06/water-lives |
| 6/3/2022 | Juni | Online bericht | Boter, kaas en Leiden | KDDW | Leidse Glibber | Lokaal | Boeren Leidse de oudste kaas van Nederland. – Leidse Glibber |
| 6/3/2022 | Juni | Online bericht | Expositie tulpenmanie | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/expositie-tulpenmanie/ |
| 6/7/2022 | Juni | Online bericht | Koraaldag | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/regio/koraaldag-tijdens-leiden-european-city-of-science-2022 |

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| 6/8/2022 | Juni | Online bericht | Postbus71 | KDDW | Universiteit Leiden | Regionaal | Leidse wetenschappers beantwoorden Postbus 71-vragen - Universiteit Leiden |
| 6/9/2022 | Juni | Online bericht | Kayser- en kaptein | KDDW | Werkgroep Leidse Stei | Lokaal | https://werkgroepleidsesterrewacht.nl/2022/06/09/18-juni-2022-kaiser-kapteyn-dag/ |
| 6/9/2022 | Juni | Online bericht | Symposium fotografie en wetenschap | KDDW | PF Fotografie Magazin | Nationaal | Photography meets Science and the City - PF Fotografie Magazine |
| 6/14/2022 | Juni | Online bericht | Fusie | KDDW | Mos Leiden | Lokaal | https://mosleiden.nl/european-city-of-science/ |
| 6/16/2022 | Juni | Online bericht | Metropolis | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/06/metropolis |
| 6/17/2022 | Juni | Facebook | Kayser- en kaptein | KDDW | Oude Sterrewacht Leic | Lokaal | https://www.facebook.com/ostwr/photos/a.229472287249786/1816308521899480/?type=3 |
| 6/18/2022 | Juni | Online bericht | Kayser- en kaptein | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/06/kaiser-kapteyn-dag |
| 6/21/2022 | Juni | Online bericht | Nationaal Chemisch Erfgoed | KDDW | Sleutelstad | Lokaal | Oude woning Herman Boerhaave benoemd tot Nationaal Chemisch Erfgoed Sleutelstad |
| 6/21/2022 | Juni | Online bericht | Books that made history | KDDW | De Volkskrant | Nationaal | In Leiden verschenen boeken die de wereld radicaal veranderden, en nu worden ze tentoongesteld (volkskrant.nl) |
| 6/21/2022 | Juni | Online bericht | Nationaal Chemisch Erfgoed | KDDW | Leidsch Dagblad | Regionaal | Eer voor Leidse chemici: Rapenburg 31 is een 'Chemical Landmark' dankzij Franciscus Sylvius en Herman Boerhaave Leidsch Dagblad |
| 6/21/2022 | Juni | Online bericht | Terugblik presentatie Leren met de Stad | KDDW | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/terugblik-presenteren-met-de-stad/ |
| 6/23/2022 | Juni | Online bericht | Books that made history | KDDW | Universiteit Leiden | Regionaal | Geslaagde feestelijke opening Books that made History - Universiteit Leiden |
| 6/25/2022 | Juni | Online bericht | Tentoonstelling Trinity | KDDW | Leidsch Dagblad | Regionaal | Drieluiken terug in kerk: Leidse kunstenaar Tim Juffermans strikt elf collega's voor bijzonder kunstproject Leidschdagblad |
| 6/26/2022 | Juni | Online bericht | Virus | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/virus-vs-virus/ |
| 6/26/2022 | Juni | Online bericht | Virus | KDDW | Museum Boerhaave | Regionaal | https://rijksmuseumboerhaave.nl/te-zien-te-doen/familedag-virus-en-virus/ |
| 6/27/2022 | Juni | Online bericht | Microbioom | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/voedselverhalen-en-het-microbioom/ |
| 6/27/2022 | Juni | Online bericht | Microbioom | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/06/voedselverhalen-en-de-microbioom |
| 7/1/2022 | Juli | Online bericht | Keti Koti | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/01/afschaffing-slavernij-herdacht-bij-museum-volkenkunde/ |
| 7/4/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/07/rondleidingen-langs-de-leidse-muurformules/ |
| 7/5/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Scheltema Leiden | Lokaal | https://www.scheltemaleiden.nl/events/naturecalls/ |
| 7/8/2022 | Juli | Online bericht | Books that made history | KDDW | Nemo Kennislink | Nationaal | https://www.nemokennislink.nl/publicaties/wetenschap-in-de-zon/ |
| 7/8/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Leidsch Dagblad | Regionaal | https://m.leidschdagblad.nl/cnt/dmf20220707_13269057?utm_source=google&utm_medium=organic |
| 7/11/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Scheltema Leiden | Lokaal | https://www.scheltemaleiden.nl/events/naturecalls/ |
| 7/11/2022 | Juli | Online bericht | Science Quiz Game | KDDW | Science Meets Busine: | Regionaal | https://www.sciencemeetsbusiness.nl/SmBEvents/2022-08-QUIZ |
| 7/11/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/06/nature-calls |
| 7/11/2022 | Juli | Online bericht | Muurformules in de Stad | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/06/muurformule-tours |
| 7/12/2022 | Juli | Online bericht | Freezing Physics | KDDW | Leidse Glibber | Lokaal | https://www.leidseglibber.nl/2022/07/12/the-stream-stichtingrino-freezing-physics-show-in-scheltema/?s=08 |
| 7/18/2022 | Juli | Online bericht | Intuïtie | KDDW | De Volkskrant | Nationaal | https://www.volkskrant.nl/wetenschap/gerd-gigerenzer-over-intuïtie-veel-ceo-s-nemen-de-helft-van-de-grote-beslissingen-op-gutfeeling-bb94d960/?utm_source=link&utm_medium=app&utm_campaign=shared%20content&utm_content=free |
| 7/19/2022 | Juli | Online bericht | Wereld Slangen Dag | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/19/wereldslangendag-in-radio-weetlust-het-is-geen-dom-oerdier-maar-een-complex-wezen/ |
| 7/25/2022 | Juli | Online bericht | Herculus Rhijngeestus | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/25/hercules-rhijngeestus-kunstwerk-krijgt-eigen-kleurplaat/ |
| 7/27/2022 | Juli | Online flyer | Retourtje Oerknal | KDDW | Wijkverenigingen Meer | Lokaal | https://www.roommeerburg.nl/retourtje-oerknal/ |
| 7/30/2022 | Juli | Online bericht | Morse | KDDW | Morse Tekens | Lokaal | https://www.morsetekens.nl/2022/07/morse-in-de-mors/ |
| 8/1/2022 | Augustus | Online bericht | Expositie tulpenmanie | KDDW | BplusC | Lokaal | https://www.bplusc.nl/agenda/expositie-tulpenmanie/ |
| 8/1/2022 | Augustus | Nieuwsbrief | Wijsneus Festival | KDDW | De Leidse Hout Nieuw: | Lokaal | Nieuwsbrief VVLH augustus 2022 (1).pdf |
| 8/2/2022 | Augustus | Krantenartikel | Dag van de Leidse journalistiek | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/DMF20220802_59568757/de-leidse-courant-publiceerde-liefst-geen-regionaal-nieuws-veel-te-link |
| 8/3/2022 | Augustus | Online magazine | Citizen Science | KDDW | Gemeente Leiden | Lokaal | https://gemeente-leiden.email-provider.nl/web/ruoicqgw/onkgrv3thx/hddtvxoqlz/vlfsywpaa |
| 8/3/2022 | Augustus | Online bericht | Citizen Science | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiderdorp/citizen-science-dag-in-park-de-houtkamp-in-leiderdorp |
| 8/4/2022 | Augustus | Online bericht | Citizen Science | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/08/wetenschap-voor-iedereen-tijdens-citizen-science-day |
| 8/6/2022 | Augustus | Online bericht | Buskruit | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220805_57624017?utm_source=google&utm_medium=organic |
| 8/6/2022 | Augustus | Krantenartikel | Buskruit | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220805_57624017 |

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| 8/8/2022 | Augustus | Online bericht | Citizen Science | KDDW | Unity.nu | Regionaal | https://www.unity.nu/TV/unity.nu-nieuws/wetenschap-voor-iedereen-tijdens-citizen-science-day |
| 8/8/2022 | Augustus | Youtube video | Citizen Science | KDDW | UnityNU | Regionaal | https://www.youtube.com/watch?v=5JMQNreiCBE |
| 8/10/2022 | Augustus | Krantenartikel | Open bomen kaart | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/DMF20220810_50335193/leidenaars-brengen-nauwgezet-alle-parkbomen-in-de-regio-in-kaart-veel-mensen-kunnen-een-eik-nog-wel-herkennen-maar-dan-is-de-vraag-welke |
| 8/11/2022 | Augustus | Krantenartikel | Intuïtie | KDDW | DeMorgen | Europees | https://www.demorgen.be/beter-leven/ceo-s-nemen-de-meeste-grote-beslissingen-op-buikgevoel-maar-ze-zullen-het-nooit-toegeven-psycholoog-gerd-gigerenzer-over-de-waarde-van-intuïtie-bb94d960/?referrer=https%3A%2F%2Fwww.google.com%2F |
| 8/12/2022 | Augustus | Online bericht | Dag van de Leidse journalistiek | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/DMF20220812_59348728/p-j-bloklezing-2022-in-het-teken-van-de-geschiedenis-van-de-leidse-misdaadjournalistiek |
| 8/16/2022 | Augustus | Krantenartikel | IJsmummie Otzi | KDDW | Leids Nieuwsblad | Lokaal | n.v.t. |
| 8/19/2022 | Augustus | Online bericht | Mobiel Planetarium | KDDW | Vereniging PBW | Lokaal | https://www.profburgwijk.nl/ |
| 8/23/2022 | Augustus | Online bericht | Mobiel Planetarium | KDDW | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/nieuws/2022/September/tentoonstelling-galerie-lumc-james-webb-space-telescope?year=2022&month=7 |
| 8/24/2022 | Augustus | Nieuwsbrief | Mobiel Planetarium | KDDW | Wijkverenigingen Roor | Lokaal | n.v.t. |
| 8/28/2022 | Augustus | Online bericht | Opblaasbaar universum | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220828_68128607?utm_source=google&utm_medium=organic |
| 8/28/2022 | Augustus | Krantenartikel | Mobiel Planetarium | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220828_68128607 |
| 8/30/2022 | Augustus | Online bericht | Interactief watertheater | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/aaf-te-water/ |
| 8/30/2022 | Augustus | Online bericht | Interactief watertheater | KDDW | Singelpark | Lokaal | https://www.singelpark.nl/locatie/lakenpark/?tribe_venue=lakenpark&tribe_event_display=past |
| 8/31/2022 | Augustus | Twitter | Mobiel Planetarium | KDDW | Dr. Joanna Holt | Lokaal | https://www.astronomie.nl/nieuws/2022/08/31/mobiel-planetarium-op-de-dag-van-het-planetarium-van-leiden-2022 Dr. Joanna Holt op Twitter: "Mooie reportage over het NOVA @AstronomieNL Mobiel Planetarium op de Dag van het Planetarium van @leiden2022 in het @leidschdagblad. #SeeingStarsLeiden boekingen via educatie@seeingstarsleiden.nl. Andere boekingen: nova@astronomie.nl https://t.co/5FQsWntckC" / Twitter |
| 9/1/2022 | September | Online bericht | Interactief watertheater | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/09/01/aaf-te-water-interactief-watertheater-in-het-lakenpark/ |
| 9/1/2022 | September | Nieuwsbericht | Interactief watertheater | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/09/01/aaf-te-water-interactief-watertheater-in-het-lakenpark/?utm_source=mailpoet&utm_medium=email&utm_campaign=sleutelstad-nieuwsbrief |
| 9/2/2022 | September | Online bericht | Interactief watertheater | KDDW | Leidse Glibber | Lokaal | https://www.leidseglibber.nl/2022/09/02/rode-amerikaanse-rivierkreeft-kan-wel-zeshonderd-ionkies-tegelijk-krijgen/ |
| 9/5/2022 | September | Online bericht | Artificial Intelligence | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/09/leidse-ai-week |
| 9/9/2022 | September | Nieuwsbrief | Micro dag | KDDW | Ondernemersverenigin | Lokaal | https://ovbsp.email-provider.eu/web/fqncuu0mo/zdeszb3glt/gegxr32o3i/xrljw7gdzp |
| 9/10/2022 | September | Online bericht | Wijsneus Festival | KDDW | India Education Diary | Internationaal | https://indiaeducationdiary.in/leiden-university-surprising-insights-experiments-and-magic-tricks-at-interactive-wijsneus-festival/ |
| 9/16/2022 | September | Online bericht | Wijsneus Festival | KDDW | Leiden International Ce | Internationaal | https://www.leideninternationalcentre.nl/living-here/events/807859370/wishy-washy-festival |
| 9/16/2022 | September | Online bericht | Wijsneus Festival | KDDW | Kenniscentrum Psychc | Nationaal | https://www.kcpeg.nl/agenda/gedragsfestival |
| 9/16/2022 | September | Online bericht | Wijsneus Festival | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/09/wijsneus-festival---kenniscentrum-psychologie-en-economisch-gedrag |
| 9/17/2022 | September | Online bericht | Kuntsigi | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/een-introductie-tot-traditionele-japanse-kintsugi/ |
| 9/17/2022 | September | Online bericht | Kuntsigi | KDDW | Leiden Stad van Ontde | Regionaal | https://www.visitleiden.nl/nl/agenda/2304237594/kintsugi-chocola-maken |
| 9/17/2022 | September | Krantenartikel | Wijsneus Festival | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |
| 9/17/2022 | September | Online bericht | Kuntsigi | KDDW | Siebold Huis | Regionaal | https://www.sieboldhuis.org/activiteiten/een-introductie-tot-traditionele-japanse-kintsugi |
| 9/18/2022 | September | Online bericht | Paddenstoel | KDDW | Vrienden van de Leids | Lokaal | https://www.vriendenvandleidsehout.nl/paddenstoelen-spotten-zaterdag-24-september/ |
| 9/18/2022 | September | Online bericht | Oncologie | KDDW | Stichting Academisch I | Nationaal | https://www.academischgoed.nl/agenda/een-kijkje-achter-de-schermen-bij-oncologie-lumc/ |
| 9/18/2022 | September | Online bericht | Oncologie | KDDW | Museum Boerhaave | Regionaal | https://rijksmuseumboerhaave.nl/te-zien-te-doen/oncologie/ |
| 9/20/2022 | September | Online bericht | Intuïtie | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/09/kunnen-we-onze-intuïtie-nog-vertrouwen |
| 9/21/2022 | September | Online bericht | Vrede | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/vrede-in-gesprek-met-elkaar/ |
| 9/21/2022 | September | Online bericht | Vrede | KDDW | Leiden Stad van Ontde | Regionaal | https://www.visitleiden.nl/nl/agenda/1166680007/vrede-in-gesprek-met-elkaar |
| 9/22/2022 | September | Online bericht | Wijsneus Festival | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220922_35531468 |
| 9/22/2022 | September | Krantenartikel | Buskruit | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |

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|------------|-----------|-----------------------|-------------------------------------|------|------------------------|-----------|---|
| 9/22/2022 | September | Online bericht | Wijsneus Festival | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220922_35531468/nieuw-kenniscentrum-psychologie-en-economisch-gedrag-houdt-festival-wijsneus?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 9/22/2022 | September | Online bericht | Wijsneus Festival | KDDW | Universiteit Leiden | Regionaal | https://www.student.universiteitleiden.nl/nieuws/2022/09/psychologen-van-alle-markten-thuis-op-festivalvrijdag?cf=universiteit&cd=gast |
| 9/24/2022 | September | Online bericht | Paddenstoel | KDDW | Naturalis | Regionaal | https://www.naturalis.nl/dag-van-paddenstoel |
| 9/26/2022 | September | Online bericht | Geschiedenis in de Transvaalwijk | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220923_65356303?utm_source=google&utm_medium=organic |
| 9/27/2022 | September | Online bericht | Buskruit | KDDW | Erfgoed Leiden en Om | Regionaal | https://www.erfgoedleiden.nl/nieuws/1317-8-oktober-knallend-leiden |
| 9/28/2022 | September | Online bericht | Hartritme | KDDW | Hart Long Centrum Lei | Lokaal | https://hartlongcentrum.nl/nieuws/ontdek-de-wereld-van-je-hartritme-op-6-oktober/ |
| 9/28/2022 | September | Facebook | Hartritme | KDDW | LUMC | Regionaal | https://www.facebook.com/LUMC/posts/pfbid04dFn8CqgepzuWAUycXiXbvPWdyScgh9RH2a52ijjHERtH4NXCGWA2AT4fPb8fHqI |
| 9/30/2022 | September | Online krantenartikel | De Tegentijd | KDDW | Oegstgeester Courant | Lokaal | https://issuu.com/twovisions/docs/oeq_week_38_22 |
| 9/30/2022 | September | Online bericht | De Tegentijd | KDDW | Leiden Stad van Ontde | Regionaal | https://www.visitleiden.nl/nl/agenda/290099898/een-reis-door-de-tijd |
| 10/1/2022 | Oktober | Online bericht | Herculus Rhijngceestus | KDDW | Oegstgeester Courant | Lokaal | https://www.oegstgeestercourant.nl/nieuws/algemeen/79173/prijzuitreiking-kleurplaten-wedstrijd-hercules-rhijngceestus |
| 10/5/2022 | Oktober | Online bericht | Schoolpleinsafari | KDDW | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/natuur-en-ontwikkeling-kind/evenementen/groene-schoolpleinen/leiden2022/groene-schoolpleinsafari |
| 10/6/2022 | Oktober | Online bericht | Hartritme | KDDW | Universiteit Leiden | Lokaal | https://www.universiteitleiden.nl/agenda/2022/10/beats-per-minute |
| 10/6/2022 | Oktober | Online bericht | Reuma | KDDW | ReumaMagazine | Nationaal | https://reumamagazine.nl/reuma-onderzoek/kom-op-wereldreumadag-naar-het-lumc/ |
| 10/6/2022 | Oktober | Online bericht | Trombose | KDDW | Medical Facts | Regionaal | https://www.medicalfacts.nl/2015/10/06/activiteiten-wereld-trombose-dag-op-10-en-13-oktober/ |
| 10/8/2022 | Oktober | Online bericht | Buskruit | KDDW | BplusC | Lokaal | https://www.bplusc.nl/agenda/knallend-leiden/ |
| 10/8/2022 | Oktober | Online bericht | Reuma | KDDW | Nationale Vereniging F | Nationaal | https://reumazorgnederland.nl/kom-op-wereldreumadag-naar-het-lumc/ |
| 10/9/2022 | Oktober | Online bericht | Zelf | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/selfie-09-10-hanne/ |
| 10/9/2022 | Oktober | Nieuwsbericht | Japane duizendknoop | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/10/speurhond-in-actie-tegen-japane-duizendknoop/ |
| 10/9/2022 | Oktober | Nieuwsbericht | Natuur en biodiversiteit Cronesteyn | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/10/natuur-en-biodiversiteit-in-polderpark-cronesteyn/ |
| 10/10/2022 | Oktober | Online bericht | Postbus71 | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/10/hoe-gaat-het-met-postbus-71-de-vraagbaak-van-leiden2022 |
| 10/13/2022 | Oktober | Online bericht | Intuïtie | KDDW | De Volkskrant | Nationaal | https://www.volkskrant.nl/a-b5cf69a8 |
| 10/13/2022 | Oktober | Presentatie | Trombose | KDDW | Trombose Stichting | Regionaal | https://www.st-anna.nl/media/9069/november-trombose-en-hersenen.pdf |
| 10/13/2022 | Oktober | Presentatie | Trombose | KDDW | Trombose Stichting | Regionaal | https://www.trombosestichting.nl/wp-content/uploads/2022/10/Intro_LUMC_Wereldtrombosedag-2022.pdf |
| 10/13/2022 | Oktober | Online bericht | Trombose | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/10/leidse-wereld-trombose-dag |
| 10/14/2022 | Oktober | Online bericht | Trombose | KDDW | Trombose Stichting | Regionaal | https://www.trombosestichting.nl/nieuws/algemeen/wereld-trombose-dag-2022/ |
| 10/15/2022 | Oktober | Presentatie | The Power of ADHD | KDDW | ADHD Europe | Europees | https://assets.citynavigator.nl/odp-leiden/other/program-leiden-15-oktober22-nw-v10okt22_3021215672.pdf |
| 10/15/2022 | Oktober | Online bericht | The Power of ADHD | KDDW | ADHD Netwerk | Regionaal | https://adhdnetwerk.nl/event/the-power-of-adhd-15-oktober-2022-leiden/ |
| 10/15/2022 | Oktober | Online bericht | The Power of ADHD | KDDW | Impuls & Woortblind | Regionaal | https://impulsenwoortblind.nl/nieuws/the-power-of-adhd-15-oktober-in-leiden/ |
| 10/16/2022 | Oktober | Nieuwsbericht | Leidse voedselmarkt | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221016_74977369 |
| 10/17/2022 | Oktober | Nieuwsbericht | Leidse voedselmarkt | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/17/eerste-leidse-voedselmarkt-smaakt-naar-meer/ |
| 10/18/2022 | Oktober | Online bericht | Japane duizendknoop | KDDW | Leidsch Dagblad | Regionaal | https://m.leidschdagblad.nl/cnt/dmf20221018_74710465 |
| 10/18/2022 | Oktober | Nieuwsbericht | Fake news | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/discussieavond-over-fake-news-bij-de-universiteit-leiden |
| 10/19/2022 | Oktober | Online bericht | Japane duizendknoop | KDDW | Groen Cronestein | Lokaal | https://www.groencronesteyn.nl/2022/10/07/demonstratie-met-speurhond-tegen-duizendknoop/ |
| 10/19/2022 | Oktober | Nieuwsbericht | Japane duizendknoop | KDDW | Leidsch Dagblad | Regionaal | https://sleutelstad.nl/2022/10/19/hond-jaagt-op-japane-duizendknoop-ze-ruikt-de-wortels-al-op-afstand/ |
| 10/23/2022 | Oktober | Online bericht | Intuïtie | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/23/lakenhal-verrast-met-tentoonstelling-over-intuïtie/ |
| 10/26/2022 | Oktober | Online bericht | T-Rex | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/t-rex-dag/ |
| 10/31/2022 | Oktober | Online bericht | The Power of ADHD | KDDW | Impuls & Woortblind | Nationaal | https://impulsenwoortblind.nl/nieuws/the-power-of-adhd-15-oktober-in-leiden/ |
| 10/31/2022 | Oktober | Online bericht | Intuïtie | KDDW | Museum Tijdschrift | Nationaal | https://museumtijdschrift.nl/artikelen/tips/imagine-intuition/ |
| 11/1/2022 | November | Online bericht | Dag van de Doden | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/en/events/2022/11/dag-van-de-doden |
| 11/4/2022 | November | Online bericht | Toetanchamon | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/toetanchamon-van-piramide-tot-klooster/ |
| 11/4/2022 | November | Krantenartikel | SIA-congres | KDDW | Leidsch Dagblad | Regionaal | https://regiegegaan-sia.nl/kalender/sia-congres-2022/ |

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|------------|-----------------|----------------|----------------------------|------|------------------------|-----------|---|
| 11/9/2022 | November | Online bericht | Midden-Oosten Markt | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/11/kom-naar-de-midden-oosten-cultuurmarkt-op-zaterdag-12-en-zondag-13-november-2022-in-het-rijksmuseum-van-oudheden |
| 11/10/2022 | November | Online bericht | JES dromentent | KDDW | Voorschotense Krant | Lokaal | https://www.voorschotensekrant.nl/nieuws/algemeen/24734/ontdek-kinderdromen-in-de-jes-dromentent |
| 11/10/2022 | November | Online bericht | JES dromentent | KDDW | JES Rijnland | Regionaal | https://www.jesrijnland.nl/nieuws/ontdekkinderdromenindejesdromentent/ |
| 11/10/2022 | November | Online bericht | Pitching Pubquiz | KDDW | Naturalis | Regionaal | https://www.naturalis.nl/10-november-pitching-pubquiz |
| 11/10/2022 | November | Online bericht | JES dromentent | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/ontdek-kinderdromen-in-de-jes-dromentent |
| 11/11/2022 | November | Online bericht | Virus | KDDW | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-digital-forensics-e-discovery/peter-van-der-wijden.html |
| 11/11/2022 | November | Facebook | JES dromentent | KDDW | JES Rijnland | Regionaal | https://www.facebook.com/stichtingjesrijnland/photos/a.319483764761212/6025917590784439/?type=3 |
| 11/12/2022 | November | Krantenartikel | Kennis door de Wijken | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |
| 11/15/2022 | November | Online bericht | Transvaal | KDDW | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/wie-maakt-geschiedenis-in-de-leidse-wijk-transvaal/ |
| 12/1/2022 | December | Online bericht | Batik | KDDW | Sabine Bolk | Lokaal | https://www.sabinebolk.nl/news/1-december-2022-paper-sarong-workshop-in-leiden-nl/ |
| 12/1/2022 | December | Online bericht | Batik | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/12/leidse-geschiedenis-in-jouw-batik-van-papier |
| 12/2/2022 | December | Online bericht | Crisis | KDDW | Leids Steunloket | Lokaal | https://www.leidssteunloket.nl/binnenkort/ |
| 12/2/2022 | December | Online bericht | Crisis | KDDW | Liever in Leiden | Lokaal | https://lieverinleiden.nl/inspiratie/uitagendas/blijf-positief-is-er-eigenlijk-een-energiecrisis-in-europa/ |
| 12/3/2022 | December | Online bericht | Handicap | KDDW | BplusC | Lokaal | https://www.bplusc.nl/agenda/wat-beperkt/ |
| 12/3/2022 | December | Online bericht | Handicap | KDDW | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/12/wat-beperkt |
| 12/6/2022 | December | Facebook | Diabetes | KDDW | Corpus | Regionaal | https://corpusexperience.nl/event-diabetes |
| 12/6/2022 | December | Facebook | Diabetes | KDDW | LUMC | Regionaal | https://www.facebook.com/LUMC.nl/videos/540636561266561/ |
| 12/7/2022 | December | Online bericht | Lezing over Johan Huizinga | KDDW | Historische Vereniging | Lokaal | https://historischevereniginggoegstgeest.nl/2022/10/21/bijzonder-lezing-over-johan-huizinga/ |
| 12/7/2022 | December | Online bericht | Lezing over Johan Huizinga | KDDW | Rijnlandse Geschieder | Regionaal | https://www.rijnlandgeschiedenis.nl/agenda/stichting-historische-publicaties-holland-rijnland/2022-12-07/bijzondere-lezing-over-johan-huizinga |
| 12/13/2022 | December | Online bericht | Intuïtie | KDDW | Metropolis M | Nationaal | https://www.metropolism.com/nl/reviews/48096_tastend_zoekend_vindend_gestuurde_intu_tie_bij_museum_de_lakenhal |
| 2/22/2023 | Februari (2023) | Nieuwsbericht | Leiden2022 tuktuks | KDDW | Algemeen Dagblad | Nationaal | https://www.ad.nl/leiden/leiden2022-geeft-gebruikte-tuktuks-weg-graag-schenken-aan-iemand-die-ze-goed-kan-gebruiken-a392ea2b/?s=08 |
| 3/2/2023 | Maart (2023) | Nieuwsartikel | Schelpenteldag | KDDW | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20230302_55594553?utm_campaign=whatsapp&utm_medium=referral&utm_source=whatsapp |
| 3/6/2023 | Maart (2023) | Online bericht | Leiden2022 tuktuks | KDDW | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/european-city-of-science-geeft-tuktuks-weg?s=08 |
| 3/7/2023 | Maart (2023) | Online bericht | Leiden2022 tuktuks | KDDW | Leidse Glibber | Lokaal | https://www.leidseglibber.nl/2023/03/07/tuk-tuks-van-european-city-of-science-2022-leiden-vinden-mooie-nieuwe-eigenaars/ |
| 3/7/2023 | Maart (2023) | Online bericht | Leiden2022 tuktuks | KDDW | Sleutelstad | Lokaal | https://sleutelstad.nl/2023/03/07/tuktuks-van-leiden2022-geschonken-aan-bplusc-en-energiefixers071/ |
| 3/13/2023 | Maart (2023) | Krantenartikel | Leiden2022 tuktuks | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |
| 3/23/2023 | Maart (2023) | Nieuwsartikel | Oostvlietpolder | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |
| Onbekend | Onbekend | Krantenartikel | Postbus71 | KDDW | Leidsch Dagblad | Regionaal | n.v.t. |

BYM Media

| Datum | Maand | Type | Onderwerp / dagthema | Project | Organisatie | Schaalniveau | Link |
|------------|----------|----------------------|---------------------------|---------|--------------------------------------|----------------|---|
| 5/17/2022 | Mei | Online bericht | TalentOn | BYM | EURAXESS | Europees | Open Call: New EU TalentOn for young academic talents EURAXESS (europa.eu) |
| 5/19/2022 | Mei | Online bericht | TalentOn | BYM | Youth 4 Europe | Europees | Call for Early Career Researchers European Commission - Youth for Europe |
| 6/8/2022 | Juni | Online bericht | TalentOn | BYM | Universiteit Gent | Europees | Bozi (re)search tips (ugent.be) |
| 6/14/2022 | Juni | Artikel | Nacht van Ontdekkingen (p | BYM | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/l167_plank_loslr |
| 6/17/2022 | Juni | Online bericht | TalentOn | BYM | Europese Commissie | Europees | European Talent Fair European Commission (europa.eu) |
| 8/31/2022 | Augustus | Nieuwsbrief | Bright Young Minds | BYM | Leiden Kennisstad | Regionaal | https://gemeente-leiden.email-provider.nl/web/ruoicjgw/4hcw5b0w3 |
| 9/5/2022 | Septembe | Online bericht | EUCYS | BYM | Nationale Onderwijsgids | Nationaal | https://www.nationaleonderwijsgids.nl/voortgezet-onderwijs/nieuws/62791-europese-wetenschapswedstrijd-na-21-jaar-terug-in-nederland.html |
| 9/9/2022 | Septembe | Online bericht | Bright Young Minds | BYM | Ondernemersvereniging Bio Science P | Lokaal | https://www.ovbsp.nl/nieuws/ontmoet-de-knappe-jonge-koppen-die-de-toekomst-vormgeven/ |
| 9/14/2022 | Septembe | Evenementenagenc | EU TalentOn | BYM | PLNT | Lokaal | https://plnt.nl/evenement/eu-talenton.html |
| 9/14/2022 | Septembe | Radiofragment | EU TalentOn | BYM | NPO Radio 1 | Nationaal | https://www.nporadio1.nl/fragmenten/de-nacht-van/713417de-c512-43ea-b129-6698cee9c372/2022-09-15-de-eerste-editie-van-eu-talenton |
| 9/14/2022 | Septembe | Online bericht | Bright Young Minds | BYM | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20220913_58833688/yuval-harari-presenteert-nieuwe-boek-in-leiden-voor-honderd-bright-young-minds?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 9/17/2022 | Septembe | Online bericht | EUCYS | BYM | Independent | Europees | https://www.independent.ie/news/dublin-students-tackle-ancient-geometry-problem-and-take-first-place-prize-at-eu-young-scientist-contest-41996687.html |
| 9/18/2022 | Septembe | Online bericht | Bright Young Minds | BYM | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20220918_81558065/futuroloog-harari-legt-de-mensheid-uit-aan-de-leidse-ieuqd?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 9/19/2022 | Septembe | Online bericht | EUCYS | BYM | Nauka Offnews | Europees | https://nauka.offnews.bg/news/Novini_1/lzkliuchitelno-silno-predstaviane-na-balgarskite-uchastnitci-v-Evropei_189473.html |
| 9/19/2022 | Septembe | Online bericht | TalentOn, EUCYS | BYM | Newsbulletin247 | Internationaal | https://newsbulletin247.com/world/173199.html |
| 9/20/2022 | Septembe | Online bericht | EUCYS | BYM | Nextech | Europees | https://www.nextech.sk/a/AMAVET-opat-medzi-najlepsimi-v-Europскеj-sutazi-mladych-vedcov |
| 9/20/2022 | Septembe | Online bericht | EUCYS | BYM | Si21 | Europees | https://www.si21.com/Svet/33-tekmovanie-EUCYS-2022/ |
| 9/22/2022 | Septembe | LinkedIn | Leiden Youth Talks | BYM | Marleen Spierings | Lokaal | https://www.linkedin.com/posts/marleenspierings_activity-6978758264754737152-SCOT?utm_source=share&utm_medium=member_android |
| 10/7/2022 | Oktober | Online bericht | EU TalentOn | BYM | Horizon (The EU Research & Innovatio | Europees | https://ec.europa.eu/research-and-innovation/en/horizon-magazine/first-eu-talenton-brings-science-life-competition-solve-global-challenges |
| 11/12/2022 | November | Online bericht | EU TalentOn | BYM | EUReporter | Internationaal | https://www.eureporter.co/education/science/2022/11/12/science-needs-an-entrepreneurial-approach/ |
| 11/14/2022 | November | Online nieuwsbericht | EU TalentOn | BYM | XSAGA | Nationaal | https://www.lumc.nl/over-het-lumc/nieuws/2022/November/eu-talenton-challenge-lumc-researchers/ |
| 11/15/2022 | November | Online nieuwsbericht | EU TalentOn | BYM | LUMC | Regionaal | n.v.t. |
| 11/17/2022 | November | Online bericht | EUCYS, EU TalentOn | BYM | Regieorgaan SIA | Nationaal | https://ec.europa.eu/newsroom/eusciencehubnews/newsletter-archives/41723 |
| 11/21/2022 | November | Online bericht | EU TalentOn | BYM | Citychangers | Internationaal | https://citychangers.org/eu-talenton-elizaveta-fakirova/ |
| Onbekend | Onbekend | Nieuwsbrief | EUCYS, EU TalentOn | BYM | EC Europa Newsroom Newsletter | Europees | n.v.t. |

ECS-ESOF Media

| Datum | Maand | Type | Onderwerp / dagthema | Project | Organisatie | Schaalniveau | Link |
|------------|------------------|----------------|--|---------|---------------------|----------------|---|
| 7/11/2017 | Juli (2017) | Online bericht | Leiden2022 (vermelding) | ECS | Neth-ER | Internationaal | https://www.neth-er.eu/onderzoek/leiden-europese-wetenschapshoofdstad-in-2022 |
| 3/13/2019 | Maart (2019) | Online bericht | Leiden2022 (vermelding) | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2019/maart/leiden-is-european-city-of-science-in-2022/ |
| 3/19/2019 | Maart (2019) | Online bericht | Leiden2022 (vermelding) | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/leiden-verkozen-naar-european-city-of-science |
| 7/8/2020 | Juli (2020) | Online bericht | Leiden2022 directeur | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/meta-knl-nieuwe-directeur-leiden-european-city-of-science |
| 9/7/2020 | September (2020) | Online bericht | Leiden2022 overdracht titel | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/titel-european-city-of-science-overgedragen-aan-leiden |
| 10/26/2020 | Oktober (2020) | Online bericht | Leiden2022 (vermelding) | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/n/nieuws/leiden-city-of-science-2022-wetenschappelijke-hoofdstad-van-europa |
| 10/29/2020 | Oktober (2020) | Online bericht | Leiden2022 Who Knows | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/who-knows-overkoepelend-thema-leiden-european-city-of-science-2022 |
| 5/19/2021 | Mei (2021) | Online bericht | Leiden2022 | ECS | Morse Tekens | Lokaal | https://www.morsetekens.nl/2021/05/leiden-europese-stad-van-de-wetenschap/ |
| 5/26/2021 | Mei (2021) | Online bericht | Leiden2022 (vermelding) | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2021/mei/leiden2022-draagt-bij-aan-wetenschapsambities-lumc/ |
| 7/8/2021 | Juli (2021) | Online bericht | Leiden2022 (vermelding) | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2021/juli/lumc-kiest-voor-internationaal-actuele-wetenschapstemas-tijdens-leiden2022/ |
| 10/22/2021 | Oktober (2021) | Online bericht | Tulpenmanie | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/project-tulpenmanie-maakt-leiden-%c3%a9%c3%a9n-groot-bioscience-park |
| 10/28/2021 | Oktober (2021) | Artikel | Nieuw hotel The Vic | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20211028_89116917 |
| 10/28/2021 | Oktober (2021) | Online bericht | Hogeschool deelnemers, Arien Speksnijder | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-metagenomics/arien-speksnijder.html |
| 11/4/2021 | November (2021) | Online bericht | Hogeschool deelnemers, Remy Verbeek | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/opleiding-commerciele-economie/remy-verbeek.html |
| 11/4/2021 | November (2021) | Online bericht | Leiden2022 lancering | ECS | UNESCO NL | Nationaal | https://www.unesco.nl/nl/artikel/lancering-programma-leiden-european-city-science-2022 |
| 11/1/2021 | November (2021) | Online bericht | Leiden2022 | ECS | Into Business | Nationaal | https://leiden.intobusiness.nu/into-business-leiden/into-business-leiden-winter-2021.html |
| 11/11/2021 | November (2021) | Online bericht | Hogeschool deelnemers, Peter van der Wijden | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-digital-forensics-e-discovery/peter-van-der-wijden.html |
| 11/11/2021 | November (2021) | Online bericht | Leiden2022 lancering | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/2021/11/11/11/elke-dag-wetenschap-in-jouw-wijk-tijdens-leiden-european-city-of-science-2022/ |
| 11/11/2021 | November (2021) | Online bericht | Leiden2022 365 dagen | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/leiden-2022-presenteert-programma-365-dagen-nieuwsgierig.html |
| 11/18/2021 | November (2021) | Online bericht | Hogeschool deelnemers, Carolien Gravesteyn | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-ouderschap-en-ouderbegeleiding/carolien-gravesteyn.html |
| 11/18/2021 | November (2021) | Artikel | Leiden2022, Radio Weetlust (p3) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369368223426fc6 |
| 11/24/2021 | November (2021) | Online bericht | Leiden Global activiteiten | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2021/11/nieuwe-activiteiten-van-leiden-global-voor-leiden2022 |
| 11/24/2021 | November (2021) | Artikel | Planktonium De Lakenhal | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20211123_97251622 |
| 11/25/2021 | November (2021) | Online bericht | Hogeschool deelnemers, Eldrid Bringmann | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/faculteit-gezondheidszorg/eldrid-bringmann.html |
| 11/26/2021 | November (2021) | Persbericht | European Research Area | ECS | ERA | Europees | https://www.consilium.europa.eu/en/press/press-releases/2021/11/26/new-pact-and-governance-structure-for-the-european-research-area-era/ |
| 11/30/2021 | November (2021) | Artikel | Leiden&Partners | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20211130_95988236 |
| 12/1/2021 | December (2021) | Wijkkrant | Leiden2022 | ECS | Morse Tekens | Lokaal | https://www.morsetekens.nl/wp-content/uploads/2021/12/Morsetekens_08_04_2021_12.pdf |
| 12/2/2021 | December (2021) | Artikel | Gastschrijverschap UB | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf/20211202_63145602 |
| 12/9/2021 | December (2021) | Online bericht | Hogeschool deelnemers, Mart Ottenheim en Nicole van den Bogerd | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/lectoraat-natuur-en-ontwikkeling-kind/mart-ottenheim-en-nicole-van-den-bogerd.html |
| 12/13/2021 | December (2021) | Artikel | Leiden2022 (p33) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/l65_planklr |
| 12/16/2021 | December (2021) | Online bericht | Hogeschool deelnemers, Milou Timmerman | ECS | Hogeschool Leiden | Regionaal | https://www.hsleiden.nl/actueel/nieuws/leiden2022/milou-timmerman.html |
| 12/16/2021 | December (2021) | Artikel | DNA onderzoek, tulpenbollen (p1) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369159a9fa4e8e5 |
| 12/20/2021 | December (2021) | Online bericht | Leiden2022 | ECS | Figon | Nationaal | https://www.figon.nl/blog/leiden-european-city-of-science-2022 |
| 12/23/2021 | December (2021) | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369db8e05604241 |
| 12/26/2021 | December (2021) | Online bericht | Leiden2022 | ECS | Morse Tekens | Lokaal | https://www.morsetekens.nl/2021/12/kerstgroet-leiden-european-city-of-science-2022/ |
| 12/26/2021 | December (2021) | Artikel | Obsession (ESOF) | ECS | Voorschotense Kra | Lokaal | n.v.t. |
| 12/30/2021 | December (2021) | Artikel | Rijksmuseum Boerhaave (p3) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036970877130bb3d |
| 12/30/2021 | December (2021) | Artikel | Erfgoed Leiden (p5) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036970877130bb3d |
| 12/30/2021 | December (2021) | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036970877130bb3d |
| 12/30/2021 | December (2021) | Artikel | Leiden2022 aankondiging en agenda (p20) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036970877130bb3d |
| 12/30/2021 | December (2021) | Online bericht | Leiden2022 promotie, Rembrandt | ECS | Welt.de | Europees | https://www.welt.de/reise/staedtereisen/article235800142/Niederlande-In-Leiden-bekommen-Sie-Ihr-eigenes-Rembrandt-Portrait.html |
| 12/31/2021 | December (2021) | Online bericht | Planktonium | ECS | Roots Magazine | Nationaal | n.v.t. |
| 12/31/2021 | December (2021) | Online bericht | Leiden2022 scheurkalender | ECS | Voorschotense Kra | Lokaal | https://www.voorschotensekrant.nl/nieuws/algemeen/23289/leiden2022-scheurkalender-bij-bibliotheek |
| 1/1/2022 | Januari | Radio Weetlust | Aflevering 1 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-01/ |

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|-----------|---------|----------------|---|-----|---------------------|----------------|---|
| 1/1/2022 | Januari | Nieuwsbrief | Leiden2022 | ECS | Leiden Bio Science | Regionaal | http://clickuic1.actmkt.com/vh/052-b388a44d-3033-4359-8b79-0b9e60230178?e=m4ahmadabxaaa3yaoyagkadsabraazanmagkacaabwaaygaomaahaobaaxba3aa&s=A |
| 1/1/2022 | Januari | Nieuwsbrief | Leiden2022 | ECS | Vereniging Maredijl | Lokaal | https://maredijlbuurt.nl/wp-content/uploads/2021/12/2022-1-BUURTKRANT-website.pdf |
| 1/1/2022 | Januari | Online bericht | Leiden2022 | ECS | The Hague Online | Regionaal | https://www.thehagueonline.com/event/leiden-european-city-of-science-2022 |
| 1/2/2022 | Januari | Radio Weetlust | Aflevering 2 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-02/ |
| 1/3/2022 | Januari | Radio Weetlust | Aflevering 3 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-03/ |
| 1/3/2022 | Januari | Online bericht | Radio Weetlust, Rocking Robots | ECS | Rocking Robots | Regionaal | https://www.rockingrobots.nl/terugluisteren-rocking-robots-op-radio-weetlust/ |
| 1/4/2022 | Januari | Radio Weetlust | Aflevering 4 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-04/ |
| 1/5/2022 | Januari | Radio Weetlust | Aflevering 5 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-05/ |
| 1/5/2022 | Januari | Nieuwsbrief | Leiden2022 | ECS | Leiden Kennisstad | Regionaal | https://gemeente-leiden.email-provider.nl/web/ruoiocjgw/sgeky74roa?s=08 |
| 1/5/2022 | Januari | Online bericht | Leiden2022 | ECS | Dutch Review | Europees | https://dutchreview.com/news/a-year-long-festival-leiden-european-city-of-science-2022-has-begun/ |
| 1/5/2022 | Januari | Artikel | Leiden2022 365 dagen | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220104_53538888 |
| 1/6/2022 | Januari | Radio Weetlust | Aflevering 6 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-06/ |
| 1/6/2022 | Januari | Artikel | LAFV Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e88700cb2c65 |
| 1/6/2022 | Januari | Agenda | Leiden2022 agenda (p20) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e88700cb2c65 |
| 1/6/2022 | Januari | Artikel | Lichtkunst Energiepark | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220105_18873088 |
| 1/7/2022 | Januari | Radio Weetlust | Aflevering 7 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-07/ |
| 1/7/2022 | Januari | Artikel | Voorwoord Annetje Ottow | ECS | Leidraad Magazine | Internationaal | n.v.t. |
| 1/7/2022 | Januari | Artikel | 365 dagen lezen luisteren doen (p50-51) | ECS | Leidraad Magazine | Internationaal | n.v.t. |
| 1/7/2022 | Januari | Artikel | 447 | ECS | Leidraad Magazine | Internationaal | n.v.t. |
| 1/7/2022 | Januari | Nieuwsbrief | Leiden2022 | ECS | Gemeente Leiden | Regionaal | https://c.spotler.com/ci/m15/k1/wf:cPZTllv26WAlf-Hlw9xeRTUJEstZog6_a41M-465NGEzhyMifa149vftfTY6CrTYV3pb5RnrHrE6hEgQuw45bssyfunXWh |
| 1/7/2022 | Januari | Online bericht | Leiden2022 hoogtepunten | ECS | In de buurt | Lokaal | https://indebuurt.nl/leiden/genieten-van-leiden-is-european-city-of-science-2022-dit-is-waarom-en-wat-lij-ermee-kunt-128241/ |
| 1/8/2022 | Januari | Radio Weetlust | Aflevering 8 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-08/ |
| 1/9/2022 | Januari | Radio Weetlust | Aflevering 9 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-09/ |
| 1/9/2022 | Januari | Online bericht | Leiden2022 | ECS | I am expat | Europees | https://www.iamexpat.nl/lifestyle/lifestyle-news/leiden-launches-europes-first-year-long-science-festival |
| 1/10/2022 | Januari | Radio Weetlust | Aflevering 10 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-10/ |
| 1/10/2022 | Januari | Special | Leiden2022 | ECS | New Scientist | Nationaal | https://issuu.com/vmadmin/docs/special_leiden_european_city_of_science_2022_eng |
| 1/10/2022 | Januari | Magazine | Leiden2022 Annetje Ottow (p5) | ECS | Leidraad | Regionaal | https://issuu.com/universiteit-leiden/docs/leidraad_januari_2022 |
| 1/11/2022 | Januari | Radio Weetlust | Aflevering 11 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-11/ |
| 1/11/2022 | Januari | Online bericht | Citizen Science Lab | ECS | Universiteit Leiden | Regionaal | https://www.medewerkers.universiteitleiden.nl/nieuws/2022/01/even-bellen-over-citizen-science-lab?cf=wiskunde-en-natuurwetenschappen&cd=instituut-biologie-leiden-ibi |
| 1/11/2022 | Januari | Online bericht | Radio Weetlust | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/07/radio-weetlust-interview-leidse-wetenschappers-tijdens-leiden2022 |
| 1/11/2022 | Januari | Online bericht | Radio Weetlust | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/07/radio-weetlust-interview-leidse-wetenschappers-tijdens-leiden2022 |
| 1/11/2022 | Januari | Nieuwsbrief | Citizen Science Lab | ECS | Universiteit Leiden | Regionaal | https://web.universiteitleiden.nl/nieuwsbrief/220111mdw.htm |
| 1/12/2022 | Januari | Radio Weetlust | Aflevering 12 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-12/ |
| 1/13/2022 | Januari | Radio Weetlust | Aflevering 13 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-13/ |
| 1/12/2022 | Januari | Online artikel | Leidse amateurfotografie | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/2022/01/12/een-eeuw-lang-leidse-amateurfotografie-wordt-dit-jaar-gevierd/ |
| 1/14/2022 | Januari | Radio Weetlust | Aflevering 14 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-14/ |
| 1/13/2022 | Januari | Online bericht | LAFV Leiden2022 | ECS | NU.nl | Nationaal | https://www.nu.nl/leiden/6177888/een-eeuw-lang-leidse-amateurfotografie-wordt-dit-jaar-gevierd.html |
| 1/13/2022 | Januari | Artikel | LAFV Leiden2022 (p9 - neon) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403693fe1f64728eb |
| 1/13/2022 | Januari | Agenda | Leiden2022 agenda (p20) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403693fe1f64728eb |
| 1/13/2022 | Januari | Artikel | Stukafest Leiden2022 | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220112_43437903 |
| 1/15/2022 | Januari | Radio Weetlust | Aflevering 15 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-15/ |
| 1/16/2022 | Januari | Radio Weetlust | Aflevering 16 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-16/ |
| 1/15/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/nl/agenda/2022-01-22-opening-leiden-european-city-of-science-2022 |
| 1/15/2022 | Januari | Online bericht | Radio Weetlust, Jos Damen | ECS | ASC Leiden | Regionaal | https://www.ascleiden.nl/news/jos-damen-radio-weetlust-about-wikipedia-articles-africa |
| 1/17/2022 | Januari | Radio Weetlust | Aflevering 17 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-17/ |
| 1/18/2022 | Januari | Radio Weetlust | Aflevering 18 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-18/ |
| 1/19/2022 | Januari | Radio Weetlust | Aflevering 19 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-19/ |
| 1/20/2022 | Januari | Radio Weetlust | Aflevering 20 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-20/ |
| 1/19/2022 | Januari | Online bericht | Leiden2022 programma | ECS | Europese Commis | Europees | https://netherlands.representation.ec.europa.eu/nieuws/leiden-european-city-science-2022-europees-wetenschapsfestival-van-365-dagen-officieel-van-start-met-2022-01-19_nl |
| 1/19/2022 | Januari | Online bericht | LAFV Leiden2022 | ECS | PF Fotografie Mag | Nationaal | https://pf.nl/leidse-amateur-fotografen-vereniging-viert-100-jarig-jubileum/ |

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| 1/19/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | BNR Europa | Nationaal | https://www.bnr.nl/podcast/bnr-europa/10465160/46-leiden-leid-de-europese-wetenschap |
| 1/21/2022 | Januari | Radio Weetlust | Aflevering 21 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-21/ |
| 1/20/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Nationale Onderwijs | Nationaal | https://www.nationaleonderwijszorg.nl/universiteit/nieuws/60314-european-city-of-science-2022-geopend-door-minister-robbert-dijkgraaf.html |
| 1/20/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Algemeen Dagblad | Nationaal | https://www.ad.nl/leiden/minister-van-ocw-robbert-dijkgraaf-opent-leiden-european-city-of-science-2022-af48f9be/ |
| 1/20/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | ANP | Nationaal | https://persportaal.anp.nl/artikel/a5de17b6-b362-4b88-9fe8-40a2b297c9cf/minister-van-ocw-robbert-dijkgraaf-opent-leiden-european-city-of-science-2022 |
| 1/20/2022 | Januari | Radio uitzending | Opening Leiden2022 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/nieuws071/uitzending/2022-01-20/?uur=1&start=1372 |
| 1/20/2022 | Januari | Online bericht | Leiden2022 | ECS | Neth-ER | Internationaal | https://www.neth-er.eu/onderzoek/leiden-af-aankomend-weekend-jaar-lang-europese-stad-van-de-wetenschap |
| 1/20/2022 | Januari | Artikel | LAFV Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369361cf784cf90 |
| 1/20/2022 | Januari | Artikel | Wetenschapsfestival lockdown (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369361cf784cf90 |
| 1/20/2022 | Januari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369361cf784cf90 |
| 1/20/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Neth-ER | Internationaal | https://www.neth-er.eu/onderzoek/leiden-af-aankomend-weekend-jaar-lang-europese-stad-van-de-wetenschap |
| 1/20/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/ |
| 1/22/2022 | Januari | Radio Weetlust | Aflevering 22 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-22/ |
| 1/21/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/2022/01/21/city-of-science-woord-geopend-door-kersverse-minister-robbert-dijkgraaf/ |
| 1/21/2022 | Januari | Online bericht | Kennisbijlage Leiden2022 | ECS | LBSP | Regionaal | https://leidenbiosciencepark.nl/news/who-knows-leiden |
| 1/21/2022 | Januari | Special | Leden2022 | ECS | De Volkskrant | Nationaal | https://leidenbiosciencepark.nl/media/pages/news/who-knows-leiden/1338677268-1642748667/bijlage-volkskrant-21-januari-2022.pdf |
| 1/21/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/januari/opening-leiden-european-city-of-science-2022-door-robbert-dijkgraaf/ |
| 1/23/2022 | Januari | Radio Weetlust | Aflevering 23 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-23/ |
| 1/22/2022 | Januari | Twitter | Opening Leiden2022 | ECS | AD Leiden | Regionaal | https://twitter.com/ad_leiden/status/1484809691125403654?s=24 |
| 1/22/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Algemeen Dagblad | Nationaal | https://www.ad.nl/wetenschap/wetenschap-jaar-lang-centraal-in-leiden-european-city-of-science-af9fbdce/ |
| 1/22/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220122_94359140?utm_source=google&utm_medium=organic |
| 1/22/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/2022/01/22/leiden2022-offiele-opening-wetenschapsjaar/ |
| 1/22/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | NRC Future Affairs | Nationaal | https://campagne.nrcmedia.nl/optie/optiextension_dll?ID=FM1J1WS_irC7bpJ2kZ2Xej3JlPPI6HZ0ITNpdxuapGuzUVsB80FiewKkio_GxrKv0bdwqVv5H%2B4p2s3AVeD9FbFQ |
| 1/24/2022 | Januari | Radio Weetlust | Aflevering 24 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-24/ |
| 1/25/2022 | Januari | Radio Weetlust | Aflevering 25 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-25/ |
| 1/24/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/minister-robbert-dijkgraaf-opent-leiden-european-city-of-science-2022 |
| 1/24/2022 | Januari | Online bericht | Radio Weetlust, Marcel Cobussen | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/01/marcel-cobussen-bij-radio-weetlust |
| 1/24/2022 | Januari | Online bericht | Minister opent Leiden2022 | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/minister-robbert-dijkgraaf-opent-leiden-european-city-of-science-2022 |
| 1/26/2022 | Januari | Radio Weetlust | Aflevering 26 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-26/ |
| 1/25/2022 | Januari | Online bericht | Opening Leiden2022 | ECS | LBSP | Regionaal | https://leidenbiosciencepark.nl/news/leiden2022-premiere |
| 1/25/2022 | Januari | Twitter | Opening Leiden2022, tentoonstelling Misleiden | ECS | Amito Haarhuis | Nationaal | https://twitter.com/amitoh/status/1485968374077214721?s=24 |
| 1/25/2022 | Januari | Nieuwsbrief | Openingsfilm Leiden2022 | ECS | Universiteit Leiden | Regionaal | https://web.universiteitleiden.nl/nieuwsbrief/220125.htm |
| 1/25/2022 | Januari | Online nieuwsbericht | Column Amito Haarhuis, Leiden2022 | ECS | De Telegraaf | Nationaal | https://www.telegraaf.nl/lifestyle/1342329589/column-amito-haarhuis-leiden-europees-centrum-van-wetenschap-2022 |
| 1/27/2022 | Januari | Radio Weetlust | Aflevering 27 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-27/ |
| 1/26/2022 | Januari | Youtube video | Leiden2022 | ECS | SOLCAST | Regionaal | https://www.youtube.com/watch?v=GoioZSYzSgE&t=386s |
| 1/26/2022 | Januari | Artikel | Leidse musea openen deuren | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220126_61869436 |
| 1/28/2022 | Januari | Radio Weetlust | Aflevering 28 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-28/ |
| 1/27/2022 | Januari | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369f49b1a315dce |
| 1/27/2022 | Januari | Artikel | Leiden2022 spread (p22-23) | ECS | Leiden Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369f49b1a315dce |
| 1/27/2022 | Januari | Artikel | Opening Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369f49b1a315dce |
| 1/27/2022 | Januari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369f49b1a315dce |
| 1/27/2022 | Januari | Online bericht | Leiden2022 | ECS | AWTI | Nationaal | https://www.awti.nl/actueel/nieuwsbrieven/awti-e-mail-alert/2022/awti-e-mail-alert-27-januari-2022 |
| 1/29/2022 | Januari | Radio Weetlust | Aflevering 29 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-29/ |
| 1/30/2022 | Januari | Radio Weetlust | Aflevering 30 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-30/ |
| 1/31/2022 | Januari | Radio Weetlust | Aflevering 31 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-01-31/ |
| 2/1/2022 | Januari | Radio Weetlust | Aflevering 32 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-01/ |
| 1/31/2022 | Januari | Video | Neurolab Startimpuls eindsymposium | ECS | Neurolab | | https://youtu.be/1QWwG9-p9D0 |
| 2/2/2022 | Februari | Radio Weetlust | Aflevering 33 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-02/ |
| 2/1/2022 | Februari | Nieuwsbrief | Tentoonstelling Misleiden | ECS | Erfgoed Leiden en | Regionaal | https://erfgoedleidenenonmstreken.activehosted.com/index.php?action=social&chash=d9d4f495e875a2e075a1a4a6e1b9770f.62&s=360e2d734548eb58759619088a966abba |

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| 2/3/2022 | Februari | Radio Weetlust | Aflevering 34 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-03/ |
| 2/2/2022 | Februari | Artikel | LAFV Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e34006737470 |
| 2/2/2022 | Februari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e34006737470 |
| 2/2/2022 | Februari | Artikel | Seeing Stars | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220202_92611978 |
| 2/2/2022 | Februari | Website | A Tale in Two Tongues | ECS | Universiteit Leiden | Nationaal | https://ataleintwotongues.wixsite.com/leidencityofscience |
| 2/2/2022 | Februari | Online bericht | A Tale in Two Tongues | ECS | Universiteit Leiden | Nationaal | https://www.universiteitleiden.nl/en/events/series/a-tale-in-two-tongues |
| 2/2/2022 | Februari | Agenda | A Tale in Two Tongues - 21/2 | ECS | Universiteit Leiden | Nationaal | https://www.universiteitleiden.nl/agenda/2022/02/culture-language-maintenance-in-a-city-of-many-tongues |
| 2/2/2022 | Februari | Artikel | Seeing Stars | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/2022/02/02/seeing-stars-leiden-in-gebied-rond-sterrewacht/ |
| 2/2/2022 | Februari | Online bericht | Seeing Stars | ECS | In de buurt | Lokaal | https://indebuurt.nl/leiden/nieuws/licht-uit-sterren-aan-deze-zomer-gaan-we-met-zn-alle-sterren-kijken-in-leiden-129797/ |
| 2/2/2022 | Februari | Artikel | Seeing Stars | ECS | AD | Nationaal | https://www.ad.nl/leiden/initiatief-deze-zomer-eeen-avond-met-alle-inwoners-sterren-kijken-in-leiden-ad51e07e/ |
| 2/4/2022 | Februari | Radio Weetlust | Aflevering 35 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-04/ |
| 2/3/2022 | Februari | Artikel | Seeing Stars | ECS | NU.nl | Nationaal | https://www.nu.nl/leiden/6181764/seeing-stars-leiden-in-gebied-rond-sterrewacht.html |
| 2/3/2022 | Februari | Online bericht | Seeing Stars | ECS | NOS | Nationaal | n.v.t. |
| 2/5/2022 | Februari | Radio Weetlust | Aflevering 36 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-05/ |
| 2/6/2022 | Februari | Radio Weetlust | Aflevering 37 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-06/ |
| 2/5/2022 | Februari | Magazine | Leiden2022 | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/magazine/editie-februari-2022 |
| 2/5/2022 | Februari | Online bericht | ESOF aankondiging | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/agenda/2022-07-13-euroscience-open-forum-leiden-european-city-of-science-2022 |
| 2/7/2022 | Februari | Radio Weetlust | Aflevering 38 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-07/ |
| 2/6/2022 | Februari | Online bericht | Seeing Stars | ECS | Omroep West | Regionaal | https://www.omroepwest.nl/nieuws/4525596/leiden-deze-zomer-verduisterd-om-sterren-te-kijken-je-kan-zelfs-de-melkweg-zien |
| 2/8/2022 | Februari | Radio Weetlust | Aflevering 39 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-08/ |
| 2/7/2022 | Februari | Online bericht | Leiden2022 | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/nieuws/in-2022-is-leiden-city-of-science-en-erieren-de-tu-delft-en-alliantie-leiden-delft-erasmus |
| 2/9/2022 | Februari | Radio Weetlust | Aflevering 40 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-09/ |
| 2/8/2022 | Februari | Online bericht | Lezing Frank Biermann | ECS | Science Cafe Leid | Regionaal | https://mailchi.mp/2b8483b2147b/nieuwsbrief-science-caf-leiden-climate-engineering-op-8-februari?e=7f554114b1 |
| 2/8/2022 | Februari | Radio uitzending | Dies UL | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/nieuws071/uitzending/2022-02-08/ |
| 2/8/2022 | Februari | Online artikel | Meet the professor | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/02/een-echte-professor-in-de-klas |
| 2/10/2022 | Februari | Radio Weetlust | Aflevering 41 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-10/ |
| 2/9/2022 | Februari | Nieuwsbrief | Opening Leiden2022 + LSH Week | ECS | LBSP | Regionaal | http://clickkeuc1.actmkt.com/vh/052-774b4ee-1f65-46c1-889d-1c2fb0a60e1e?e=nqac4adhabsqzianqgqadpabsqzaaiaagydfabuqazaamuag4absayaamqagjac4adgabwaa==&s=A |
| 2/9/2022 | Februari | Radio uitzending | Dagonderwerp | ECS | Sleutelstad / Science | Regionaal | https://sleutelstad.nl/programma/science071/uitzending/2022-02-09/ |
| 2/11/2022 | Februari | Radio Weetlust | Aflevering 42 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-11/ |
| 2/10/2022 | Februari | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036909e5043dc690 |
| 2/10/2022 | Februari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036909e5043dc690 |
| 2/10/2022 | Februari | Artikel | RAP Stadscafe | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220210_45015554 |
| 2/12/2022 | Februari | Radio Weetlust | Aflevering 43 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-12/ |
| 2/11/2022 | Februari | Nieuwsbrief | Leiden2022 | ECS | Leiden&Partners | Regionaal | https://leidenmarketing.m8.mailplus.nl/archief/mailing-2527334.html |
| 2/13/2022 | Februari | Radio Weetlust | Aflevering 44 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-13/ |
| 2/14/2022 | Februari | Radio Weetlust | Aflevering 45 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-14/ |
| 2/14/2022 | Februari | Online artikel | Annetje Ottow bij Radio Weetlust | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/02/annetje-ottow-te-gast-bij-radio-weetlust |
| 2/14/2022 | Februari | Magazine | Leiden2022 (vermelding) | ECS | High Profile Events | Nationaal | https://www.events.nl/nieuws/leiden2022-european-city-science |
| 2/15/2022 | Februari | Radio Weetlust | Aflevering 46 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-15/ |
| 2/16/2022 | Februari | Radio Weetlust | Aflevering 47 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-16/ |
| 2/15/2022 | Februari | Online bericht | Dodo Radio Weetlust | ECS | Universiteit van Arr | Nationaal | https://bed.uva.nl/news-events/ibed-in-the-media/2022/ibed-in-de-media-2022.html?cb |
| 2/17/2022 | Februari | Radio Weetlust | Aflevering 48 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-17/ |
| 2/18/2022 | Februari | Radio Weetlust | Aflevering 49 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-18/ |
| 2/17/2022 | Februari | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695aff9d332ab7 |
| 2/17/2022 | Februari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695aff9d332ab7 |
| 2/19/2022 | Februari | Radio Weetlust | Aflevering 50 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-19/ |
| 2/20/2022 | Februari | Radio Weetlust | Aflevering 51 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-20/ |
| 2/21/2022 | Februari | Radio Weetlust | Aflevering 52 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-21/ |
| 2/20/2022 | Februari | Online bericht | ESOF aankondiging | ECS | NL Health Holland | Nationaal | https://www.health-holland.com/events/2022/07/euroscience-open-forum-esof |
| 2/20/2022 | Februari | Nieuwsbrief | Science Cafe Leiden | ECS | Science Cafe Leid | Regionaal | https://mailchi.mp/d573824974b7/nieuwsbrief-science-caf-leiden-stikstofcrisis-op-8-maart?e=5316d1cb9a |
| 2/22/2022 | Februari | Radio Weetlust | Aflevering 53 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-22/ |
| 2/23/2022 | Februari | Radio Weetlust | Aflevering 54 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-23/ |
| 2/22/2022 | Februari | Online bericht | SMB X Leiden2022 | ECS | Science Meets Bus | Regionaal | https://www.sciencemeetsbusiness.nl/SMBEvents/2022-03 |
| 2/22/2022 | Februari | Online bericht | Leren met de stad door de wijken | ECS | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/4163-2/ |

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| 2/24/2022 | Februari | Radio Weetlust | Aflevering 55 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-24/ |
| 2/25/2022 | Februari | Radio Weetlust | Aflevering 56 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-25/ |
| 2/24/2022 | Februari | Artikel | Donorsymposium Rijksmuseum Boerhaave (p13) | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691c1bde60baa8e |
| 2/24/2022 | Februari | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691c1bde60baa8e |
| 2/24/2022 | Februari | Artikel | Tulp expositie BplusC (p17) | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691c1bde60baa8e |
| 2/24/2022 | Februari | Agenda | Leiden2022 agenda (p24) | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691c1bde60baa8e |
| 2/26/2022 | Februari | Radio Weetlust | Aflevering 57 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-26/ |
| 2/27/2022 | Februari | Radio Weetlust | Aflevering 58 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-27/ |
| 2/28/2022 | Februari | Radio Weetlust | Aflevering 59 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-02-28/ |
| 3/1/2022 | Maart | Radio Weetlust | Aflevering 60 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-01/ |
| 3/2/2022 | Maart | Radio Weetlust | Aflevering 61 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-02/ |
| 3/2/2022 | Maart | Nieuwsbrief | Leiden Kennisstad | ECS | Leiden Kennisstad | Regionaal | https://gemeente-leiden.email-provider.nl/web/ruoiocjgwz/zyhzhz45y?s=08 |
| 3/2/2022 | Maart | Artikel | Salonlezingen Rijksmuseum Boerhaave | ECS | Oegstgeester Cour | Lokaal | n.v.t. |
| 3/2/2022 | Maart | Artikel | Gala van wetenschap en samenleving | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220303_99517728 |
| 3/3/2022 | Maart | Radio Weetlust | Aflevering 62 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-03/ |
| 3/3/2022 | Maart | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691b4f01165f33 |
| 3/3/2022 | Maart | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Regionaal | https://www.calameo.com/read/0044403691b4f01165f33 |
| 3/4/2022 | Maart | Radio Weetlust | Aflevering 63 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-04/ |
| 3/5/2022 | Maart | Radio Weetlust | Aflevering 64 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-05/ |
| 3/6/2022 | Maart | Radio Weetlust | Aflevering 65 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-06/ |
| 3/7/2022 | Maart | Radio Weetlust | Aflevering 66 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-07/ |
| 3/7/2022 | Maart | Online bericht | Technophilia / Margriet van Breevoort | ECS | LUMC Galerie | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/maart/tentoonstelling-galerie-lumc-technophilia-met-nieuw-werk-van-margriet-van-breevoort/ |
| 3/8/2022 | Maart | Radio Weetlust | Aflevering 67 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-08/ |
| 3/9/2022 | Maart | Radio Weetlust | Aflevering 68 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-09/ |
| 3/9/2022 | Maart | Artikel | Leiden2022 (vermelding) | ECS | Manoeuvrre | Internationaal | https://www.manoevrre.be/travel/feiten-die-je-nog-niet-wist-over-leiden/ |
| 3/10/2022 | Maart | Radio Weetlust | Aflevering 69 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-10/ |
| 3/10/2022 | Maart | Artikel | Leiden2022, eduroam-stad (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692721739f0b1 |
| 3/10/2022 | Maart | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692721739f0b1 |
| 3/11/2022 | Maart | Radio Weetlust | Aflevering 70 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-11/ |
| 3/11/2022 | Maart | Lezing | Minister Dijkgraaf 'Wanneer kennis kritiek wordt' | ECS | OCW | Nationaal | https://www.universiteitleiden.nl/agenda/2022/03/wanneer-kennis-kritiek-wordt |
| 3/11/2022 | Maart | Artikel | verslag lezing Dijkgraaf | ECS | NOS | Nationaal | https://nos.nl/artikel/2420774-dijkgraaf-zorgen-over-afstand-tussen-wetenschap-en-samenleving |
| 3/12/2022 | Maart | Radio Weetlust | Aflevering 71 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-12/ |
| 3/13/2022 | Maart | Radio Weetlust | Aflevering 72 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-13/ |
| 3/14/2022 | Maart | Radio Weetlust | Aflevering 73 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-14/ |
| 3/15/2022 | Maart | Radio Weetlust | Aflevering 74 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-15/ |
| 3/15/2022 | Maart | Online bericht | NEVAC 60 jaar | ECS | NEVAC | Nationaal | https://nevac.nl/over_NEVAC/nieuws.php |
| 3/16/2022 | Maart | Radio Weetlust | Aflevering 75 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-16/ |
| 3/17/2022 | Maart | Radio Weetlust | Aflevering 76 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-17/ |
| 3/17/2022 | Maart | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036934e3119f0f3 |
| 3/17/2022 | Maart | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036934e3119f0f3 |
| 3/17/2022 | Maart | Artikel | Science Café Leiden (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036934e3119f0f3 |
| 3/17/2022 | Maart | Artikel | Singelloop (p18) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036934e3119f0f3 |
| 3/18/2022 | Maart | Radio Weetlust | Aflevering 77 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-18/ |
| 3/18/2022 | Maart | Online bericht | New Scientist | ECS | NewScientist | Nationaal | https://www.newscientist.nl/blogs/af-en-toe-moet-ik-hindernissen-op-mijn-eigen-pad-leggen/ |
| 3/19/2022 | Maart | Radio Weetlust | Aflevering 78 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-19/ |
| 3/20/2022 | Maart | Radio Weetlust | Aflevering 79 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-20/ |
| 3/21/2022 | Maart | Radio Weetlust | Aflevering 80 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-21/ |
| 3/22/2022 | Maart | Radio Weetlust | Aflevering 81 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-22/ |
| 3/22/2022 | Maart | Artikel | Tulp (p109) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/l66_plank_highres |
| 3/22/2022 | Maart | Artikel | Leiden2022 (p121) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/l66_plank_highres |
| 3/23/2022 | Maart | Radio Weetlust | Aflevering 82 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-23/ |
| 3/24/2022 | Maart | Radio Weetlust | Aflevering 83 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-24/ |
| 3/24/2022 | Maart | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036942f25b54f64 |
| 3/24/2022 | Maart | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036942f25b54f64 |
| 3/24/2022 | Maart | Online bericht | Seeing Stars | ECS | NRIT | Nationaal | https://www.nritmedia.nl/kennisbank/45167/Seeing_Stars_Leiden_op_25_september_als_het_weer_meezt?topicid= |
| 3/24/2022 | Maart | Online bericht | Seeing Stars | ECS | UNESCO | Nationaal | Unesco Lichten uit, Sterren aan! |

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| 3/24/2022 | Maart | Online bericht | Seeing Stars | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/DMF20220324_21023525/kunstenaar-daan-roosegaarde-wil-leiden-op-zondag-25-september-in-duisternis-bullen-licht-uit-sterren-aan?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 3/24/2022 | Maart | Online bericht | Seeing Stars | ECS | Unity.nu | Regionaal | Alle lichten uit op 25 september tijdens 'Seeing Stars Leiden' Leiden (unity.nu) |
| 3/25/2022 | Maart | Radio Weetlust | Aflevering 84 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-25/ |
| 3/25/2022 | Maart | Online bericht | Seeing Stars | ECS | Leidse Glibber | Lokaal | https://www.leidseglibber.nl/2022/03/25/seeing-stars-licht-uit-sterren-aan-in-leiden-op-25-september/ |
| 3/25/2022 | Maart | Online bericht | Uitvoeringsplan Leiden | ECS | Unity.nu | Regionaal | Leiden stelt uitvoeringsplan vast voor internationaal karakter van stad Leiden (unity.nu) |
| 3/26/2022 | Maart | Radio Weetlust | Aflevering 85 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-26/ |
| 3/26/2022 | Maart | Online bericht | Seeing Stars | ECS | NU.nl | Nationaal | Leiden doet op 25 september de lichten uit voor Seeing Stars NU - Het laatste nieuws het eerst op NU.nl |
| 3/27/2022 | Maart | Radio Weetlust | Aflevering 86 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-27/ |
| 3/28/2022 | Maart | Radio Weetlust | Aflevering 87 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-28/ |
| 3/29/2022 | Maart | Radio Weetlust | Aflevering 88 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-29/ |
| 3/29/2022 | Maart | Online bericht | Seeing Stars | ECS | Algemeen Dagblad | Nationaal | Op deze dag doen we in Leiden allemaal het licht uit om sterren te kijken AD.nl |
| 3/30/2022 | Maart | Radio Weetlust | Aflevering 89 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-30/ |
| 3/30/2022 | Maart | Nieuwsbrief | Seeing Stars | ECS | Gemeente Leiden | Lokaal | Nieuwsbrief Leiden Kennisstad 30 maart (email-provider.nl) |
| 3/30/2022 | Maart | Online bericht | Medical Delta Café | ECS | Medical Delta | Nationaal | Inclusiviteit van e-health gespreksonderwerp eerste fysieke Medical Delta Café in lange tijd Medical Delta |
| 3/31/2022 | Maart | Radio Weetlust | Aflevering 90 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-03-31/ |
| 3/31/2022 | Maart | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036900e5bf4a00ef |
| 3/31/2022 | Maart | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036900e5bf4a00ef |
| 3/31/2022 | Maart | Artikel | Verhalen Groenesteeg (p5) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036900e5bf4a00ef |
| 3/31/2022 | Maart | Online bericht | Science Route | ECS | Sleutelstad | Lokaal | Nieuwe wetenschapsroute in Leiden Sleutelstad |
| 3/31/2022 | Maart | Online bericht | Science Route | ECS | NU.nl | Nationaal | https://www.nu.nl/leiden/6192565/nieuwe-wetenschapsroute-in-leiden.html |
| 3/31/2022 | Maart | Online bericht | Science Route | ECS | Unity.nu | Regionaal | Nieuwe wandeling 'Science Route' verkrijgbaar bij VVV Leiden Leiden (unity.nu) |
| 4/1/2022 | April | Radio Weetlust | Aflevering 91 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-01/ |
| 4/2/2022 | April | Radio Weetlust | Aflevering 92 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-02/ |
| 4/3/2022 | April | Radio Weetlust | Aflevering 93 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-03/ |
| 4/3/2022 | April | Online bericht | Energiepark | ECS | Leidsch Dagblad | Regionaal | Van watergasfabriek tot ex-drugsverslaafde: verhalen brengen het Leidse Energiepark tot leven Leidsch Dagblad |
| 4/4/2022 | April | Radio Weetlust | Aflevering 94 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-04/ |
| 4/5/2022 | April | Radio Weetlust | Aflevering 95 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-05/ |
| 4/6/2022 | April | Radio Weetlust | Aflevering 96 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-06/ |
| 4/6/2022 | April | Online bericht | Science Route | ECS | LWSK | Nationaal | European City of Science 2022 LWSK |
| 4/7/2022 | April | Radio Weetlust | Aflevering 97 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-07/ |
| 4/7/2022 | April | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692fa9294a1b80 |
| 4/7/2022 | April | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692fa9294a1b80 |
| 4/8/2022 | April | Radio Weetlust | Aflevering 98 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-08/ |
| 9-4-2-22 | April | Radio Weetlust | Aflevering 99 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-09/ |
| 4/10/2022 | April | Radio Weetlust | Aflevering 100 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-10/ |
| 4/11/2022 | April | Radio Weetlust | Aflevering 101 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-11/ |
| 4/11/2022 | April | Magazine | Leiden2022 (vermelding) | ECS | De Wijkkrant (PBW) | Lokaal | https://issuu.com/innovatie-estafette/docs/wijkkrant_82_april_2022/1 |
| 4/11/2022 | April | Online bericht | Leidse Wereldwandelingen | ECS | LeidenGlobal | Lokaal | Leiden2022 Leidse Wereldwandelingen LeidenGlobal |
| 4/11/2022 | April | Magazine | Leiden2022 (vermelding) | ECS | Proef de Streek | Regionaal | Proef de Streek Lente-zomer 2022 by streekvanverrassingen - Issuu |
| 4/12/2022 | April | Radio Weetlust | Aflevering 102 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-12/ |
| 4/13/2022 | April | Radio Weetlust | Aflevering 103 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-13/ |
| 4/14/2022 | April | Radio Weetlust | Aflevering 104 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-14/ |
| 4/14/2022 | April | Twitter | Leiden2022 (vermelding) | ECS | Int. Yr. Basic Scien | Internationaal | (2) Int. Yr. Basic Sciences for Sust. Development on Twitter: "ca Every two years, EuroScience in Strasbourg awards the title of 'European City of Science' to a new city in Europe. This year, Leiden will be the Dutch stage of the European scientific world. -- @Read more - https://t.co/df3Pqrrd2 #iybssd2022 #euroscience @acad_euro https://t.co/EXiBHoZS5m" / Twitter |
| 4/14/2022 | April | Twitter | Eerste 100 dagen ECS | ECS | Sleutelstad | Lokaal | (2) Sleutelstad op Twitter: "Luister naar deze #podcast van Sleutelstad 2022 - 04 - 13 Burgemeester Lenferink Over De Eerste 100 Dagen Leidse 2022 via https://t.co/Wy7a7sXpt7" / Twitter |
| 4/15/2022 | April | Radio Weetlust | Aflevering 105 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-15/ |
| 4/15/2022 | April | Poster | Leiden2022 (vermelding) | ECS | Leidse Amateur Fo | Lokaal | n.v.t. |

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| 4/16/2022 | April | Radio Weetlust | Aflevering 106 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-16/ |
| 4/16/2022 | April | Online bericht | Matthäus Passion | ECS | Leidse Glibber | Lokaal | Veel bekende Nederlanders bij Matthäus Passion in de Pieterskerk – Leidse Glibber |
| 4/17/2022 | April | Radio Weetlust | Aflevering 107 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-17/ |
| 4/18/2022 | April | Radio Weetlust | Aflevering 108 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-18/ |
| 4/19/2022 | April | Radio Weetlust | Aflevering 109 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-19/ |
| 4/20/2022 | April | Radio Weetlust | Aflevering 110 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-20/ |
| 4/21/2022 | April | Radio Weetlust | Aflevering 111 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-21/ |
| 4/21/2022 | April | Artikel | LAFV Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 4/21/2022 | April | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 4/21/2022 | April | Artikel | Museumnacht | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 4/21/2022 | April | Online bericht | Citizen Science | ECS | Universiteit Leiden | Regionaal | Leiden2022: Doe Het Zamen - Universiteit Leiden |
| 4/22/2022 | April | Radio Weetlust | Aflevering 112 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-22/ |
| 4/23/2022 | April | Radio Weetlust | Aflevering 113 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-23/ |
| 4/24/2022 | April | Radio Weetlust | Aflevering 114 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-24/ |
| 4/25/2022 | April | Radio Weetlust | Aflevering 115 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-25/ |
| 4/26/2022 | April | Radio Weetlust | Aflevering 116 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-26/ |
| 4/27/2022 | April | Radio Weetlust | Aflevering 117 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-27/ |
| 4/28/2022 | April | Radio Weetlust | Aflevering 118 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-28/ |
| 4/29/2022 | April | Radio Weetlust | Aflevering 119 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-29/ |
| 4/29/2022 | April | Online bericht | Museumnacht | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/05/museumnacht-leiden-2/ |
| 4/30/2022 | April | Radio Weetlust | Aflevering 120 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-04-30/ |
| 5/1/2022 | Mei | Radio Weetlust | Aflevering 121 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-01/ |
| 5/1/2022 | Mei | Online magazine | Leiden2022 (vermelding) | ECS | Stichting buurtcomi | Lokaal | https://hethoogstewoerd.nl/wp-content/uploads/HW94.pdf |
| 5/2/2022 | Mei | Radio Weetlust | Aflevering 122 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-02/ |
| 5/2/2022 | Mei | Online bericht | ESOF | ECS | LUMC | Regionaal | European City of Science LUMC |
| 5/3/2022 | Mei | Radio Weetlust | Aflevering 123 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-03/ |
| 5/4/2022 | Mei | Radio Weetlust | Aflevering 124 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-04/ |
| 5/4/2022 | Mei | Krantenartikel | Leiden2022 (vermelding) | ECS | Oegstgeester Cour | Lokaal | n.v.t. |
| 5/4/2022 | Mei | Krantenartikel | Leiden2022 (vermelding) | ECS | Oegstgeester Cour | Lokaal | n.v.t. |
| 5/4/2022 | Mei | Online bericht | Leiden2022 (vermelding) | ECS | VSCD | Nationaal | VSCD In gesprek met Irene |
| 5/5/2022 | Mei | Radio Weetlust | Aflevering 125 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-05/ |
| 5/5/2022 | Mei | Online bericht | Citizen Science | ECS | VisitLeiden | Lokaal | Red Moeder Natuur! Visit Leiden |
| 5/5/2022 | Mei | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 5/5/2022 | Mei | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 5/6/2022 | Mei | Radio Weetlust | Aflevering 126 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-06/ |
| 5/6/2022 | Mei | Online bericht | Vacuum Radio Weetlust | ECS | NEVAC | Nationaal | https://nevac.nl/over_NEVAC/nieuws.php |
| 5/7/2022 | Mei | Radio Weetlust | Aflevering 127 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-07/ |
| 5/8/2022 | Mei | Radio Weetlust | Aflevering 128 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-08/ |
| 5/9/2022 | Mei | Radio Weetlust | Aflevering 129 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-09/ |
| 5/9/2022 | Mei | Online bericht | LERU | ECS | LERU | Europees | Leiden welcomes LERU back for 20th anniversary LERU |
| 5/10/2022 | Mei | Radio Weetlust | Aflevering 130 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-10/ |
| 5/11/2022 | Mei | Radio Weetlust | Aflevering 131 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-11/ |
| 5/11/2022 | Mei | Online bericht | Leiden2022 (vermelding) | ECS | DutchNews | Europees | Dutch destinations: further down the lanes of Leiden - DutchNews.nl |
| 5/11/2022 | Mei | Online bericht | Leids Goeds Festival | ECS | Leiden Bio Science | Regionaal | https://leidenbiosciencepark.nl/events/leids-goeds-festival |
| 5/12/2022 | Mei | Radio Weetlust | Aflevering 132 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-12/ |
| 5/12/2022 | Mei | Artikel | Muziekfestival (p1) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 5/12/2022 | Mei | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 5/12/2022 | Mei | Artikel | Leiden Marathon (p14) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403694cc250e2653f |
| 5/13/2022 | Mei | Radio Weetlust | Aflevering 133 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-13/ |
| 5/13/2022 | Mei | Online bericht | Regeneratieve geneeskunde | ECS | Nierstichting | Nationaal | Publieksdag 'Je eigen cellen als medicijn?' - Nierstichting |
| 5/14/2022 | Mei | Radio Weetlust | Aflevering 134 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-14/ |
| 5/14/2022 | Mei | Krantenartikel | Leiden2022 (vermelding) | ECS | Leids Nieuwsblad | Lokaal | n.v.t. |
| 5/14/2022 | Mei | Radiofragment | Universiteit Leiden | ECS | NPO Radio 1 | Nationaal | De tradities van de oudste universiteit van Nederland: van korballen tot zeventies voor scripties NPO Radio 1 |
| 5/15/2022 | Mei | Radio Weetlust | Aflevering 135 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-15/ |
| 5/16/2022 | Mei | Radio Weetlust | Aflevering 136 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-16/ |
| 5/17/2022 | Mei | Radio Weetlust | Aflevering 137 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-17/ |
| 5/17/2022 | Mei | Online bericht | Energiepark | ECS | NieuwsLeiden | Lokaal | https://www.nieuwsleiden.nl/unity/ontdek-de-stadsnatuur-van-het-energiepark/ |

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| 5/17/2022 | Mei | Twitter | Regeneratieve geneeskunde | ECS | Radboudumc_ wee | Nationaal | [20] Radboudumc wetenschap op Twitter: "Je eigen cellen als medicijn? Ontdek de toekomst op de publieksdag Regeneratieve Geneeskunde in Leiden, georganiseerd vanuit de Nationale Wetenschapsagenda. @Radboudumc is ook aanwezig met stands van Tandheelkunde en Biochemie. #RegGen #Leiden2022 #Publieksdag https://t.co/4RUUVnTr" / Twitter |
| 5/17/2022 | Mei | Online bericht | Interview LERU 20 years | ECS | Universiteit Leiden | Internationaal | https://www.universiteitleiden.nl/en/news/2022/05/leru-conference-in-leiden-universities-steer-society-through-storms |
| 5/17/2022 | Mei | Online bericht | Energiepark | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/ontdek-de-stadsnatuur-van-het-energiepark |
| 5/17/2022 | Mei | Online bericht | LERU | ECS | Universiteit Leiden | Regionaal | LERU-congres in Leiden: 'Universiteiten loodsen de samenleving door stormen' - Universiteit Leiden |
| 5/18/2022 | Mei | Radio Weetlust | Aflevering 138 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-18/ |
| 5/19/2022 | Mei | Radio Weetlust | Aflevering 139 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-19/ |
| 5/19/2022 | Mei | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036969da7461c6d9 |
| 5/19/2022 | Mei | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036969da7461c6d9 |
| 5/19/2022 | Mei | Artikel | Thema Leids Ontzet (p3) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036969da7461c6d9 |
| 5/19/2022 | Mei | Artikel | Lezing Sijthoff (p5) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036969da7461c6d9 |
| 5/19/2022 | Mei | Artikel | Workshop natuurspeeltuin (p26) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036969da7461c6d9 |
| 5/19/2022 | Mei | Website | LERU 20 years conference Leiden | ECS | LERU | Internationaal | https://www.20yearsleru.org/ |
| 5/19/2022 | Mei | Artikel | LERU 20 years conference Leiden | ECS | University World N | Internationaal | https://www.universityworldnews.com/post.php?story=20220519103543836 |
| 5/19/2022 | Mei | Artikel | LERU 20 years conference Leiden | ECS | Research Europe | Internationaal | https://www.20yearsleru.org/conference |
| 5/19/2022 | Mei | Online bericht | Global Impact in Health Symposium | ECS | Health Holland | Nationaal | https://www.health-holland.com/news/2022/05/gesprek-over-pandemie-paraatheid-tijdens-global-impact-health-symposium |
| 5/19/2022 | Mei | Online bericht | Global Impact in Health Symposium | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/nieuws/2022/Mei/In-gesprek-over-pandemie-paraatheid-tijdens-Global-Impact-in-Health-Symposium/ |
| 5/19/2022 | Mei | Online bericht | Jubileumbijeenkomst Hollandia Netwerk | ECS | Unity.nu | Regionaal | 75e jubileumbijeenkomst van het Hollandia Netwerk Leiden (unity.nu) |
| 5/20/2022 | Mei | Radio Weetlust | Aflevering 140 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-20/ |
| 5/20/2022 | Mei | Online bericht | Leiden2022 (vermelding) | ECS | Greater Venues | Regionaal | European City of Science 2022 moet Leiden nog nadrukkelijker op de kaart zetten (greatervenues.com) |
| 5/21/2022 | Mei | Radio Weetlust | Aflevering 141 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-21/ |
| 5/22/2022 | Mei | Radio Weetlust | Aflevering 142 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-22/ |
| 5/22/2022 | Mei | Online bericht | Regeneratieve geneeskunde | ECS | Diabetestype1 | Nationaal | Publieksdag Je eigen cellen als medicijn? (diabetestype1.nl) |
| 5/22/2022 | Mei | Online bericht | Regeneratieve geneeskunde | ECS | Medical Delta | Nationaal | Je eigen cellen als medicijn? Medical Delta |
| 5/22/2022 | Mei | Online bericht | Energiepark | ECS | Regio Online | Regionaal | https://regioonline.nl/regio-rijnland/ontdek-de-stadsnatuur/ |
| 5/22/2022 | Mei | Online bericht | Leidse Wereldwandelingen | ECS | Universiteit Leiden | Regionaal | GEANNULEERD: Sporen van Migratie in Leiden - Universiteit Leiden |
| 5/22/2022 | Mei | Online bericht | Life Sciences and Health Week | ECS | Universiteit Leiden | Regionaal | Leiden2022 Life Sciences and Health Week - Universiteit Leiden |
| 5/22/2022 | Mei | Online bericht | Regeneratieve geneeskunde | ECS | Universiteit Leiden | Regionaal | Public Regenerative Medicine Day - Universiteit Leiden |
| 5/22/2022 | Mei | Online bericht | Leidse Wereldwandelingen | ECS | Universiteit Leiden | Regionaal | Traces of Indonesia in Leiden (Sporen van Indonesië in Leiden) - Universiteit Leiden |
| 5/23/2022 | Mei | Radio Weetlust | Aflevering 143 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-23/ |
| 5/24/2022 | Mei | Radio Weetlust | Aflevering 144 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-24/ |
| 5/24/2022 | Mei | Online bericht | LERU 20 years conference Leiden | ECS | Universitat de Barc | Internationaal | https://web.ub.edu/en/web/actualitat/w/leru-turns-twenty-and-defends-the-role-of-research-intensive-universities-in-a-post-pandemic-scenario- |
| 5/25/2022 | Mei | Radio Weetlust | Aflevering 145 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-25/ |
| 5/26/2022 | Mei | Radio Weetlust | Aflevering 146 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-26/ |
| 5/26/2022 | Mei | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d562923bca25 |
| 5/26/2022 | Mei | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d562923bca25 |
| 5/26/2022 | Mei | Artikel | LAFV expositie (p9) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d562923bca25 |
| 5/27/2022 | Mei | Radio Weetlust | Aflevering 147 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-27/ |
| 5/28/2022 | Mei | Radio Weetlust | Aflevering 148 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-28/ |
| 5/29/2022 | Mei | Radio Weetlust | Aflevering 149 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-29/ |
| 5/29/2022 | Mei | Online bericht | Museumnacht | ECS | Leidsch Dagblad | Regionaal | Museumnacht Leiden: van enge vogelpoppen tot dokter Bibber Leidsch Dagblad |
| 5/30/2022 | Mei | Radio Weetlust | Aflevering 150 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-30/ |
| 5/31/2022 | Mei | Radio Weetlust | Aflevering 151 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-05-31/ |
| 5/31/2022 | Mei | Online bericht | Leiden2022 (vermelding) | ECS | PS Theater | Lokaal | Het geheim van de eeuweling PSitheater |
| 6/1/2022 | Juni | Radio Weetlust | Aflevering 152 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-01/ |
| 6/1/2022 | Juni | Magazine | Aankondiging ESOF | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/magazine/editie-juni-2022 |
| 6/1/2022 | Juni | Online bericht | Stichting 2030 | ECS | Stichting 2030 | Regionaal | Stichting 2030 draagt het stokje over aan Leiden2022 Stichting 2030 |
| 6/2/2022 | Juni | Radio Weetlust | Aflevering 153 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-02/ |
| 6/2/2022 | Juni | Online bericht | Imaginary tentoonstelling | ECS | Universiteit Leiden | Regionaal | Expositie wijst op de 'bracht en kracht' van wiskunde - Universiteit Leiden |
| 6/2/2022 | Juni | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369dcbdf526a46c |
| 6/2/2022 | Juni | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369dcbdf526a46c |
| 6/2/2022 | Juni | Artikel | Open bomen kaart (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369dcbdf526a46c |
| 6/3/2022 | Juni | Radio Weetlust | Aflevering 154 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-03/ |
| 6/3/2022 | Juni | Online bericht | Keti Koti | ECS | Leidsch Dagblad | Regionaal | https://m.leidschdagblad.nl/cnt/dm120220630_63049025 |
| 6/4/2022 | Juni | Radio Weetlust | Aflevering 155 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-04/ |
| 6/5/2022 | Juni | Radio Weetlust | Aflevering 156 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-05/ |

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| 6/6/2022 | Juni | Radio Weetlust | Aflevering 157 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-06/ |
| 6/7/2022 | Juni | Radio Weetlust | Aflevering 158 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-07/ |
| 6/7/2022 | Juni | Online bericht | Enlight European Universities | ECS | Rijksuniversiteit Groningen | Nationaal | https://www.rug.nl/news/2022/06/highlights-on-the-panel-discussion-university-of-groningen-groningen-on-25-april-2022 |
| 6/8/2022 | Juni | Radio Weetlust | Aflevering 159 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-08/ |
| 6/8/2022 | Juni | Online bericht | ESOF | ECS | Universiteit Leiden | Regionaal | ESOF-sessie 'Art Exploring Science' verbindt kunstenaars aan de wetenschap - Universiteit Leiden |
| 6/9/2022 | Juni | Radio Weetlust | Aflevering 160 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-09/ |
| 6/9/2022 | Juni | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691b9e26617d9d |
| 6/9/2022 | Juni | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691b9e26617d9d |
| 6/9/2022 | Juni | Online bericht | Leiden Shorts | ECS | Mare | Lokaal | https://www.mareonline.nl/cultuur/pizzagate-en-een-oudergrondse-sekscultus/ |
| 6/10/2022 | Juni | Radio Weetlust | Aflevering 161 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-10/ |
| 6/11/2022 | Juni | Radio Weetlust | Aflevering 162 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-11/ |
| 6/12/2022 | Juni | Radio Weetlust | Aflevering 163 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-12/ |
| 6/13/2022 | Juni | Radio Weetlust | Aflevering 164 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-13/ |
| 6/14/2022 | Juni | Artikel | Imaginary | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/167_plank_lostr |
| 6/14/2022 | Juni | Artikel | Beelden in Leiden | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/167_plank_lostr |
| 6/14/2022 | Juni | Artikel | Seeing Stars (p134) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/167_plank_lostr |
| 6/14/2022 | Juni | Radio Weetlust | Aflevering 165 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-14/ |
| 6/14/2022 | Juni | Online bericht | Honours Class | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/06/honours-studenten-maken-expositie-over-de-ander |
| 6/15/2022 | Juni | Radio Weetlust | Aflevering 166 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-15/ |
| 6/15/2022 | Juni | Online bericht | Leiden2022 (vermelding) | ECS | NRZ | Europees | Holland-Tagestrip nach Leiden: auf Rembrandts Spuren - nrz.de |
| 6/16/2022 | Juni | Radio Weetlust | Aflevering 167 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-16/ |
| 6/16/2022 | Juni | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690958adca75da |
| 6/16/2022 | Juni | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690958adca75da |
| 6/16/2022 | Juni | Online bericht | Seeing Stars | ECS | Leiden Stad van O | Regionaal | https://www.visilleiden.nl/nl/leidenenpartners/leidsche-plein/juni-2022 |
| 6/17/2022 | Juni | Radio Weetlust | Aflevering 168 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-17/ |
| 6/18/2022 | Juni | Radio Weetlust | Aflevering 169 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-18/ |
| 6/19/2022 | Juni | Radio Weetlust | Aflevering 170 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-19/ |
| 6/19/2022 | Juni | Online bericht | Leiden2022 (vermelding) | ECS | Gcantabria | Europees | 22 ciudades que hay que visitar en 2022 Guia G. Cantabria |
| 6/19/2022 | Juni | Krantenartikel | Leiden2022 (vermelding) | ECS | National Geographic | Internationaal | n.v.t. |
| 6/20/2022 | Juni | Radio Weetlust | Aflevering 171 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-20/ |
| 6/20/2022 | Juni | TV uitzending | Leiden2022 (vermelding) | ECS | WNL | Nationaal | Minister Dijkgraaf: investeren in vertrouwen in wetenschap (wnl.tv) |
| 6/21/2022 | Juni | Radio Weetlust | Aflevering 172 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-21/ |
| 6/22/2022 | Juni | Radio Weetlust | Aflevering 173 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-22/ |
| 6/22/2022 | Juni | Online bericht | Aankondiging ESOF | ESOF | Neth-ER | Internationaal | https://www.neth-er.eu/onderzoek/register-nu-voor-euroscience-open-forum-in-leiden |
| 6/22/2022 | Juni | Online bericht | Science in the City Festival | ECS | Unity.nu | Regionaal | Leiden organiseert European Science in the City Festival leiden.unitynu.nl |
| 6/23/2022 | Juni | Radio Weetlust | Aflevering 174 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-23/ |
| 6/23/2022 | Juni | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692200cf61144d |
| 6/23/2022 | Juni | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692200cf61144d |
| 6/23/2022 | Juni | Online bericht | Tentoonstelling more than a planet | ECS | Waag Future Lab | Nationaal | Waag Expo: More-than-Planet, curated by Waag |
| 6/24/2022 | Juni | Radio Weetlust | Aflevering 175 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-24/ |
| 6/25/2022 | Juni | Radio Weetlust | Aflevering 176 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-25/ |
| 6/26/2022 | Juni | Radio Weetlust | Aflevering 177 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-26/ |
| 6/27/2022 | Juni | Radio Weetlust | Aflevering 178 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-27/ |
| 6/28/2022 | Juni | Radio Weetlust | Aflevering 179 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-28/ |
| 6/29/2022 | Juni | Radio Weetlust | Aflevering 180 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-29/ |
| 6/30/2022 | Juni | Radio Weetlust | Aflevering 181 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-06-30/ |
| 6/30/2022 | Juni | Online bericht | Citizen Science | ECS | NWO | Nationaal | https://www.nwo.nl/nieuws/nwa-kent-financiering-toe-aan-negen-innovatieve-wetenschapscommunicatieprojecten |
| 6/30/2022 | Juni | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403696bdf159c3e86 |
| 6/30/2022 | Juni | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403696bdf159c3e86 |
| 7/1/2022 | Juli | Radio Weetlust | Aflevering 182 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-01/ |
| 7/2/2022 | Juli | Radio Weetlust | Aflevering 183 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-02/ |
| 7/3/2022 | Juli | Radio Weetlust | Aflevering 184 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-03/ |
| 7/4/2022 | Juli | Radio Weetlust | Aflevering 185 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-04/ |
| 7/4/2022 | Juli | Online bericht | ESOF | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/juli/esof-sessie-over-vaccins-infectieziekten-houden-zich-niet-aan-grenzen/ |
| 7/5/2022 | Juli | Radio Weetlust | Aflevering 186 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-05/ |
| 7/5/2022 | Juli | Online bericht | Kleine Rembrandt | ECS | India Education Day | Internationaal | https://indiaeducationday.in/leiden-university-physicists-from-leiden-help-create-worlds-smallest-rembrandt/ |

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| 7/5/2022 | Juli | Online bericht | Symposium Leiden Kennisstad | ECS | Kennisstad Leiden | Regionaal | https://www.leidenkennisstad.nl/avondsymposium2022/ |
| 7/5/2022 | Juli | Online magazine | Leiden2022 (vermelding) | ECS | Economie071 | Regionaal | n.v.t. |
| 7/6/2022 | Juli | Radio Weetlust | Aflevering 187 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-06/ |
| 7/6/2022 | Juli | Online bericht | Kleine Rembrandt | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/07/leidse-natuurkundigen-werken-mee-aan-kleinste-rembrandt-ter-wereld |
| 7/7/2022 | Juli | Radio Weetlust | Aflevering 188 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-07/ |
| 7/7/2022 | Juli | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690c8a99f6e419 |
| 7/7/2022 | Juli | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690c8a99f6e419 |
| 7/7/2022 | Juli | Krantenartikel | Leiden2022 (vermelding) | ECS | Leidsch Dagblad | Regionaal | n.v.t. |
| 7/7/2022 | Juli | Online bericht | ESOF | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/juli/esof-voorproefje-hoe-worden-we-chronische-ziekten-de-baas/ |
| 7/7/2022 | Juli | Online bericht | Tentoonstelling ArtScience | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/nieuws/2022/Juli/Tentoonstelling-ArtScience-Forms-of-symbiosis/ |
| 7/8/2022 | Juli | Radio Weetlust | Aflevering 189 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-08/ |
| 7/8/2022 | Juli | Online bericht | Leiden2022 (vermelding) | ECS | Gemeente Leiden | Lokaal | https://gemeente.leiden.nl/bestuur/publicaties/stadskrant/stadskrant-week-27/ |
| 7/8/2022 | Juli | Online bericht | Kleine Rembrandt | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/agenda/2022/07/kleinste-kunstwerk-ter-wereld-in-museum-de-lakenhal/ |
| 7/9/2022 | Juli | Radio Weetlust | Aflevering 190 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-09/ |
| 7/9/2022 | Juli | Online bericht | Hotzone Week | ECS | FDO 2022 | Europees | https://www.fdo2022.org/ |
| 7/9/2022 | Juli | Online bericht | Hotzone Week | ECS | Go Fair | Internationaal | https://www.go-fair.org/events/hotzone-week-on-fair-at-leiden-2022-european-city-of-science/ |
| 7/9/2022 | Juli | Online magazine | ESOF | ECS | Gemeente Leiden | Lokaal | n.v.t. |
| 7/9/2022 | Juli | Online bericht | Science in the City Festival | ECS | Indebuurt Leiden | Regionaal | https://indebuurt.nl/leiden/doen/uitjestip-science-in-the-city-festival-15-x-dit-is-er-allemaal-te-beleven-142546/ |
| 7/10/2022 | Juli | Radio Weetlust | Aflevering 191 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-10/ |
| 7/10/2022 | Juli | Online bericht | ESOF | ECS | Torun Wyborcza | Europees | https://torun.wyborcza.pl/torun/7_48723_28662521_torunski-universytet-promuje-sie-na-prestizowym-euroscience.html?disableRedirects=true |
| 7/11/2022 | Juli | Radio Weetlust | Aflevering 192 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-11/ |
| 7/11/2022 | Juli | Online bericht | ESOF | ECS | VisitLeiden | Lokaal | https://c.spotler.com/ct/m8k15Ff0y7XIMqAtOG8qxMIQ7LrAWk2FPUwq7YoYrD_0nx9AP27EJIS6u0Het3Tb2l2slg1gxluglApcIMXqOy4YANuKlQz5www |
| 7/11/2022 | Juli | Online bericht | Science in the City Festival | ECS | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/lerenmetdestad-scienceinthecity/ |
| 7/11/2022 | Juli | Online bericht | ESOF | ECS | Leiden Convention | Regionaal | https://www.leidenconventionbureau.nl/nl/highlights/euroscience-open-forum |
| 7/12/2022 | Juli | Radio Weetlust | Aflevering 193 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-12/ |
| 7/12/2022 | Juli | Online bericht | ESOF | ECS | UE Katowice | Europees | https://www.ue.katowice.pl/uczelnia/aktualnosci/article/transmisja-online-euroscience-open-forum-2022-esof.html |
| 7/12/2022 | Juli | Online bericht | ESOF | ECS | Leidsch Dagblad | Regionaal | https://m.leidschdagblad.nl/cnt/dm22020711_3329364 |
| 7/12/2022 | Juli | Online bericht | ESOF | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/juli/esof-voorproefje-hoe-maken-we-nederland-gezonder/ |
| 7/13/2022 | Juli | Radio Weetlust | Aflevering 194 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-13/ |
| 7/13/2022 | Juli | Online bericht | ESOF | ECS | Europese Commissie | Europees | https://ec.europa.eu/info/news/eu-euroscience-open-forum-2022-focus-eu-missions-and-young-research-talents-2022-jul-13_en |
| 7/14/2022 | Juli | Radio Weetlust | Aflevering 195 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-14/ |
| 7/14/2022 | Juli | Artikel | LAFV Leiden2022 (p11) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691fb4d7df355a |
| 7/14/2022 | Juli | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691fb4d7df355a |
| 7/14/2022 | Juli | Artikel | Nieuw Licht (p7) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691fb4d7df355a |
| 7/14/2022 | Juli | Online bericht | ESOF | ECS | European Research | Europees | https://erc.europa.eu/news/public-engagement-award-winners-2022 |
| 7/14/2022 | Juli | Online bericht | ESOF | ECS | Leiden-Delft-Erasr | Nationaal | https://www.leiden-delft-erasmus.nl/nl/nieuws/esof-conferentie-in-leiden-over-multidisciplinair-onderzoek-voor-een-innovatief-europa-en |
| 7/14/2022 | Juli | Online bericht | ESOF | ECS | Research Professie | Europees | https://www.researchprofessionalnews.com/fr-news-europe-universities-2022-7-ukrainian-researcher-calls-for-shorter-projects-for-refugees/ |
| 7/14/2022 | Juli | Online bericht | ESOF | ECS | Science Business | Europees | https://sciencebusiness.net/events/lab-communities-way-we-regulate-medicines-future-proof |
| 7/14/2022 | Juli | Online bericht | Science in the City Festival | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/14/science-in-the-city-gratis-wetenschapsfestival-rond-de-pieterskerk/ |
| 7/14/2022 | Juli | Krantenartikel | ESOF | ECS | Leidsch Dagblad | Regionaal | n.v.t. |
| 7/14/2022 | Juli | Krantenartikel | Leiden2022 (vermelding) | ECS | Leidsch Dagblad | Regionaal | n.v.t. |
| 7/15/2022 | Juli | Radio Weetlust | Aflevering 196 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-15/ |
| 7/16/2022 | Juli | Radio Weetlust | Aflevering 197 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-16/ |
| 7/16/2022 | Juli | Online bericht | ESOF | ECS | Omroep West | Regionaal | https://www.omroepwest.nl/nieuws/4603293/leiden-pronkt-met-schaalmodel-van-tescooep-james-webb-zet-de-mensheid-in-een-ander-perspectief |
| 7/17/2022 | Juli | Radio Weetlust | Aflevering 198 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-17/ |
| 7/17/2022 | Juli | Online bericht | ESOF | ECS | Europese Commissie | Europees | https://netherlands.representation.ec.europa.eu/evenementen/europees-wetenschapsfestival-leiden-ontdek-het-eu-paviljoen-en-de-europese-talentenbeurs-2022-07-13_nl |
| 7/18/2022 | Juli | Radio Weetlust | Aflevering 199 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-18/ |
| 7/18/2022 | Juli | Online bericht | ESOF | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/18/leidse-congresmarkt-groeit-nu-op-plek-4-in-top-5-nationale-congresbestemmingen/ |
| 7/18/2022 | Juli | Online magazine | Leiden2022 (vermelding) | ECS | VVV | Nationaal | https://assets.citynavigator.nl/kuma-leiden/uploads/media/62c2cc974cfd2367-events-03026-leiden.pdf |
| 7/19/2022 | Juli | Radio Weetlust | Aflevering 200 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-19/ |

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| 7/19/2022 | Juli | Krantenartikel | ESOF | ECS | De Volkskrant | Nationaal | n.v.t. |
| 7/20/2022 | Juli | Radio Weetlust | Aflevering 201 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-20/ |
| 7/20/2022 | Juli | Nieuwsbrief | The Space Week | ECS | NL Space Campus | Nationaal | https://mailchi.mp/4bbba6a453a7/monthly-update-nl-space-campus-11496213?e=fe98e07c31 |
| 7/21/2022 | Juli | Radio Weetlust | Aflevering 202 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-21/ |
| 7/21/2022 | Juli | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369982a6c0ee180 |
| 7/21/2022 | Juli | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369982a6c0ee180 |
| 7/21/2022 | Juli | Online bericht | Workshop klinefelter syndroom | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/09/3de-internationale-workshop-over-klinefelter-syndroom-trisomie-x-and-yv |
| 7/22/2022 | Juli | Radio Weetlust | Aflevering 203 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-22/ |
| 7/22/2022 | Juli | Krantenartikel | The Space Week | ECS | Leidsch Dagblad | Regionaal | n.v.t. |
| 7/23/2022 | Juli | Radio Weetlust | Aflevering 204 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-23/ |
| 7/23/2022 | Juli | Online bericht | Leiden2022 (vermelding) | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/07/23/wetenschapsjaar-is-op-de-helft-leiden2022-maakt-overzichtsvideo/ |
| 7/24/2022 | Juli | Radio Weetlust | Aflevering 205 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-24/ |
| 7/24/2022 | Juli | Krantenartikel | Seeing Stars | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220724_93939569 |
| 7/25/2022 | Juli | Radio Weetlust | Aflevering 206 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-25/ |
| 7/25/2022 | Juli | Online bericht | Science Café | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220725_82023212?utm_source=accounts.tnet.nl&utm_medium=referral&utm_content= |
| 7/26/2022 | Juli | Radio Weetlust | Aflevering 207 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-26/ |
| 7/27/2022 | Juli | Radio Weetlust | Aflevering 208 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-27/ |
| 7/27/2022 | Juli | Online magazine | Leiden2022 (vermelding) | ECS | Oud Geleerd Jong | Lokaal | n.v.t. |
| 7/27/2022 | Juli | Online bericht | Radio Weetlust | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/07/leids-wetenschappers-te-horen-op-radio-weetlust |
| 7/28/2022 | Juli | Radio Weetlust | Aflevering 209 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-28/ |
| 7/28/2022 | Juli | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695bab06549fe2 |
| 7/28/2022 | Juli | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695bab06549fe2 |
| 7/29/2022 | Juli | Radio Weetlust | Aflevering 210 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-29/ |
| 7/29/2022 | Juli | Online magazine | Leiden2022 (vermelding) | ECS | Leidse Amateur Fo | Lokaal | n.v.t. |
| 7/30/2022 | Juli | Radio Weetlust | Aflevering 211 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-30/ |
| 7/30/2022 | Juli | Vacature | Leiden2022 (vermelding) | ECS | Gemeente Leiden | Lokaal | https://www.villamedia.nl/vacatures/functie/bestuurscommunicatie-adviseur |
| 7/31/2022 | Juli | Radio Weetlust | Aflevering 212 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-07-31/ |
| 8/1/2022 | Augustus | Radio Weetlust | Aflevering 213 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-01/ |
| 8/1/2022 | Augustus | Nieuwsbrief | Seeing Stars | ECS | Wijkvereniging Cro | Lokaal | https://wikverenigingcronestein.nl/wp-content/uploads/2022/08/Cronestein-aug2022_def_kj.pdf |
| 8/2/2022 | Augustus | Radio Weetlust | Aflevering 214 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-02/ |
| 8/3/2022 | Augustus | Radio Weetlust | Aflevering 215 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-03/ |
| 8/4/2022 | Augustus | Radio Weetlust | Aflevering 216 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-04/ |
| 8/5/2022 | Augustus | Radio Weetlust | Aflevering 217 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-05/ |
| 8/6/2022 | Augustus | Radio Weetlust | Aflevering 218 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-06/ |
| 8/7/2022 | Augustus | Radio Weetlust | Aflevering 219 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-07/ |
| 8/8/2022 | Augustus | Radio Weetlust | Aflevering 220 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-08/ |
| 8/9/2022 | Augustus | Radio Weetlust | Aflevering 221 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-09/ |
| 8/9/2022 | Augustus | Online magazine | Science in the City Festival | ECS | XSAGA | Nationaal | https://xsaga.nl/case/leiden2022-european-science-in-the-city-festival/ |
| 8/10/2022 | Augustus | Radio Weetlust | Aflevering 222 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-10/ |
| 8/11/2022 | Augustus | Radio Weetlust | Aflevering 223 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-11/ |
| 8/11/2022 | Augustus | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403698a770dd303fc |
| 8/11/2022 | Augustus | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403698a770dd303fc |
| 8/12/2022 | Augustus | Radio Weetlust | Aflevering 224 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-12/ |
| 8/13/2022 | Augustus | Radio Weetlust | Aflevering 225 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-13/ |
| 8/14/2022 | Augustus | Radio Weetlust | Aflevering 226 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-14/ |
| 8/15/2022 | Augustus | Radio Weetlust | Aflevering 227 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-15/ |
| 8/15/2022 | Augustus | Youtube video | ESOF | ECS | Leiden Convention | Lokaal | https://youtu.be/PV2PijNBEO |
| 8/16/2022 | Augustus | Radio Weetlust | Aflevering 228 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-16/ |
| 8/17/2022 | Augustus | Radio Weetlust | Aflevering 229 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-17/ |
| 8/18/2022 | Augustus | Radio Weetlust | Aflevering 230 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-18/ |
| 8/18/2022 | Augustus | Artikel | LAFV Leiden2022 (p9) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369b7427e4c3d10 |
| 8/18/2022 | Augustus | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369b7427e4c3d10 |
| 8/18/2022 | Augustus | Artikel | Art Science Week (p1) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369b7427e4c3d10 |
| 8/18/2022 | Augustus | Buurtkrant | Leiden2022 (vermelding) | ECS | Vereniging Marebu | Lokaal | n.v.t. |
| 8/19/2022 | Augustus | Radio Weetlust | Aflevering 231 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-19/ |
| 8/20/2022 | Augustus | Radio Weetlust | Aflevering 232 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-20/ |
| 8/21/2022 | Augustus | Radio Weetlust | Aflevering 233 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-21/ |

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| 8/22/2022 | Augustus | Radio Weetlust | Aflevering 234 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-22/ |
| 8/22/2022 | Augustus | Instagram | Seeing Stars | ECS | Jochem Myjer | Nationaal | n.v.t. |
| 8/23/2022 | Augustus | Radio Weetlust | Aflevering 235 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-23/ |
| 8/23/2022 | Augustus | Online bericht | James Webb Space Telescope | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/augustus/tenoonstelling-galerie-lumc-op-weg-naar-het-begin-wetenschap-en-kunst-rondom-de-james-webb-telescoop/ |
| 8/24/2022 | Augustus | Radio Weetlust | Aflevering 236 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-24/ |
| 8/25/2022 | Augustus | Radio Weetlust | Aflevering 237 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-25/ |
| 8/25/2022 | Augustus | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036941f99c9d12d8 |
| 8/25/2022 | Augustus | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036941f99c9d12d8 |
| 8/26/2022 | Augustus | Radio Weetlust | Aflevering 238 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-26/ |
| 8/27/2022 | Augustus | Radio Weetlust | Aflevering 239 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-27/ |
| 8/28/2022 | Augustus | Radio Weetlust | Aflevering 240 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-28/ |
| 8/29/2022 | Augustus | Radio Weetlust | Aflevering 241 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-29/ |
| 8/29/2022 | Augustus | Krantenartikel | Seeing Stars | ECS | De Romekrant | Lokaal | Romekrant 29 aug 2022 WEB.pdf |
| 8/30/2022 | Augustus | Radio Weetlust | Aflevering 242 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-30/ |
| 8/31/2022 | Augustus | Radio Weetlust | Aflevering 243 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-08-31/ |
| 9/1/2022 | September | Radio Weetlust | Aflevering 244 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-01/ |
| 9/1/2022 | September | Artikel | LAFV Leiden2022 (p15) | ECS | Leiden Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369480703f652 |
| 9/1/2022 | September | Agenda | Leiden2022 agenda | ECS | Leiden Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369480703f652 |
| 9/2/2022 | September | Radio Weetlust | Aflevering 245 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-02/ |
| 9/3/2022 | September | Radio Weetlust | Aflevering 246 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-03/ |
| 9/3/2022 | September | Nieuwsbericht | Nacht van Ontdekkingen | ECS | Indebuurt Leiden | Regionaal | https://indebuurt.nl/leiden/doen/gaaf-tijdens-dit-festival-ontdek-je-leiden-als-nooit-tevoren-145426/ |
| 9/4/2022 | September | Radio Weetlust | Aflevering 247 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-04/ |
| 9/5/2022 | September | Radio Weetlust | Aflevering 248 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-05/ |
| 9/6/2022 | September | Radio Weetlust | Aflevering 249 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-06/ |
| 9/7/2022 | September | Radio Weetlust | Aflevering 250 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-07/ |
| 9/8/2022 | September | Radio Weetlust | Aflevering 251 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-08/ |
| 9/8/2022 | September | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369480703f652 |
| 9/8/2022 | September | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369480703f652 |
| 9/8/2022 | September | Online bericht | Leiden2022 (vermelding) | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/09/08/leids-ondernemers-blij-met-moie-zomer-na-corona-maar-zorgen-blijven/ |
| 9/9/2022 | September | Radio Weetlust | Aflevering 252 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-09/ |
| 9/9/2022 | September | Krantenartikel | Art & Science Leiden | ECS | De Volkskrant | Nationaal | https://issuu.com/campaignsresults/docs/volkskrant_kennisbijlage_art-science_leiden |
| 9/10/2022 | September | Radio Weetlust | Aflevering 253 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-10/ |
| 9/11/2022 | September | Radio Weetlust | Aflevering 254 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-11/ |
| 9/12/2022 | September | Radio Weetlust | Aflevering 255 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-12/ |
| 9/12/2022 | September | Artikel | Wereldwandelingen Leiden Global + Science Route | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/168_plank_lostr |
| 9/12/2022 | September | Artikel | Space Week + Seeing Stars (p24) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/168_plank_lostr |
| 9/12/2022 | September | Artikel | Imagine Intuition (p57) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/168_plank_lostr |
| 9/13/2022 | September | Radio Weetlust | Aflevering 256 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-13/ |
| 9/13/2022 | September | Online bericht | Seeing Stars | ECS | Holland.com | Internationaal | https://www.holland.com/global/press/news-resources/seeing-stars-leiden.htm |
| 9/14/2022 | September | Radio Weetlust | Aflevering 257 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-14/ |
| 9/15/2022 | September | Radio Weetlust | Aflevering 258 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-15/ |
| 9/15/2022 | September | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369185061d5ba5f |
| 9/15/2022 | September | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369185061d5ba5f |
| 9/16/2022 | September | Radio Weetlust | Aflevering 259 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-16/ |
| 9/17/2022 | September | Radio Weetlust | Aflevering 260 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-17/ |
| 9/18/2022 | September | Radio Weetlust | Aflevering 261 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-18/ |
| 9/18/2022 | September | Online bericht | Seeing Stars | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dm/20220918_50089183/mag-in-leiden-het-licht-uit-als-het-aan-daan-roosegaarde-ligt-zet-de-stad-de-trend-en-kan-heel-nederland-straks-beter-sterren-likken?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 9/19/2022 | September | Radio Weetlust | Aflevering 262 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-19/ |
| 9/20/2022 | September | Radio Weetlust | Aflevering 263 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-20/ |
| 9/20/2022 | September | Online bericht | Seeing Stars | ECS | NRZ | Europees | https://www.nrz.de/region/niederhein/sterne-gucken-in-leiden-wird-es-am-sonntag-dunkel-id236478487.html |
| 9/20/2022 | September | Online bericht | Vitality Walk | ECS | Leiden Inclusief | Lokaal | https://www.leideninclusief.nl/agenda/vitality-walk-herfsteditie |
| 9/20/2022 | September | Online bericht | Vitality Walk | ECS | Groenord Zorg | Regionaal | https://groenordzorg.nl/activiteiten/vitality-walk/ |
| 9/20/2022 | September | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036941d2a5b58218 |
| 9/20/2022 | September | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036941d2a5b58218 |
| 9/21/2022 | September | Radio Weetlust | Aflevering 264 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-21/ |

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| 9/21/2022 | September | Online bericht | Nationaal Centrum Wetenschapscommunicatie | ECS | Leidsch Dagblad | Regionaal | https://m.leidschdagblad.nl/cnt/dm/20220921_54896403 |
| 9/22/2022 | September | Radio Weetlust | Aflevering 265 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-22/ |
| 9/22/2022 | September | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369496a2307c59a |
| 9/22/2022 | September | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369496a2307c59a |
| 9/22/2022 | September | Artikel | SRON, ruimteonderzoek (p7) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369496a2307c59a |
| 9/22/2022 | September | Twitter | Leiden2022 (vermelding) | ECS | UNC-ZH | Regionaal | https://twitter.com/UNCZH/status/1572869509429477377?e=AvVM6iqKqVvQ_-hmCxowg&s=08 |
| 9/23/2022 | September | Radio Weetlust | Aflevering 266 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-23/ |
| 9/24/2022 | September | Radio Weetlust | Aflevering 267 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-24/ |
| 9/24/2022 | September | Online bericht | The Space Week | ECS | Innovation Origins | Europees | https://innovationorigins.com/nl/the-space-week-bewijst-het-grote-belang-van-ruimtevaart-voor-maatschappij-en-ondernemers/ |
| 9/25/2022 | September | Radio Weetlust | Aflevering 268 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-25/ |
| 9/25/2022 | September | TV uitzending | Seeing Stars | ECS | Ivo op Zondag (NP | Nationaal | https://www.facebook.com/watch/?v=1425456217940833 |
| 9/25/2022 | September | Nieuwsbrief | The Space Week | ECS | NL Space Campus | Nationaal | https://mailchi.mp/b47d674badb6/monthly-update-nl-space-campus-11533049?e=fe98e07c31 |
| 9/25/2022 | September | Online bericht | The Space Week | ECS | The Space Week | Nationaal | https://www.thespaceweek.eu/ |
| 9/26/2022 | September | Radio Weetlust | Aflevering 269 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-26/ |
| 9/26/2022 | September | Online bericht | Seeing Stars | ECS | Algemeen Dagblad | Nationaal | https://www.ad.nl/leiden/binenstad-leiden-gehuld-in-duisternis-voor-avond-sterrenkijken-g3281672/ |
| 9/26/2022 | September | Online bericht | Seeing Stars | ECS | De Volkskrant | Nationaal | https://www.volkskrant.nl/wetenschap/bijna-alle-lichten-in-leiden-gingen-anderhalf-uur-uit-om-in-het-nl-donker-naar-de-sterren-te-kijken-bf9400bf/ |
| 9/26/2022 | September | Twitter | Seeing Stars | ECS | Jinek (RTL) | Nationaal | https://twitter.com/Jinek_RTL/status/1574464344041361408?e=KUNL6QknpJvJKRkaHqCQ&s=08 |
| 9/26/2022 | September | Online bericht | Seeing Stars | ECS | Leiden Stad van O | Regionaal | https://www.visitleiden.nl/nl/highlights/seeing-stars-leiden?ins_rd=d3d3LnlNlZWluZ3N0YXJzbGVpZGVuLm5s |
| 9/27/2022 | September | Radio Weetlust | Aflevering 270 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-27/ |
| 9/27/2022 | September | Online bericht | Seeing Stars | ECS | DutchNews | Europees | https://www.dutchnews.nl/features/2022/09/lights-out-in-leiden-thousands-turn-out-to-stargaze-in-the-sleutelstad/ |
| 9/28/2022 | September | Radio Weetlust | Aflevering 271 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-28/ |
| 9/29/2022 | September | Radio Weetlust | Aflevering 272 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-29/ |
| 9/29/2022 | September | Artikel | LAFV Leiden2022 (p11) | ECS | Leiden Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369567dc24161fc |
| 9/29/2022 | September | Agenda | Leiden2022 agenda | ECS | Leiden Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369567dc24161fc |
| 9/30/2022 | September | Radio Weetlust | Aflevering 273 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-09-30/ |
| 10/1/2022 | Oktober | Radio Weetlust | Aflevering 274 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-01/ |
| 10/1/2022 | Oktober | Online bericht | Leiden2022 (vermelding) | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/01/erepenning-voor-oud-rector-magnificus-carel-stolker/ |
| 10/2/2022 | Oktober | Radio Weetlust | Aflevering 275 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-02/ |
| 10/3/2022 | Oktober | Radio Weetlust | Aflevering 276 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-03/ |
| 10/4/2022 | Oktober | Radio Weetlust | Aflevering 277 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-04/ |
| 10/5/2022 | Oktober | Radio Weetlust | Aflevering 278 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-05/ |
| 10/5/2022 | Oktober | Online bericht | Leiden Exposed | ECS | Leiden Education F | Lokaal | https://sleutelstad.nl/2022/11/21/leidse-kunstenaars-kunnen-werk-tonen-in-gerenoveerde-stadhuis/ |
| 10/5/2022 | Oktober | Krantenartikel | The Space Week | ECS | Oegstgeester Cour | Lokaal | https://www.oegstgeestercourant.nl/nieuws/algemeen/79298/space-week-op-joris-de-witte |
| 10/6/2022 | Oktober | Radio Weetlust | Aflevering 279 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-06/ |
| 10/6/2022 | Oktober | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d7f4838b14ca |
| 10/6/2022 | Oktober | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d7f4838b14ca |
| 10/6/2022 | Oktober | Artikel | Buskruit (p5) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d7f4838b14ca |
| 10/6/2022 | Oktober | Nieuwsbericht | Tentoonstelling sustainable nature | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/oktober/tentoonstelling-galerie-lumc-sustainable-nature-met-nieuw-werk-van-luik-wilmering/ |
| 10/7/2022 | Oktober | Radio Weetlust | Aflevering 280 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-07/ |
| 10/8/2022 | Oktober | Radio Weetlust | Aflevering 281 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-08/ |
| 10/9/2022 | Oktober | Radio Weetlust | Aflevering 282 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-09/ |
| 10/10/2022 | Oktober | Radio Weetlust | Aflevering 283 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-10/ |
| 10/10/2022 | Oktober | Nieuwsbericht | Nationaal Centrum Wetenschapscommunicatie | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/10/radio-weetlust-over-de-tiende-macht-en-andere-getallen/ |
| 10/10/2022 | Oktober | Nieuwsbericht | Avond van Wetenschap en Maatschappij | ECS | W&M | Nationaal | https://www.avondwem.nl/ |
| 10/11/2022 | Oktober | Radio Weetlust | Aflevering 284 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-11/ |
| 10/11/2022 | Oktober | Nieuwsbericht | Scholierenconferentie Nagasaki | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/scholierenconferentie-met-leerlingen-uit-leiden-nagasaki |
| 10/12/2022 | Oktober | Radio Weetlust | Aflevering 285 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-12/ |
| 10/13/2022 | Oktober | Radio Weetlust | Aflevering 286 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-13/ |
| 10/13/2022 | Oktober | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692e9466052c36 |
| 10/13/2022 | Oktober | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692e9466052c36 |
| 10/13/2022 | Oktober | Artikel | Wavelength Festival (p9) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692e9466052c36 |
| 10/13/2022 | Oktober | Online bericht | Landelijke dag City Deal Kennis Maken | ECS | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/landelijke-dag-city-deal-kennis-maken/ |
| 10/14/2022 | Oktober | Radio Weetlust | Aflevering 287 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-14/ |

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| 10/15/2022 | Oktober | Radio Weetlust | Aflevering 288 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-15/ |
| 10/15/2022 | Oktober | Agenda | Wavelenght Festival | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/agenda/2022/10/wavelength-2022 |
| 10/16/2022 | Oktober | Radio Weetlust | Aflevering 289 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-16/ |
| 10/17/2022 | Oktober | Radio Weetlust | Aflevering 290 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-17/ |
| 10/18/2022 | Oktober | Radio Weetlust | Aflevering 291 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-18/ |
| 10/18/2022 | Oktober | Nieuwsbericht | ECS kalender | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/regio071/nieuw-licht-genomineerd-voor-special-media-award |
| 10/19/2022 | Oktober | Radio Weetlust | Aflevering 292 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-19/ |
| 10/19/2022 | Oktober | Online bericht | Kaarten die geschiedenis schreven | ECS | Het Parool | Nationaal | https://www.parool.nl/ws-b5f019af |
| 10/19/2022 | Oktober | Youtube video | Seeing Stars | ECS | Leiden Stad van O | Regionaal | https://www.youtube.com/watch?v=0-C4_Gzpx10 |
| 10/20/2022 | Oktober | Radio Weetlust | Aflevering 293 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-20/ |
| 10/21/2022 | Oktober | Radio Weetlust | Aflevering 294 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-21/ |
| 10/22/2022 | Oktober | Radio Weetlust | Aflevering 295 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-22/ |
| 10/23/2022 | Oktober | Radio Weetlust | Aflevering 296 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-23/ |
| 10/23/2022 | Oktober | Online bericht | Seeing stars | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/23/sterren-kielen-tienden-nacht-van-de-nacht/ |
| 10/24/2022 | Oktober | Radio Weetlust | Aflevering 297 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-24/ |
| 10/25/2022 | Oktober | Radio Weetlust | Aflevering 298 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-25/ |
| 10/26/2022 | Oktober | Radio Weetlust | Aflevering 299 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-26/ |
| 10/27/2022 | Oktober | Radio Weetlust | Aflevering 300 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-27/ |
| 10/27/2022 | Oktober | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403696d5c68457a15 |
| 10/27/2022 | Oktober | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403696d5c68457a15 |
| 10/27/2022 | Oktober | Artikel | Fake news (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403696d5c68457a15 |
| 10/28/2022 | Oktober | Radio Weetlust | Aflevering 301 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-28/ |
| 10/29/2022 | Oktober | Radio Weetlust | Aflevering 302 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-29/ |
| 10/30/2022 | Oktober | Radio Weetlust | Aflevering 303 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-30/ |
| 10/31/2022 | Oktober | Radio Weetlust | Aflevering 304 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-10-31/ |
| 10/31/2022 | Oktober | Online bericht | Gezondheidsroute | ECS | Samen Gezond Zo | Lokaal | https://www.samengezondzoeterwoede.nl/gezondheidsroute/ |
| 10/31/2022 | Oktober | Online bericht | Citizen Science | ECS | Agenda Stad | Nationaal | https://agendastad.nl/citizen-science-is-meer-dan-een-dialoog-met-inwoners-het-is-een-partnerschap?cd=1 |
| 11/1/2022 | November | Radio Weetlust | Aflevering 305 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-01/ |
| 11/1/2022 | November | Online bericht | Geheimen van ziekenhuis | ECS | HospitalHero | Lokaal | https://www.hospitalhero.nl/nieuws/ontdek-de-geheimen-van-het-ziekenhuis/ |
| 11/1/2022 | November | Magazine | Geheimen van ziekenhuis | ECS | Zorgcentrum Roor | Lokaal | https://www.roomburgh.nl/wp-content/uploads/2022/11/Roomburgh_Magazine_2022_Nov_V1.pdf |
| 11/2/2022 | November | Radio Weetlust | Aflevering 306 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-02/ |
| 11/3/2022 | November | Radio Weetlust | Aflevering 307 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-03/ |
| 11/3/2022 | November | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690a90035de1fd |
| 11/3/2022 | November | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403690a90035de1fd |
| 11/4/2022 | November | Radio Weetlust | Aflevering 308 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-04/ |
| 11/5/2022 | November | Radio Weetlust | Aflevering 309 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-05/ |
| 11/6/2022 | November | Radio Weetlust | Aflevering 310 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-06/ |
| 11/7/2022 | November | Radio Weetlust | Aflevering 311 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-07/ |
| 11/8/2022 | November | Radio Weetlust | Aflevering 312 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-08/ |
| 11/9/2022 | November | Radio Weetlust | Aflevering 313 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-09/ |
| 11/10/2022 | November | Radio Weetlust | Aflevering 314 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-10/ |
| 11/10/2022 | November | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036930baac78c73e |
| 11/10/2022 | November | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036930baac78c73e |
| 11/11/2022 | November | Radio Weetlust | Aflevering 315 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-11/ |
| 11/12/2022 | November | Radio Weetlust | Aflevering 316 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-12/ |
| 11/12/2022 | November | Online bericht | Leiden2022 (vermelding) | ECS | Schuurman | Lokaal | https://www.schuurman1942.nl/2021/11/12/in-2022-elke-dag-wat-wils-voor-nieuwsgierige-leidenaar/ |
| 11/12/2022 | November | Online bericht | Leiden Kennisstad | ECS | Sleutelstad | Lokaal | https://www.unity.nu/Artikelen/leiden/leiden-kennisstad-tekent-voor-nieuwe-samenwerking |
| 11/12/2022 | November | Online bericht | Leiden Kennisstad | ECS | Unity.nu | Regionaal | https://xsaga.nl/xsaga-video/ |
| 11/13/2022 | November | Radio Weetlust | Aflevering 317 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-13/ |
| 11/14/2022 | November | Radio Weetlust | Aflevering 318 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-14/ |
| 11/15/2022 | November | Radio Weetlust | Aflevering 319 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-15/ |
| 11/15/2022 | November | Online bericht | Terugblik City Deal Kennis Maken | ECS | Leiden Kennisstad | Regionaal | https://www.leidenkennisstad.nl/lerenmetdestad/terugblik-city-deal-kennis-maken-dag-in-naturalis/ |
| 11/16/2022 | November | Radio Weetlust | Aflevering 320 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-16/ |
| 11/17/2022 | November | Radio Weetlust | Aflevering 321 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-17/ |
| 11/17/2022 | November | Artikel | LAFV Leiden2022 (p13) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403698bce6f80177e |

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| 11/17/2022 | November | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403698bce6f80177e |
| 11/17/2022 | November | Artikel | Dag van de kleur (p9) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403698bce6f80177e |
| 11/18/2022 | November | Radio Weetlust | Aflevering 322 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-18/ |
| 11/19/2022 | November | Radio Weetlust | Aflevering 323 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-19/ |
| 11/20/2022 | November | Radio Weetlust | Aflevering 324 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-20/ |
| 11/21/2022 | November | Radio Weetlust | Aflevering 325 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-21/ |
| 11/21/2022 | November | Online bericht | Bacterie | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/11/kinderen-worden-bacterien-om-te-leren-over-antibiotica |
| 11/22/2022 | November | Radio Weetlust | Aflevering 326 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-22/ |
| 11/22/2022 | November | Krantenartikel | Leiden2022 (vermelding) | ECS | NRC Handelsblad | Nationaal | https://www.nrc.nl/nieuws/2022/11/21/communicatie-is-geen-wetenschap-maar-ordinaire-geldklopperij-a4148914 |
| 11/23/2022 | November | Radio Weetlust | Aflevering 327 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-23/ |
| 11/23/2022 | November | Online bericht | Seeing Stars | ECS | Cos4Cloud | Europees | https://cos4cloud-eosc.eu/blog/seeing-stars-leiden-initiative-used-two-apps-connected-to-mobis-to-store-and-display-light-measurements-on-a-map/ |
| 11/24/2022 | November | Radio Weetlust | Aflevering 328 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-24/ |
| 11/24/2022 | November | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d22ecd34257 |
| 11/24/2022 | November | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369d22ecd34257 |
| 11/25/2022 | November | Radio Weetlust | Aflevering 329 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-25/ |
| 11/25/2022 | November | Online bericht | Orange the World | ECS | Vrouwennetwerk L | Lokaal | https://vrouwennetwerkleiden.nl/wat-we-doen/orange-the-world/ |
| 11/26/2022 | November | Radio Weetlust | Aflevering 330 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-26/ |
| 11/27/2022 | November | Radio Weetlust | Aflevering 331 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-27/ |
| 11/28/2022 | November | Radio Weetlust | Aflevering 332 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-28/ |
| 11/29/2022 | November | Radio Weetlust | Aflevering 333 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-29/ |
| 11/30/2022 | November | Radio Weetlust | Aflevering 334 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-11-30/ |
| 11/30/2022 | November | Nieuwsartikel | Orange the World | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dml/20221130_66465776?utm_source=google&utm_medium=organic |
| 12/1/2022 | December | Radio Weetlust | Aflevering 335 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-01/ |
| 12/1/2022 | December | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692b6bb8e8f62e |
| 12/1/2022 | December | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403692b6bb8e8f62e |
| 12/2/2022 | December | Radio Weetlust | Aflevering 336 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-02/ |
| 12/3/2022 | December | Radio Weetlust | Aflevering 337 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-03/ |
| 12/4/2022 | December | Radio Weetlust | Aflevering 338 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-04/ |
| 12/5/2022 | December | Radio Weetlust | Aflevering 339 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-05/ |
| 12/6/2022 | December | Radio Weetlust | Aflevering 340 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-06/ |
| 12/7/2022 | December | Radio Weetlust | Aflevering 341 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-07/ |
| 12/7/2022 | December | Artikel | Finale Festival | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/169_totaal_lr |
| 12/7/2022 | December | Artikel | Tentoonstelling Kaarten (p46-47) | ECS | Leven Magazine | Regionaal | https://issuu.com/cieremansvanreijn/docs/169_totaal_lr |
| 12/8/2022 | December | Radio Weetlust | Aflevering 342 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-08/ |
| 12/8/2022 | December | Artikel | LAFV Leiden2022 (p15) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036930d8a707785c |
| 12/8/2022 | December | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/00444036930d8a707785c |
| 12/9/2022 | December | Radio Weetlust | Aflevering 343 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-09/ |
| 12/10/2022 | December | Radio Weetlust | Aflevering 344 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-10/ |
| 12/11/2022 | December | Radio Weetlust | Aflevering 345 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-11/ |
| 12/12/2022 | December | Radio Weetlust | Aflevering 346 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-12/ |
| 12/13/2022 | December | Radio Weetlust | Aflevering 347 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-13/ |
| 12/13/2022 | December | Online bericht | Leiden2022 (vermelding) | ECS | Indices Culture | Internationaal | https://indices-culture.eu/conversation-series-kno/ |
| 12/13/2022 | December | Online bericht | Finale Festival | ECS | Indebuurt Leiden | Regionaal | https://indebuurt.nl/leiden/doi/uittip-dit-gratis-festival-in-de-stadsgehoorzaal-in-hartje-leiden-mag-je-niet-missen-153168/ |
| 12/14/2022 | December | Radio Weetlust | Aflevering 348 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-14/ |
| 12/15/2022 | December | Radio Weetlust | Aflevering 349 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-15/ |
| 12/15/2022 | December | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691369885c5f7a |
| 12/15/2022 | December | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691369885c5f7a |
| 12/15/2022 | December | Poster | Finale Festival (p12) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403691369885c5f7a |
| 12/16/2022 | December | Radio Weetlust | Aflevering 350 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-16/ |
| 12/16/2022 | December | Online bericht | Radio Weetlust | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/12/wetenschap-en-weeties-bij-radio-weetlust-leidse-wetenschappers-te-gast |
| 12/17/2022 | December | Radio Weetlust | Aflevering 351 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-17/ |
| 12/17/2022 | December | Online bericht | Finale Festival | ECS | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/afsluitend-festival-leiden-city-of-science |
| 12/18/2022 | December | Radio Weetlust | Aflevering 352 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-18/ |
| 12/19/2022 | December | Radio Weetlust | Aflevering 353 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-19/ |
| 12/19/2022 | December | Online bericht | ECS terugblik | ECS | LUMC | Regionaal | https://www.lumc.nl/over-het-lumc/actueel/2022/december/leidse-wetenschap-een-jaar-lang-in-de-etalage-leiden2022-komt-ten-einde/ |
| 12/20/2022 | December | Radio Weetlust | Aflevering 354 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-20/ |

| | | | | | | | |
|------------|-----------------|-----------------------|------------------------------------|-----|---------------------|----------------|---|
| 12/20/2022 | December | Online bericht | ECS terugblik | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2022/12/leiden-2022-het-jaar-vol-wetenschap-en-nieuwsgierigheid |
| 12/21/2022 | December | Radio Weetlust | Aflevering 355 | ECS | Sleutelstad | Regionaal | https://leidenstad.nl/programma/radio-weetlust/uitzending/2022-12-21/ |
| 12/21/2022 | December | Radiofragment | Finale Festival | ECS | Sleutelstad | Lokaal | https://m.soundcloud.com/sleutelstad/2022-12-21-yanti-dancoekoesoemo-van-leiden2022-over-finale-festival?s=08 |
| 12/22/2022 | December | Radio Weetlust | Aflevering 356 | ECS | Sleutelstad | Regionaal | https://leidenstad.nl/programma/radio-weetlust/uitzending/2022-12-22/ |
| 12/22/2022 | December | Artikel | LAFV Leiden2022 (p17) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e87acbcf903 |
| 12/22/2022 | December | Agenda | Leiden2022 agenda | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369e87acbcf903 |
| 12/22/2022 | December | Online bericht | ECS terugblik | ECS | Cultuurfonds Leiden | Lokaal | http://eepurl.com/fgDMe1 |
| 12/22/2022 | December | Krantenartikel | Finale Festival | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221222_79187270 |
| 12/23/2022 | December | Radio Weetlust | Aflevering 357 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-23/ |
| 12/24/2022 | December | Radio Weetlust | Aflevering 358 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-24/ |
| 12/24/2022 | December | Krantenartikel | ECS terugblik | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221223_54944624 |
| 12/24/2022 | December | Online nieuwsbericht | ECS terugblik | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221223_54944624/een-jaar-lang-was-leiden-de-europese-hoofdstad-van-de-wetenschap-en-meta-knoel-gaf-er-leiding-aan-wetenschap-is-niet-alleen-meer-voor-de-e |
| 12/25/2022 | December | Radio Weetlust | Aflevering 359 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-25/ |
| 12/26/2022 | December | Radio Weetlust | Aflevering 360 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-26/ |
| 12/27/2022 | December | Radio Weetlust | Aflevering 361 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-27/ |
| 12/28/2022 | December | Radio Weetlust | Aflevering 362 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-28/ |
| 12/29/2022 | December | Radio Weetlust | Aflevering 363 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-29/ |
| 12/29/2022 | December | Artikel | ECS afsluiting (p20) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369af2e6a00cf8e |
| 12/29/2022 | December | Artikel | Fruitleukbos (p7) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369af2e6a00cf8e |
| 12/30/2022 | December | Radio Weetlust | Aflevering 364 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-30/ |
| 12/31/2022 | December | Radio Weetlust | Aflevering 365 | ECS | Sleutelstad | Regionaal | https://sleutelstad.nl/programma/radio-weetlust/uitzending/2022-12-31/ |
| 12/31/2022 | December | Youtube video | ECS terugblik | ECS | Sleutelstad | Lokaal | https://www.youtube.com/watch?v=x1EoH2V7IA |
| 1/1/2023 | Januari (2023) | Nieuwsbrief | ECS terugblik | ECS | Gemeente Leiden | Lokaal | n.v.t. |
| 1/1/2023 | Januari (2023) | Online bericht | ECS terugblik | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2023/01/01/leiden-european-city-of-science-ten-einde/ |
| 1/5/2023 | Januari (2023) | Krantenartikel | ECS terugblik | ECS | Universiteit Leiden | Regionaal | n.v.t. |
| 1/9/2023 | Januari (2023) | Radiofragment | ECS terugblik | ECS | Sleutelstad | Lokaal | https://sleutelstad.nl/2023/01/09/gesprek-met-burgemeester-lenferink-een-terugblik-op-2022/ |
| 1/10/2023 | Januari (2023) | Online bericht | ECS terugblik | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/nieuws/2023/01/jaaroverzicht-leiden2022-faculteit-der-rechtsgeleerdheid |
| 1/11/2023 | Januari (2023) | Nieuwsbrief | Finale Festival, ECS terugblik | ECS | Leiden Kennisstad | Regionaal | https://gemeente-leiden.email-provider.eu/web/ruoiocjgwv/qvkyeage8a/hddtvxqxlz/zippakom |
| 1/13/2023 | Januari (2023) | Online bericht | ECS terugblik | ECS | Universiteit Leiden | Regionaal | https://www.universiteitleiden.nl/en/news/2023/01/365-days-of-leiden2022-watch-the-retrospective |
| 1/14/2023 | Januari (2023) | Online bericht | ECS terugblik | ECS | Teekayworld | Internationaal | https://teekayworld.wordpress.com/2023/01/14/celebrating-curiosity-let-the-messy-stuff-win/ |
| 1/22/2023 | Januari (2023) | Online bericht | ECS terugblik | ECS | Katowice (2024) | Europees | https://katowice.wyborcza.pl/katowice/7_35055_29367415_europejskie-miasto-nauki-2024-ekspertka-z-holandii-katowice.html |
| 2/7/2023 | Februari (2023) | Online bericht | Empathie Liesbeth van Vliet | ECS | Universiteit Leiden | Nationaal | https://www.universiteitleiden.nl/nieuws/2020/08/liesbeth-van-vliet-in-de-media |
| 2/14/2023 | Februari (2023) | Online bericht | Energiepark | ECS | Energiepark Leider | Lokaal | https://energieparkleiden.nl/nieuws/?view=article&id=17&catid=2 |
| 3/7/2023 | Maart (2023) | LinkedIn | ECS terugblik | ECS | Leiden Convention | Regionaal | https://www.linkedin.com/posts/leiden-convention-bureau_conferences-leiden-connect-activity-7038818355390115840-9Ee_?utm_source=share&utm_medium=member_android |
| 3/9/2023 | Maart (2023) | Online bericht | Leiden2022 (vermelding) | ECS | Museum Next | Europees | https://www.museumnext.com/article/culture-activism-and-the-big-frikin-wall-in-conversation-with-michael-peter-edson/?s=08 |
| 3/17/2023 | Maart (2023) | Facebook | Oostvlietpolder | ECS | Gemeente Leiden | Regionaal | https://www.facebook.com/gemeenteleiden/posts/pfbid02itACnZ6iG2CvdeTbaatT6pgrmkxYna3qfS5YyIKQukMtpxZdWfmQaY55iMiax11 |
| 3/21/2023 | Maart (2023) | Artikel | Ontwerpwedstrijd Rijnsburgertunnel | ECS | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20230321_64025200 |
| 3/21/2023 | Maart (2023) | Online bericht | Placebo Andrea Evers | ECS | Universiteit Leiden | Nationaal | https://www.universiteitleiden.nl/nieuws/2021/01/andrea-evers-in-de-media-over-het-placebo-effect |
| 3/21/2023 | Maart (2023) | Online bericht | Nominatie Gouden Giraffe | ECS | EventBranche | Nationaal | https://www.eventbranche.nl/cases/gouden-giraffe-leiden-european-city-of-science-23254.html |
| 3/21/2023 | Maart (2023) | Online bericht | Wetenschapscommunicatie | ECS | British Council | Europees | https://www.britishcouncil.nl/events/knowledge-exchange-science-communication-and-public-engagement-uk-and-netherlands |
| 3/22/2023 | Maart (2023) | LinkedIn | Leiden2022 (vermelding) | ECS | British Embassy Th | Europees | https://www.linkedin.com/posts/british-embassy-in-the-hague_science-communication-and-public-engagement-activity-7044277536989532160-Fn2d?utm_source=share&utm_medium=member_android |
| 3/22/2023 | Maart (2023) | Twitter | Leiden2022 (vermelding) | ECS | UK in NL | Europees | https://twitter.com/ukinnl/status/1638510834476261376?WT=91TWAvbYq5darMmUOPQ&=08 |
| 3/23/2023 | Maart (2023) | Artikel | LAFV Het Weten Waard (p9) | ECS | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403693def35148b99 |
| Onbekend | Onbekend | Online bericht | Leiden2022 scheurkalender | ECS | Onderwijs in de Lei | Regionaal | https://onderwijsindeleidseregio.nl/gratis-european-city-of-science-jaar-scheurkalenders-beschikbaar/ |
| Onbekend | Onbekend | Online bericht | Leiden2022 programma | ECS | Verwonder om de I | Regionaal | https://verwonderomdehoek.nl/over-ons/over-ons/ |
| Onbekend | Onbekend | Online krantenartikel | ECS terugblik | ECS | Leids Nieuwsblad | Lokaal | n.v.t. |
| Onbekend | Onbekend | Nieuwsbrief | Leiden2022 (vermelding) | ECS | Sijthoff | Lokaal | https://sijthoff-leiden.nl/wp-content/uploads/2023/01/Sijthoff-najaar-2022-digi.pdf |
| Onbekend | Onbekend | Flyer | Leiden2022 (vermelding) | ECS | 3 October Vereenig | Lokaal | n.v.t. |
| Onbekend | Onbekend | Online krantenartikel | Leiden2022 (vermelding) | ECS | Oud Leiden Nieuws | Lokaal | n.v.t. |

Community Bonus Media

| Datum | Maand | Type | Onderwerp / dagthema | Project | Organisatie | Schaalniveau | Link |
|------------|-----------|------------------|------------------------------------|-----------------|-------------------------|--------------|---|
| 1/5/2022 | Januari | Online bericht | Stukafest | Community bonus | Unity.nu | Regionaal | https://www.unity.nu/Artikelen/leiden/stukafest-leiden-werkt-samen-met-leiden2022:-it%e2%80%99s-in-our-dna |
| 1/13/2022 | Januari | Artikel | LAFV 100 jaar symposium (p3) | Community bonus | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403693fe1f64728eb |
| 2/9/2022 | Februari | Radio uitzending | Through the looking glass | Community bonus | Sleutelstad /Cutluur07 | Regionaal | https://sleutelstad.nl/2022/02/09/cultuur071-uitzending-05-02-2022-de-poezieweek-dos-bailadores-misleiden-in-de-lakenhal-en-through-the-looking-glass/ |
| 2/17/2022 | Februari | Artikel | RAP Stadscafe (p21) | Community bonus | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695aff9d332ab7 |
| 2/17/2022 | Februari | Artikel | Science Cafe Leiden (p21) | Community bonus | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/0044403695aff9d332ab7 |
| 3/23/2022 | Maart | Online bericht | ALMAxLeiden | Community bonus | Balarm | Europees | Da Alcamo... alle stelle: è l'astronoma che ha scoperto l'acqua più antica dell'Universo (balam.it) |
| 3/24/2022 | Maart | Online bericht | Leids Goeds Festival | Community bonus | Eyesiu | Nationaal | https://www.eyesiu.com/eyesiu-s-pikante-peper-smaak-test-op-het-leids-goeds-festival |
| 3/30/2022 | Maart | Online bericht | De Toekomstbouwers | Community bonus | Sleutelstad | Lokaal | Leiden in 2050 volgens de bouwers van de toekomst Sleutelstad |
| 4/6/2022 | April | Online bericht | Journalistiek in Leiden | Community bonus | Leidsch Dagblad | Regionaal | Leiden had de eerste hoogleraar 'dagbladstudie' in Nederland Leidschdagblad |
| 4/12/2022 | April | Online bericht | Leidse Stadsdichter | Community bonus | Sleutelstad | Lokaal | Zoë van de Kerkhof is de nieuwe Leidse stadsdichter Sleutelstad |
| 4/19/2022 | April | Online bericht | Singelloop | Community bonus | Leidsch Dagblad | Regionaal | Han Kulker brengt deelnemers Singelloop de kunst van het doseren bij Leidsch Dagblad |
| 4/22/2022 | April | Twitter | Singelloop | Community bonus | Jeroen Straathof | Lokaal | Jeroen Straathof op Twitter: "Leuk interview op https://t.co/JLbVL5Po8G met @lukeyellowhat over sport, schaatsen en 'doseren' Dagthema van @leiden2022 in kader @SingelloopLDN Er is meer te beleven in 2022. https://t.co/IM7i9Odi0M #inspirerend #Science verbinden met de stad! #kennisstad @GemeenteLeiden https://t.co/VW9Uo279aL" / Twitter |
| 4/28/2022 | April | Online bericht | Stevenshof Muziekfestival | Community bonus | NU.nl | Nationaal | Nieuw muziekfestival in Stevenshof NU - Het laatste nieuws het eerst op NU.nl |
| 5/12/2022 | Mei | Online bericht | Leiden Marathon | Community bonus | Sleutelstad | Lokaal | Baby's, bier en Boerhaave: alles over de 31e Leiden Marathon Sleutelstad |
| 5/12/2022 | Mei | Youtube video | Theaterfestival Ankra | Community bonus | Theater de Generator | Lokaal | https://www.youtube.com/watch?v=UNNJP_nVXJg |
| 5/13/2022 | Mei | Online bericht | Thema Leids Ontzet | Community bonus | Leidsch Dagblad | Regionaal | 'Echt waar?!' is dit jaar het thema van Leidens Ontzet Leidschdagblad |
| 5/15/2022 | Mei | Instagram | Thema Leids Ontzet | Community bonus | Sleutelstad | Lokaal | Sleutelstad op Instagram: "Het thema van #LeidensOntzet is dit jaar Echt Waar? De @3october vereniging sluit daarmee aan op European City of Science @2022leiden" |
| 5/22/2022 | Mei | Online bericht | Imaginary tentoonstelling | Community bonus | Universiteit Leiden | Regionaal | IMAGINARY De pracht & kracht van wiskunde - Universiteit Leiden |
| 7/9/2022 | Juli | Online bericht | Blaauwberg jubileum | Community bonus | Blaauwberg | Regionaal | https://blaauwberg.nl/25th-anniversary-blaauwberg/ |
| 8/4/2022 | Augustus | Online bericht | Tentoonstelling plant | Community bonus | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/DMF20220804_62522801/kunstenaarskoppels-laten-zich-inspireren-door-planten-een-bewegende-boom-van-afgedankt-materiaal |
| 8/18/2022 | Augustus | Online bericht | Kunst van Wetenschappelijk Verhaal | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/08/18/amsterdams-oproep-aan-nieuwsgierige-leidenaren/ |
| 8/24/2022 | Augustus | Uitnodiging | Public Lecture Cristina Marchetti | Community bonus | Lorentz Leiden Univer | Lokaal | n.v.t. |
| 8/31/2022 | Augustus | Nieuwsbericht | Nieuw Licht | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/08/31/nieuw-licht-tv-programma-over-bijzonder-wetenschappelijk-onderzoek-2/?s=08 |
| 9/6/2022 | September | Online bericht | Stadsfotograaf | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/09/06/wisseling-van-de-wacht-bij-stadsfotograaf-leiden/#:~:text=Koen%20Suidgeest%20sluit%20zijn%20jaar,de%20negende%20Stadsfotograf%20van%20Leiden |
| 9/12/2022 | September | Online bericht | Vitality Walk | Community bonus | Leyden Academy | Lokaal | https://www.leydenacademy.nl/herfst-vitality-walk-en-workshops-op-20-september/ |
| 9/18/2022 | September | Online bericht | Stadsfotograaf | Community bonus | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220918_67500433?utm_campaign=whatsapp&utm_medium=referral&utm_source=whatsapp |
| 9/20/2022 | September | Online bericht | Najaarssymposium | Community bonus | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20220920_46809148/wie-was-bossulus-najaarssymposium-in-leids-volkshuis-over-kennisoverdracht?utm_source=whatsapp&utm_medium=referral&utm_campaign=whatsapp |
| 10/1/2022 | Oktober | Radiofragment | Optocht 3 oktober | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/10/01/grote-3-oktober-optocht-in-het-teken-van-wetenschapsjaar/ |
| 10/13/2022 | Oktober | Persbericht | OverActing | Community bonus | Theaterfestival OverAct | Lokaal | n.v.t. |
| 11/10/2022 | November | Online bericht | Nieuw Licht | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/11/11/nieuw-licht-grijpt-naast-special-media-award-maar-we-hebben-ook-gewonnen/ |
| 11/10/2022 | November | Online bericht | Lorentzmedaille | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/11/10/lorentzmedaille-in-leiden-uitgereikt-aan-daan-frenkel/ |

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|------------|----------------|-----------------------|---------------------------|-----------------|----------------------|-----------|---|
| 11/11/2022 | November | Online bericht | Nieuw Licht | Community bonus | Sleutelstad | Lokaal | n.v.t. |
| 11/17/2022 | November | Online bericht | Praktijkgericht onderzoek | Community bonus | Regieorgaan SIA | Nationaal | https://regieorgaan-sia.nl/praktijkgericht-onderzoek/sia-congres/ |
| 11/21/2022 | November | Online bericht | Leiden Exposed | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/11/21/leidse-kunstenaars-kunnen-werk-tonen-in-gerenoveerde-stadhuis/ |
| 11/24/2022 | November | Online bericht | Theatergroep Domino | Community bonus | Scheltema Leiden | Lokaal | https://www.scheltemaleiden.nl/events/heimwee-dort-wo-die-blumen-bluh/ |
| 11/29/2022 | November | Online bericht | Theatergroep Domino | Community bonus | Sleutelstad | Lokaal | https://sleutelstad.nl/2022/11/29/theatergroep-domino-laet-heimwee-al-dansend-tot-leven-komen/ |
| 12/1/2022 | December | Artikel | Oude Theaterfestival | Community bonus | Leidsch Dagblad | Regionaal | https://www.leidschdagblad.nl/cnt/dmf20221130_54537988 |
| 12/6/2022 | December | Youtube video | Theaterfestival Ankra | Community bonus | Theater de Generator | Lokaal | https://youtu.be/UNNJp_nVXJg |
| 12/13/2022 | December | Online bericht | Bevrijdingsroes | Community bonus | Knack | Europees | https://www.knack.be/nieuws/geschiedenis/heftige-bevrijdingsroes/ |
| 12/21/2022 | December | Youtube video | Pitching Pubquiz | Community bonus | Naturalis | Regionaal | https://www.youtube.com/watch?v=M-I-9aNmbP0 |
| 1/26/2023 | Januari (2023) | Artikel | LAFV Het Weten Waard (p7) | Community bonus | Leids Nieuwsblad | Lokaal | https://www.calameo.com/read/004440369937cc0f6882a |
| 1/27/2023 | Januari (2023) | Online krantenartikel | LUMC kunstwerk veiling | Community bonus | Leidsch Dagblad | Regionaal | n.v.t. |
| Onbekend | Onbekend | Flyer | 3 October University | Community bonus | 3 October University | Lokaal | n.v.t. |
| Onbekend | Onbekend | Flyer | Kennis Karavaan | Community bonus | 3 October Vereniging | Lokaal | n.v.t. |
| Onbekend | Onbekend | Flyer | Medical Delta Conference | Community bonus | Medical Delta | Nationaal | n.v.t. |



Appendix 5 – Position Paper – Model Leiden 2022



European
City of Science
Leiden2022



THE LEIDEN2022 MODEL FOR PUBLIC ENGAGEMENT WITH SCIENCE

A NEW, SCALABLE, CO-CREATION METHOD TO SPARK PLAYFUL INTERACTIONS
BETWEEN SCIENTISTS AND CITIZENS, AIMED AT CONNECTING SCIENCE WITH SOCIETY

Leiden2022 is the very first European City of Science to present a year-long festival aimed at connecting science with society. In doing so, we kickstarted a new European tradition. We also created an advanced, practice-based model for Public Engagement with Science: open-minded, bottom-up, and with a playful 'just do it' mentality.

Our assumption

For centuries, science has been able to operate in relative isolation from society. As this is no longer the case, and citizens demand transparency and equality, academic institutions are challenged to re-invent themselves vis-a-vis the public domain and seek new ways to collaborate and interact with society. We believe science and society must develop relationships based on trust and mutual curiosity, leading the way to impactful and sustainable solutions for today's big challenges.

Our hypothesis

Instead of merely focusing on high-profile events that sustain academic traditions, we invented and tested a new generic model for building sustainable relationships between citizens and scientists. We did so because we believe profound citizen engagement is necessary to strengthen the bond between science and society.

Our experiment

We chose to go local. For 365 days, we carried out continuous field tests in the city and region of Leiden. Through playful experimentation, we created the conditions for citizen-led, bottom-up, co-created programs. With the goal of deepening trust, we developed new, open, and inspiring relationships between scientists and citizens based on mutual curiosity. We didn't stay local. We also pushed national agendas on Public Engagement with Science and developed exciting new concepts on a European scale, such as the EU TalentOn. Our actions covered the whole spectrum of human knowledge, including arts and culture, craft, and expertise. We tried to push boundaries and do things differently. We have learned a lot, and we would like to share these findings with you by presenting the Leiden2022 PLAY RULES.



PLAY RULE 1: BE CURIOUS

Every new sustainable connection starts with curiosity. We encouraged everyone to think outside the box, and exchange perspectives. Scientists were challenged to step out of their studies, labs and lecture rooms, in order to start dialogues with people in their everyday surroundings, based on topics of mutual interest. We invited citizens to explore their curiosity in interaction with scientists, and vice-versa. We enabled people to take a leap and pursue something new and unexpected. All participants were continuously invited to open their minds and their senses. Leiden2022 thus created a creative program which sparked curiosity and allowed everyone to be student and teacher at the same time.

PLAY RULE 2: BE GENEROUS

To make bottom-up inclusivity work, we cherished generosity and created conditions for others to flourish. To make sure everyone could participate, we performed continuous bias checks and continuously reached beyond our own existing networks. Of course, this all starts with empathising with the participant's perspective. The next step is to make encounters between scientists and citizens valuable and inspiring on both sides. The third step is to unleash the exciting, vibrant potential of conversation and interaction. By adopting this approach, we followed the pathway from mere awareness to passive engagement, towards real, interactive participation.

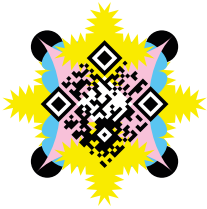
PLAY RULE 3: BE MESSY

Where establishing new relationships was the goal, letting go of control and building on trust proved to be key. We made a bold move into terra incognita: no risk, no reward. We embraced a 'just do it!' mentality and allowed spontaneous, original ideas to win from traditional formats, every step along the way. In doing so, we applied the Golden Rules of brainstorming to the scale of a city: defer judgement, encourage wild ideas, build on the ideas of others, be visual and go for quantity. This has proven to be very inspiring and resourceful. Because, in the end, the messy stuff wins!

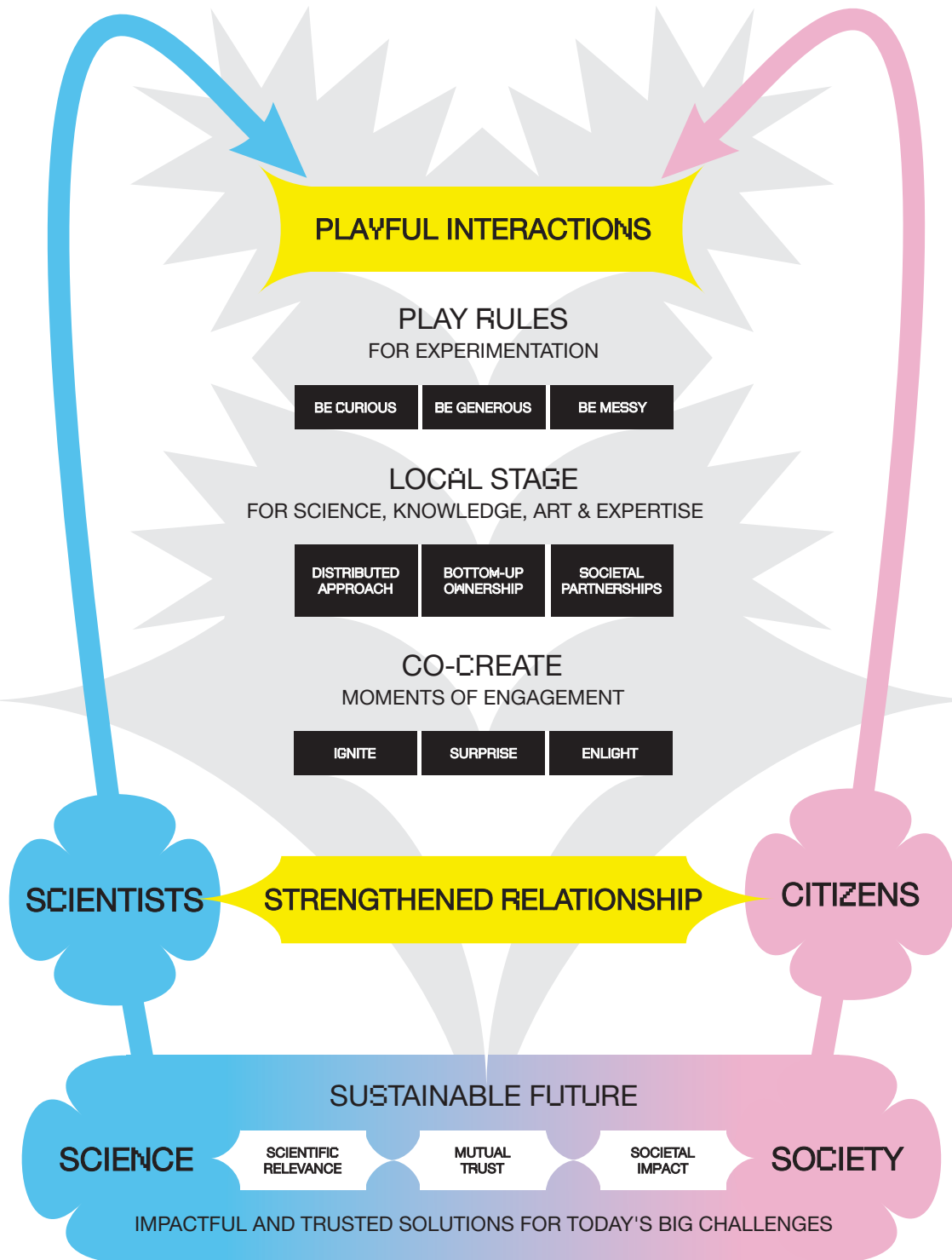
OUR MESSAGE

Following up on our experiments, we have seen that community-based participation can provide a significant step forward towards building sustainable relationships between scientists and citizens. As such, the Leiden2022 Model sets the stage for meaningful interaction between scientists and citizens, in which bottom-up participation is the rule instead of the exception. Because, if we want society to put their trust in science, we also need scientists to put their trust in citizens. And if we aim to develop resilient, sustainable relationships between science and society, society itself must be an inseparable and significant part of science.





THE LEIDEN2022 MODEL FOR PUBLIC ENGAGEMENT WITH SCIENCE





Appendix 6 – Leiden2022 Impact Report – Cigar Box



European City of Science Leiden2022

An analysis of how Leiden European City of Science 2022 contributed and contributes to bringing science and society closer together, fostering innovation and development of new research agendas, creating a sustainable label for European City of Science, and Leiden's establishment as a City of Knowledge.

March 24, 2023

CIGARBOX



Universiteit
Leiden



Leiden



Leids Universitair
Medisch Centrum



hogeschool
Leiden

Executive Summary

Every two years, EuroScience in Strasbourg awards the title of European City of Science to a new European city. For 2022, Leiden was awarded the title and set out to address four pathways towards impact, coordinated with the European Commission:

1. Bringing science and society closer together.
2. Fostering innovation and development of new research agendas by stimulating scientific exchange.
3. Creating an 'established' and sustainable label for European City of Science.
4. Establishing Leiden as a City of Knowledge.

About the programme

Leiden European City of Science 2022 embraced a new approach: a 365-day science festival of lectures, workshops, excursions, exhibitions, and events, *designed for anyone with a curious mind*.

Leiden was the first European city to offer a year-round science programme. It encompassed six main components: three targeted scientific offerings including the flagship EuroScience Open Forum (ESOF), the recurring European Union Contest for Young Scientists (EUCYS) and the inaugural edition of EU TalentOn for young scientists.

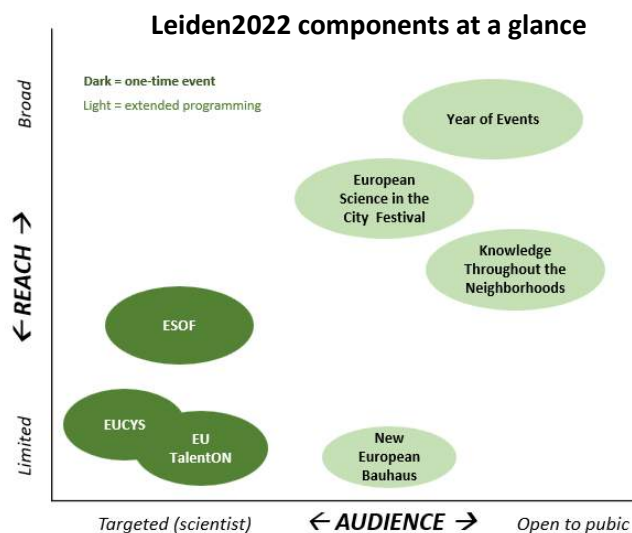
Programming for a broader audience included The European Science in the City Festival; Knowledge throughout the Neighbourhoods; and a year-round calendar of tangential activities, the Year of Events, including the New European Bauhaus programme.

During the year, Leiden European City of Science 2022 tallied between 400,000 and 500,000 engagements (visits, participants, or unique visitors) with guests – both local and visiting.

Findings and conclusions correspond to the four pathways outlined above.

Leiden European City of Science 2022 was successful in stimulating participating scientists and researchers to consider the intersection of their work and societal impact, as well as in engaging the public with the sciences.

ESOF, EUCYS, and EU TalentOn were successful in stimulating participating scientists and researchers to *think more about the societal impact of their work* and to *make more of a contribution to societal impact*. Though these outcomes were more pronounced in the younger audiences of EUCYS and EU TalentOn, which could reflect their impact-driven nature of the programming or possibly generational belief-systems, the more experienced participants of ESOF and scientific presenters in public programming also reported a shift in thinking around how their work intersects with society.



Leiden2022's model of public programming—as seen in Knowledge throughout the Neighbourhoods and European Science in the City Festival, for example—offers a best practice for stimulating personal interaction between the local public and its knowledge institutions and scientists. Elements of “meeting people where they are,” eschewing traditional scientific spaces, and encouraging playful formats and co-creation with local stakeholders resulted not only increased connections, but also in outcomes of increased appreciation for, interest in, and trust in the sciences.

The pan-European and interdisciplinary connections made via Leiden2022 lay the groundwork for future collaboration but provide no guarantee of future outcomes. There may be an opportunity to nurture young talent to future influence.

Leiden2022 brought together diverse European scientists and facilitated connections between peers in different countries and disciplines. These connections are a first step toward future collaboration on future innovation, publications, or agenda setting, for example.

Networking results were more pronounced in the “young scientist” audiences of EUYCS and EU TalentOn. Despite being small groups (in the area of 100 on-site participants), these motivated and talented participants may have outsized influence as future decision-makers and agenda-setters in European science, if European City of Science can help nurture the relationships launched via its platform.

Through its pilot of a full year of programming that connected the dots between multiple initiatives, Leiden2022 offers a model for an ‘established’ European City of Science label. Future host cities can build on Leiden2022’s thoughtful approach to sustainability.

Leiden2022's approach of a year-long festival benefited participating institutions in the form of new, different, and more customer engagement and resulted in positive economic results for the region, to the tune of €20+ million. By these measures, the Leiden2022 model of year-round programming, with novel elements of public outreach, appears to offer a best practice for an ‘established’ European City of Science model.

The audience and economic impact results demonstrated by Leiden2022 serve as advertisements for the European City of Science label, as do positive Net Promoter Scores (NPS) of participating scientists. If NPS, an indicator of goodwill/loyalty, can be extended from the specific events to the overarching label, it will have brand advocates across Europe.

Leiden2022 took Sustainable Development Goals (SDGs) into consideration during planning and in operational decisions and communicated these efforts to their audiences to build awareness. These efforts, though not moving the needle toward Sustainable Development Goals (SDGs) directly, can inform the approach of future host cities.

Leiden European City of Science 2022 contributed to Leiden’s reputation as a City of Knowledge by strengthening the bonds between the city and her knowledge institutions and showing by example how “science works alongside citizens.”

Leiden2022 led to stronger connections between the municipality and local knowledge institutions. By one measure, 73% of participating local businesses, museums, theatres, community centres and other local organizations “feel more connected to Leiden as a city of knowledge” as a result of Leiden2022.

Leiden2022 also resulted in partnering between local knowledge institutions: 89% of organisations affiliated with Leiden2022 collaborated with new partners during their participation.

Programming clearly supported “science alongside citizens,” as evidenced by thousands of touchpoints between citizens and scientists—in non-traditional, interactive and non-hierarchical ways—that came about through Leiden2022’s public programming.

Legacy for host-city Leiden and foundations for impact in European City of Science 2024

The learnings and conclusions above can help Leiden not only look back, but also continue to build a legacy from this once-in-a-lifetime investment for stakeholders and residents. It also offers food for thought for future title holders for European City of Science and other institutions and bodies who seek to connect science with society.

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Introduction

This report is an analysis of the results and impacts of Leiden European City of Science 2022, a 365-day science festival—lectures, workshops, excursions, exhibitions, and events—designed *for anyone with a curious mind*.

By nature of this scope—multiple investments, a long timeline, and diverse audiences—it can be a challenge to understand outcomes and return on impact investment. This document captures an attempt to do just that, in a digestible manner intended to help current and future stakeholders from diverse backgrounds to learn from this experience.

In the early stages of the festival, the organisers engaged Cigarbox, an independent research and advisory agency specialising in societal impact, to help plan for impact assessment. This report is the end deliverable of this engagement, and intends to:

1. Summarize the goals, design, and key stakeholders of Leiden European City of Science 2022;
2. Identify overarching learnings and insights from multiple data sources; and
3. Assess progress toward (impact) objectives.

Data sources

The report is largely based on visitor feedback collected by Cigarbox in partnerships with owners of different festival components. Data was also collected from publicly available sources and supplemented with information from Leiden&Partners, a city marketing organisation, and the four ‘founding’ institutions responsible for the festival.

For more information on sources, methodologies, and Cigarbox, please see the appendix.

How to read this document

Results are presented in four chapters, aligned with the festival’s core impact objectives, or *pathways*, created in coordination with the European Commission.

A final section of the report discusses the economic impacts on the host region.

These sections each conclude with a reflection on what the findings indicate about progress toward each pathway. The authors have proposed learnings and highlighted gaps and questions to explore via *food for thought* text boxes:



Leading questions and discussion starters have been included throughout the document as inspiration for Leiden2022 stakeholders as well as for future host cities and other bodies working to connect science and society.

European City of Science (ECS)

Ongoing science programme; every two years, EuroScience in Strasbourg awards the ECS title to a new European city.

Leiden European City of Science 2022

Full name of the 2022 ECS programme.

Leiden2022

Cooperation body of the four founding partners responsible for the planning and execution of Leiden European City of Science 2022: Municipality of Leiden, Leiden University, Leiden University Medical Center (LUMC) and University of Applied Sciences Leiden.

[Leiden2022](#) has also been used throughout this document as shorthand for [Leiden European City of Science 2022](#).

Progress trackers for Leiden2022’s event goals and evaluation criteria are included in the appendix, with indicators toward progress as could be estimated from the findings captured in this analysis.

Additional objectives and goals related to Leiden European City of Science 2022, such as those set by individual founding partners or organizers of a specific component, are out of scope for this analysis.

Programme overview: Leiden2022

Every two years, EuroScience in Strasbourg awards the title of European City of Science to a new European city. The title is awarded as part of Europe's largest biennial multidisciplinary science conference: the EuroScience Open Forum (ESOF). For 2022, Leiden was named the European City of Science and host of the 10th edition of ESOF.

Four founding partners, the Municipality of Leiden, Leiden University, Leiden University Medical Center (LUMC), and the University of Applied Sciences Leiden, came together as Leiden2022 in support of this initiative.

Pathways towards impact

Leiden European City of Science 2022 was designed to address four pathways towards impact, coordinated with the European Commission:

1. Bringing science and society closer together.
2. Stimulating scientific exchange.
3. Creating an 'established' and sustainable label for European City of Science.
4. Establishing Leiden as a City of Knowledge.

A short overview of each pathway is included at the beginning of each chapter.

Founding Partner Goals Leiden2022

As a complement to these main pathways, Leiden2022's four founding partners together defined an additional seven goals to guide the organisation and strategy of Leiden European City of Science 2022.

1. Allow citizens of Leiden and surrounding municipalities to experience the benefits of science, art, and knowledge as a frontrunner and European example.
2. Show the "richness" and diversity of the European scientific community.
3. Create long term sustainable local, regional, national, European, and international collaborations.
4. Profile Leiden as an international city of knowledge as a whole and promoting her individual scientific institutions separately on a regional, national, and international level.
5. Foster new talent and increasing the appeal of Leiden for students and researchers.
6. Leiden2022 will be organized in line with the Sustainable Development Goals and is determined to set an example for how such an event can be organized in a sustainable manner.
7. Promote an inclusive platform: science for and by everyone.

A new model for 2022

With the support of EuroScience and the European Commission, Leiden2022 adopted a new approach for the 2022 edition of European City of Science.

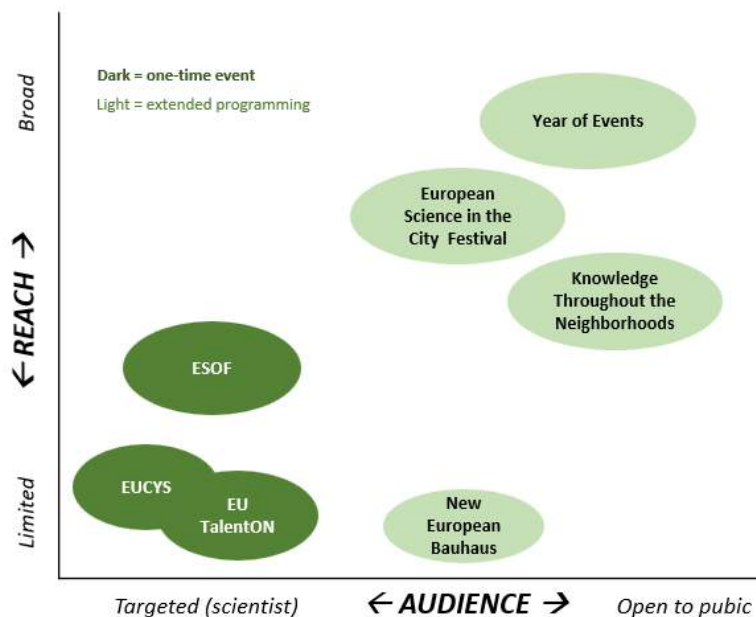
The 2022 edition set out to connect the dots between multiple scientific events, building on the flagship EuroScience Open Forum (ESOF) event for scientists. The new approach also included a pilot of a full year of public scientific programming, while experimenting with new models for public engagement to allow the citizens of Leiden to engage with the scientific community and to break down the barriers between community and academia.

The result: a 365-day science festival of lectures, workshops, excursions, exhibitions, and events, *designed for anyone with a curious mind*. The programme consisted of six components:

1. EuroScience Open Forum (ESOF),
2. European Union Contest for Young Scientists (EUCYS),
3. EU TalentOn,
4. The European Science in the City Festival,
5. Knowledge throughout the Neighbourhoods, and
6. a year-round calendar of tangential activities: Year of Events, including the New European Bauhaus programme.

Placing Leiden2022 components: reach and audience type

Chart is not to scale; for overview purposes only.



Each element is described here in brief; please see the appendix for a side-by-side comparison of features and key satisfaction results.

EuroScience Open Forum

EuroScience Open Forum (ESOF) is a recurring conference designed to offer the scientific community a platform for interdisciplinary and intersectional debate about scientific culture, scientific research, and innovation, for and with society. It has become the largest conference of its kind of the continent. The 2022 edition was a four-day conference with a theme of “Crossing Borders, Engaged Science, Resilient Societies”.

European Union Contest for Young Scientists

European Union Contest for Young Scientists (EUCYS) is an international competition for young scientists between the ages of 14 and 20, showcasing the “best of student scientific achievement from the European Union.” Each year, the event brings together promising, talented students and bright young minds to present their projects to a panel of international judges.

EU TalentOn

The inaugural edition of EU TalentOn, a competition for talented scientists between the ages of 21 and 35, was commissioned by the European Commission and developed and hosted by Leiden2022. The framework for the event was a science-hackathon centred on five EU Missions, facilitating young people in finding innovative solutions to problems in the world of today and tomorrow.

European Science in the City Festival

The European Science in the City Festival (ESCF) presented a month-long, festive programme for all curious minds. The programme included mobile exhibitions, art, pop-up museums, workshops, award ceremonies, music, and excursions and concluded with an open-air science festival during ESOF.

Knowledge throughout the Neighbourhoods

Knowledge throughout the Neighbourhoods encouraged local, bottom-up activities in the 101 neighbourhoods in and around Leiden, with the aim of sparking curiosity in the sciences in an approachable and playful way. Activities were organised by neighbourhood associations, residents, the education sector, or representatives of social organisations and had only two criteria for participating scientists. First, *step outside of your institution or place of work* and second, *no lectures*.

Tangential programmes and initiatives

Outside of the Leiden2022-facilitated activities introduced above, activities were organized in coordination with the Leiden2022 organization (Year of Events) or arose spontaneously from the local community (Community Bonus).

In addition, Leiden2022 was also partner of the New European Bauhaus Leiden; a future-oriented programme which focuses on culture, science, and society with the goal of “reenforcing and accelerating a sustainable transition, while integrating the interests of future generations.”

The following sections capture results and outcomes across all components, as they pertain to the four impact pathways described above.

The audience in numbers

The following chapters refer to *visits* and *visitors* who participated in Leiden2022; here we attempt to put these in context. During the year, Leiden European City of Science 2022 tallied between 400,000 and 500,000 engagements (visits, participants, or unique visitors) with guests – both local and visiting. This number is based on:

- Complete Leiden2022 and community programming (as shown in table below) was responsible for 300.000 to 350.000 *visits*.
- An additional 100.000 to 150.000 *visits* were tallied by Leiden-area museums (14 in total) also as net-increase due to European City of Science awareness and/or programming (see explanation below)
- Where unique visitor or participant numbers are known, they are captured below.

| <i>Component</i> | <i>Scope</i> |
|---|---|
| EuroScience Open Forum (ESOF) | 3.138 unique participants |
| European Union Contest for Young Scientists (EUCYS) | 132 unique on-site competitors out of 65.000 participants |
| EU TalentOn | 104 unique on-site competitors, 700+ participants overall |
| European Science in the City Festival (ESCF) | Approximately 95.000 visits |
| Knowledge throughout the Neighbourhoods | Approximately 10.000+ visits |
| Year of Events and Community Bonus | 175.000 – 225.000 visits, based on 87 reported events |
| The New European Bauhaus Leiden | 100 unique participants |
| Leiden museums (14, including science and crafts) | Approximately 100.000 – 150.000 related to Leiden2022 |

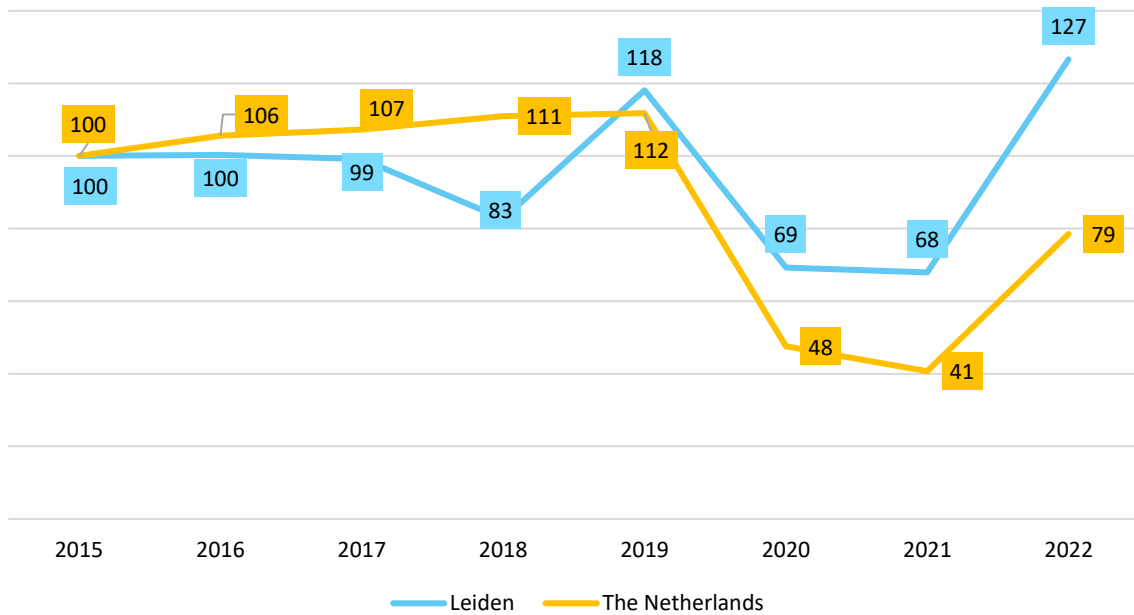
Leiden Museum visits

Leiden museums, specifically, counted a record breaking 1,3 million visits in 2022, 10% higher than pre-COVID numbers of 2019. This is particularly noteworthy in the context of a drop of 27% in visits for museums in the Netherlands overall, for the same timeframe,¹ as they struggle to get back to pre-COVID visitor numbers.

¹ The total number of museum visitors in 2022 in the Netherlands (23,8 million) is an estimate from the Museumvereniging, final numbers will be available in October 2023.

Index museum visits

Index total number of museum visits Leiden vs The Netherlands 2015 - 2022



If Leiden museums had followed the national trend (-27%), they would have seen 400,000 fewer visits in 2022 (closer to 850,000 instead of 1,3 million). It is important to note that though the overall outcome was very positive, not all of the 14 Leiden museums experienced this level of growth.

If we assume that at least some of this bump (400,000 more visits than expected) is due to a Leiden2022 halo effect or special European City of Science programming we could say (conservatively at 25%), that the museums have 100,000 net-new visits thanks to Leiden2022. A more aggressive estimate (37%) would indicate a bump of 150,000 visits due to Leiden2022.

Pathway 1: Bringing science and society closer together

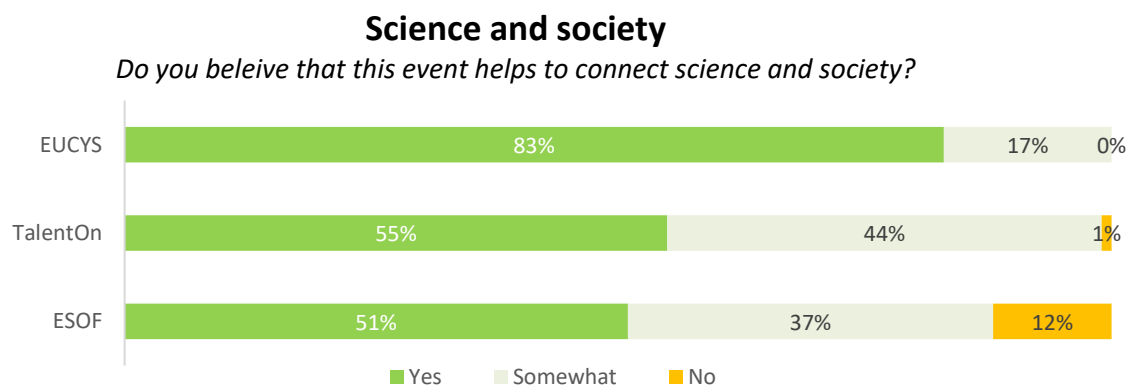
European Commission/Leiden2022 pathway 1 centres on the idea of “including citizens, enhancing dialogue and exchange on science and its role in society.” Practically, that translates to “engaging smart scientists who are curious about societal issues and critical citizens wondering what science means to them.” The pathway references, among other things: personal meetings between citizens and scientists, reinforcing and empowering local and regional civic and scientific ecosystems, and experiential knowledge.

The first part of this chapter (1.1) considers the scientists’ perspective in addressing societal challenges. The second part of the chapter (1.2) considers the flipside; bringing individual members of society in closer contact with science.

1.1 Engaging scientists in societal challenges

Participants in the three events for a scientific/research audience, EuroScience Open Forum (ESOF), European Union Contest for Young Scientists (EUCYS), and EU TalentOn, share a perception that their event helps connect science and society. This perception is held most strongly by the youngest participants (EUCYS) and least by the most experienced audience (ESOF).

EUCYS and EU TalentOn programmes had a clear focus on societal challenges, which resonated in the participants’ perception of the event in terms of connecting science and society.

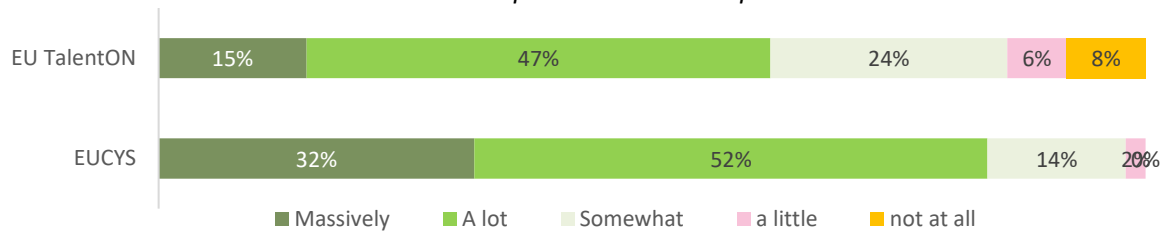


How can this success – belief in value of the event in connecting science and society - be translated from a specific event to the overarching European City of Science label? Is there an existing benchmark for this belief with regards to European City of Science?

EU TalentOn and EUCYS participants reported that the events *inspired contributions to positive societal impact* “massively” or “a lot” (62% and 84%, respectively).

Impact accelerator (EU TalentOn, EUCYS)

To what extent did your participation inspire you / your future career to make a contribution to positive societal impact?

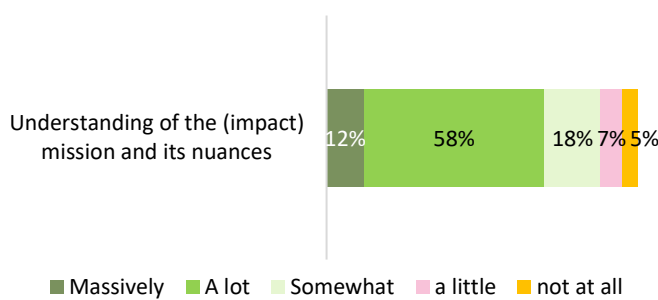


Consider possibilities to create a ‘ripple effect’ from these results. How to support scaling the connection to societal impact experienced by these scientific participants to their home community and broader networks after leaving the European City of Science ‘bubble’?

More than three-quarters of EU TalentOn participants reported a deeper understanding of their mission (a societal challenge) more fully after participating, and nearly 60% plan to continue working on their project.

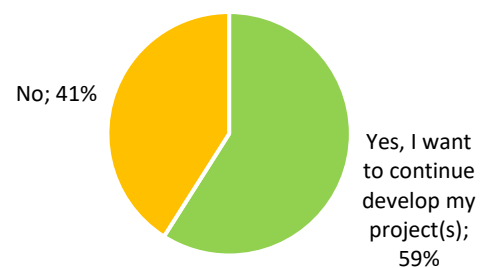
Understanding societal challenges (EU TalentOn)

To what extent did your team and project develop with regards to...



Commitment to projects (EU TalentOn)

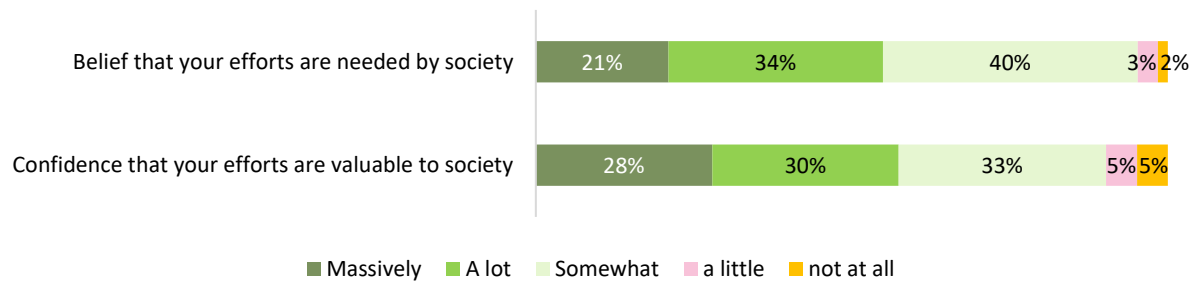
Do you plan to continue to develop your project(s)?



What is behind the 12% of EU TalentOn participants who left the event with only “a little” or “not at all” deeper understanding of the impact mission and its nuances. An understanding of this foundational roadblock could help fix this issue and perhaps lift other outcomes.

In the case of EU TalentOn, there was also a shift in feelings of personal ability and responsibility toward society: 58% of the participants felt their participation “Massively” or “A lot” increased confidence that your efforts are valuable to society.

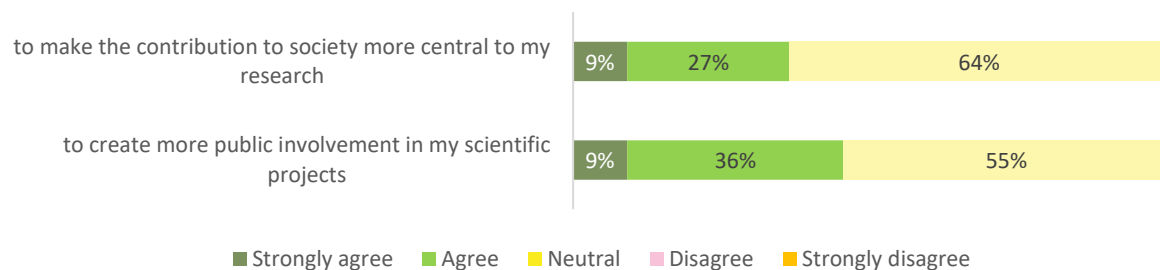
Impact activator (EU TalentOn)
To what extent did your participation develop



Scientists who led neighbourhood activities experienced a *moderate positive* shift about how that experienced influenced their thinking about their work and its intersection with society. More than one-third of ‘presenting’ scientists and researchers were encouraged to *create more public involvement in their scientific projects* (45% “Strongly agree” or “Agree”) and to *make the contribution to society more central in their research* (36%).

Connecting science and society (scientists who led neighbourhood activities)

By my contribution to the activity I have been encouraged...



Conclusions: Pathway 1.1

Did Leiden2022 facilitate the connection between scientists and societal challenges?

A majority of participants from Leiden2022’s three main scientific events—ESOF, EUCYS, and EU TalentOn—believe their respective event helps to connect science and society.

These three events were successful in stimulating participating scientists and researchers, from teenagers to experienced professionals, to think more about the societal impact of their work and to make more of a contribution to societal impact.



Is practical engagement and/or connecting to 'society' relevant or helpful for all scientists and researchers? Perhaps 100% is not the target.

How can Leiden2022 understand if these shifts will translate to changes in work and outcomes?

These outcomes were more pronounced in the more impact-driven events with younger audiences (EUCYS and EU TalentOn), which may reflect those events' structure around very specific societal themes or challenges, for example programming focused on specific EU Missions.



These shifts in thinking about, and increased interest in, connecting scientific work to societal challenges are limited to the finite group of participants, and the young scientists events were small-scale. How can organisers scale these results?

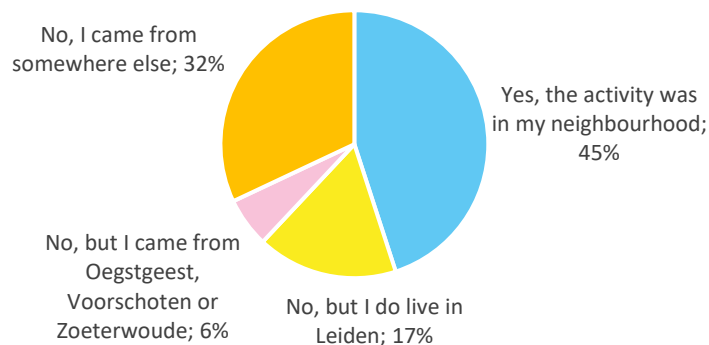
1.2 Bringing society in contact with science

Knowledge throughout the Neighbourhoods and European Science in the City Festival were designed for the local and visiting public. Other activities for Leiden citizens and the public included Year of Events activities as well as extras that developed organically, considered “Community Bonus.”

Forty-five per cent of Knowledge throughout the Neighbourhoods visitors attended within walking distance of their home and 23% from elsewhere in Leiden or neighbouring town or village. Local presence led to local participation.

Proximity (Knowledge throughout the Neighbourhoods)

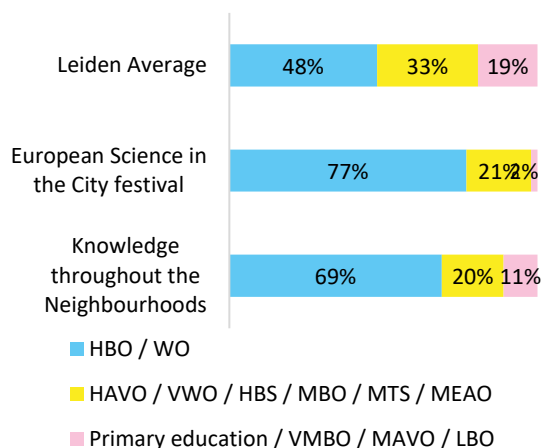
Do you live close (walking distance) to the (science) activity you attended?



As with many scientific events, overall participation skewed to the more highly educated, with a majority of post-secondary educations (HBO/WO) in the participant group. For Leiden2022 public programmes, however, the range of education backgrounds tracked roughly to Leiden’s own demographic², as did age.

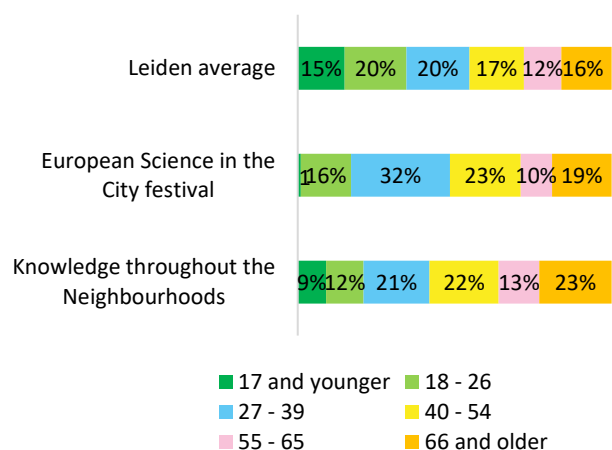
Level of Education

What is your highest level of education?



Age per event

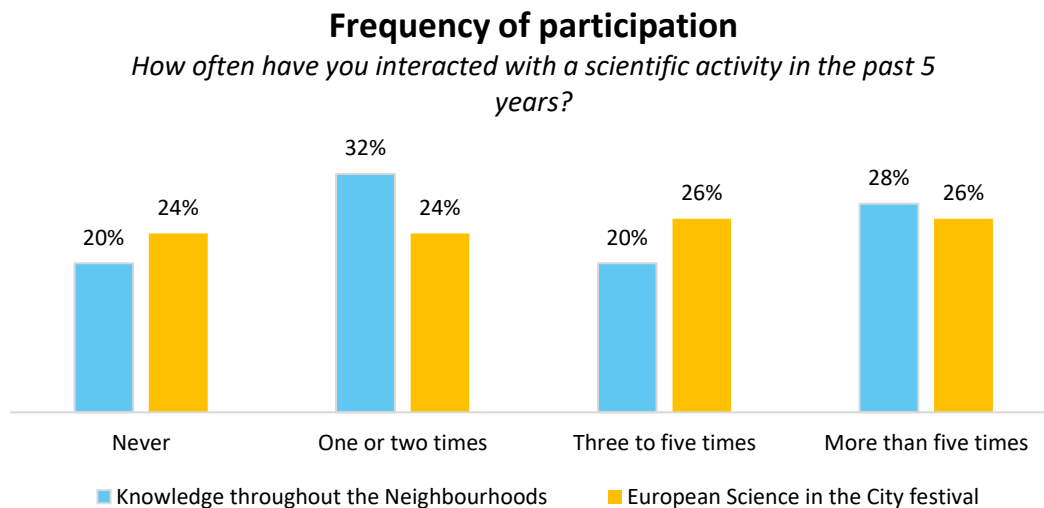
How old are you?



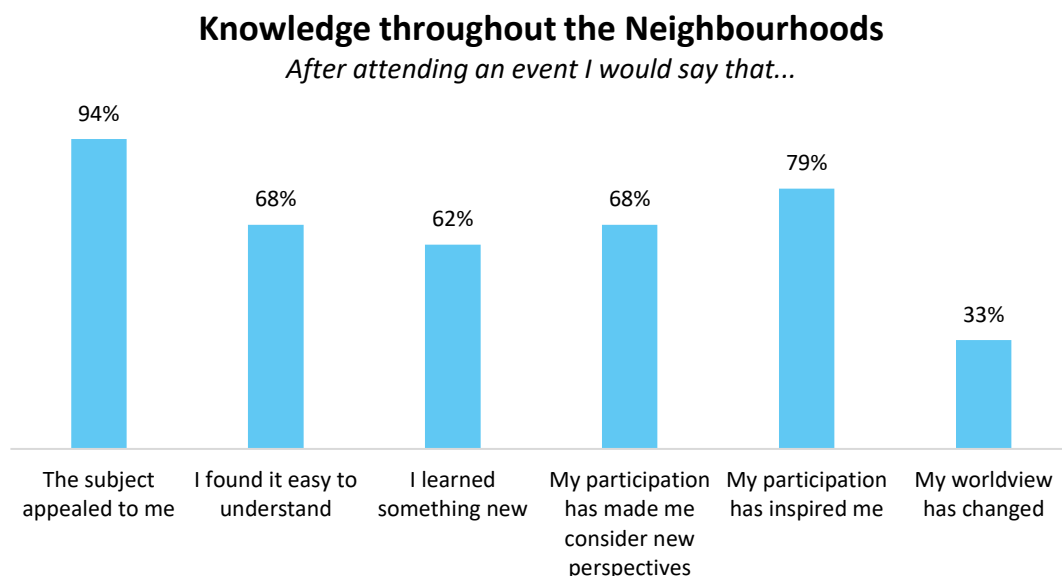
² It should be noted that the higher-educated populations may be over-represented. The research method (a 7-minute, written survey) can form a barrier people with lower literacy rates.

One-fifth (20%) of Knowledge throughout the Neighbourhoods and 24% of European Science in the City Festival participants were attending a scientific activity for the first time in at least five years.

Thirty-two per cent and 24%, respectively, had only attended something similar one or two times in the last five years. These percentages of “new to the genre” participants are in a range similar to benchmarks for cultural events, for example attendees new to the genre at literary festivals (31%) or classical music festivals (22%)³.



Across the board, Knowledge throughout the Neighbourhoods participants appeared to have experienced the programme as intended (approachable, playful). For example, 94% of participants found the subject matter appealing and 68% indicated that the event was easy to understand. Seventy-nine per cent walked away feeling inspired.

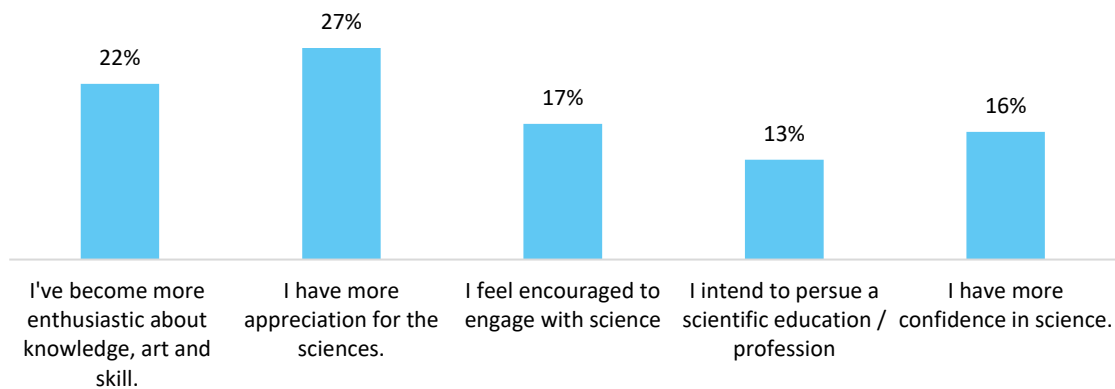


³ Benchmark data Cigarbox of approximately 20 classical music and literary festivals

This engagement appears to have translated to positive outcomes, in some cases, as well. Participants reported *more appreciation for the sciences* (27%) as well as feeling *encouraged to engage with the sciences* (17%) and *confidence in science* (16%).

Science and the Local Community (KttN, ESCF)

Due to my participation in this event...



Those who were further away from science to start with may have more opportunity to benefit. As an example, more than half of Knowledge throughout the Neighbourhoods participants who were (re-)connecting with science after at least five years reported *increased confidence in science* (55%) compared to the average of 17%.

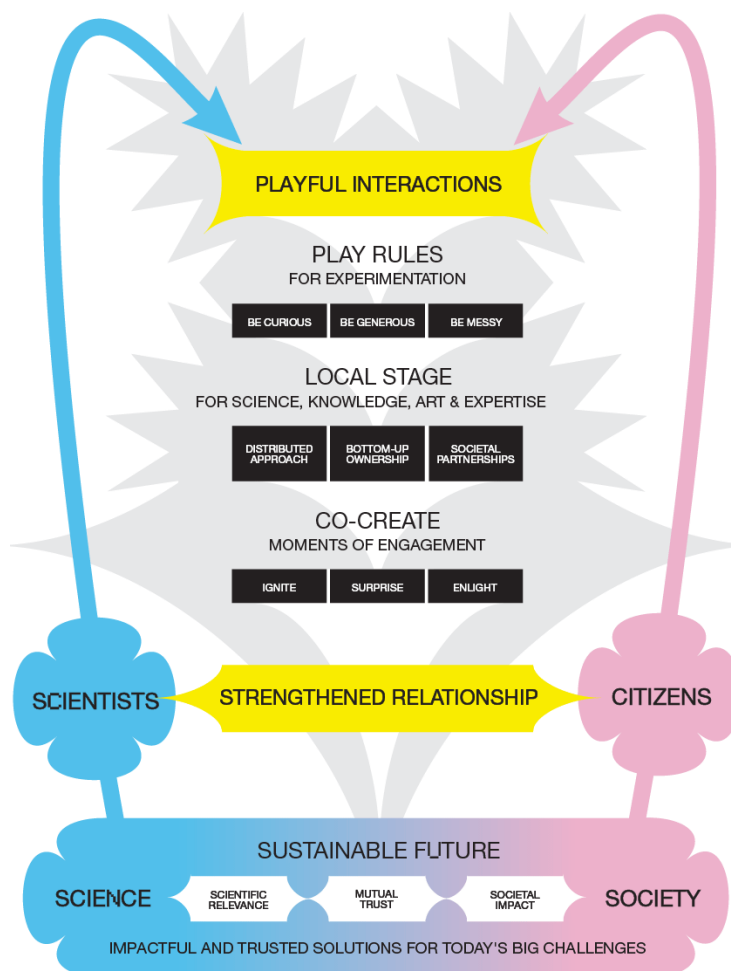


Is there a takeaway for European City of Science / EU around this model of engagement and the hot topic of trust in science (surrounding COVID, for example)?

Conclusions: Pathway 1.2

Did Leiden2022 help the public connect with, appreciate, and better understand the sciences?

Leiden2022's model of public programming (see graphic) resulted in personal interaction between the local public and its knowledge institutions and scientists. Elements of "meeting people where they are (in the neighbourhood)," eschewing traditional scientific spaces, and encouraging playful formats and co-creation with local stakeholders can be seen as best practices for further development.



Leiden2022's public programmes—Knowledge throughout the Neighbourhoods and European Science in the City Festival, for example—were successful in connecting with the local community, with representative demographics in location, education, and age.

The majority of these 'representative' audiences experienced their participation very positively; this translated, for a smaller percentage of the audience, to outcomes of increased confidence, appreciation, or interest in the sciences.



How can the European Union and European Research Area Policy Agenda use the Leiden2022 model to support public engagement practices?

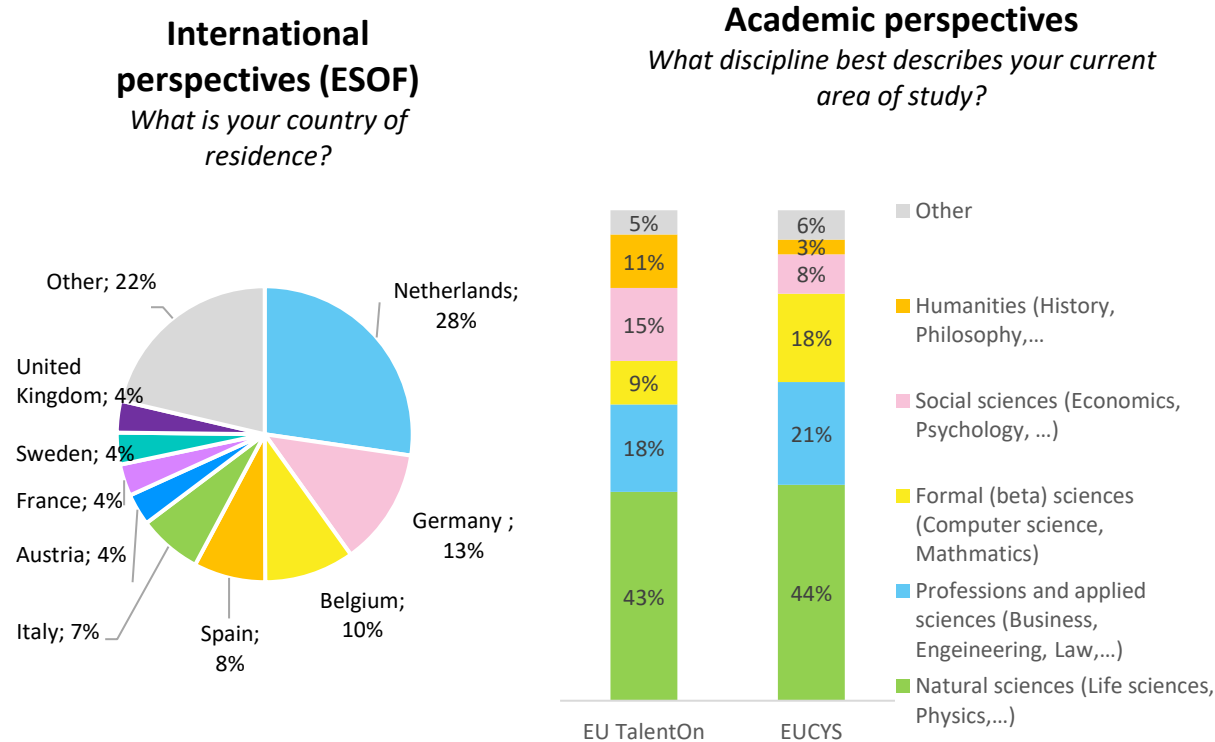
Pathway 2: Stimulating scientific exchange

European Commission/Leiden2022 pathway 2 centres on Leiden2022 as a source of inspiration for scientific discovery and innovation. The focus is on knowledge exchange within the European research and innovation community, via, for example, multi-disciplinary debates, with the intent of influencing research topics, new discoveries, publications, and innovations.

Diversity of scientists and researchers

EuroScience Open Forum (ESOF), excluding the naturally high representation from the host country of the Netherlands, saw representation from western, northern, and southern Europe, as shown below. Though the “other” category included a long tail of total 87 countries, representation from eastern Europe was shallow.

EU TalentOn and European Union Contest for Young Scientists (EUCYS) attracted distributed backgrounds and disciplines, with the natural sciences in the majority.

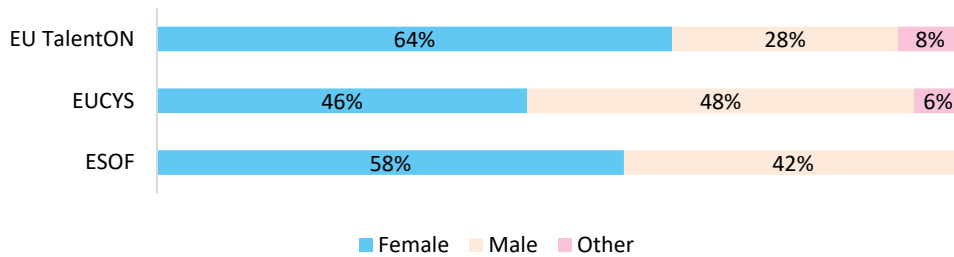


26% of Dutch students study Natural Sciences (DUO), this contrasts with the 43% and 44%, respectively, participating in EUCYS and EU TalentOn. Is there an opportunity to engage differently with disciplines, aligning more with the complexity of current societal transitions?

As the chart below illustrates, a significant percent of respondents from the scientist-audience events identified as female.⁴

Gender per event

With which gender do you most identify?



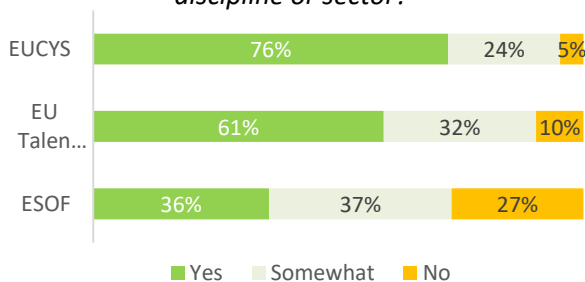
The results on participation by gender contrasts with Dutch academia, where 22% of professors and 44% of PhD students are female (VSNU) as well as global trends that skew toward men in research and science.

Connections and project support

Participating scientists made connections to collaborate across borders and disciplines.⁵ The youngest participants (EUCYS) experienced extremely positive increases in their networks; ESOF the least. Despite having the lowest result, ESOF attendees were positive (73% “Yes” or “Somewhat” increased network geographically; 69% “Yes” or “Somewhat” increased network across disciplines).

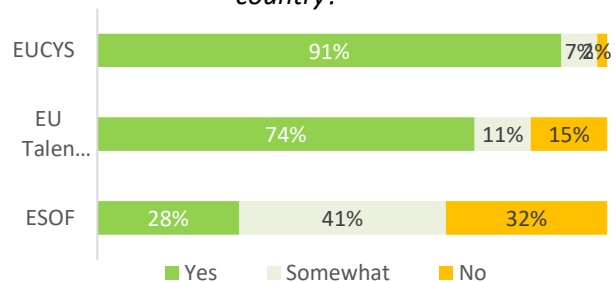
X - discipline

Did your attendance strengthen your scientific network outside of your own discipline or sector?



X - country

Did your attendance strengthen your scientific network outside of your country?



⁴ There is evidence that females are more likely to complete surveys, in general. To confirm this finding, Leiden2022 can do an analysis of registration data, where gender information may have been collected for the actual audiences.

⁵ The data for these charts was collected in slightly different wording for ESOF and EU TalentOn/EUCYS; for the purposes of this overview, we made a connection between the two. Exact results can be found in the respective event analyses.



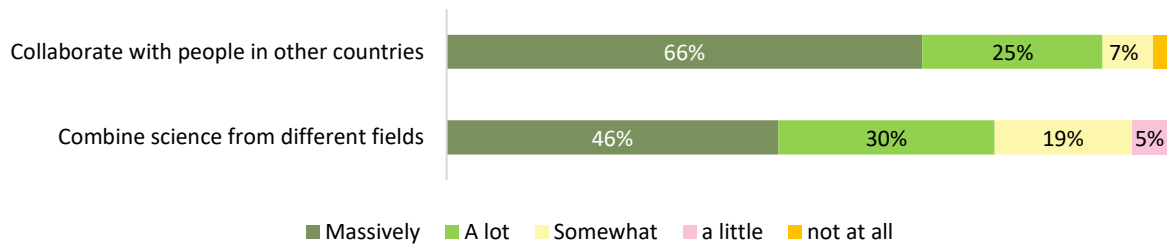
Lower percentages from ESOF may reflect the nature of the events (intensive interactions such as the team activities at EUCYS can amplify connections), facilities (ESOF feedback suggested opportunity for improved networking), or the higher expectations of ESOF’s more experienced audience.

In addition to the connections established above, EUCYS participants were also inspired to make use of them: to *collaborate internationally* (91%) and *combine science from other fields* (76%).

Contestant (18) at EUCYS: “[My favourite memory from EUCYS 2022 is] meeting other contestant of many other countries and learn about their works.”

Exchange Accelerator (EUCYS)

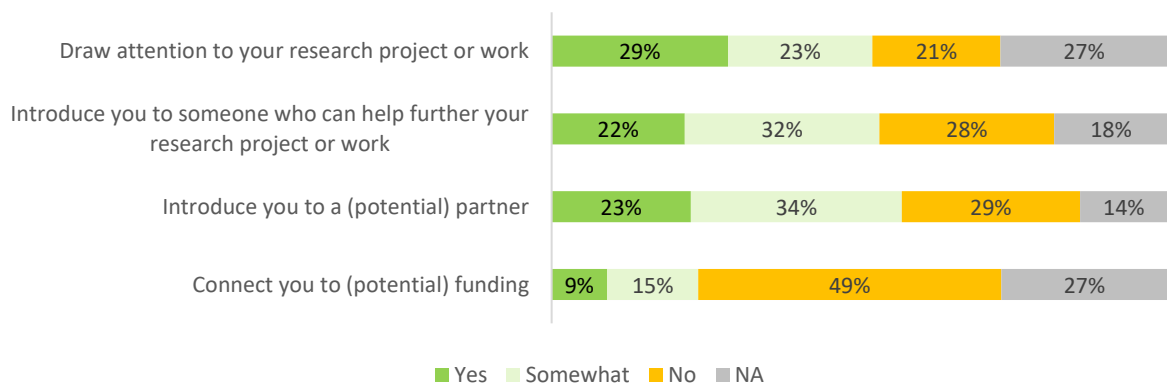
To what extent did your participation inspire you / your future career to...



Results for ESOF participants included *Draw attention for a research project or work* (52% responded “Yes” or “Somewhat”), a *needed support contact* (54%) or *potential partner* (57%) or *connections to (potential) funding* (24%). Overall, these results are slightly lower than more commercial oriented conferences⁶ in the creative / technological industry and align with a theme of networking improvement opportunities in participant verbatim.

Moving science forward (ESOF)

Did your attendance...



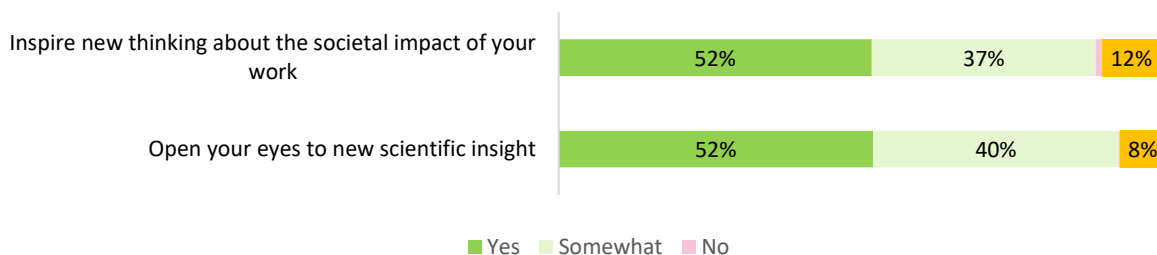
⁶ Cigarbox benchmarks based on analysis for approximately 10 conferences in the technological and creative industry

As shown in the green sections of the table below, a majority of ESOF participants reported that the event both *inspired new thinking about the societal impact of their work* (89% of participants reported “Yes” or “Somewhat”) and *opened their eyes to new scientific insight* (92%).

Student / PhD-candidate (29) at ESOF: “The speakers on the panel all contributed valuable insights and shed light on the intricacies of this complex [heritage] topic.”

New thinking on science and impact (ESOF)

To what extent did your participation...



Conclusions: Pathway 2:

Was Leiden2022 successful in stimulating scientific exchange to support innovation and the development of new research agendas?

Leiden2022 brought together European scientists with different perspectives (as indicated by age, gender, nationality, and discipline diversity). Via their participation in ESOF, EUCYS and EU TalentOn, these scientific participants had their “eyes opened to new insight” and made connections with peers in different countries and disciplines.

In facilitating these connections, Leiden2022 laid the groundwork for future collaboration. Whether this comes to fruition in the form of new research agendas, discoveries, publications, and innovation is unclear due to a much longer horizon and indirect progression toward these outcomes.



How will Leiden2022 and future editions of European City of Science follow the development of these connections to (potential) future results?

What programme offerings could help ‘steer’ toward future outcomes, such as funding to support initiatives sparked during European City of Science?

The networking results were more pronounced in the “young scientist” audiences of EUYCS and EU TalentOn. These are small groups (in the area of 100 on-site participants), but as these motivated and talented young scientists develop into decision-makers and influencers, the connections made at European City of Science could have outsized influence in future.



How can European City of Science help to nurture the relationships launched via its platform?

How can future hosting bodies maximize connections for experienced researchers and scientists (ESOF), who are current influencers? Is there an opportunity to use the “brainpower in the room,” of assembled scientists and researchers to influence research agendas directly?

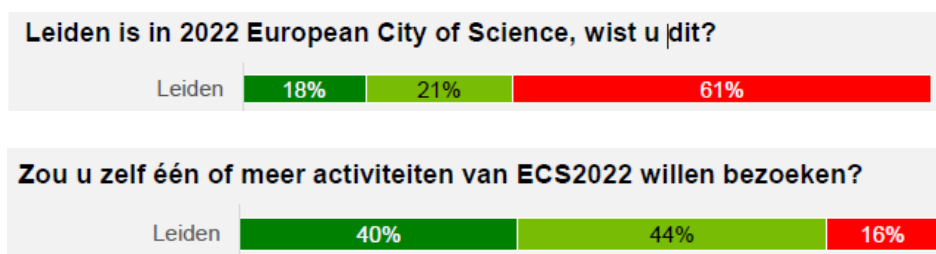
Pathway 3: An ‘established’ and sustainable label for European City of Science

European Commission/Leiden2022 pathway 3 centres on supporting recognition of the European City of Science label for future. The established element focuses on extending the programme to a year of activities to become a model for future editions (establishing the label). The sustainable element references a “future proof concept,” and “including sustainable and green measures as much as possible” into the label.

Awareness and engagement of local community

There are indications that the Leiden community—individuals and institutions—had an appreciation for the European City of Science label in the early phases of planning.

In advance of the festival’s launch, though 61% of Leiden’s residents were not aware of Leiden’s title as upcoming European City of Science host, 84% expressed an interest/intention to participate (Source: Stads- en wijkenquête Leiden 2021, September 2021).



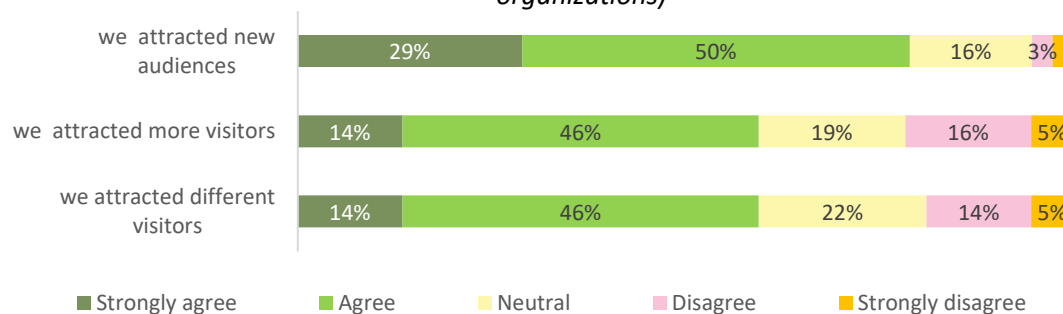
A diverse group of local institutions put resources and energy in to planning an impressive number of scientific-themed events⁷ as part of Leiden European City of Science 2022. A sample of these were captured in 87 responses to a survey of organisers; this sample of 87 activities alone accounted for somewhere between 175.000 – 225.000 visits/interactions (Source: Year of Events survey).

Effect on engagement from association with European City of Science

The interest of these local institutions appears to have paid off. Theatres, museums, businesses, scientific institutions, and other organizations not officially affiliated with Leiden2022 reported attracting new (79%), larger (60%) and different (60%) audiences.

Engagement in Leiden2022 and attracting visitors

Due to our contribution to Leiden2022 ... (local cultural and social organizations)



⁷ These are only events registered with festival organisers; the actual number is likely higher.



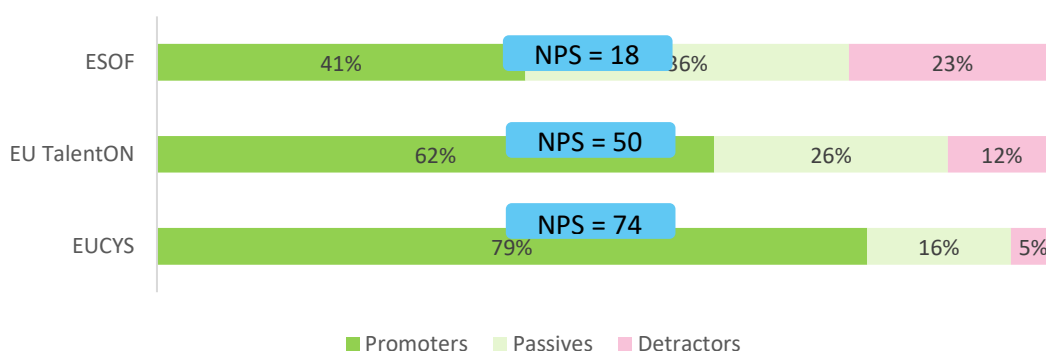
How can the involved Leiden institutions retain these new connections, and how to stimulate making science a permanent part of the programming?

Visitor/customer engagement with European City of Science components

Some components of Leiden2022 received very positive Net Promoter Scores (NPS)⁸, a model that is often used as an indicator for growth, customer engagement, and loyalty. Very high scores for EU TalentON (50) and EUCYS (74) surpassed an industry-agnostic benchmark of 40 for a very positive result. This indicates that European City of Science has an existing, though latent, network of advocates, if the connection can be made between these specific events and the overarching label.

Net Promoter Score per event

NPS per event based upon overall experience



How to unite 'ambassadors' to elevate not just ESOF or other event, but the European City of Science label. Are there ways to reconnect with ambassadors from previous editions, to tap into possibly dormant brand ambassadors?

⁸ The Net Promoter Score (NPS) is an index ranging from -100 to 100 that measures the willingness of visitors or customers to recommend, in this case a location or event, to others. NPS is determined by subtracting the percentage of customers who are detractors ('Detractors' gave a score lower or equal to 6 on a scale of 1 to 10) from the percentage who are promoters (answered 9 or 10 on a scale of 1 to 10).

Sustainability

Leiden2022 kept Sustainable Development Goals (SDGs) top of mind in developing the programme and supporting activities around it.

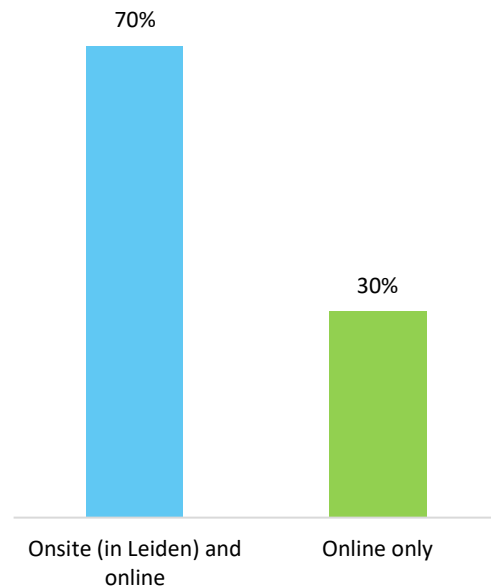
For the first time, ESOF was offered as a hybrid event and 30% of attendees joined the programme exclusively online, allowing for scaling and extension of reach without an equivalent increase in emissions.

Organisers considered responsible consumption and production in planning, which resulted in operational decisions such as digital programs, a sustainable local transportation plan (walk!), vegan catering and stimulating attendees to travel by train.

Resulting reductions in emissions were not captured explicitly, but EUCYS and EU TalentOn tracked participant awareness and appreciation for their efforts. Participants most appreciated organisers efforts to encourage walking, followed closely by communications about train travel. Reactions to catering changes were mixed (not shown).

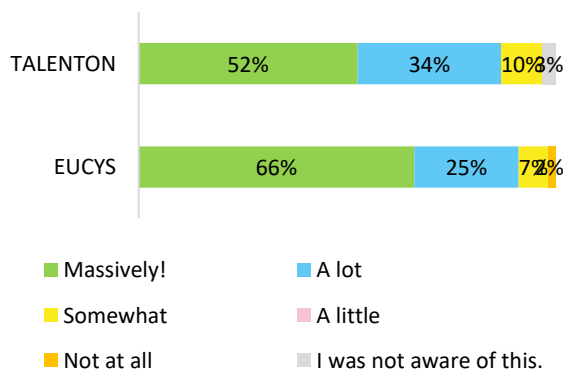
Online Participation

Did you participate in ESOF onsite or online only?



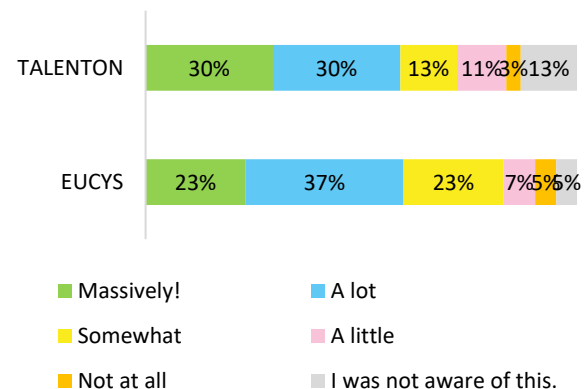
Local Transportation

Did you appreciate the organisation's efforts to minimize impact on the environment by planning all activities within walking distance and scheduling enough time for walking?



Train Encouragement

Did you appreciate the organisation's efforts to minimize impact on the environment by encouraging teams to travel by train?



Does European City of Science have a direct role in addressing Sustainable Development Goals? Or does European City of Science contribute most effectively in an indirect manner, by supporting scientists and researchers in their SDG-related efforts (for example via themed programming or extra match-making support for projects with SDG relevance)

Conclusions: Pathway 3:

Was progress made toward an established and sustainable label for the European City of Science?

Leiden2022's approach of a year-long festival appears to have 'extended the season' for the European City of Science. This extension benefited participating institutions in the form of new, different, and more customer engagement and resulted in positive economic results for the region, to the tune of €20+ million, as outlined in the Economic Impact section of this report.

By these measures, the Leiden2022 model of year-round programming appears to offer a best practice for an 'established' European City of Science model.

At the same time, these positive outcomes (engagement and economic impact) are advertisements for the European City of Science label, attracting the interest of future hosts.



In which audiences must the European City of Science label resonate? For municipalities? For scientific institutions? For the public? Setting a strategy for building a label should follow the aspiration.

The Net Promoter Scores (NPS) of participating scientists, particularly from the younger set, were very positive, indications of goodwill and loyalty toward their event. These attendees are likely to be advocates and (future) influencers in the scientific community.



How can European City of Science transfer the positive NPS from component events (ESOF, EUCYS, EU TalentOn) to the European City of Science label, and convert it to active advocacy across Europe?

Around the world, conference organisers and event bodies are seeking ways to increase sustainability, by nature a challenge in the event sector. Leiden2022 took Sustainable Development Goals (SDGs) in to considering during planning phases, made operational decisions in support of a sustainable event, and communicated these efforts to their audiences to build awareness.

These efforts, though not moving the needle toward Sustainable Development Goals (SDGs) directly, increased awareness of SDG-themes in their audiences and provide a foundation upon which future hosts can build.



How can European City of Science lean in on specific SDGs via programming? To what extent can best practices for sustainability in events be drawn from external bodies?

Can Leiden2022 assess emissions from their programming, offering a benchmark for future editions?

Pathway 4: Establishing Leiden as a City of Knowledge

European Commission/Leiden2022 pathway 4 has two branches. The first concentrates on how Leiden2022 can amplify/support the ongoing effort to strengthen collaborations between knowledge institutions and the municipality and show Leiden residents the great value of their knowledge institutions. The second is to create a city where “science alongside citizens” is the norm; Leiden2022 is a test environment for new ways to work toward this goal.

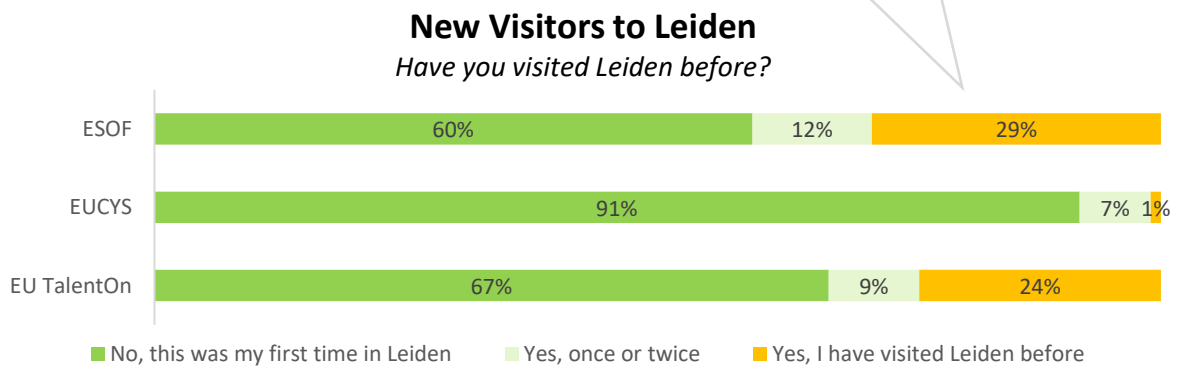
Public engagement with European City of Science activities

During the year, Leiden European City of Science 2022 tallied between 400,000 and 500,000 engagements (visits, participants, or unique visitors) with guests – both local and visiting. See Audience in numbers section, above.

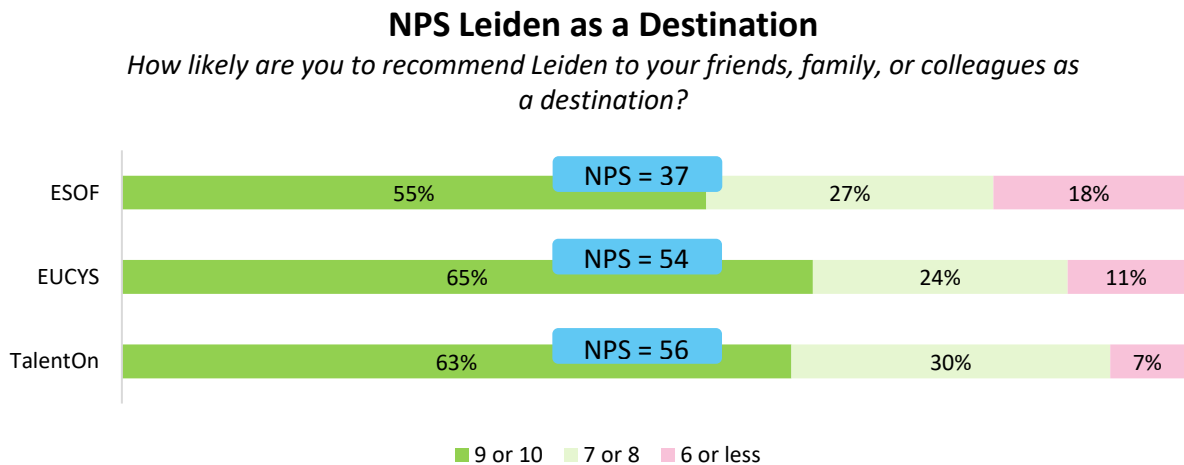
Impressions of Leiden and Leiden perceptions

Many of the scientific/professional visitors were visiting Leiden for the first time. In the case of European Union Contest for Young Scientists (EUCYS), that number was 98%.

Contestant (19) at EUCYS: “It was amazing to dance around Leiden while learning about its culture and history.”



Attendees of these events had very high Net Promotor Scores (NPS) for Leiden, indicating that they are likely to recommend Leiden to their friends, family, or colleagues as a destination.

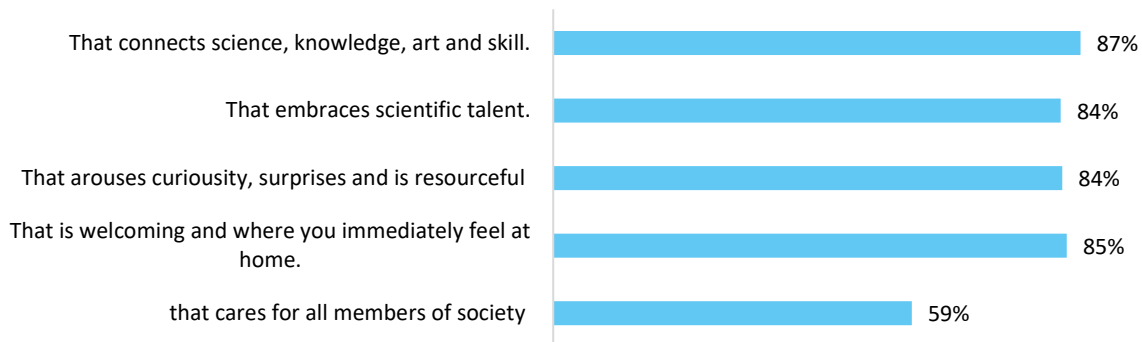


Attendees of each of the events reported similar perceptions of Leiden, in line with the host’s aspirations to be seen as a city that *connects science, knowledge, art and skill* (87%), *embraces scientific talent* (84%), *arouses curiosity, surprises and is resourceful* (84%), and is *welcoming* (85%).

The lowest scoring brand perception for Leiden was the statement that *Leiden is a city that cares for all members of society* (59%).

Perception of Leiden (all events)

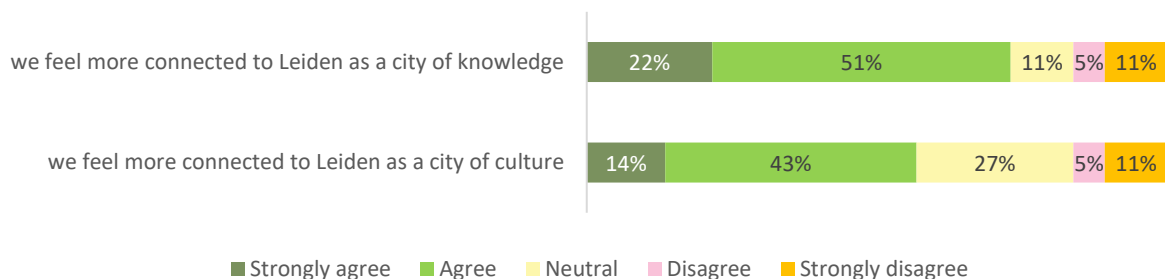
Percentage of visitors who agreed with the statements that Leiden is a city...



Participating local businesses, museums, theatres, community centres and other local organizations feel more *connected to Leiden as a city of knowledge* (73% “Agree” or “Strongly agree”) than to *Leiden as a city of culture* (57%).

Connecting organisations to Leiden as a city of knowledge and culture

Due to our contribution to Leiden2022...



The stronger agreement with the statement of ‘knowledge’ versus ‘culture’ may reflect the themes and content the participating organisations dealt with during their participation (science and knowledge vs. art and culture).

Day-owner at Photography meets Science and the City (72): “The symposium was a great success (...), all organized by the LAFV, the Fotobond and Leiden University. As far as I’m concerned, a textbook example of how science (...) and the city (...) can work together.”

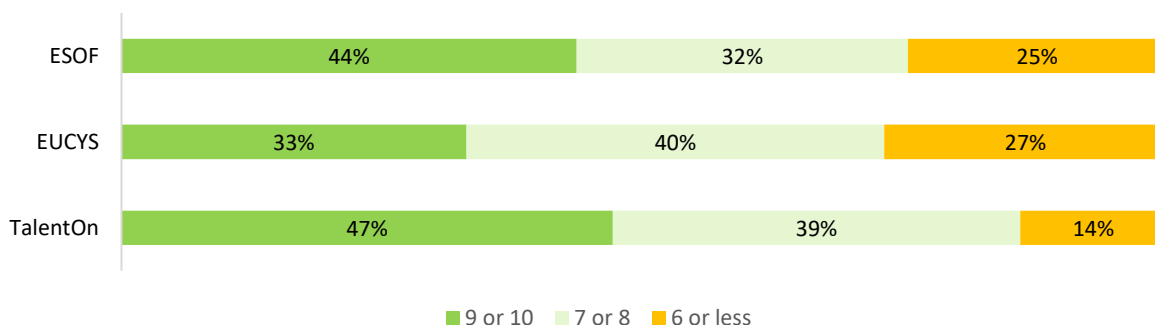
Organizer of Tactile Memory – The Revival of Analogue Filmmaking (age unknown): “Leiden2022 has shown us the power and value of connection between people, knowledge, science and art in many forms!”

Attracting ‘knowledge’ talent

Both the relatively senior audience of ESOF professionals and researchers (44%) and younger researchers (EU TalentOn 47%, EUCYS 33%) find Leiden very attractive (9 or 10 out of 10) for future scientific work or study. These attendees can be considered ambassadors for Leiden *as a city of knowledge*.

Leiden as a place for future scientific work or study

How attractive do you personally find Leiden for future scientific work or study?

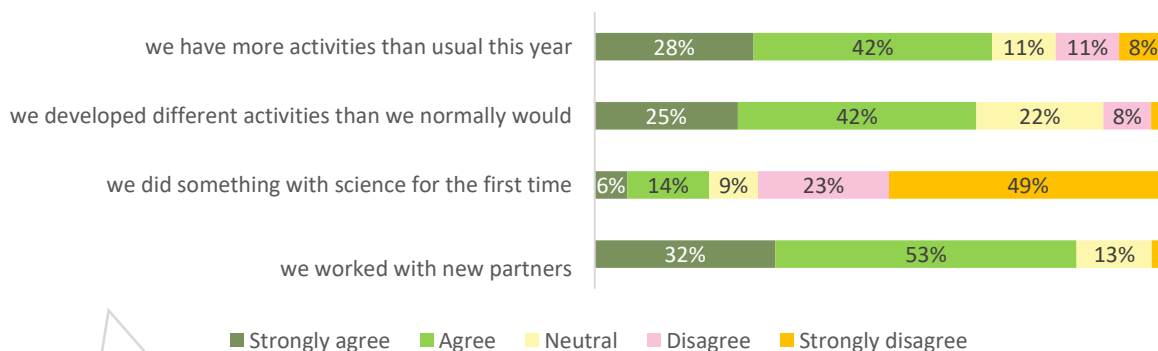


Engagement of local stakeholders

As part of the European City of Science initiative, organisations affiliated with Leiden2022 organized *more activities than usual* (63% “Agree” or “Strongly agree”) and *worked with new partners* (89% “Agree” or “Strongly agree”).

Engagement in Leiden2022 of cultural and other organizations

Because Leiden is European City of Science...

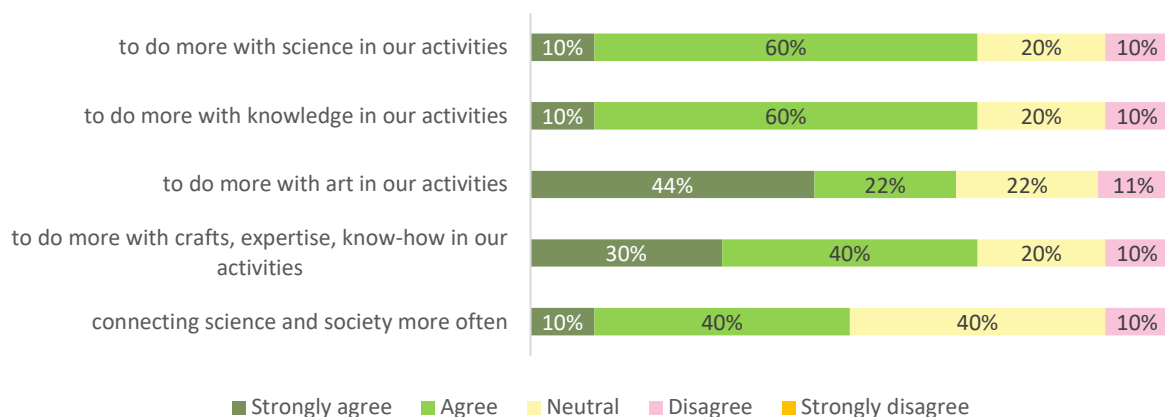


Organizer of LeidenGlobal (age unknown): “City of Science made us think well in advance to organize something different than usual, also something outside of our comfort zone and it has led to a good result.”

The involved organizations expressed a broad interest in future opportunities to do more with science (70% “Agree” or “Strongly agree”), knowledge (70%), arts (66%) and crafts (70%). The expressed interest to do more with other disciplines endorses the playful and inclusive approach Leiden2022 followed.

Encouraging science, knowledge, arts and crafts

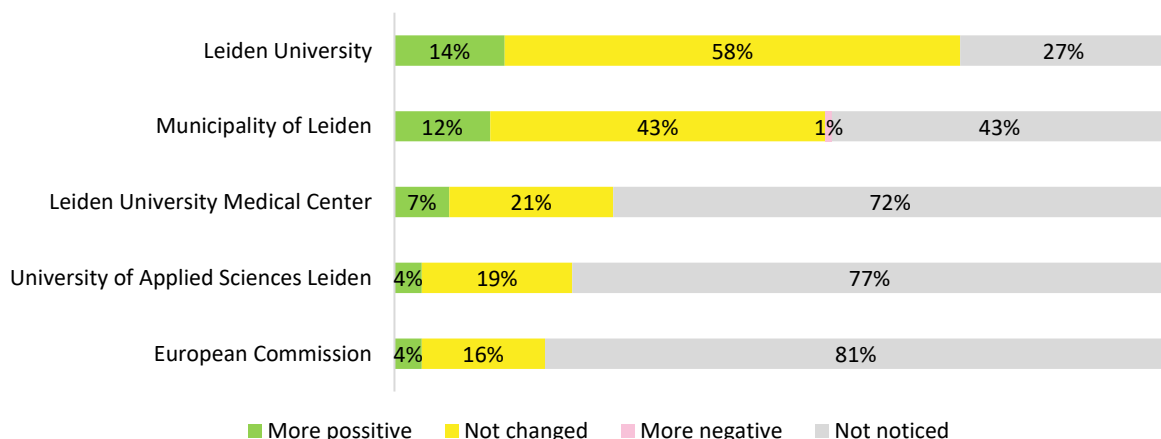
Due to our contribution to Leiden2022, we are encouraged ...



To some extent, investment in Leiden2022 resulted in increased *local* awareness, also, for participating institutions; perhaps contributing to sustainable value to host cities.

Stakeholder Visibility (Knowledge Throughout the Neighbourhoods and European Science in the City Festival)

*Which of these organisations did you notice during the event?
Follow up question: How did this affect your image of the organisation?*



Food for thought: what is the value of this recognition, and how can sustainable value be amplified?

Conclusions: Pathway 4:

Did Leiden2022 support collaboration between knowledge institutions and the municipality? Did it continue to build Leiden as a city where “science alongside citizens” is the norm?

Leiden2022 led to stronger connections between the municipality and local knowledge institutions. This is to be seen, not only in the strong showing by local institutions in Leiden2022 programming, but also via the finding that 73% of participating local businesses, museums, theatres, community centres and other local organizations “feel more connected to Leiden as a city of knowledge.”

Leiden2022 also resulted in partnering *between* local knowledge institutions: 89% of organisations affiliated with Leiden2022 collaborated with new partners during their participation.

Programming clearly supported “science alongside citizens,” as evidenced by thousands of touchpoints between citizens and scientists that came about through Leiden2022’s public programming, such as Knowledge throughout the Neighborhoods. In this example science was accessible to the public where they are, and in playful and interactive ways rather than in a traditional, top-down format. Both locals and visitors had positive impressions of Leiden in the context of knowledge, as for example a city that:

- *connects science, knowledge, art and skill (87%),*
- *embraces scientific talent (84%), and*
- *arouses curiosity, surprises and is resourceful (84%).*

Externally, also, Leiden’s reputation as a City of Knowledge developed due to its role as host for European City of Science. Many scientific guests were experiencing Leiden for the first time and left likely to recommend Leiden as a destination or even for future scientific work or study, themselves.

Economic impact: Leiden region

Leiden European City of Science 2022 had a major economic spin off for the city. Events, conferences, and visitors contributed to an economic impact for the Leiden region of between €20 and 26 million as a result of Leiden2022.

| <i>Contribution</i> | <i>Low end</i> | <i>High end</i> |
|---|----------------|-----------------|
| <i>Conference visitor expenditure</i> | €7 M | €9 M |
| <i>Expenditure by visitors to public events</i> | €12 M | €16 M |
| <i>Leiden2022 expenditure</i> | €7 M | €7 M |
| <i>Estimated range, total</i> | €20 M | €26 M |

Conference visitor expenditures

- Leiden hosted almost twice as many conferences in 2022 (85 in total, of which 82 scientific and 56 directly linked to Leiden2022), in comparison to the 43 hosted in 2019 (pre-COVID).
- As a result of the 56 conferences linked directly to Leiden2022, Leiden hosted an extra 13.000 visitors. These visitors created an economic impact of €7 - 9 million for the region of Leiden.
- This economic impact estimate is based on average expenses of conference visitors (NBTC). An estimated 80% of the conference visitors came from outside of Leiden and the average duration of the conferences in Leiden in 2022 was 2,1 days (Leiden&Partners).

Expenditure by (non-conference) visitors to public events: €12 – 16M

- Between 400.000 and 500.000 visits were made to one or more of Leiden2022's public programming activities.
- An estimated 70% of these visits came from outside of the Leiden region (Cigarbox benchmark), specifically for Leiden2022.
- On average, 5% of visitors (outside of the host region) stay overnight for cultural events (Cigarbox benchmark) with an average stay of 1,7 nights. These benchmarks indicate between 19.000 and 23.000 overnight stays in the Leiden region due to Leiden2022.⁹
- On average, daytime visitors spend approximately €55 per person, per visit (National Bureau for Tourism and Conferences). For overnight stays, an average of €50 per night per person.
- To estimate the economic impact of the public programming, the number of Leiden2022-specific visits are multiplied with the average spending per person. This results in an additional economic impact ranging from €12 to €16 million.

⁹ Hotel room occupancy in the final nine months of 2022 (80%) was almost back to a pre-COVID peak level (82% in 2019), in part due to Leiden2022. Based on the number of visitors to conferences and public events, approximately 50.000 overnight stays can be attributed to Leiden2022, which equates to approximately 10 - 15% of the total Leiden-area hotel room nights in 2022 (source: Leiden in Cijfers).

Leiden2022 expenditure: €0,7M

- As host of European City of Science, Leiden2022 attracted significant funding from the government, the European Union and other external investors.
- The municipality and local stakeholders also contributed to the organizational budget, to the tune of €1,7 million in sponsorship and subsidies.
- The Leiden2022 organisation spent €2,4 million of its operating budget with local organisations and entrepreneurs.
- The difference between these two numbers (money flowing *from the organisation to the local economy* minus money coming *from the local economy to the organisation*) is the organizational economic impact. For Leiden European City of Science 2022, the organizational economic impact was approximately €0,7 million.

Appendices

A. Source documents

Participants of the different activities during Leiden2022 were asked to complete a questionnaire with the objective of understanding the participant experience, collect input for future editions, and gain insight about event outcomes and impact. This research model, and the deliverables for each festival component were managed by Cigarbox.

Component Data and source info

| | |
|---|---|
| EuroScience Open Forum (ESOF) | Participant feedback was collected in July and August 2022 via an online survey. 244 surveys had been completed. Source document: ESOF Participant survey results – Factsheet 26 August 2022 |
| European Union Contest for Young Scientists (EUCYS) | Participant feedback was collected in late September/early October 2022 via an online survey. Source document: EU TalentOn 2022 participant factsheet - 14 October 2022 |
| EU TalentOn | Participant feedback was collected in late September/early October 2022 via an online survey. Source document: EUCYS 2022 participant factsheet - 14 October 2022 |
| European Science in the City Festival (ESCF) | Participant feedback was collected in August via an online survey, one month after the festival. Source document: European Science in the City Festival Evaluation Report |
| Knowledge throughout the Neighbourhoods | Participant feedback was collected once per month from June until December via an online survey. Source document: Kennis door de Wijken overall report and dashboard data |
| Year of Events, Community Bonus, New European Bauhaus | Organizers of activities external to the Leiden2022 organization (Year of Events, Community Bonus) was collected in January 2023 via an evaluation form (87 responses). Source document: Survey results among project leaders Year of Events, Community Bonus and New European Bauhaus. |

B. Side-by-side comparison of festival components

| <i>Component</i> | <i>What & when</i> | <i>For whom (average age)</i> | <i>Scope</i> | <i>Average Satisfaction</i> | <i>NPS event/NPS Leiden</i> | <i>First time in Leiden</i> |
|--|---|---|---|---------------------------------|-------------------------------------|-------------------------------------|
| EuroScience Open Forum (ESOF) | Four-day scientific conference Jul. 13 – 16, 2022 | International scientific community (42) | 3.138 participants | 7,5 / 10 | 18/37 | 60% |
| European Union Contest for Young Scientists (EUCYS) | Five-day science fair and competition Sept. 13-18, 2022 | European scientists between the ages of 14 and 20 (18) | Approximately 132 on-site competitors out of 65.000 participants | 8,4 / 10 | 74/54 | 91% |
| EU TalentOn | X-day scientific 'hackathon,' addressing EU Missions Sept. 14-18, 2022 | European scientists between the ages of 21 and 35 (27) | Approximately 104 on-site competitors, 700+ participants overall | 8,1 / 10 | 50/55 | 68% |
| European Science in the City Festival (ESCF) | One month of programming June 17 – July 17, 2022 | Local public and visitors from hosting region and abroad (49) | Approximately 95.000 visits | 8,0 / 10 | - | 3% |
| Knowledge throughout the Neighbourhoods | Year-long programme | Local public (45) | Approximately 10.000 + visits | 8,4 / 10 | - | 3% |
| Year of Events and Community Bonus | Year-long programme | Local public (unknown) | 175.000 – 225.000 visits, based on 87 reported events | | | |
| The New European Bauhaus Leiden | Five meetings and programming | Local public (unknown) | 100 participants | | | |
| Leiden museums 14 museums (including several science and crafts museums) | Extra attention for science in programming Full year | General public (unknown) | 1,3 million visits; more than 400.000 above expectation for Leiden museums based on the national trend museum visits. | | | |

C. Leiden2022 founding partner goals: progress indicators

Source: Source: Project: 101052247 — Leiden2022-ECS-ESOF — HORIZON-WIDERA-2021-ESOF-IBA

| <i>Goals</i> | <i>Progress</i> | <i>Learnings that support progress indication; some apply to more than one criterion.</i> |
|---|-----------------|---|
| 1 Allow citizens of Leiden and surrounding municipalities to experience the benefits of science, art, and knowledge as a frontrunner and European example. | | Leiden2022 made a huge effort to engage with the non-scientific community. Three of the major event components were intended for citizens of Leiden and the surrounding area and designed to make programming accessible for this audience. |
| 2 Showing the “richness” and diversity of the European scientific community. | | Participating scientists appeared to be a diverse European group, and there was a rich program of diverse topics at ESOF. More information needed to make an assessment. |
| 3 Creating long term sustainable local, regional, national, European, and international collaborations. | | Individual scientists made connections outside of their own disciplines and countries and local institutions built partnerships for Leiden2022. More information needed to make an assessment of progress about “long-term, sustainable” progress toward collaboration. |
| 4 Profiling Leiden as an international city of knowledge as a whole and promoting her individual scientific institutions separately on a regional, national, and international level. | | The desired image of Leiden resonated as a City of Science. More data is needed to understand the effects on her individual scientific institutions. |
| 5 Fostering new talent and increasing the appeal of Leiden for students and researchers. | | ESOF professionals and researchers (44%) and younger researchers (EU TalentOn 47%, EUCYS 33%) found Leiden very attractive (9 or 10 out of 10) for future scientific work or study. |
| 6 Leiden2022 will be organized in line with the Sustainable Development Goals and is determined to set an example for how such an event can be organized in a sustainable manner. | | SDGs were thoughtfully considered in planning and execution of Leiden2022, and the audience recognized and appreciated a good deal off these efforts. Whether the results are a true example of how to organize a ECS “in a sustainable manner” is unclear. |
| 7 Promoting an inclusive platform: science for and by everyone. | | The public that participated in Leiden2022 events was representative of the general public. The subjects of the public programme were deliberately made very accessible and understandable; and were organized in the neighbourhoods (close to the visitors). |

D. Evaluation criteria: progress indicators

Source: Strategische doelstellingen Leiden 2022, III Evaluatiecriteria. This table references the evaluation criteria to which an answer could be formulated within the scope of this analysis.

| <i>Evaluation criteria</i> | <i>Learnings that support progress indication</i> |
|--|--|
| 1b In the programming, special attention has been paid to reaching groups in the city that are not normally present at science events. | Leiden2022 organized scientific events (Knowledge throughout the Neighbourhood and Year of Events) every day of the year to engage with the citizens of Leiden, brought the activities to the neighborhoods, and allowed for co-creation with citizens and a wide variety of local institutions. |
| 2b More than 500.000 visitors took part in the Leiden2022 activities. | It is estimated that between 400.000 and 500.000 <u>visits</u> were made to Leiden2022 activities. The assumption is that many of these were from repeat visitors, meaning the total number of unique visitors would be a significantly smaller number. |
| 4a In 2022, at least 8 conferences, 365 days of activities and 200 (scientific) lectures have taken place. | Leiden hosted 85 conferences in 2022, 56 of which were linked to Leiden2022. There was (at least) one activity each day in 2022; though there is no data about the number of lectures one can assume, including ESOF and other programming, the goal was reached. |
| 5b The activities for which Leiden2022 is responsible are carried out properly, efficiently, and professionally. | It is difficult to say whether this is true, across so many stakeholders and audiences. One indicator may be the satisfaction ratings and Net Promoter Scores for the three scientific components; positive results would align with proper, efficient, and professional organisation. More information is needed from stakeholders and internal teams for a thorough assessment. |
| 6a1 The University of Applied Sciences Leiden is being noticed more. | 23% of the public programme visitors noticed University of Applied Sciences Leiden. More information is needed to understand how to assess progress toward this goal. |
| 6a5 The connection with Leiden (municipality, organizations, and residents) has been strengthened. | 74% of the organizations involved in Leiden2022 indicated that they felt more connected to Leiden as city of science. The vast majority created new partnerships as part of their participation, and indicated an interest to build on/continue with these efforts. |
| 6d3 Leiden2022 strengthens existing partnerships and initiates new collaborations. | See 6a5 |
| 6d4 Leiden2022 reaches broad and diverse new target groups. | Audiences for Leiden2022's broad and accessible public programme appeared to be representative of the Leiden community, and 20% of the visitors of Knowledge throughout the Neighbourhood visited a scientific activity for the first time in five years. In addition, EU TalentOn reached a new group of younger science professionals. |
| 6d5 Leiden2022 has a legacy: in the minds of Dutch people and Europeans, Leiden is an international knowledge city. | A vast majority of Leiden2022 visitors (87%) perceived Leiden as a city that connects science, knowledge, art and skill. 73% of the participating organizations feel more connected to Leiden as a city of knowledge. Scientific professionals found Leiden very attractive for future scientific work or study. More information is needed to understand international perceptions. |

E. Awareness and promotion

Content provided by Leiden&Partners

The organization behind Leiden2022 used social media and traditional media (radio, television, and newspapers) to increase awareness for the European City of Science festival.

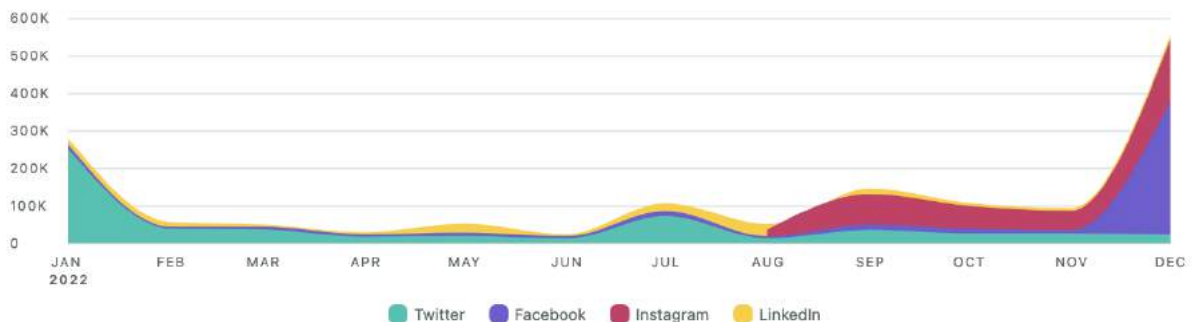
Leiden2022 used four social media platforms (Twitter, Facebook, Instagram, and LinkedIn) with a total of 5.382 followers for all platforms in 2022. More content has been shared by Leiden2022 since August 2022, which had a clear effect on the growth in views, followers, and engagement (especially around events) on the four social media platforms.

In total there were 1.541.480 social media impressions of the Leiden2022 content. Most of these came from Twitter (565.369) and Facebook (454.500), followed by LinkedIn (145.895).

Impressions

Review how your content was seen across networks during the reporting period.

Impressions, by Month



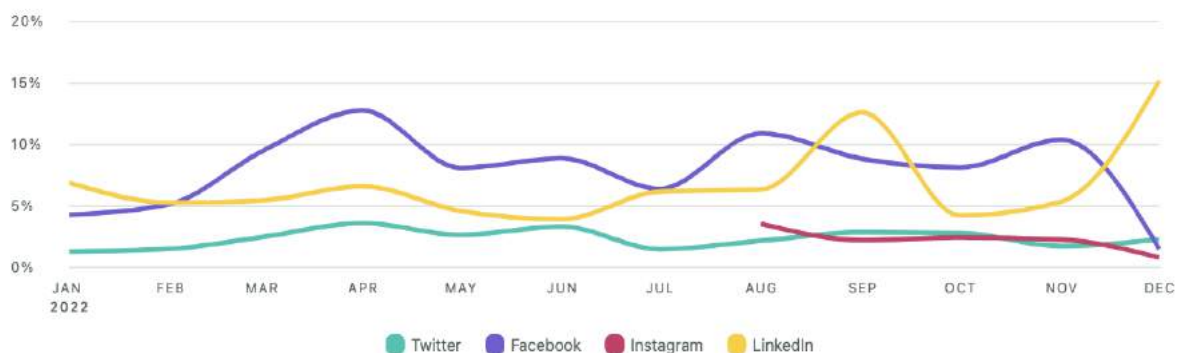
Although LinkedIn had the least impressions of the four social media platforms, it has the highest engagement rate of 7%, versus an average engagement rate of 2,8%. This means that if a post on LinkedIn was viewed 1000 times, 70 of those views included some kind of engagement with the content.

On the contrary, Instagram scores low regarding the engagement rate (2,7%). The difference in engagement rate is likely due to the type of content being shared and the type of platform it is being shared on. LinkedIn is a platform for professionals, which is an important target group for Leiden2022 content.

Engagement Rate

See how engaged people are with your posts during the reporting period.

Engagement Rate (per Impression), by Month



In addition to the content on social media platforms, Leiden2022 also been advertised on Dutch radio. Radio advertisement are used as the main traditional media outlet. The number of Leiden2022 radio advertisements increased since September 2022, which is in line with the increase in social media content around the same period. In September 2022 there were 370 spots, in contrast with the 151 spots in July 2022. Due to the doubling of the number of spots, the range has increased considerably between July and September. In September 2022, approximately 35% of radio listeners had heard the Leiden2022 advertisement at least once. In July 2022 this was 26%.

Sharing more content with more regularity has led to an upward trend across all channels. Towards the end of the year there was more interaction between partners, other parties, participants, and us. This ultimately resulted in more awareness for Leiden2022.

What do we know about the uptick in Leiden / founding partners awareness (not Leiden2022) before, during, after Leiden2022?



What strategies performed better for pan-European, scientific audience awareness vs. driving awareness in local, public audience?

Colophon

This report and the underlying research was conducted by Cigarbox, an independent research and advisory agency specialising in societal impact.

Cigarbox helps public organizations, foundations and businesses optimize investment for social and environmental impact as well as financial results. The advisory agency, located in Rotterdam, the Netherlands, provides program and portfolio managers with the framework and tools necessary to make investment choices with logic, transparency and consistency. www.cigarbox.nl

Rotterdam, March 24, 2023

Client: Leiden2022

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Appendix 7 – New European Bauhaus participant factsheet – Cigar Box

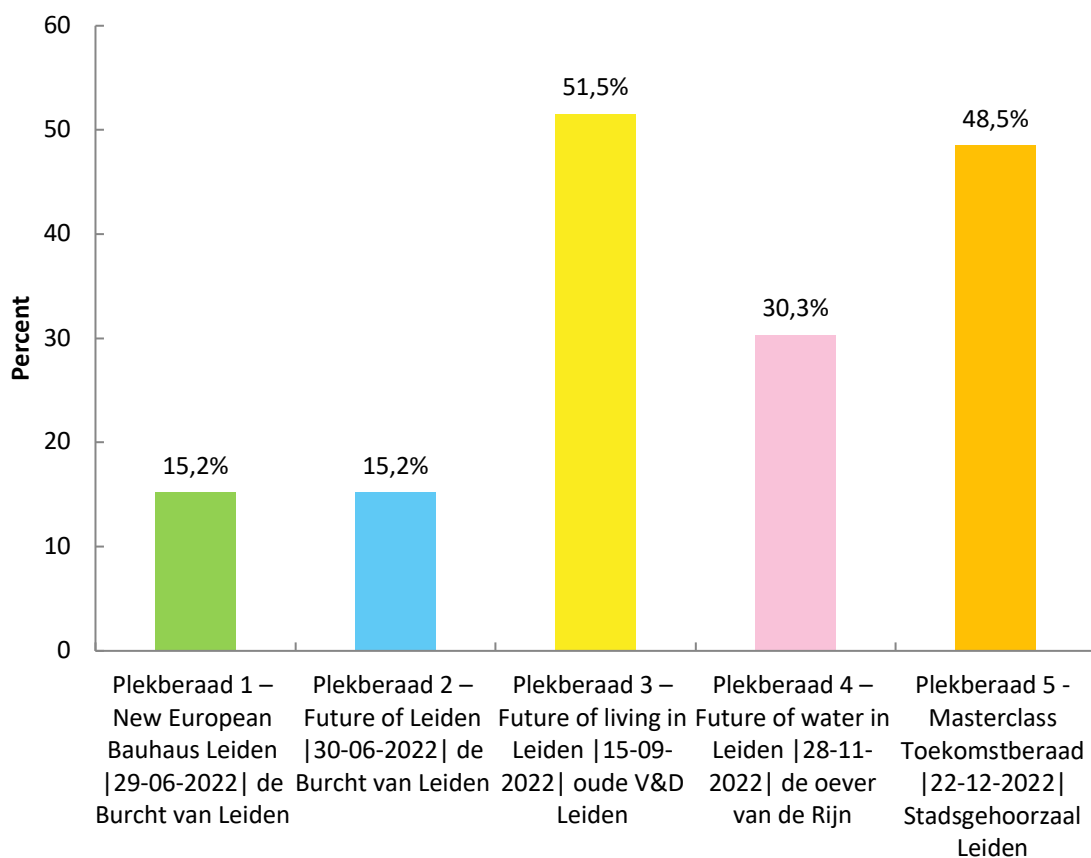
Report for New European Bauhaus

New European Bauhaus

March 16, 2023



1. Which Plekberaad (or Plekberaden) did you visit? (multiple answers possible)



2. Overall, how satisfied are you with the Plekberaad?

| | 5 | 6 | 7 | 8 | 9 | Responses | Average |
|--------------|------|------|-------|-------|-------|-----------|---------|
| | % | % | % | % | % | Count | |
| Report grade | 3.4% | 3.4% | 17.2% | 55.2% | 20.7% | 29 | 7.9 |

3.Can you explain this figure?

| ResponseID | Response |
|------------|---|
| 5 | First experience with this and was very positive |
| 6 | It was fun and I met a lot of different people |
| 8 | It is necessary and important to exchange ideas with people from different backgrounds about themes that affect us all. Not a 9 or 10, because it could be a little more accessible, I think. Terms such as 'New European Bauhaus' and 'Plekberaad' may not necessarily be immediately understandable to everyone or in such a way that they feel involved. Inclusion – a broader target group approach – is another point. |
| 12 | Good concept. Room for improvement. More than enough so far |
| 13 | Nice to look for shape for the Plekberaden. Tip: maybe work a little more strongly from a format. I am also curious about the lessons learned from the 5 interventions and what we can learn from them in terms of 'formula'. Eg use methods (what works/doesn't work). Involving people (how do you do that effectively but also 'weighted'? E.g. what do you do with the follow-up/results? etc. |
| 15 | Excellent preparation. Appropriate location and interesting participants, good conversations. |
| 16 | Very nice, bringing so many different people into contact with each other. Nice model. But remained a bit vague... what do we do with it... how do we give it a greater impact / effect |
| 21 | The Plekberaad ensures that you reflect on important topics. I found it very valuable to also speak to people who knew more about this subject. There were also always 'normal' citizens present, which ensured that the subject could be viewed from different angles. |
| 24 | It was educational. |
| 25 | Effective and very much needed to move forward together. |
| 26 | Many young energetic people and ideas |
| 27 | Participated in 1. That was exciting. Wasn't aware of the sequel. I regretted that. By being a co-moderator, I had the idea that I would be informed about next times. There was a suggestion that I would be asked more often. |

| | |
|----|---|
| 28 | The more people can really discuss the theme substantively and can empathize with it, the more can be gained from it. This can therefore also differ per Plekberaad in terms of age and depending on the depth of the subject |
| 29 | I expected a bit more interaction and working with methods and less discussion (which I found very nice and interesting by the way) |
| 30 | You feel energy and new ideas arise. A nice way to take a step back and create a new perspective |
| 33 | Inspiring, substantive and well organized but I've only experienced one and no idea how it works |
| 34 | I thought it was an interesting way to get to know the concept and create awareness among people that it is important to involve the "non-speakers", but in terms of content we didn't really discuss much. Felt it lacked depth. But I'm not from Leiden, so I couldn't have discussed or followed many local things anyway. |
| 35 | Pleasant, casual atmosphere. Professionally set up |
| 36 | Super cool, cool setup, cool participants |
| 40 | Super nice and complete day. Only nothing Seen from the follow-up... |
| 42 | Interesting lectures and conversations |

4. Why did you visit this Plekberaad?

| ResponseID | Response |
|------------|--|
| 5 | Was asked by a teacher at my school and by an acquaintance of mine. |
| 6 | A teacher thought this was really something for me and I was interested |
| 8 | Because water/environment interests me and I am engaged in it in thinking and making art. |
| 9 | As a moderator |
| 10 | Invited |
| 12 | Nice to be challenged to think and work with people who think differently |
| 13 | To learn from! |
| 15 | Interest in water and the future. |
| 16 | Curiosity |
| 21 | I was invited by Roosmarijn! |
| 22 | I am interested in the method of sticking together, and the theme of water really appealed to me. |
| 24 | warm contact is the key to success. meet different people. |
| 25 | Because I co-initiate and organize this |
| 26 | Invited, and brought 3 high school students |
| 27 | Requested by a shortage of moderators. But had also seen it come by and was curious |
| 28 | Because it had interesting angles that made me think differently about things myself |
| 29 | Due to a project at work |
| 30 | Invited :). And because it gives energy! |
| 31 | The subject is related to my work |
| 32 | Because of the interface with my own ambitions and activities. This was an opportunity to learn and expand your network. |

| | |
|----|---|
| 33 | In combination with festival and lecture |
| 34 | Because I'm interested in and engaged in citizen deliberations, and wanted to see how the two could complement each other. |
| 35 | To make contact with other ministers of the Ministry of the Future, and to see if a Plekberaad can be organized in the eco-cathedral of Heerenveen. |
| 36 | By invitation, out of interest, for inspiration |
| 39 | Because I thought it was a nice new challenge to attend such an event and to be able to share visions with each other. |
| 40 | As a facilitator |
| 41 | After an invitation |
| 42 | Because of the place, Loorbach and the link to Ministry of the future |

5. How satisfied are you with the following aspects of the Plekberaad?

| | 6 | | 7 | | 8 | | 9 | | 10 | | Resp ponses | Aver age |
|--------------------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|----------------|-------------|
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count | |
| The quality of the program | 1 | 3.6% | 6 | 21.4% | 14 | 50.0% | 6 | 21.4% | 1 | 3.6% | 28 | 8 |
| The atmosphere of the activity | 1 | 3.6% | 1 | 3.6% | 12 | 42.9% | 13 | 46.4% | 1 | 3.6% | 28 | 8.4 |

6. How did you experience the diversity of the audience at the Plekberaad?

| | Not diverse at all | Not diverse | Neutral | Divers | Very diverse |
|-----------|--------------------|-------------|---------|--------|--------------|
| | % | % | % | % | % |
| Diversity | 0% | 10.7% | 21.4% | 53.6% | 14.3% |

7.Can you explain this?

| ResponseID | Response |
|------------|--|
| 6 | There were people from many different backgrounds, but they all had the same opinion |
| 9 | Participants came from all 'corners' of Leiden. Not just the well-known 'incrowd'. |
| 12 | Many people with progressive and open mind. Conservative values can be represented a bit more. Many people think the same, so many people quickly agree with each other. |
| 13 | The group was less diverse in both Plekberaad 1 and Plekberaad 5. The Plekberaad in V&D seemed to me to be a broad reflection. But I can't quite judge that |
| 15 | Diverse but could be better. |
| 16 | Different types, young and old, man woman etc |
| 22 | They seemed to me to be mainly professionally interested people just like me. This may also be due to time and time investment (during the day on a working day). |
| 24 | people of different culture, norm, origin, were present. young and old, |
| 25 | Various backgrounds and ages |
| 27 | It was invited |
| 28 | Some Plekberaden (think about water) did have a diversity of people, but in terms of people, it was not always the right vibe to find the right depth |
| 30 | Many different backgrounds in terms of work and study. However, everyone is HOHI highly educated and has a high income |
| 33 | Nice mix of people |
| 36 | Spoke to many people and expanded my network from my bubble |

8.By participating in this Plekberaad...

| | Totally dis-agree | | Dis-agree | | Neutral | | Agree | | Totally agree | | Respon- ses |
|--|-------------------|-------|-----------|-------|---------|--------|-------|--------|---------------|--------|----------------|
| | Count | % | Coun t | % | Count | % | Count | % | Count | % | |
| I have met new people. | 1 | 3.6 % | 1 | 3.6 % | 4 | 14.3 % | 16 | 57.1 % | 6 | 21.4 % | 28 |
| I feel more connected to future generations. | 1 | 3.6 % | 1 | 3.6 % | 8 | 28.6 % | 13 | 46.4 % | 5 | 17.9 % | 28 |
| I am more concerned with future generations. | 1 | 3.6 % | 1 | 3.6 % | 3 | 10.7 % | 17 | 60.7 % | 6 | 21.4 % | 28 |
| I am more concerned with the future and the long term. | 1 | 3.6 % | 1 | 3.6 % | 7 | 25.0 % | 13 | 46.4 % | 6 | 21.4 % | 28 |

9.By participating in this Plekberaad...

| | Totally dis-agree | | Dis-agree | | Neutral | | Agree | | Totally agree | | Responses |
|---|-------------------|---|-----------|-------|---------|--------|-------|--------|---------------|--------|-----------|
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count |
| I want to participate more often in activities of New European Bauhaus or the Ministry of the Future. | 0 | % | 1 | 3.6 % | 0 | % | 19 | 67.9 % | 8 | 28.6 % | 28 |
| I would like to help with similar activities of New European Bauhaus or the Ministry of the Future. | 0 | % | 1 | 3.6 % | 10 | 35.7 % | 13 | 46.4 % | 4 | 14.3 % | 28 |

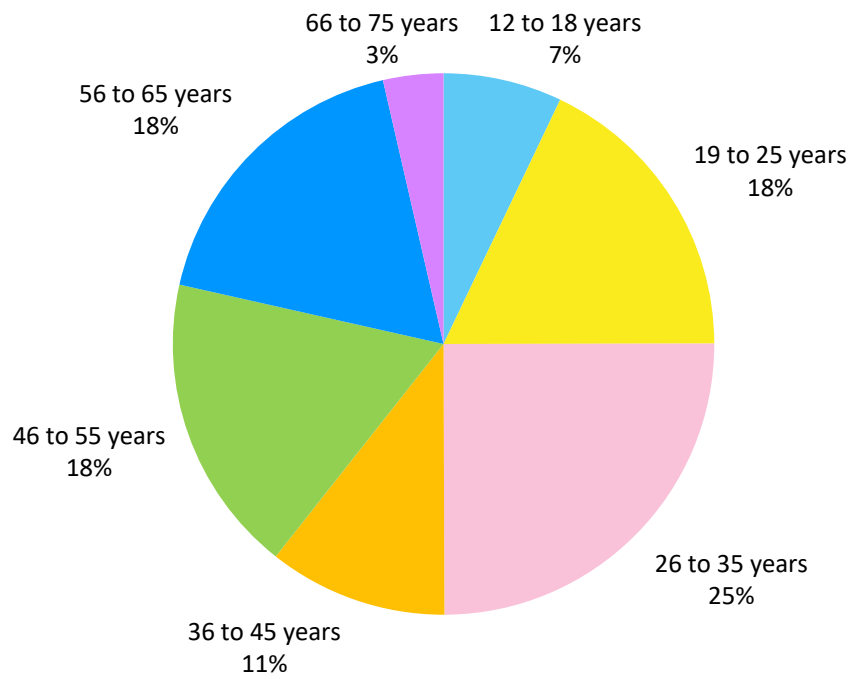
10.By participating in this Plekberaad...

| | Totally dis-agree | | Dis-agree | | Neutral | | Agree | | Totally agree | | Resp- onses |
|------------------------------------|-------------------|-------|-----------|--------|---------|--------|-------|--------|---------------|-------|----------------|
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count |
| I feel more at home in my place. | 2 | 7.1 % | 6 | 21.4 % | 13 | 46.4 % | 5 | 17.9 % | 2 | 7.1 % | 28 |
| I feel more connected to my place. | 2 | 7.1 % | 4 | 14.3 % | 12 | 42.9 % | 8 | 28.6 % | 2 | 7.1 % | 28 |

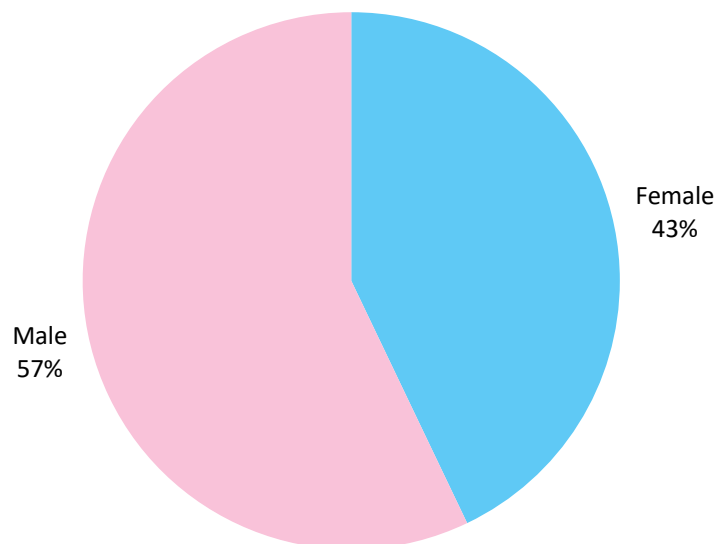
11. My place is...

| ResponseID | Response |
|------------|---|
| 6 | At my friends |
| 8 | ...just happens to be Leiden, that little town that bravely resists the water of the river on one side and that of the sea on the other. A city like that, which any city on the water can be, a place, vulnerable, threatened by our own actions and (above all!) not doing. |
| 9 | 'At home' |
| 12 | Never the same. |
| 13 | I was involved as a visitor to Leiden. So the connection with the place is then small. A nice introduction to the place! |
| 15 | Leiden and surroundings. Coastal area. |
| 16 | Home is where the heart is, family |
| 21 | Leiden (not sure what is meant by 'place') |
| 25 | At home! |
| 26 | Leiden |
| 27 | Leiden |
| 28 | Leiden |
| 30 | Leiden? |
| 33 | Where I am (Rotterdam) |
| 34 | Utrecht, so a deliberation about Leiden was less interesting for me, but if I expand my place to the earth in general, then the deliberation has planted a few seeds (certainly because of the music!), but generally no major changes caused in my engagement. |
| 35 | The Le Roy garden, an eco-cathedral in Heerenveen-Midden |
| 36 | At home |
| 40 | Eindhoven |
| 42 | Assen. But I studied in Leiden and lived there at the time. |

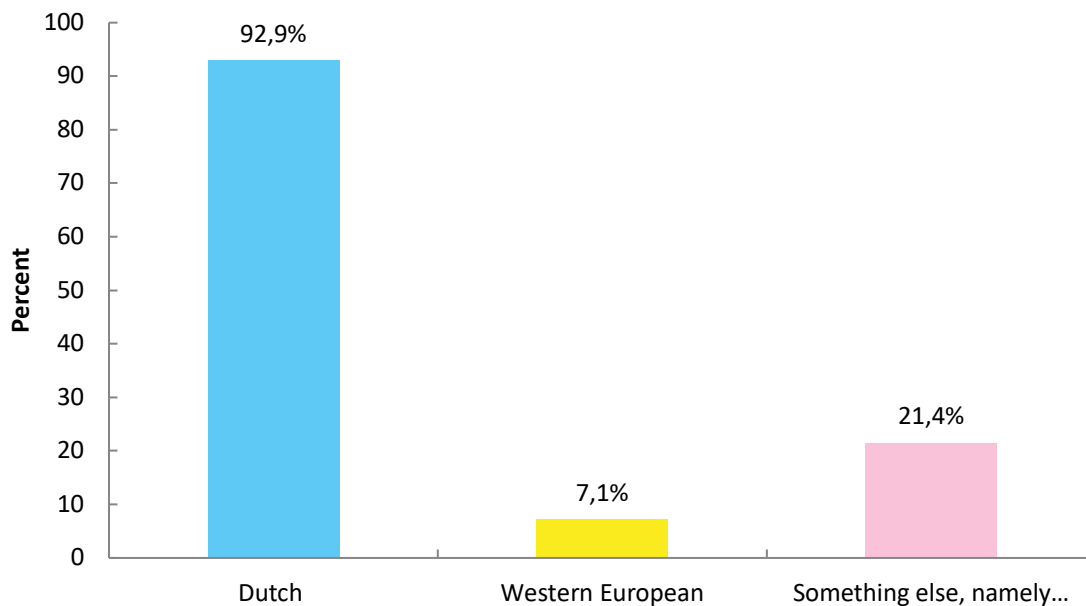
12. How old are you?



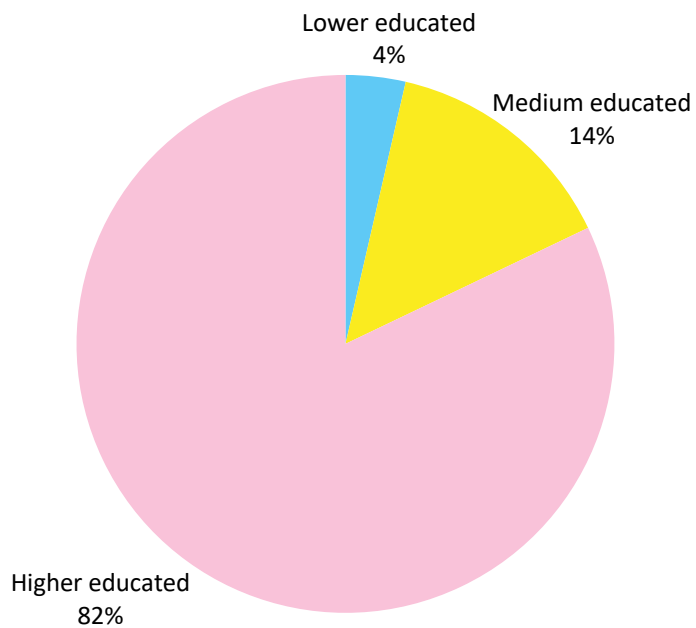
13. Are you...



14. Which cultural background(s) do you most identify with? (multiple answers possible)



15. What is your most recently completed education?



16. We have done our best to have many different people participate in our activities.

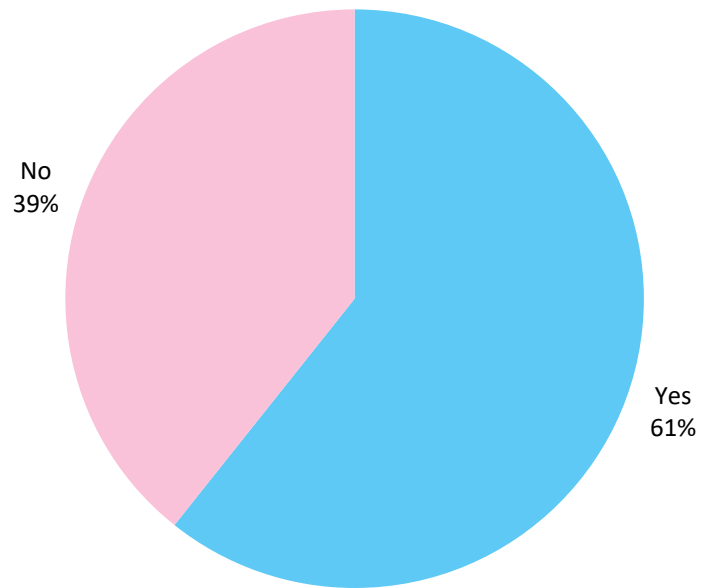
| ResponseID | Response |
|------------|---|
| 6 | I found it fun and useful |
| 12 | I'm good at playing devil's advocate |
| 24 | I work as a volunteer at VluchtelingenWerk Leiden and the surrounding area (Interpreter and Trainer Participation) for Eritrean newcomers. There is also a Book written about my story entitled TADESE. |
| 27 | Because they are so diverse, the specific also important sound filters out in the chosen working methods. They are only heard briefly in that small group. |
| 33 | Not really, I'm a seven checker so bad for the diversity score |

17. What do you remember most about the activity?

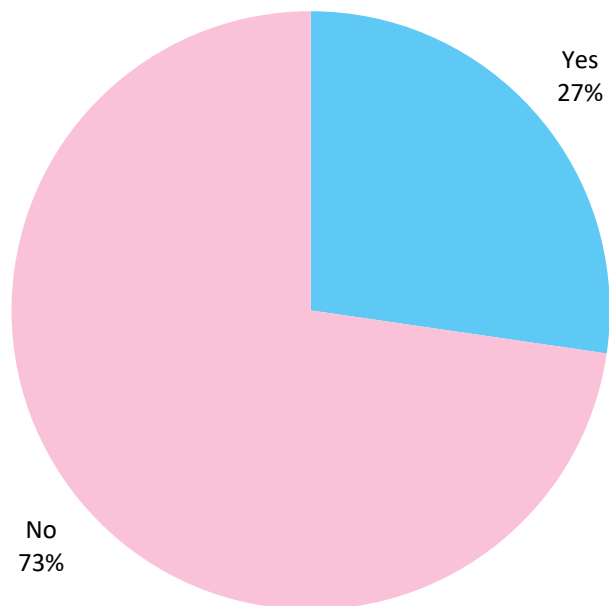
| ResponseID | Response |
|------------|--|
| 6 | The presentation |
| 8 | The special place and fine organization. |
| 9 | Positivity |
| 12 | Network Potential |
| 13 | Conversation, broad connection with the future. Inspiring people |
| 15 | Different interpretation of theme. Aaf Verkade.. |
| 16 | Conversations with people you don't normally talk to |
| 21 | That it is very valuable to get together with different people and to talk to each other as equal people and not as 'function' or 'higher/lower' |
| 22 | the boat trip |
| 24 | that I meet important people. |
| 25 | Collaborate / continue together in long-term action |
| 26 | Many committed young people with dreams |
| 27 | Too much to describe here |
| 28 | The first session at the castle where we really started to think from very big to small |
| 30 | new contacts! |
| 31 | The atmosphere and the music. |
| 32 | The propositions in which we had to choose sides sometimes turned out to be surprising and it was interesting to get different perspectives on this, even though we all stand there with the same wish - to do good for future generations. How to do that has many possible yet debatable routes. |
| 33 | Nienke Laverman and my great-grandchild |
| 34 | The music! |
| 35 | The feeling that you can quickly connect and get inspired with like-minded people you haven't seen or spoken to before. |

| | |
|----|---|
| 36 | The beautiful sung songs, the togetherness, the band (loud!), the speakers, the exhibition with experiments, the table sessions where we shared with each other |
| 39 | The openness and diversity of ideas and the solidarity in this. |
| 42 | The conversation on stage |

18. Have you become Minister of the Future?



19. Do you want to become minister of the future?





Appendix 8 – European Science in the City Festival – Cigar Box

Factsheet

European Science in the City festival

Versie 24/11/2022 15:46

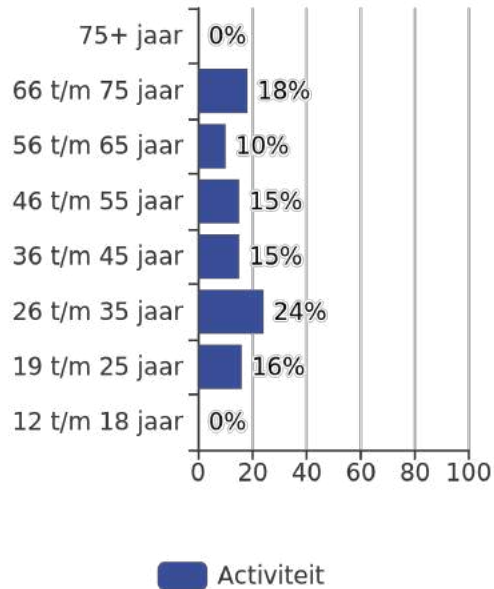
Evenementen benchmark n.v.t



1. Samenstelling deelnemers

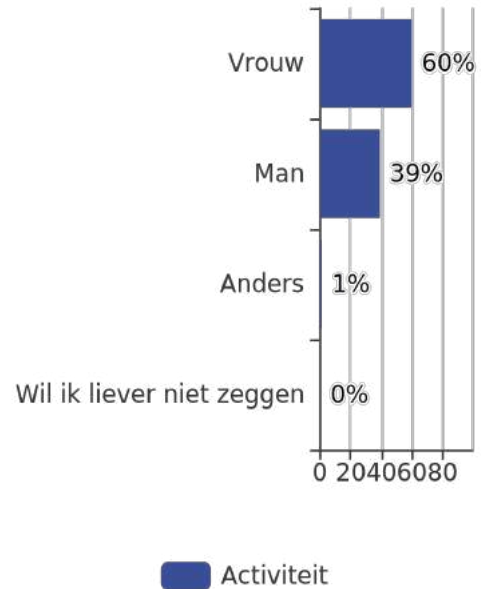
Leeftijd

Hoe oud ben je?



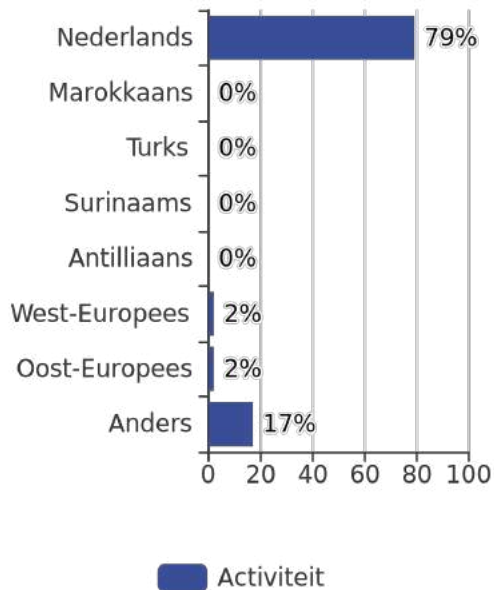
Geslacht

Ben je ...?



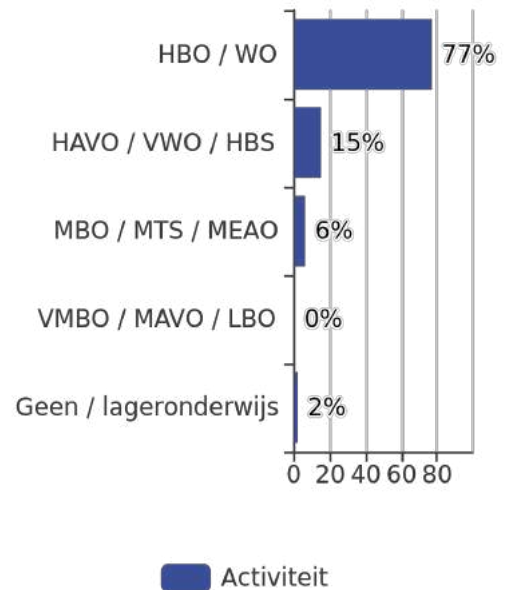
Culturele achtergrond

Met welke culturele achtergrond identificeert je je het meest?



Opleidingsniveau

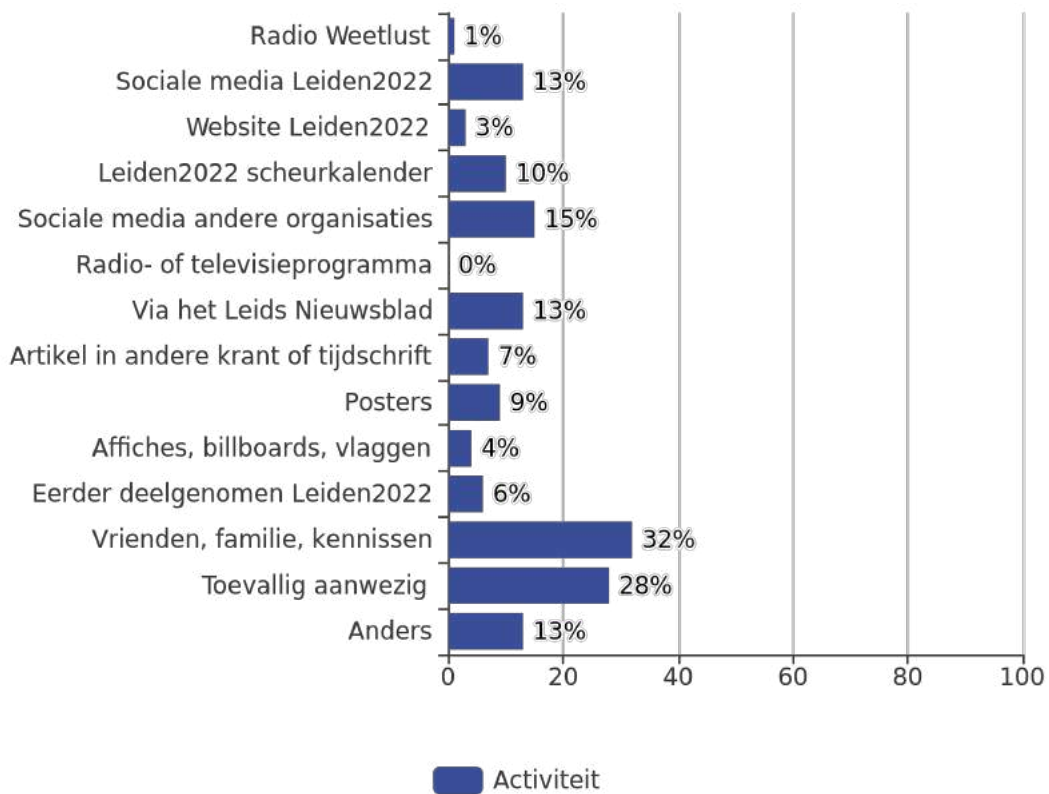
Wat is je laatst afgeronde opleiding?



2. Bekendheid en motivatie

Bekendheid

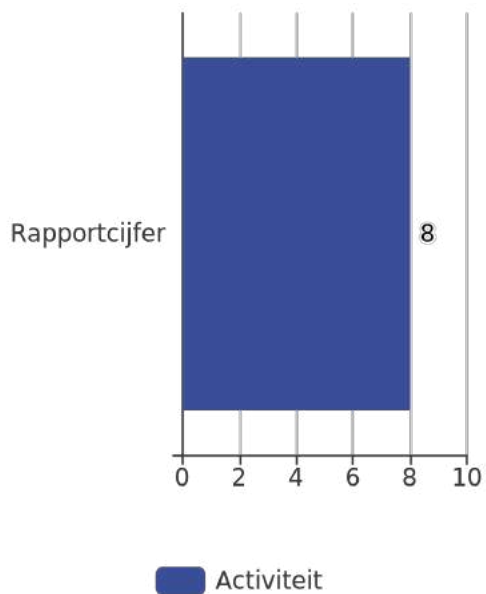
Hoe ben je bekend geraakt met de activiteit?



3. Waardering

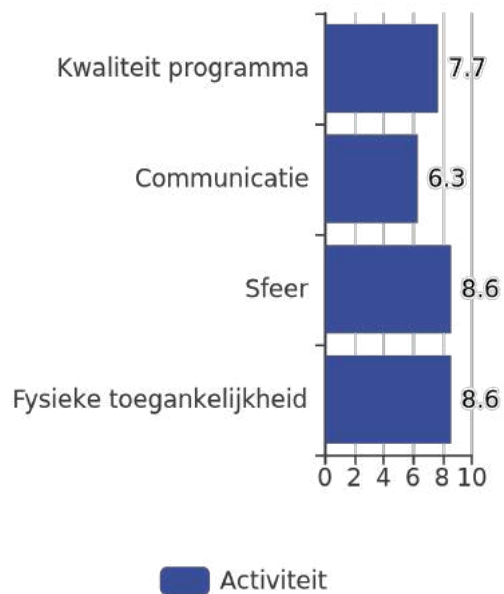
Algemene waardering

Hoe tevreden ben je over de activiteit in het algemeen?



Waardering aspecten

In welke mate ben je tevreden over de volgende aspecten?



Waardegedreven kennissprong

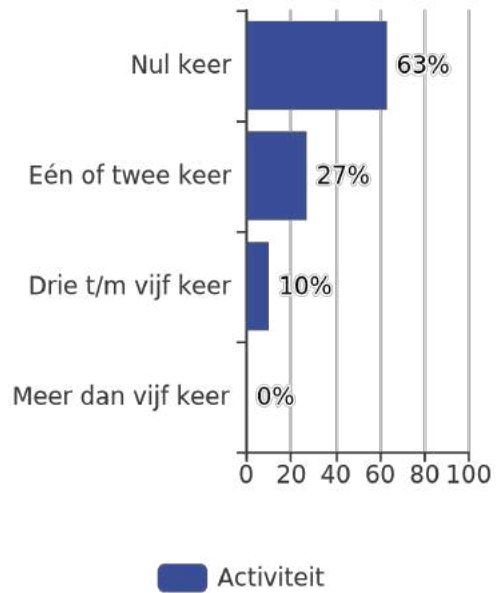
Ben je het eens met de volgende stellingen?



4. Europese Hoofdstad van de Wetenschap

Activiteiten European City of Science

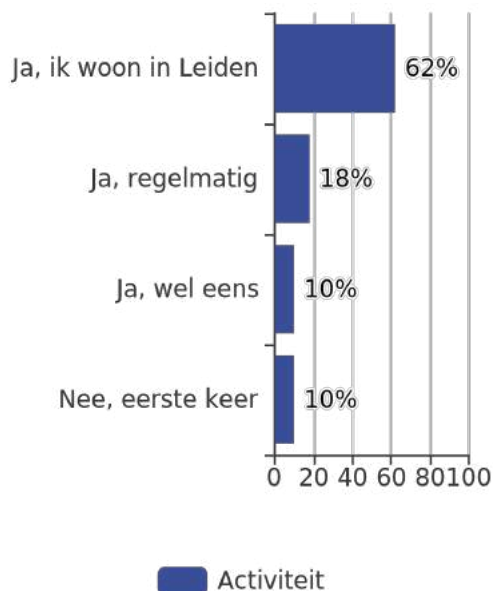
Hoe vaak heb je eerder een activiteit van Leiden European City of Science bezocht?



5. Aantrekkelijkheid en imago Leiden

Eerder in Leiden geweest?

Ben je wel eens eerder in Leiden geweest?



Imago Leiden

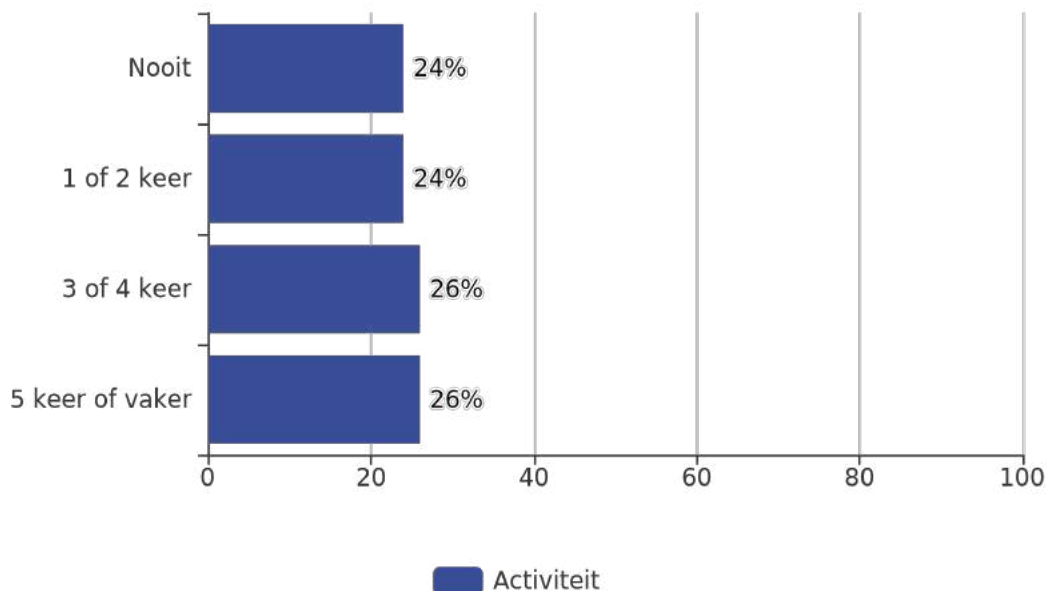
Met Leiden2022 laat Leiden zien dat het een stad is...



6. Verbinding wetenschap en samenleving

Wetenschappelijke participatie

Hoe vaak bezocht je in de afgelopen vijf jaar een wetenschappelijke activiteit?



Verbinding samenleving en wetenschap

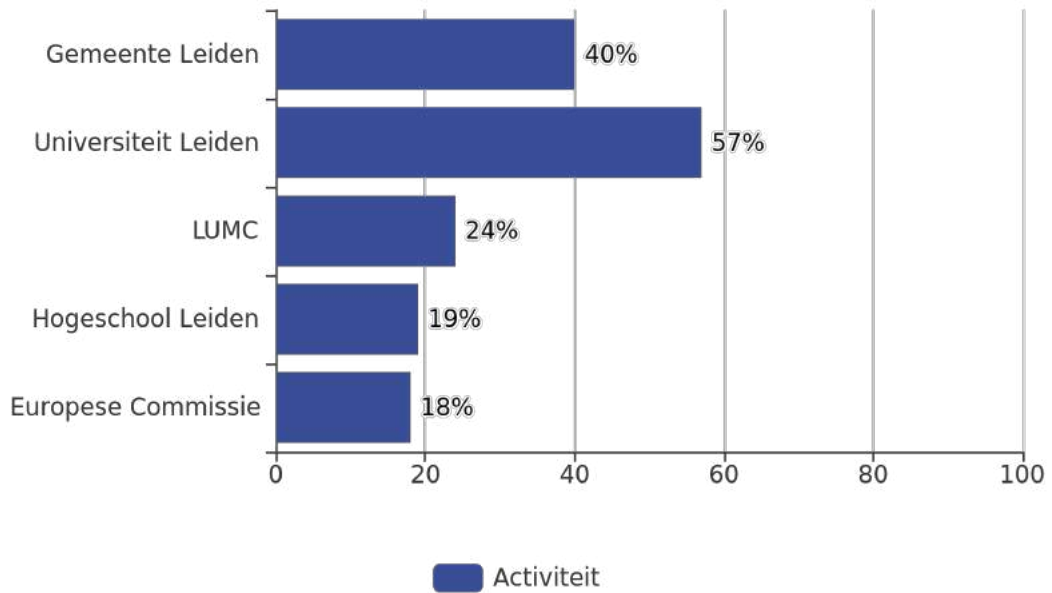
Door mijn deelname aan de activiteit...



7. Zichtbaarheid founding partners

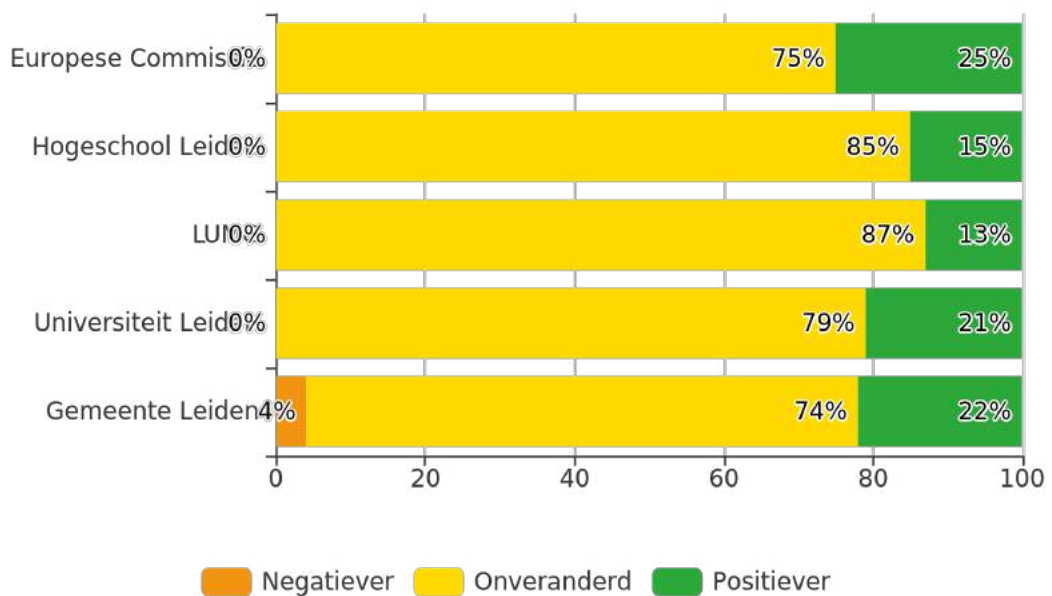
Zichtbaarheid founding partners

Welk van de onderstaande organisaties heb je opgemerkt als partner van Leiden 2022



Mening over partners

Is je mening over een van de partners veranderd?



Appendix 9 – Position Paper – Future Perspectives European City of Science



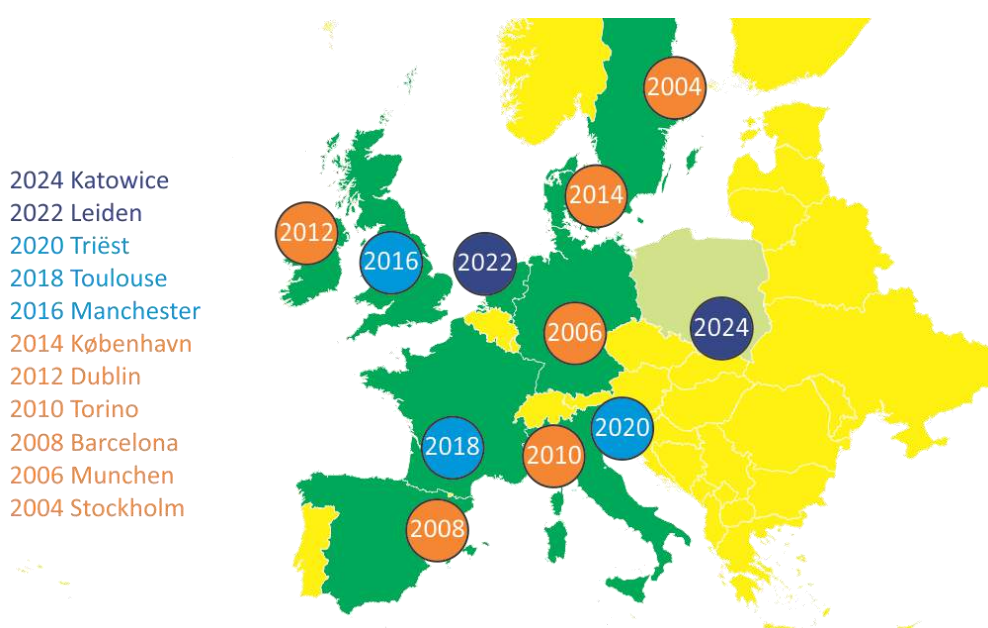
European City of Science Leiden2022

The Leiden2022-legacy: a new horizon for the European City of Science

*We could say mission accomplished: after a fabulous 365 days of successfully connecting science with society, the **first ever full-scale European City of Science** came to an end. But no. This is **just the beginning of a new era of European Cities of Sciences in Europe**. It's a momentum that calls for choices and continuity regarding this impactful title. Therefore, Leiden2022 brings its legacy to the table. We aim to translate lessons learned into potential, future oriented perspectives. Our dream is to create a legacy of multiple European Cities of Science, in order to share science with as many Europeans as possible.*

BACKGROUND: ORIGINS OF THE TITLE

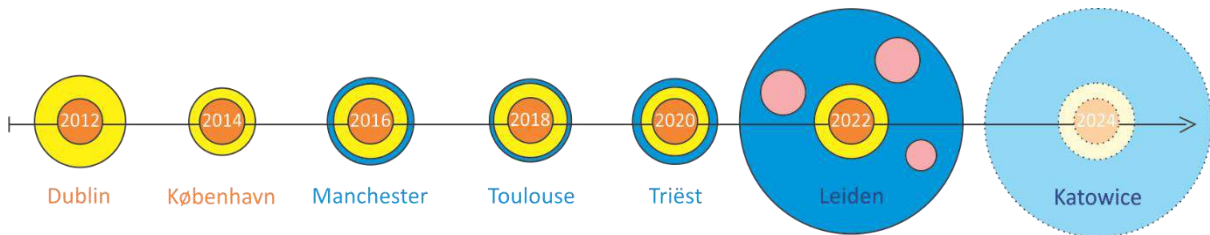
EuroScience Open Forum (ESOF) – the interdisciplinary Open Science flagship event of EuroScience – made its debut in 2004 in Stockholm. Since then, ESOF is hopping bi-annually across Europe, from city to city. The Dublin2012 edition experimented with a City of Science-festival combined with ESOF. In 2016, this led to the add-on ‘*European City of Science*’, as placeholder for public events during and surrounding the event. But only with the Leiden2022 edition the full potential of the title European City of Science was established, recognized and valorized by EuroScience and the European Commission.



ill. 1. ESOF-only (orange) and European City of Science/ESOF-combination (blue) distribution over the years.

FLIP IT: THE FIRST YEAR-LONG EUROPEAN CITY OF SCIENCE

At the occasion of the 10th edition of ESOF host city and organizer Leiden2022 took the liberty not only to innovate ESOF but to also drastically reinvent the conceptual framework of the European City of Science-title. Inspired by Europe’s Cultural Capitals, Leiden flipped the concept 180 degrees, thus repositioning European City of Science as Europe’s first 365 days science festival, aimed at connecting science with society. ESOF was subsequently integrated in the program as one of the major activities. As we have experienced in Leiden, this turned out to be a novelty with a huge potential. And we are thrilled, because the full-year ambition will be continued by Katowice (PL) as European City of Science in 2024. Meanwhile, other cities across Europe already have shown interest for the 2026 and 2028 editions.



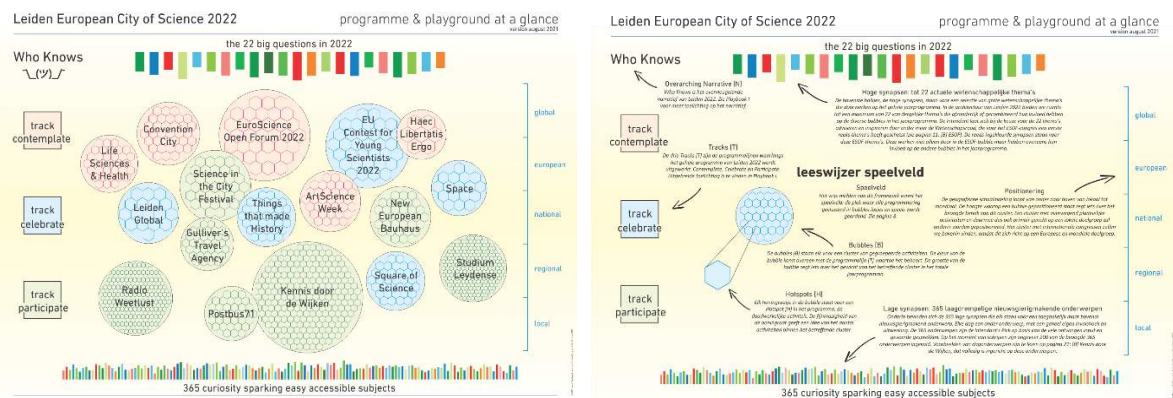
ill. 2. Evolution of the Science in the city festival (yellow) as public outreach project of ESOF (orange) since the Dublin edition in 2012. Manchester successfully pioneered by adding the title European City of Science (blue) in 2016. Leiden2022 developed a full-year program integrating key events (pink) such as a Life Sciences Week, The Space Week, The ArtScience Week and the European Year of Youth-cluster (Bright Young Minds) with EU TalentOn and EUCYS.

RATIONALE EUROPEAN CITY OF SCIENCE

EuroScience, as owner of the title, formulated the rationale regarding the European City of Science 2022 as follows: “The ECS label is intended to celebrate the richness and diversity of the European scientific landscape as well as to foster mutual learning, scientific integration, interest for science among the younger generations and development of a borderless European research community across the continent. In addition, the ECS label should enhance the European and international profile of the scientific community in a particular city of region, increase engagement of citizens with the scientific community locally, trigger public investment in regional scientific infrastructures and boost tourism.”

ARCHITECTURE: EXPANDING THE TITLE TOWARDS A YEAR-ROUND PROGRAM

When expanding the European City of Science to a 365 days festival aimed at connecting science with society, we developed a comprehensive architecture covering the whole concept. Thus, we created a blueprint for future editions.



ill. 3. Dedicated smart architecture for a year-round program as European City of Science (version August 2021). All dimensions and aspects assembled in a single sheet. For further details and implementation in Leiden2022: see [Playbook II](#).

IMPACT: GAINING ATTRACTIVENESS AND GROWTH

Positioning the European City of Science as a year-round program with a multitude of scales worked like a magnet: Leiden2022 attracted several additional high profile international, European and national events. Apart from major events owned by the European Commission, Leiden hosted a record-breaking number of scientific conventions and welcomed numerous delegates. Some highlights include:

- ▶ Leiden2022 hosted the 33rd edition of the *EU Contest for Young Scientists* (EUCYS), thus welcoming 134 international finalists who were selected from 65,000 young researchers aged 14-20 years, from all across Europe and its affiliated countries.
- ▶ Leiden2022 developed and hosted the very 1st edition of *EU TalentOn*, a brand-new mission-driven science-hackathon uniting 104 young researchers aged 21-35 years.
- ▶ The European Research Council (ERC) chose Leiden as setting for its *Public Engagement with Research Award*-ceremony, attributed to young scientists.
- ▶ The 23 associated universities of the *League of European Research Universities* (LERU) and its global affiliates celebrated their 20 year-anniversary in Leiden, the European City of Science 2022.
- ▶ The *Royal Netherlands Academy of Arts and Science* (KNAW) traded for once their Amsterdam base to award the prestigious Lorentz Medal in Leiden.

CO-CREATING: A NEW MODEL FOR PUBLIC ENGAGEMENT WITH SCIENCE

At the same time – and even more important to the Leiden organizers, EuroScience and the European Commission – we created a year-long local and regional level playing field for fostering sustainable interactions between scientists and citizens. Following our concept of ‘a theme a day’, 365 inspiring scientific topics-of-the-day were adopted bottom-up by hundreds of local initiators. This unique participatory project featured over 214 dedicated participatory activities, 365 radioshowes and a huge, unforeseen *Community Bonus*. Based on their experiences, the Leiden2022 team thus developed a new *Model for Public Engagement with Science*.

- ▶ Leiden2022 embraced the whole spectrum of human knowledge, including science, knowledge, expertise and know-how, arts, culture and crafts.
- ▶ The architecture of 365 topics-of-the-day led to 1000+ activities throughout the year.
- ▶ Some 214 co-created activities took place in the 101 neighborhoods of the Leiden urban region.
- ▶ Overall Leiden2022 attracted more than 500.000 participants.



ill. 4. On the left: Early start of the co-creating process with the Leiden community in 2019. Photo credit: Taco van der Eb (ECS Poortgebouw-session 18 november 2019). On the right: A non-stop flow of participatory meetings in front of the 365-days wall, jointly defining the overall content of the 365 days-calendar (2021).

ERA POLICY AGENDA ACTION 14: BRING SCIENCE CLOSER TO CITIZENS

The European Commission proclaimed Leiden European City of Science 2022 as a best practice for creating 'a generic model for fostering sustainable relationships between scientists and citizens'. Leiden European City of Science 2022 became part of the [European Research Area \(ERA\) Policy Agenda 2022-2024 as Action 14: Bring Science closer to Citizens](#). The ERA Policy Agenda was adopted by the Council of the EU on November 26, 2021.

FUTURE PERSPECTIVES OF THE EUROPEAN CITY OF SCIENCE (2023-2028)

As frontrunners of the successful repositioning of the European City of Science-title, Leiden2022 wishes to share its view on further developments. Below, we present five perspectives, which may serve as talking points for the involved parties.

1st PERSPECTIVE // PRIORITIZE EUROPEAN CITIES OF SCIENCE

- ▶ Always position ECS as leading in communication and programming;
- ▶ Always stick to the overall ECS-aim to connect science with society;
- ▶ Let ESOF be one of the major events integrated in the ECS;
- ▶ Strengthen ECS by awarding other EC-events to the same city (i.e. EUCYS, EU TalentOn).

The title European City of Science has matured and is ready for an autonomous future. Although the title was originally connected to ESOF, we would advise to continue prioritizing the ECS-title from now on. Consequently, ESOF could be awarded to the city that got the title. European City of Science could grow into a true scientific magnet, providing a year-long platform, attracting high profile European key-events, representing a range of different owners and stakeholders. Even more, ECS could grow into a key event where science and society meet, connected on local platforms, within European dimensions. It would also provide excellent opportunities to keep developing and testing new models and methods for Public Engagement with Science, thus enriching the HorizonEurope program.

2nd PERSPECTIVE // CONNECT EUROPEAN CITIES OF SCIENCE IN AN ALUMNI CLUB



ill. 5. Intensive exchanges between former and future host cities of the European City of Science. On the left: Vicky Rosin, Program Director Manchester2016 presents impact and legacy statistics during her visit to Leiden in 2017. On the right: one of the many exchanges between team Leiden2022 and team Trieste2020 during the years, here in Toulouse 2018.

- ▶ Stimulate a network (club/association) of former ECS-cities;
- ▶ Centralize the knowledge and experience from ECS-cities;
- ▶ Facilitate early interactions between former, future and potential ECS-cities;

► **Give the alumni-cities a voice in the development of ECS in the future.**

It's really important to invest in a network of former and future European Cities of Science. Leiden on its turn connected with former and upcoming hosts Manchester, Toulouse, Trieste and Katowice. This however, should be addressed and supported from a more centralized, trustworthy source. Knowledge and experiences concerning the European City of Science should be easily transferable from one edition to another (and beyond) and no longer get lost in discontinuity.

3rd PERSPECTIVE // BROADEN THE SCOPE: CONSIDER A DISTRIBUTED MODEL

One of the criteria for EuroScience in selecting ESOF host cities and European Cities of Science is spreading the editions over the years to all European areas (see image 1: illustrating the distribution so far). In the current model it is one city at a time that becomes European City of Science and hosts ESOF.

- **Consider a distributed ECS-model on a national level;**
- **Stimulate ECS bids from international combinations of cities sharing the ECS-title;**
- **... or focus on ESOF for the desired distributed model.**

National level

Originally Leiden and The Hague joined forces in the bid for ESOF2020. EuroScience was clear in the matter: only one city – a city with a university – could obtain the title. They chose Leiden, the initiator of the bid. We wonder, why not allowing distributed ECS-models on a national level? For example, an ECS candidate country in the southern part of Europe is interested to apply for the 2026 edition. A national distributed model (over 20 regions) will potentially be part of their bid.

International combination

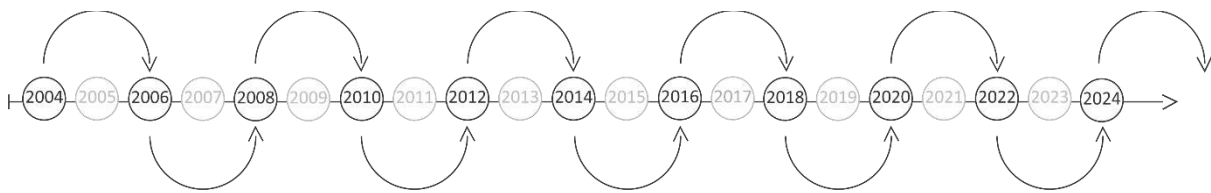
The idea of different cities in different countries acting together in one bid is perhaps a new feature of the European City of Science, but in our interconnected world, it is already quite common in other domains, such as big sport tournaments. An actual example is the 'Iberian Bid' in which (cities in) Spain, Portugal, Ukraine and Switzerland propose their ideas to host the World Cup in 2030. Something similar is already happening for decades with the European Capitals of Culture, with at least two cities sharing the title simultaneously. In casu: all cities partaking in the bid are entitled European City of Science in the same year.

- Once the earlier mentioned network of alumni is in place, it becomes easier to enhance European collaborations per edition. A form of involvement from former editions into the actual one could be an objective, in order to create a solid base for a distributed model.
- An ECS candidate city in the western part of Europe with ambitions for 2028 is analyzing the opportunity to work cross-border towards a bid.

ESOF as distributed model only

Last but not least, the title European City of Science could still be awarded to one city at the time, with the focus on a distributed ESOF-model. Leiden and EuroScience experimented in 2022 with the idea of a main host city (Leiden) with other cities taking part in ESOF as a hub. The uncertain conditions caused by the pandemic problematized the acquisition of hub cities. Therefore, the experiment was restricted to Katowice as ESOF-hub in 2022. It became a successful first edition and the formula is scalable in next editions.

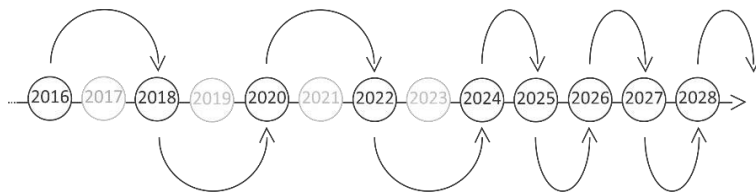
4th PERSPECTIVE // SECURE SUCCESS BEFORE CHANGING FREQUENCY



ill. 6: Traditional bi-annual rhythm of the European City of Science-title since the start in 2006.

- ▶ **Don't risk devaluation of the ECS-title (still in transition) by pumping up the frequency too soon;**
- ▶ **Let the current ECS-format first crystalize and develop further.**

Since its repositioning in 2022, the title European City of Science has already grown in popularity and attractiveness. As indicated, several European cities are contacting us, informing about future possibilities and expressing their interest. This could result in the idea of changing the frequency from bi-annual to yearly. But please mind your step, for it is an idea to handle with care. We strongly advise to stick to the bi-annual rhythm, until the new ECS-formula is well established, sustained by clear guidelines and by an organizational structure that is able to make it possible. Once that is the case, a shift towards a yearly rhythm could certainly be considered.



ill. 7: Shift towards a yearly European City of Science?

5th PERSPECTIVE // CREATE A TRANSPARANT APPLICATION PROCESS

- ▶ **For the continuity of ECS a transparent application process on a European scale is needed;**
- ▶ **The application process should start 3-4 years in advance, while securing prompt awarding;**
- ▶ **ECS should have grant-certitude for several editions ahead;**
- ▶ **Consider involving former ECS-cities in the application process;**
- ▶ **Stimulate interactions and hand-overs between future ECS-cities.**

In all scenarios a transparent application process on a European scale is needed. If EuroScience is going to take up this role, this would certainly require them to expand and professionalize further. We would advise to make sure cities can participate in European calls in an early stage (3-4 years ahead), while securing a prompt awarding of the title. Contractual arrangements should be standardized, and the EuroScience organization should be fully equipped to facilitate the process. It would be wise to provide ECS-grant certitude. During the application process, and once a city is chosen, direct and transparent communication between past, current and future ECS-cities should be stimulated.

For the application process, the procedure regarding the European Youth Capitals, as executed by the European Youth Forum, might offer a blueprint. Their vision, mission and strategy are crystal-clear, their network is well connected and in place, they can count on a structured organization and their application process is transparent and reliable.

FINAL WORDS

The success of Leiden2022 was only possible because of the continuous faith, trust and support of the European Commission. This made a real difference to us, as re-inventers and organizers of Leiden European City of Science.

Now, let's continue this success by creating a shared legacy.

On behalf of Leiden2022,

Lucien Geelhoed

Intendant Leiden European City of Science 2022 (2020-2023)

Chief Impact & Legacy Leiden European City of Science 2022 (2019-2020)

Member Steering Committee Leiden European City of Science 2022 (2018-2019)

Bid Leader ESOF Leiden 2020 (2016-2017)

Meta Knol

Director Foundation Leiden European City of Science 2022 (2020-2023)

www.modelleiden2022.nl

