Citizen science: In-depth and mind-broadening

Eva González Pérez Alumnus of the Year Exposed the childcare benefit scandal

 Aren’t you the scientist here?! Fleur Froeling asks citizens to get involved
As a philosopher I am used to the idea that I don’t understand reality. Being able to live comfortably with that realisation is perhaps the greatest gift that my studies in Utrecht have given me. And don’t be afraid to admit that you don’t fully understand all values and insights! As I learned from philosopher Richard Rorty, awareness of your own inadequate understanding can go hand in hand with a passionate commitment to certain beliefs.

A human being can do no more than live by beliefs. The everyday work of scientists is to make such beliefs logically coherent and systematically put them to the test. Generally speaking, alumni who work outside of academia will no longer be able to do this. And that is fine; each to their own. Because scientific precision is a great thing but, if we are to have a thriving and successful public domain, what is more important is that decision-makers and opinion-makers are imbued with a scientific mentality. That mentality lies in the realisation that you too may be wrong. Because you overlook something. Because you have no knowledge of certain realities. Because you simply make a mistake.

It is my fervent hope that alumni will carry that mentality with them throughout their lives, and communicate it to others. Because the openness that comes with that mentality is the greatest contribution that the university and its alumni can make to society.

Marjan Slob
Philosopher Laureate of the Netherlands
Marjan Slob is an alumnus of Utrecht University and an independent philosopher, speaker and essayist. Her theme is ‘Ruim denken’ [broad thinking]: making room for other perspectives from a place of acceptance.
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“I want to help children find their place in society”

Sisi Chen (24) is a primary school teacher and educational researcher. She won this year's Vliegenthart Thesis Award.
Every year the Betweter Festival brings a unique mix of talks, music, art, film, interactive installations and live scientific research to TivoliVredenburg. The festival is a great event for anyone who wants to know more about how the world works, likes to seek out new experiences and cultivate their sense of wonder. Researchers, artists and visitors engage with each other in a relaxed festival setting and ask the questions that matter, capture the spirit of our times, and dream about the world of tomorrow. This photo was taken during the sixth edition in 2022. Presenter Geert Maarse interviewed a large number of scientists in the Ronda room, accompanied by twenty highly talented musicians from The National Youth Jazz Orchestra. You can watch the aftermovie of the Betweterfestival 2023 at betweterfestival.nl.
Ralph Temmink wins Agnites Vrolik Prize

Ralph Temmink, from the Copernicus Institute, is researching the design of 3D-printed, biodegradable structures that mimic nature. The aim is to use them to restore nature on a large scale. Back in the summer, he was awarded the Agnites Vrolik Prize for his fundamental research. This prize was established through a legacy from alumna Cobi de Bree and is named after Agnites Vrolik (1810–1894), the inaugural chair of the Utrecht University Fund.

Frits van Oostrom: “It’s all about discovering beauty”

“I really believe that finding beauty in life is good for people’s well-being,” said expert in mediaeval Dutch literature Professor Frits van Oostrom in his farewell interview on the university’s website. After forty years of being a professor, he stepped down back in May. During his farewell ceremony he was appointed Knight of the Order of the Lion of the Netherlands. Among other things, he worked on the Canon of the Netherlands, received the AKO Prize for Literature and the Spinoza Prize and contributed to the TV programme and podcast *Het verhaal van Nederland*. His latest book is *De Reynaert — Leven met een middeleeuws meesterwerk*. The Dutch newspaper NRC gave the book four stars, calling it ‘a masterpiece of international importance’.

Read and join in the conversation around the vision of an open university

A plea for open science. That is what the book *De Universiteit in Transitie* [Universities in Transition] is. Written by Rector Magnificus Henk Kummeling, Vice Rector of Teaching & Learning Manon Kluijtmans and Vice–Rector of Research Frank Miedema, with input from students and staff. Universities have a key role to play in the current crises, from climate change to poverty and increasing numbers of refugees. But the organisation has become too introverted and needs to become more open. Henk Kummeling: “The book is an open invitation to everyone to join with us in working out how we can do this.” Manon Kluijtmans adds: “We would be extremely grateful, therefore, for any input you may have on this first version of the book, so we can gauge what people think of our vision.”

Read the book, react on the open platform and watch the video of the authors discussing the book.
Sharing Days

The Sharing Days occurred in June in Utrecht. This alumni event, characterized by its festival vibe, featured a packed program with almost 1,000 participants and over thirty activities spanning the realms of science, research, sports, and culture.

Spread over locations on the Science Park and in Utrecht’s vibrant city centre, around a thousand alumni attended the Sharing Days: which included everything from tours of the Botanic Gardens’ Evolution Garden and poetry routes through the city centre to the screening of a film in the open air. Participants attended talks and masterclasses, went paddleboarding on the Kromme Rijn and learned to climb walls under the supervision of instructors from Olympos.

The Alumni Office organizes this festival every year to show what Utrecht University has to offer and to inspire and meet our alumni.

Leave a legacy to science

Here at Utrecht University we are working hard to create a better world. Solving societal issues calls for research at the highest level, with a range of different disciplines working intensively together. This requires money.

What if you could help that research make progress? When they think of leaving a legacy, people don’t always think about their university. So, the Utrecht University Fund, together with other similar university funds, has launched a campaign.

Is education and research at Utrecht University close to your heart? And would you like to find out how your legacy could help create a better world? If so, we’d love to talk to you.

Call or email Robbert Jan Feunekes, 06 – 44 225 014, r.j.feunekes@uu.nl
Or request the brochure at: Nalatenaandewetenschap.nl
Good news for anyone who sometimes dreams of making an important discovery but who has not made a career as a researcher, inventor or explorer. The general public are increasingly being called upon to help with scientific research. Citizen scientists can play their part, not only as test subjects but also as treasure hunters, stargazers or AI trainers. We put three projects under the spotlight.
Martje Ebberink

All city dwellers ...

... aged eighteen or above with a smart phone can take part in a major study around the interplay between living environment and health. How healthy someone is depends on a combination of genetic factors and the ‘exposome’, the totality of external factors. The quality of the air that someone breathes plays a role, as do the number of positive social interactions or the noisiness of the environment. In order to identify all these factors, around a thousand urban residents are wearing a wristband day and night that captures the chemical substances to which they are exposed. Two sensors monitor the air that they breathe, both at home and when they are out and about, while a GPS tracker tracks where they are. Finally, the participants record how they are feeling, what they are doing and where they are doing it in an activities diary.

Saskia Stevens

Every resident of Heerlen ...

... was invited, at the beginning of this year, to take part in the archaeology project ‘Heel Heerlen Graaft!’ [Heerlen Digs]. And the invitation succeeded in its objective: during Open Monuments Day in September, people were digging all over Heerlen. In 25 locations throughout the city people searched for remains from the city’s Roman past, as part of the multiannual research project Constructing the Limes. The digging took place on public land and in the back gardens of twenty Heerlen residents. Each person excavated and combed through precisely one square metre, under the supervision of an archaeologist and students from the Archaeology degree programme of Saxion University of Applied Sciences. The excavations involved a wide range of stakeholders: residents, the local authority, the Thermenmuseum, the provincial archaeology museum De Vondst, the regional archaeology association and a number of different local schools. “Suddenly there are 150 people working on your project, that’s amazing!” says project leader Saskia Stevens. “Basically, 25 plots are being excavated on what is an amazingly interesting site. Heerlen was at the crossroads of two important through roads in the hinterland of the border of the Roman Empire, the Low-German Limes. There is a wealth of information in the ground. All pieces in the jigsaw puzzle of Roman history. Never before have we had so many ‘pits’ dug like this at the same time here. There is a strong possibility that this will help us find out more about the layout of the city, the types of buildings that stood here and what people ate. This is the first time that I’ve worked with such a large group of people in a public excavation but we will certainly be doing more of this in the future. Two years ago, I said that the intention was that everyone should be able to get involved. And that’s what’s happening!”

At the end of October, Saskia Stevens won the Open Science Recognition Award from CHARMEU for the Constructing the Limes project.
All this data together gives us a good idea of the living conditions in cities,” says Martje Ebberink, communications adviser for the project. “We already know from previous research that a green environment is good for people’s health. But how do all the factors together affect your health? Ultimately, this produces a map of the Netherlands that can help policymakers, architects and engineers design a healthy urban environment.”

The Exposome Panel Study is part of the European research project EXPANSE, which covers a period of ten years in total. As well as the Netherlands, environmental factors in Spain, Poland, Greece and Switzerland are also being comprehensively measured by urban residents.

“Participants have to do quite a lot for us,” adds Martje. “And it will be years before we get the results. So we’ll organise meetings for them so they can share their experiences and talk to the various experts. That way, they’ll get a bit of a look behind the scenes.”

Scientists then examine these images. Unfortunately, computers aren’t yet all that good at distinguishing between an actual event, such as a collision between two neutron stars, and optical illusion. That is where citizen scientists can help. Through the app, they can view the initial selection of potentially promising images and assess whether they indeed depict an interesting event. If multiple users regard the images as interesting, they are submitted to the astronomers involved. The app gives examples and explains what can be seen. So participants are ready to search and make new discoveries. Prior knowledge is not necessary; anyone who is curious and keen to learn more about space can take part in this research.

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Would you like to take part in this study or to find out more about it? If so, check out exposoompanel.nl

Stefan Vandoren

Every citizen of the world ...

... can help look for as yet unknown events in space, such as new black holes using the Black Hole Finder app. A black hole is an area from which nothing can escape, not even light. A hole like this occurs when a massive star explodes and it often ‘grows’ by absorbing material from the environment. Images are received continuously from telescopes that have been set up all over the world. From this constant flow, computer programmes make a selection of images that may show something interesting.

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The Black Hole Finder app is available free of charge for apple/android.

The great thing is that every user of the app helps science by making a good selection and, at the same time, trains the existing selection programmes. Data from the participants is used in turn for machine learning. That way, these systems get better and better at evaluating the images,” explains Stefan Vandoren. He is involved with the project through the Dutch Black Hole Consortium. “The more data, the better. The success of the initiative depends on the number of users. So we’re hoping for a large number of participants, worldwide.”
Utrecht University is proud of its graduates, and alumni are an important part of Utrecht University’s academic community. But where do they all end up? In this section, Illuster presents some major appointments from the last six months.

**Dienke Bos**  
**Master’s in Neuroscience and Cognition (2009)** has been Director of MIND since 1 June. Bos was executive director of the YOUth research programme at Utrecht University and UMC Utrecht.

**Anjet Daanje**  
**MSc in Mathematics (1991)** won the Beste Groninger Boek prize and the Libris Literature Prize for *Het lied van ooievaar en dromedaris* and the Constantijn Huygens Prize for her oeuvre.

**Diet Groothuis**  
**MA in Literary Studies (1989)** won the Frater Willibrordus Prize for her description of a late swift in the radio programme *Vroege Vogels* [Early birds].

**Dennis Hesseling**  
**Master’s in Mathematics (1994) and PhD in Mathematics (1999)** was appointed Head of Gas, Coal & Power at the International Energy Agency (IEA, Paris) on 1 July.

**Hella Hueck**  
**Master’s in Law** is to be appointed chief editor of *Elsevier Weekblad (EW)* on 1 January 2024.

**Paul Huisman**  
**Master’s in Public Administration and Policy (2013)** has been appointed regional manager for the Drente branch of the Salvation Army.

**Jan Derck van Karnebeek**  
**Master’s in Law (1990)** has been appointed CEO of Koninklijke FrieslandCampina N.V.

**René Medema**  
**PhD in Biomedical Sciences (1993)** has been appointed Chief Scientific Officer (CSO) of the Princes Máxima Centrum in Utrecht. He will start work on 1 April 2024.

**Walter Oostelbos**  
**MA in History (1988)** was sworn in as ambassador to the Netherlands in Surinam and Guyana in March.

**Michiel Scheffer**  
**Master’s in Human Geography (1988) and PhD in Geography (1992)** has been appointed by the European Commission as first Chair of the European Innovation Council.

**Maurice Unck**  
**Master’s in Law (1998)** will start work as director of Mail Nederland, the postal arm of PostNL, on 1 January 2024.

**Herman van der Zandt**  
**MA in Law (1998)** is leaving NOS after 23 years to present *De Slimste Mens* for public broadcaster KRO-NCRV.

**Joost de Vries**  
**(Master’s in History)** won the Frans Kellendonk Prize for his literary oeuvre, which includes *Clausewitz* (2010), *De Republiek* (2013), *Oude Meesters* (2017) and *Rustig aan, Tiger* (2020). The prize is awarded every three years by the Maatschappij der Nederlandse Letterkunde.

De Vries studied journalism at Utrecht University of Applied Sciences and history at Utrecht University. He has been editor and literary critic of *De Groene Amsterdammer* since 2007 and is now also deputy chief editor. He has also written for, among others, *Das Magazin* and *nrc.*next.

The nominating committee for the Frans Kellendonk Prize has this to say about him: “Joost de Vries boldly entered the world of Dutch literature with his debut novel *Clausewitz* (2010). His theme was very different from what was and still is usual in Dutch novel-writing. In this novel you could see the outlines of the tragic attitude to life that also characterises the later works of De Vries. His characters are fleeing from themselves and deny that this is the case. In this regard, De Vries’ work belongs to the great tradition of Romanticism.”

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**Want to be “named”?**  
Please email details of your appointment to alumni@uu.nl. Who knows? You could see yourself in the next edition of Illuster.
Charlotte Gentenaar is an educator. Luc Lourens is a scientist. They worked together on the Grondig Speuren room (No Stone Unturned) in the newly revamped University Museum Utrecht. In this room you can see for yourself how researchers look for signs that show how the earth has changed over the centuries. The darker and lighter layers in a core sample, for example, that say something about the climate at the time. But how do you actually create a museum room like this?

text Stephanie Helfferich
ingames Bas van Hattum
We talk to Charlotte and Luc at the museum, a few days before the official opening. How do you make this sort of complex research accessible to museum visitors? “Well, you start by asking people: what can you see on the core sample?” says Charlotte Gentenaar, an educator at the museum. “They are immediately struck by the differences in colour in the core sample and the length of it and find this fascinating. We take visitors back in time through this core sample.”

In the Grondig Speuren room of the University Museum Utrecht (UMU) there is a replica of a core sample, a section of earth from under the Mediterranean Sea that was extracted by drilling. In the seven-metre long core sample you can see a cross-section of the sedimentary deposits in the earth from the past 200,000 years, like the rings on a tree.” Paleoclimatologist Luc: “As researchers, we investigate everything: differences in colour, changes in particle size, minerals, fossils of organisms, plants, pollen, spores and foraminifera (single-celled organisms with an external calcium shell, ed.). This provides us with information that we can use to make a reconstruction of the change in the climate over time”.

Charlotte explains that when they develop a room in the museum they try a lot of things out on visitors beforehand. “How do they find the level? Do they enjoy doing our activities? Based on their reactions and our own observations, we adjust things accordingly. Initially we tested the core sample with a drainpipe full of sand. During the pandemic, my colleagues made a paper prototype at home and asked people from the local area to come and give their thoughts on it. Sometimes we have to make difficult choices. If we see, for example, that visitors switch off because an activity takes too long. The reaction of the visitors tells us when something is good.” Luc: “What I wanted to do initially, for example, was to make connection with ice ages, to compare the changes in CO2 over the same period. But that quickly became too complex, so since then we’ve tried to make things as simple as possible. How do you simplify information but still ensure that the message comes over effectively? I found this a huge challenge. I would have never been able to do this on my own.”

Charlotte nods to Luc: “Luc can talk very enthusiastically about his research. That is hugely inspiring for us here at the museum. We then ask him lots of questions to make sure we understand the material properly ourselves. The research is our starting point and, from this, we think about the...”
type of behaviour we want to see and how we can make it happen. We believe that enjoyment, for example, is really important, and a sense of adventure: let’s go on an expedition. The UMU is a family museum, so we want visitors to do and experience things together, to talk to each other: What are we seeing now? What connections can we make? What do we know now?” Luc adds: “When you have to explain something to students you’re also sitting together behind the microscope. You show them how to take samples of material, how to wash soil. It’s a team effort, and that includes the engineers.”

Sense of wonder
“The most important thing for me is that people have a sense of wonder,” says Luc. “That visitors see that core sample and realise that it’s a time capsule. That the fossils in that core sample tell us something about the conditions in which they have been kept, and that that is related to climate. If we can get that message across, then I’m happy. I can’t have a normal holiday any more, because every rock tells me a story. At the end of the day, I just want to convey to people that there are stories everywhere for them to investigate, even in stones.” Charlotte: “Figuring things out is all part of it too, making connections between the different bits as people talk about them and the sense of wonder when they look at those tiny fossils through the microscope.” “Well, it’s all so normal for me and trivial...” laughs Luc. “I really like seeing people with that sense of wonder that I once had when I looked through a microscope for the first time. I still do that with students. They can wash their own samples and then we look for those foraminifera. Initially it’s just a lump of mud. Once it’s been washed some of that mud has gone, and they then start to see things and I hear their amazement...” “...it’s almost like panning for gold,” adds Charlotte, enthusiastically. “It’s that sense of adventure again. And what I find amazing,” she says to Luc, “...is that you show us that even the position of the sun in relation to the earth’s axis has an impact on the climate, and that you can deduce something so big from something as tiny as foraminifera. It’s really fantastic.” Luc nods: “...exactly, it’s those patterns.”

How does science work? Why does Luc believe it is important to be involved with all this? “I believe it’s important to teach people how planet Earth works. I want to give them insights into how this research is done, and to let them know that we are still learning in this regard. And that, when we talk about this, we don’t base what we say on an opinion but rather on scientific research.” Charlotte: “That’s exactly what we’re aiming for here in our museum: to give people an understanding of how science works, so they can appreciate it. I think that’s what sets us apart
Museum for curious people

“The recently refurbished University Museum is the museum for anyone with a sense of curiosity,” says Director Femke den Boer. The newly revamped museum has five new exhibition rooms where visitors actively engage with Utrecht University’s scientific research from both the past and the present. As a visitor, you can engage in research yourself. You can design a heart and lung machine, for example, study the behaviour of apes and humans, experiment with an air pump or take part in various research workshops. Femke den Boer: “We want our visitors to ask questions about themselves and the world around them. Here at the museum, we want to demonstrate to visitors that you can research anything you like if you ask the right questions and, like scientists, apply different research skills. Designing, looking and comparing, experimenting, researching sources and traces in the soil, for example.”

At the end of the interview, we go over to the room where the core sample is located. Luc hasn’t yet seen the room as it is now, ready for visitors. “Don’t those models of the foraminifera look great now!” He points to the replica of the core sample: “That replica is absolutely fantastic. Look, the device that we use to do elemental analysis leaves a trace behind it, you can even see that.”

Charlotte and Luc both look round the room with pride. For Charlotte, the museum is a success if visitors take on the role of researcher, get down to work themselves, see things through the eyes of a scientist and act like a scientist. “And if, as well as visiting the exhibitions, they also research their own questions in our programmes. They can do this in workshops with scientists, for example. So we regard the scientists as part of our collection too.” “Yes,” agrees Luc. “We definitely are!”

You too can help!

How does research work? How do researchers find answers? That’s what the recently refurbished University Museum Utrecht (UMU) wants visitors to experience for themselves, in order to build a bridge between science and society. As visitors to the museum, they themselves become researchers and get an insight into the world of research at Utrecht University. Would you like to help the museum with this? If so, why not become a sponsor or friend of the museum?: umu.nl/steun-ons

The museum and the Oude Hortus are open from Tuesday to Sunday between 10 am and 5 pm. Umu.nl
Same degree ...

Matthijs Graner
(36)

Degree programme: Biology/Science education and communication
Job: Educational support officer and developer, Science link and preparator at Naturalis

As a child I found an amazing stone right by our house. I was convinced it was a dinosaur bone and took it with me to Naturalis. Apparently it was ‘only’ a piece of flint but my interest in nature had already been sparked. When I was studying for my degree in biology, I gained an ever greater appreciation of how nature works and how everything in life is dependent on everything else. I still find it hard to believe how that unique interrelationship is maintained (most of the time at least)!

I’ve worked a lot with apes, I’ve studied the behaviour of macaques, for example. This made me realise how similar we are to each other. I want people to be amazed by nature. Here at Naturalis I talk to visitors of all ages about this on a daily basis. As educational developer, I work on the content that I want to communicate to people. I love the variety. One day I can be telling people stories as science link and connecting science and the public, the next I might be working as a preparator in the dino lab telling people about dinosaurs. If, at the end of the day, a child comes up to me and says: “I’m going to study insects in my garden”, then I’ve achieved my objective.
Erlen Bruls (37)

Degree programme: Biology/Neurosciences
Job: Academic Research Adviser at Alzheimer Nederland

I chose biology because it’s about the whole of life, in the broadest sense. From the second year of my Bachelor’s degree I became increasingly interested in human behaviour and the brain. I enjoyed doing research but it was very remote from the ‘real world’. While I was studying for my degree I didn’t really have much idea about what I wanted to do in my career. For me, it was just about the learning itself. After I graduated, among other things, I did some research around youth support. Alzheimer Nederland already knew me from an internship I’d done and asked me to come and work for them. There I have worked on giving people with dementia and their carers a say in the choice of which research was awarded a grant. People with dementia can still be involved in these kinds of decisions. You can ask them, for example, “Do you think this is important?” or “Is that a problem that you can identify with?”. Ten years ago involving the target group in research was a relatively new thing, nowadays it’s a condition for funding. Quite apart from this condition, I try to show researchers that involving the target group makes their research more enjoyable and more effective. Being able to connect science and practice in this way gives me a sense of satisfaction.

... different career
Fleur Froeling turns citizens into co-researchers

Aren’t you the scientist here?!

“If you want to go fast, go alone. If you want to go far, go together.” This African proverb holds a valuable message for the scientific community. Which is what researcher Fleur Froeling — a strong advocate for engaging with citizens — must have thought as well. She involved non-scientists in every stage of her research, including choosing a topic. The result: a study on wood smoke.

Text Juliet Joosten en Rosan Reusken Images Ed van Rijswijk
“Any research stands to benefit from citizen involvement”
Four years ago, Fleur Froeling interviewed for a PhD track in citizen science without knowing exactly what her research project would be about. What she did know, however, was that it had to fulfil three criteria: importance to society, environment and health. The common thread uniting these aspects was citizen science (see text box on page 22).

Froeling began without a research question. “Before I started the study, the team had explored which environment-related topics were getting a lot of attention in the media,” she says. “Wood smoke kept popping up, for instance in connection with barbecues, fireplaces and burning biomass. When I started in 2019, I put out a call online for people to send me their questions about wood smoke.” Once again, the topic turned out to be a hot issue. She herself never expected it to be the centre of so much heated debate. Froeling received no less than 130 unique questions, ranging from ‘What will the ash from my neighbour’s wood-burning stove do to my tomatoes?’ to ‘Does my car cause more pollution than my wood-burning stove?’.

“In order to pick just one research question from the many, I talked to study participants, RIVM, the Public Health Service of Amsterdam and the Netherlands Organisation for Applied Scientific Research. That brought me to the research question: How does wood smoke affect health? We picked the research locations together as well: IJburg, Bergen, Zutphen and De Meern.”

Participants sceptical at first
The first meeting for the research project was held in IJburg. “A really nerve-racking experience, because I had no idea how many people were going to show up,” Froeling recalls. Luckily the turnout was greater than expected, although attendees were sceptical. “People were suspicious; they were wondering: ‘What do you want from us? Why do you need us, anyway? Aren’t you the scientist here?!’ Then I explained that we weren’t doing a study about them, but with them.”

According to Froeling, her study benefited from involving residents. “They know the area and know where you can smell wood smoke; they were also helpful for things like finding a good location for the measuring station. Using all that input, my colleagues and I drew up a plan for the research. I told the group that it wasn’t possible for us to study every single aspect, such as the individual health effects, for instance. What we could do was install a measuring station at the neighbourhood level and use it to quantify the health effects on a specific group. At first, I saw that as a drawback, but the participants pointed out the advantage. By doing so,
public engagement

we had shifted the perspective from an individual issue to a nuisance affecting the entire neighbourhood.

Not only did the surrounding residents help with decision-making, but they helped conduct the research as well. For example, they kept diaries of wood smoke-related symptoms for a period of three months, measured their lung function twice a day and connected saliva samples.

More and more trust

At the first meeting, people were mostly concerned with expressing their frustrations and concerns. Starting with the second meeting, however, there was more room for conversations about the content of the research. “And so the citizens became true co-researchers,” Froeling says. “Later in the process, when a newcomer would enter the discussion with a heated or un-nuanced stance, the other participants would correct them. They’d say, ‘We understand your frustration, but we’re here to do research.’” The people’s trust in the research grew; they were quite committed and remained involved with the study from start to finish. A bond formed between the researcher and the participants.

Whenever Froeling felt tired and discouraged during the study, all she had to do was open her inbox. “I often received emails from participants saying they appreciated my research and telling me about their experiences. As a researcher, that brought me close to the people who deal with wood smoke on a daily basis. I felt like my work was valuable to them.”

The cooperation with citizens could also be complicated at times. “I ran into all manner of challenges,” Froeling says. “For instance, I had to make sure they stayed involved as the study went on. That was quite difficult, because this kind of research takes years to complete. On top of which, the outcomes were not always in line with their expectations.”

Transparency was Froeling’s chosen tactic. “I was open with them about the research process and the challenges that go along with it. That built a lot of trust. And problems more or less resolved themselves.”

Talking openly about the results

As with the rest of the study, the non-scientists were involved in the results stage as well. “Normally, we would only share...”
Public engagement

“The preliminary results with colleagues,” Froeling explains. “But this time, those preliminary results were presented to the public. Participants and journalists were there too, but nobody leaked anything about it. It wasn’t until we gave the green light that people began to enthusiastically share and discuss the definitive results in debates, on X (formerly Twitter) and through flyers.”

The research showed that short-term exposure to wood smoke causes shortness of breath without physical exertion. People also tend to take more medicines as their wood smoke exposure increases, even if they do not suffer from asthma or COPD. The symptoms disappear when the wood smoke levels decrease. These results came as no surprise to the participants. Froeling explains that for them, the results merely confirmed what their gut told them. They were relieved — now they had evidence and therefore arguments to support their gut feelings.

Once again working in cooperation with citizens, Froeling wrote a policy summary about the results, which she shared with the Dutch House of Representatives. The research results helped advance the dialogue between policymakers and people who experience health problems as a result of wood smoke. The study benefited the participants on a personal level as well. People felt like their voices were heard and that they are now part of a larger community. Others learned something new about scientific research.

Achieving greater impact
According to Froeling, any research stands to benefit from the involvement of non-scientists, in all kinds of ways. “You achieve greater impact, the questions are better aligned to the needs, people feel seen and heard and are more inclined to participate. Scientists tend to focus on the obstacles and not the amazing things that lie beyond those obstacles. Be open to citizen science and allow yourself to be pleasantly surprised!”

What is citizen science?
Citizen science is science in which non-scientists play an active role. They are involved in one, multiple or all phases of the study in question. They might, for instance, help come up with a research question, collect data or present the results of the research. There are many potential benefits to involving citizens in the scientific process. Not only do they have the needs, questions and ideas from members of the public enrich the science, but citizens also provide a wealth of experience, knowledge and different perspectives. What’s more, it gives the general public a better understanding of how science works and provides them with tools for individual action.

You can learn more about Fleur Froeling’s research at charred.sites.uu.nl/het-project

You too can take part in research!

We need you! By taking part in research you help create a better world, in a unique and fun way. Not only do you help our researchers and science as a whole but taking part is also fun and informative. We are looking for participants for ongoing studies: from babies, children and young adults to adults. The topics of our research are varied, child development, for example, Covid-19, work or pets. For some studies you come into one of the university labs, and sometimes researchers visit you at home or you complete questionnaires online.

Check out the list on this website and sign up without obligation. uu.nl/onderzoek/doe-mee-aan-onderzoek

“People felt that their voices were being heard”

22 Illuster — Nov 2023
When I relocated to the Netherlands in 2004, the first thing I bought was a bike. Cycling was basically the easiest way to get around. In the Netherlands, our family had more bikes than people: before she turned one, my daughter was already riding with me on my bike and by the time she was two, she was exploring the neighbourhood in her walker. When I moved back to Canada the first thing I bought was a car. That sums up the difference between the two countries pretty well.

Even though I worked in the field of Urban Geography at Utrecht University, at that time I had never thought about cycling from an academic perspective. On my return to Canada, given my experience in the Netherlands, I more or less automatically became an advocate of cycling. I took part in public debates around cycling, I became a member of a committee on the subject within the local authority and became passionate about the subject.

I now see the benefits that this has brought. There are a lot more cycle paths here now and the local authority is increasingly aware of the need to create better facilities for cyclists. Shortly after we moved back to Canada my son was born. He is now five and has been cycling on his own bike since the summer. It feels great to cycle through the city with my children along cycle paths that I myself have had a hand in developing!

My interest in cycling has also impacted on my academic work. In 2022 I was awarded an Insight Development Grant from the Canadian government. I used this to set up the research project Everybody Bikes. The focus is people like me who have lived in both Canada and the Netherlands. We have interviewed more than fifty people to find out their thoughts on cycling in both countries. Cycling infrastructure is important. But if we also understand the influence of culture, contact and lifestyle from people’s own perspective, we can use that knowledge to make things better for cyclists in Canada.”

“We have interviewed more than fifty people to find out their thoughts on cycling in both countries. Cycling infrastructure is important. But if we also understand the influence of culture, contact and lifestyle from people’s own perspective, we can use that knowledge to make things better for cyclists in Canada.”

“More bikes than people”

text Ulrike Schmidt
images George Liu

Brian Doucet comes from Toronto. He lived, studied and worked in the Netherlands between 2004 and 2017 and graduated from Utrecht University with a Master’s in Human Geography and Planning and a PhD in Urban Geography. He currently holds the Canada Research Chair in Urban Change and Social Inclusion and is Associate Professor at the School of Planning of the University of Waterloo in Canada. Everybody Bikes is one of the research projects that he is currently leading.
The career of ...

Eva González Pérez

1975
Arrival in the Netherlands

2000
Graduated from Utrecht University and sworn in as a lawyer

Perseverance pays

“I want to be a lawyer,” said the twelve year old Eva González Pérez in Year One of domestic science school. Teachers looked at her with pity, but she didn’t let that discourage her. On the contrary.

For anyone for whom the name Eva González Pérez rings a bell but they can’t really remember why: she played a key role in the childcare benefit scandal. The public interest lawyer and Alumnus of the Year exposed structural problems at the Tax and Customs Administration, which led, in 2021, to the collapse of the government.

Cake-making
Eva was two years old when she left her grandparents in Spain to relocate to Eindhoven, where her parents struggled to build a life for themselves. Like many children of migrants at that time, on leaving primary school, she had to attend domestic science school. “My father in particular was astonished that I had baked a cake at school. ‘Cake-making?! What kind of school is that?’ After the first year I was allowed to move on to mavo (lower general secondary education).” She smiles: “I should have paid more attention because I still can’t bake a cake.” After mavo came havo (higher general secondary education) and vwo (pre-university education). It was a long and not always easy road. “But I wanted to study law, so I persevered.” And it paid off: she got a place to study Dutch Law at Utrecht University.
Student life

“In the first two years I didn’t do well at all. After that, I passed everything. If I were to go back to studying now — and this is a tip for current students — I would go and sit in court for half a day a week. Attend hearings, talk to lawyers and the messenger, and ask for copies of statements of defence and conclusions. If I’d done that I would have realised far earlier just how enjoyable the subject is. I didn’t have what you’d call a normal student life but I didn’t miss it. At that time I was still living at home in Eindhoven and wasn’t part of a student association. My husband and I were already together. We found work soon after we graduated and got married.”

Look for the similarities

In different offices — with different vibes and learning opportunities — Eva became familiar with a wide range of legal fields. “I can’t do divorces, I prefer to bring people back together. The way I see it is this: don’t focus so much on the differences, look for the similarities! My husband is Turkish, I’m Spanish but we have a lot in common and we’ve been happy for thirty years. Encouraged in part by the entrepreneurial spirit of her husband, in 2007, Eva decided to set up her own office with colleagues. In the years that followed, she concentrated on employment law, social security law and psychiatric patient law. “But then, in 2014, came the onslaught.”

Childcare benefit scandal

“I noticed that my husband, who had a childcare agency and nursery, was often being checked by the Tax and Customs Administration. I myself was never checked. And suddenly his clients stopped receiving childcare benefits. They were told they had to submit information and at the time I thought: just send everything in, then the problem will be solved. But it wasn’t solved and nobody told us why. I knew this wasn’t good.” Ultimately, it would lead to the childcare benefit scandal. For years Eva lurched from one shock to another and, to this day, she is still helping parents who are victims of the scandal.

Don’t you become cynical in that situation? “It’s terrible when a government body breaks the law but other people in the government played a positive role. And there were always people who stopped me from giving up, such as the first judge who agreed with me, the whistleblower who made me realise that the judge was only getting half of the documents, and Pieter Omtzigt who helped make clear the seriousness of the case and the ombudsman who spoke out. I couldn’t have done it without all these links in the chain.”

Unimportant

As well as a royal honour for her tireless efforts, she received many prizes. But when asked what she is most proud of, Eva says with conviction: “My children. Everything else is unimportant. It’s not about status or money, I do things to set an example to my children, so they too learn to persevere.”
As a professional you never stop learning. Moreover, the world is changing fast. The Continuing Education courses give you the inspiration, knowledge, tools and network you need to tackle new challenges in society. From short courses to fully fledged masters: learn your whole life long at Utrecht University.

"Understand how people think"

*text* Charlotte Goldhoorn  
*image* Aad Goudappel
From liberalism to populism

**START:** June 2024  
**DURATION:** 5 weeks  
**COST:** €1,095

With the huge challenges that we in the 21st century are faced with, the need for coherent political visions is greater than ever, but they are often mistrusted. Have ideologies also become unimportant as a result?

In this in-depth course you will explore the nature and origin of classical and recent political ideologies.

uu.nl/ideologischlandschap

Coaching of newly qualified teachers

**START:** 23 January 2024  
**DURATION:** 4 months  
**COST:** €2,410

Coaching newly qualified teachers gets them off to a good start in their careers, reduces dropout rates and makes their teaching more effective. In this course, you help teachers with their development and work on your own learning process as a coach.

uu.nl/docentcoaches

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Kunieke Luth is chief editor at De Nederlandsche Bank. She was looking for knowledge of ideologies to enable her to understand better what is happening in society. She found that knowledge in the programme From liberalism to populism: insights into the contemporary ideological landscape.

**Why did she want to follow this programme?**

“I wanted to understand better how people think and what they are concerned about. De Nederlandsche Bank is involved with things that are extremely relevant to people, such as rising prices, trends in the housing market and access to credit. We have a lot of expertise in-house and we want to share that knowledge more broadly and contribute to the social debate. This programme, run by Utrecht University, was a great way of finding out more about political ideologies. The fact that it includes history too helps you understand better where a line of thought comes from.”

**What did you gain from the programme?**

“As participants, you really engage in a dialogue with each other around the important issues of our time and also share experiences. Those conversations really inspired me, and gave me a lot of insights and in-depth knowledge. We all work on questions like: how do you ensure that you design society effectively for everyone, that nobody falls by the wayside, how do you ensure sustainable prosperity?

Previously De Nederlandsche Bank mainly organised sessions on topical issues with colleagues, now they organise them with people from the whole of society. I take the insights that I have gained from the course with me to these kinds of meetings. If I understand why people find something important, I can make sure that a session like this reflects better what is going on in society. By examining ideological trends, you understand better what is happening in society. And, as a result, you can engage in a more effective dialogue with each other.”

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Kunieke Luth  

**Degree:** School of Journalism (Utrecht University of Applied Sciences), minor in History (Utrecht University)  
**Role:** Chief editor and team coordinator at De Nederlandsche Bank  

Continuing Education programme: From liberalism to populism: insights into the contemporary ideological landscape. The new programme starts in June 2024.

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Want to keep learning?  

For our full range of Continuing Education programmes, visit professionals.uu.nl
Making it work

Money worries shouldn’t impact on your studies!

It wasn’t that they said at home ‘Don’t go to university’. It’s just that no one really had the knowledge or the experience; I didn’t have any role models around me.” These are the words of Charisma Hehakaya (31). She was the first person in her family to go to university. “And there were social and financial problems at home, too,” she continues. “When I started studying for my Bachelor’s in Science, Business & Innovation back in 2012, I found it difficult keeping all the balls in the air. I found reading documents difficult, for example. My Dutch wasn’t good at all. I was brought up bilingual: in Moluccan and Dutch. I failed a compulsory test in the Dutch language twice. I also had to get used to how you study, irrespective of the content. In addition I had to work a lot to pay for everything: healthcare insurance, tuition fees, laptop, books and just my day-to-day living expenses. It took me some time to find that balance. I hardly ever met a student who was going through the same things as I was and for a long time I felt like an outsider.” Charisma wants to remove financial barriers for other first-generation students so they can focus on their own development. This inspired her to set up the First-Generation Fund in 2021.

“It’s not just about content” Charisma now has three master’s degrees and has graduated with a PhD from the Imaging and Oncology department of UMC Utrecht. She conducted research into the implementation and evaluation of a technology that should eventually enable more targeted tumour treatment with fewer side effects. “All those degree programmes are great, of course, but it’s not just about the content of what you study. I learned a lot more than that over the course of my studies, and I realise that’s been a great opportunity. When I was on the point of finishing my PhD, I decided it was time to give something back. I looked at the support provided for first-generation students at Utrecht University. It was all pretty fragmented and not specifically aimed at this group of students, even though first-generation students have more financial challenges and other barriers to contend with. This can affect how at home they feel at university. And

Dr. Charisma Hehakaya was herself a first-generation student and is the founder of the First-Generation Fund and the University Pioneers Community. She is committed to fighting inequality of opportunity in education, science and healthcare. Charisma obtained a PhD in 2023 from the Imaging and Oncology division of UMC Utrecht. She is assistant professor in the Global Public Health & Bioethics department at UMC Utrecht and is active in Exposome-NL. She is working on how information on living environment and lifestyle can be collected and translated into useful information and implementation strategies.

“Money worries shouldn’t impact on your studies!”

Image: Henja Kooijman
first-generation students often aren’t really inclined to ask for help because they are commonly used to finding things out for themselves, even though they do deserve extra attention. My aim with the First-Generation Fund is mainly to encourage these students to make the most of their talents.” What I have noticed is that they are good at translating theory into practice and connecting different worlds.”

“My goal is a long-term fund”
Charisma is using the crowdfunding platform of the University Fund to raise 100,000 euros over a two-year period. The fund has already raised more than 67,000 euros. The aim is to create a long-term fund the return from which can be used to award grants. “I’m delighted with the result so far! All the money we raise will go towards material support for students. In just over a year we have already been able to help more than twenty students purchase books or a laptop, with language training or a stay at a university abroad.” It was with good reason that, in March this year, Charisma won the Diversity & Inclusion Award 2023.

“I think it’s really important that people are more aware of this issue and I really enjoy doing this because I think it’s important. It’s great to see how you can give students more opportunity to focus on their studies. I’ve also been lucky enough to get help from Caroline van de Beek of the University Fund. And I have a group of ambassadors: first-generation students, staff and other students who help promote the fund in their own faculties. I believe that raising awareness among staff and students is very important. That’s why I also launched the University Pioneers Community, a mentoring programme that we want to use to link existing initiatives together. First-generation students deserve support! That way education will be more accessible for all.”

Help out!
The First-Generation Fund helps students for whom going to university is not an assumption. The aim is to ensure that they have fewer financial worries and feel more at home at university. The fund not only provides grants but also shares students’ stories. Would you like to help us establish it as a long-term fund? Through our crowdfunding page it’s easy to make a one-off payment or set up a regular ongoing donation. Steun.uu.nl/project/first-generation-fund

Want to find out more or to share your ideas? Check out universitypioneers.sites.uu.nl/over-up-community or email universitypioneers@uu.nl
Past and present

Student protest

1969
A growing number of students were extremely dissatisfied with the lack of student participation. On 6 October, they demanded, from the podium of the trustees meeting, that the trustees make a statement regarding public access to the meetings of the university’s executive committee. The meeting was suspended, the trustees discussed a number of other issues during their lunch elsewhere. They refused, however, to comply with the request for public access, despite a telephone call from the students, around fifty of whom were by that time occupying the ‘trustees room’ at Achter de Dom 7.

2023
In May, students throughout the country occupied university buildings to voice their concerns over the climate emergency. In Utrecht on 8 May, the group ‘End Fossil Occupy Utrecht’ occupied the foyer of the Minnaert building. In a manifesto they demanded, among other things, that the university cut all ties with the fossil industry. The occupation was relatively uneventful. The Executive Board engaged in a dialogue with the students on a number of occasions. Although, according to the activists, their demands were not met, they left after three days. But not before a protest march to the Bestuursgebouw reinforced their statement once again.

images DPG Media via Het Utrechts Archief, Universiteit Utrecht
I want to help children find their place

Sisi Chen knew from an early age that she wanted to work in education. Even in primary school she read to pre-schoolers and realised that she had to do something in this kind of field. The need to take a broader perspective and the drive to keep on learning prompted Sisi to follow an academic degree programme. She is now applying her love of theory and practice by combining two jobs: developing learning materials and teaching.

Two jobs at the same time can’t be easy?
“Yes, it wasn’t easy finding the right balance but I seem to have found it now. If opportunities come my way, I grab them with both hands. That’s just how I am. Don’t think too much about things. You can always make changes at a later stage. It’s probably something to do with my background. My parents both come from a rural area in China. They haven’t had a lot of opportunities.”

Is your interest in the impact of socio-economic status on pupils related to this?
“Yes, I think so. If you yourself have a different ethnic background, you are likely to be curious about the impact that that background has on your experiences and relationships. My supervisor gave me the tip of including socio-economic status as the theme of my research for my master’s thesis. For my thesis I then researched whether and, if so, how socio-economic status affects social relationships in class. It seems that children with a high socio-economic status are perceived to be more appealing than children with a lower status. Clearly that’s pretty shocking. We have to do something about it.”

What’s next ...
“I want to help children find their place in society. But I also want to ensure that they enjoy school and learning. I’m also going to pursue an initiative that I started last year with a friend and former fellow student. She works in Spain and we have set up an English-speaking collaboration project between our primary schools. The pupils are really enthusiastic about it. In terms of my private life, I plan to spend a bit more time on my hobbies. By the end of the year I want to be able to dance on pointe and to get back to playing the piano and painting again. I neglected those things a bit during my studies.”

Sisi Chen (24) graduated with a Bachelor’s degree from Utrecht University under the Academic Teacher-Training Programme for Primary Education in 2021. In 2022 she completed her Master’s in Educational Sciences. In September 2023 she won the Vliegenthart Thesis Award for the thesis that she wrote for this. Since 2022 Sisi has been working part-time as a teacher at WereldKidz primary school in Veenendaal. Since the beginning of 2023 she has also been a part-time developer of learning materials at educational publisher Delubas.

A longer version of this interview will also be published on DUB, Utrecht University’s independent news site. Visit dub.uu.nl for all the latest news and background information on our academic community.
“By the end of this year I want to be able to dance on pointe”
To what climate-related question would you like the answer?

By how much will I reduce my CO₂ emissions if I turn the heating down a bit? What’s the difference between the environment and climate? Anyone who puts a climate-related question to the Climate Help Desk of the Utrecht Young Academy and Scientists4Future NL receives an answer from a scientist — fully peer-reviewed, as is customary in academia. Within the space of a few months they had already received 150 questions. The researchers associated with the Climate Help Desk put all the answers online, thereby building a database of scientifically substantiated answers that align precisely with questions that people have.

Klimaathelpdesk.org

WAR AND PEACE

How powerful is the International Criminal Court?

The International Criminal Court (ICC) in The Hague has issued a warrant for Putin’s arrest. Thanks to a huge quantity of evidence, such as videos recorded in secret by the public, the court was able to act more quickly than ever. But the chances of him coming before the court are small. What is the point of trying autocratic leaders like Putin? Do war crimes trials help a country move forward or do they just frustrate efforts to achieve peace?

Historian Dr Iva Vukušić (UU) talks about the power of courts and tribunals in tackling international injustice. Political anthropologist Dr Ewa Strzelecka (VU) takes us to Yemen. The UN has called the war that has been raging there for the past eight years the greatest humanitarian disaster of our time. Why has nobody been convicted for it yet? How do you get justice in a ‘forgotten war’?

This talk will take place on Monday 4 December, from 8 pm to 9.30 pm, in Utrecht University’s University Hall. Admission is free. You can also attend online. You can watch all Studium Generale talks at a later date at sg.uu.nl/video.
U!nited Music Festival
21 March 2024 Parnassos Cultural Centre’s U!nited Music Festival will get under way at Tivoli-Vredenburg. The line-up will be announced in December. Tickets will be on sale from January 2024. parnassos.uu.nl/uunited

WomenNetPhysics
22 March 2024 Utrecht University is organising WomenNetPhysics: the first Dutch conference on the theme of the position of women in Physics. uu.nl/en/research/womennetphysics

Cabaret podium
Up to and including April 2024 Come along and have a laugh at Parnossos’ Cabaret Podium. On many Friday evenings between December and April. Split your sides laughing for just €16. parnassos.uu.nl/agenda

Veritas reunion 1974
May 2024 On a Saturday (TBD) in May 2024 Veritas’ ‘Crown Year Reunion’ for members who joined in 1974 will take place. For more information and to register, email hans@hansgroenhuijsen.nl

Sharing Days 2024
3–8 June 2024 This alumni festival offers a packed programme of activities in the field of science, research, sport and culture. Put the date in your diary and check out uu.nl/sharingdays for more information.

For all alumni events, visit uu.nl/alumni/agenda

Save the date

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Tips

SLAVERY PAST

Utrecht University and colonial knowledge

In October anthropologist and historian Henk van Rinsum presented his book Universiteit Utrecht en koloniale kennis [Utrecht University and colonial knowledge]. From as early as 1636 scientists from Utrecht University contributed through their work to the idea of Western superiority over the (as yet) undeveloped South. Utrecht University became involved in slavery and also in its abolition. This fact is the common theme that runs through the book of former member of staff of Utrecht University Henk Van Rinsum. A number of faculties are researching their colonial past; this book provides a framework for this.

Scan the QR code for more information.

MURAL

Article 1 in art form

“It’s impressively large and so beautiful. We are extremely proud and happy.” On one of the busiest intersections in Utrecht, close to Central Station and the Ulu mosque, Marc Hanna and Giel Heeringa have created a mural several metres high which highlights the importance of the Constitution and Article 1 in particular. As law students, Giel and Marc embarked on this initiative as part of an assignment during their degree. The idea was to bring this amazing article, that of equal treatment for all and the Constitution as a whole, to life for young people. Constitution celebrated its 175th anniversary on 3 November.
No scientist

It’s July and I’m cycling through autumnal weather, mulling over a column that would work with the title “Everyone is a scientist”. If you attribute a title to everyone it loses its meaning: “The NTR, unique to everyone”. And yet I’m delighted to finally be part of this; I’ve always wanted to belong to the scientific community, preferably without having to do the work for it. I’ve never once considered immersing myself for four years in the emotional abuse that in the Netherlands is known as a PhD. That doesn’t mean, however, that I don’t regret not belonging to the highest educated group of people in the Netherlands. Because I find it quite annoying when someone thinks they’re superior to me, and it’s even worse when someone thinks they’re smarter than me. But this PhD regret ends today, because now everyone is a scientist.

Inflation is the trend for 2023 and nowhere has inflation been so in evidence as in the title of scientist. A bit of erosion adds lustre to the ivory tower of Dutch science but too much washes the foundations away on which it was built. And, right now, the tower must remain standing. The difference between scientist and person with an opinion must remain clear. A scientific truth is above an opinion: the causes and effects of climate change are substantiated facts. And the facts were clear this summer: never before have forest fires burnt so fiercely, was there so little ice in the North Pole or were the oceans so warm. Within climate science there has for years been a broad consensus over the seriousness and cause of the problem. This seriousness only gets through to the masses if they see it for themselves.

As an alumnus of Utrecht University, clearly I form my opinion in a scientific way. But not now, now I’m riding my bike during the most autumnal July ever and I’m cold. And for a minute I listen to the small voice of the over-simplified opinion buried deep down inside me that whispers: “This summer is meant to be by far the hottest summer ever recorded worldwide, so why is it so ridiculously cold? And the only thing you can conclude from this that, in my case, the fact that I didn’t obtain the highest title you can obtain from a university is absolutely as it should be: I am no scientist.

Tim Kroezen
Tim obtained his BSc in Life Sciences from University College Utrecht in 2013, followed by an MSc in Energy Science from Utrecht University. He won the Groninger Student Cabaret Festival in 2022.