

UM Magazine

June 2024

on education and research at Maastricht University

Artificial intelligence and the law

Konrad Kollnig on how we
can enforce laws concerning
AI, privacy and competition

p 7

Not one for the spotlight

Farewell interview with
university vice president
Nick Bos

p 12

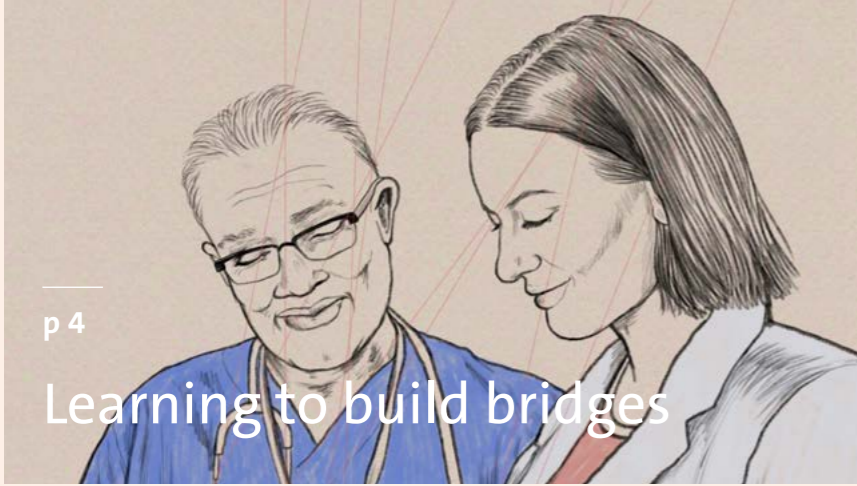
Innocent citizens behind bars all over Europe

Jenny Schell-Leugers

p 27



Maastricht University



Technology has the potential to improve the quality of medicine and healthcare while also making it more personal and sustainable. But to reach this potential, healthcare professionals and researchers need multidisciplinary training. New programmes like the Bachelor in Regenerative Medicine and Technology and the Master in Health and Digital Transformation teach students to work across disciplines and collaborate with social partners.



Moving forward in circles

Society is stuck on a one-way superhighway of value destruction, if you ask **Nancy Bocken**. The professor of Sustainable Business & Circular Economy proposes how we might exit the highway of linear consumption—and why what we do matters.

Alum Saara Martinmäki

She volunteered for the Red Cross, and during high school helped drowning survivors overcome their fear of water. She came to Maastricht University in 2015 to pursue a master's in Clinical Psychology. Today, she conducts research on the wellbeing of humanitarian aid workers and advises international organisations on how best to support their employees.

Further

07

Sciences and society

Konrad Kollnig: How can we enforce laws concerning AI, privacy and competition?

12

Portrait

Nick Bos: Not one for the spotlight

16

Sciences

Caroline Bouvier: Preserving art by gaining insight into its underlying chemical composition

22

Spread

Unique electrical research greenhouse in Venlo



24

Professor – student

Lisa Brüggem and Jenna Barnett: Reimagining financial wellbeing

27

International

Jenny Schell-Leugers: Innocent citizens behind bars all over Europe

30

Region

KidzCollege: 15 years of linking primary schools with the university

33

Soul kitchen

Pieter du Plessis: "I miss the smell of street food"

38

Alum

Paul Fehlinger: Working on responsible technological innovation

40

University Fund Limburg

Bouwien Janssen and Guido Vandebroek: Larger role for alumni and businesses

11, 12 and 42

News



Cover

For the cover image, photographer **Paul van der Veer** was inspired by the interview with legal psychologist Jenny Shell-Leugers. Experience shows that anybody can fall victim to a miscarriage of justice. With a new database, she is trying to chart the extent of this problem in Europe.

Foreword

Maastricht University
Executive Board
Rianne Letschert, Pamela
Habibović and Nick Bos

A vibrant university

This edition of the UMagazine once again illustrates just how lively and innovative Maastricht University is, from new bachelor's and master's programmes to robot experiments and the KidzCollege, which introduces school students to academic challenges. Not to mention how multifaceted its research: UM scientists and scholars are getting a grip on the use of AI, approaching the circular economy from a policy perspective, using the latest techniques to trace the paint composition of Old Masters and charting the impact of false confessions on wrongful convictions. All this and more is happening right here in Maastricht.

Outside Maastricht, too, great strides have been taken over the past decade. Take the creation of the Brightlands Circular Space, an impressive research facility for plastic recycling, or the Brightlands Future of Farming Institute in Venlo, where a unique electric greenhouse was recently constructed.

Year after year, new study programmes are added and our database of alumni and alumni activities grows. Yet, our growth is not merely quantitative, but qualitative, too: we change by coming up with multifaceted innovations in response to developments in science and society. Indeed, the university has undergone many transformations since its inception. How would its founders look back on the past decades from the vantage point of 2026, when UM celebrates its 50th anniversary? Even in their wildest dreams, they could not have foreseen where half a century of development would take us. <



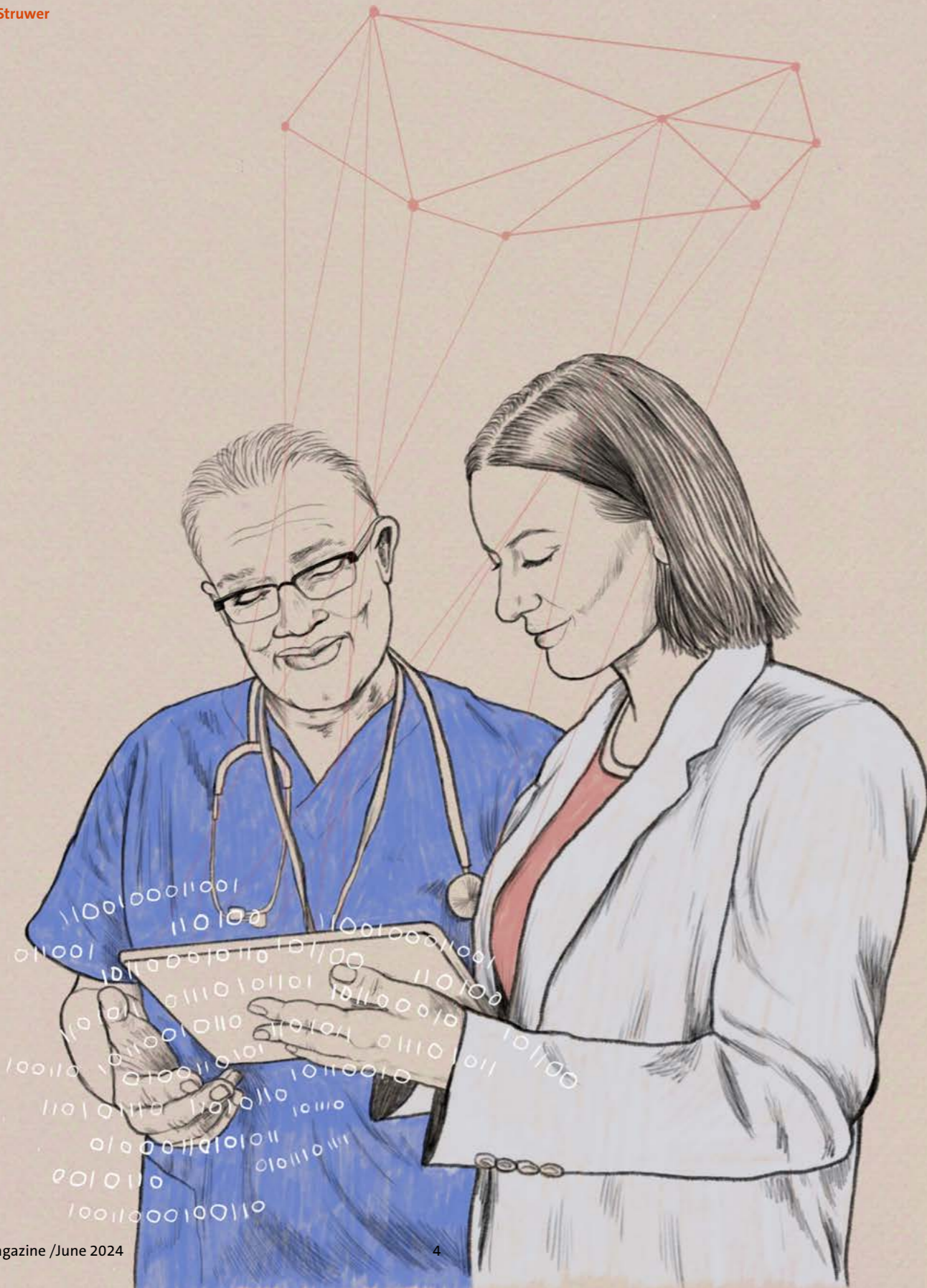
Education

Text

Hans van Vinkeveen

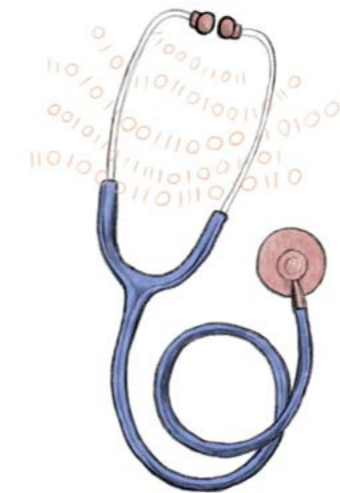
Illustrations

Ted Struwer



Technology has the potential to improve the quality of medicine and healthcare while also making it more personal and sustainable. But to reach this potential, healthcare professionals and researchers need multidisciplinary training. New programmes like the Bachelor in Regenerative Medicine and Technology and the Master in Health and Digital Transformation teach students to work across disciplines and collaborate with social partners.

Learning to build bridges



And these multidisciplinary programmes are proving to be popular. The master's programme has already received 50 serious applications for the coming academic year; the bachelor's, over 200. What makes these programmes so appealing to students? Jurica Bauer, coordinator of the bachelor's programme, cites the innovative nature of the disciplines involved. "Major breakthroughs often occur at the intersection between disciplines. Students are well aware that technology drives scientific progress."

Bauer gives a number of examples from regenerative medicine. This emerging field combines science and technology to develop new therapies that enable the body to repair or regenerate itself. "Consider a patient involved in a motorbike crash who would previously have needed a leg amputation. In some cases, we can now stimulate the growth of the damaged bone tissue." Or take diabetes, a chronic disease that Bauer anticipates will be eradicated within 20 years. "With the help of technology, our bodies will increasingly be able to repair themselves. This offers an alternative to organ and tissue transplants and sometimes lifelong medication."

Data-driven healthcare

Technology also plays a key role in digital healthcare and health sciences. When we think of digital healthcare, we often think of e-health services or nifty gadgets like blood pressure apps, video calling and digital self-monitoring tools. But the digital transformation extends to large-scale changes in hospital processes and organisational cultures, explains Marieke Spreeuwenberg, coordinator of the Master in Health and Digital Transformation. "Digital technologies are transforming medicine and health sciences into a hybrid healthcare system, combining in-person and virtual healthcare." Given the ageing population, which will lead to staff shortages and a growing demand for health services, this transformation is urgently needed.

A different perspective

A broad scientific field based on technology calls for multidisciplinary training. Both the bachelor's and master's programmes integrate various disciplines. "In addition to health sciences," Spreeuwenberg says, "we rely heavily on expertise from data scientists and IT professionals, along with clinicians, ethicists and economists. The advantage of bringing together people with different perspectives is that it leads to great interdisciplinary research questions. What's more, our programme responds to the needs of the labour market. Six students in our first cohort have already received job offers, halfway through the programme." >

Bauer's programme—the world's first bachelor's in regenerative medicine—also combines various sciences, technologies and entrepreneurship. "We have chemists working together with biologists, data scientists, engineers and doctors. And all sorts of social partners are involved, too. Our aim is to bring together theory and practice, not only to improve the quality of healthcare but also to create a more sustainable healthcare sector and, ultimately, economy."

Many things at once

In designing the graduate profile, they settled on three student competences. A graduate of the bachelor's programme must be both researcher and designer, scientist and engineer, and communicator and professional. From this, learning objectives were defined. "Our graduates have to be many things at once," Bauer says. "They're curious and able to come up with solutions to technical problems. They may have less in-depth knowledge than students of a single discipline, but they're better able to work across disciplines and see the bigger picture. They're bridge builders."

The Master in Health and Digital Transformation has a similar graduate profile. It includes four competences: expert, researcher, communicator and professional. "Our graduates are data experts with inquisitive minds and the necessary research skills," Spreeuwenberg says. "They can communicate with doctors and data specialists as well as patients. And they're able to reflect on their own strengths and areas for improvement."

Practical knowledge

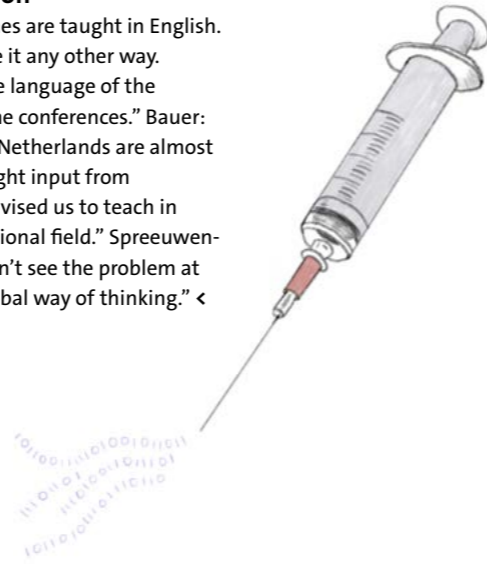
Both curricula were influenced by input from the professional field. Spreeuwenberg: "We asked hospitals, healthcare organisations and knowledge institutions what they need. Which themes are important to them? Our students spend half their time working on an assignment at an organisation. We believe learning through practice is just as useful at the academic level." Bauer: "For our programme, a curriculum committee identified current themes based on input from the professional field. It was important



for the multidisciplinary approach to be an advantage for students. You don't want graduates to be jacks of all trades, masters of none. Hence the new profile."

Language of instruction

Inevitably, both programmes are taught in English. The coordinators can't imagine it any other way. Spreeuwenberg: "English is the language of the research field, the literature, the conferences." Bauer: "Relevant job vacancies in the Netherlands are almost always in English. We also sought input from professionals, and everyone advised us to teach in English. It's just a very international field." Spreeuwenberg: "Younger generations don't see the problem at all; they have a much more global way of thinking." <



Jurica Bauer is the programme coordinator of the Bachelor in Regenerative Medicine and Technology and an assistant professor at the MERLN Institute at the Faculty of Health, Medicine and Life Sciences (FHML). He is interested in innovation and research in STEM education and smart materials for medical applications.



Marieke Spreeuwenberg is the programme coordinator of the Master in Health and Digital Transformation and a professor of Health Innovation and Digital Transformation at FHML. Her focus is on the digital transformation of healthcare, particularly the development and implementation of data-driven and digital healthcare innovations.

Assistant professor
of Law and Tech
Konrad Kollnig

Artificial intelligence and the law

Text
Florian Raith

Photography
Paul van der Veer

Should AI be allowed to manipulate us on a daily basis? Should it be trained on people's data without their knowledge or consent? How can we enforce laws concerning AI, privacy and competition? In RegTech4AI, Konrad Kollnig brings together AI and the law to answer these and other questions.

The whole business around data is opaque and probably illegal.

Both the law and computer code are sets of human-made rules, Konrad Kollnig says. Having excelled at computer science, he decided to branch out. "Coding can get monotonous, and law shifted my focus towards how technology affects society. In computer science, we tend to be biased towards tech-based solutions and sceptical of the humanities." His latest project brings the two fields together.

Supported by an AiNed Fellowship, RegTech4AI aims to improve the EU's process for AI regulation, protect citizens in the age of AI, and make knowledge of AI regulation more accessible to SMEs and startups. Kollnig and colleagues will also make recommendations to mitigate excessive platform power in AI and develop new methods to contribute to regulatory enforcement.

Large scale manipulation

The EU's new AI Act may be capturing the headlines, but many existing laws are pertinent to AI, including the GDPR and competition law. Regulations limit abuse of market power, Kollnig says, as well as the use of fully automated decisions about individuals. These are not, he stresses, hypothetical discussions about futuristic technologies. "Social media and digital advertising already use AI in a way that affects us all, in that they try to manipulate us at scale.

"Digital technology relies on data about people. Addictive social-media algorithms are trained on people's scroll and click behaviour. Capturing your attention isn't just about giving you what you want, but what your brain is most susceptible to," Kollnig says. Connecting likeminded people is at best a secondary motivation; the business model is to generate profit by maximising time spent on the platform and selling personalised ads. Data harvesting is a means to achieving this.

Opaque and probably illegal

For his PhD dissertation, which won an award from the Council of Europe, Kollnig studied the gap between law and practice when it comes to data collection. He analysed a dataset of 2.5 million apps

for compliance with privacy laws. When testing a subset, he found that 70% sent data to third-party partners before requesting consent. Less than 3% were fully compliant. "It's not robust enough to mount a legal challenge, but it does show that there's a serious, far-reaching problem with implementing laws in everyday technology."

To do his part, Kollnig built a privacy app that monitors other apps, and is now helping millions of individuals. But the problem goes beyond this. "A key principle of the GDPR is transparency. Yet, hardly any websites are sufficiently transparent. Even the data-protection authorities rarely understand who your data is being shared with. Many websites and apps send your data to thousands of companies to show a single ad on your device. This all happens in milliseconds. How could anyone understand it? The whole business around data is opaque and probably illegal."

Law enforcement

"One focus of RegTech4AI is legal enforcement, or trying to better protect citizens' rights when it comes to digital technologies. If there's no economic incentive for companies to comply with the law, they probably won't bother. After all, it requires additional staff, which puts them at a competitive disadvantage." Being too much of a crook could have negative consequences; being not enough of a crook means betraying your shareholders. "That's why I'm so excited about digging deeper to find out how we can collect evidence of illegal practices. It's clear that the current rules aren't being properly enforced, so we have to ask ourselves how we can better translate between law and computer science."

"I shouldn't have to be doing this," he continues, half-jokingly, of his efforts to help regulators with enforcement in the digital space. Clearly, not all companies are bad. Principle-based legislation such as the GDPR offers wriggle room that wealthier companies can exploit; for everyone else, it can create uncertainty. And legal guidelines produced by regulators may be useful to lawyers, but are not the best way of communicating with programmers.



Konrad Kollnig is assistant professor at Maastricht University's Law and Tech Lab. He earned his PhD from the University of Oxford and worked as an associate researcher at the Open Data Institute. He also holds a BSc in Computer Science and Mathematics from RWTH Aachen and an MSc in Computer Science from Oxford (both with distinction).

Working across disciplines

"I've asked regulators why they don't use GitHub [an open-source developer platform]. Why not share example code or mock-ups of consent forms? Speaking the 'language' of technology would help companies translate the laws into code. But the responsible authorities are usually made up of lawyers and economists", Kollnig says. "Great people with great intentions, without a doubt—but if you want to regulate technology, you also need experts in those fields."

With the AiNed Fellowship and funding from the law faculty, he will hire four PhD candidates and one postdoc in law, computer science and potentially

psychology. The research falls under the auspices of UM's Law and Tech Lab. "We apply technical methods to law, rather than the other way around. UM's Faculty of Law has a strong technical edge; even our legal scholars have good coding skills, which is rare."

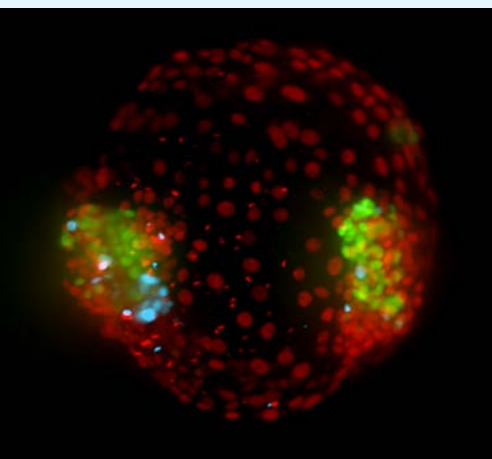
The university's interdisciplinary and international profile help, too. "The faculty has long specialised in European law, which is great for this research. And we're close to Brussels, Paris and London." This might help Kollnig in his aim of organising the first European conference with legal and technical scholars from the field. "When it comes to AI, we need an interdisciplinary and international approach." <

First synthetic human twin embryo

Scientists at Maastricht University's biomedical MERLN Institute and the Maastricht UMC+ have succeeded in growing an embryo structure of identical twins from stem cells, without the use of an egg or sperm cell. This enables scientists to see for the first time how twins are formed.

The embryo was split in two through the accelerated expansion of the blastocyst, a kind of bag containing stem cells from which new life arises. The breakthrough was achieved thanks to a technological platform that has unravelled increasingly complex biological secrets in recent years, ultimately enabling the controlled growth of cells, tissues, organs and embryos. The synthetic embryos make it possible to study the first crucial microprocesses that previously remained hidden in the womb.

"Robotisation and machine learning allows us to simulate biological processes with increasing accuracy," says Professor Clemens van Blitterswijk, the founder of MERLN. "By running many parallel experiments, we increased our chances of creating a rare twin embryo. And our method allows us to create tissue-specific stem cells, tissues and parts of organs to treat patients. The idea is that, in the future, this will be possible on a scale that will help a large number of people while keeping costs low." The findings were recently published in the journal *Advanced Materials*. <



News

Research suggests air pollution affects voting patterns

Higher air pollution increases the likelihood of people voting for opposition parties rather than ruling parties. Research by Nico Pestel from UM's Research Centre for Education and the Labour Market has shown that unhealthy air affects our decision-making processes, exacerbating negative emotions and making us more inclined to voice opposition. The findings were recently published in the scientific journal PNAS.

Poor air quality, with higher levels of particulates, has a major impact on human cognition. Previous research has shown that people make different decisions and more mistakes when breathing poorer quality air. Chess players perform significantly worse, students score lower in exams and stockbrokers make less profit when the particulate concentration in the air is higher.

In their new study, Pestel and his colleagues investigated the effects of air pollution on larger groups of people by analysing voting behaviour during elections. They found that on days and in regions with higher air pollution, people were more likely to vote for opposition parties than they otherwise would. This behaviour is linked with underlying emotions: people feel angrier, unhappier and more anxious when the air quality is poorer. And when voters feel more negative, they are more likely to opt for change by supporting the opposition rather than the ruling party—an unconscious effect with major political and social consequences. <



© Thom Frijns

How do we imagine?

Professor Rainer Goebel (Faculty of Psychology and Neuroscience) has been awarded an ERC Advanced Grant of €2.5 million for his research project *Reading the mind's eye: AI-inspired personalised brain models of mental imagery*. Of the 1829 applications submitted across research domains, 255 grants were awarded. Goebel is one of few researchers to have received this grant twice.

Goebel's research will focus on understanding the "mind's eye", our ability to visualise imaginary or recollected scenes. How do we create mental images? And why are some people better at it than others? Goebel hopes to contribute to our understanding of an overarching mechanism that explains mental imagery, which—despite extensive research—is still lacking. <



© Dennis Broek

How psychological stress leads to intestinal inflammation

An international research consortium including a number of Maastricht researchers has shown that psychological stress exacerbates gut-related health issues. This knowledge opens up avenues for new treatments for inflammatory bowel disease (IBD). The study was published in the leading journal *Cell* and summarised by NUTRIM researcher Zlatan Mujagic in the *Dutch Journal of Medicine*.

For millennia, a link has been assumed to exist between a healthy mind and a healthy body. In this case, researchers suspected that psychological stress would impact the immune system in patients with IBD, including Crohn's disease and ulcerative colitis. Previous research at the Maastricht UMC+ and Zuyderland MC had already linked intestinal inflammation with acute psychological stress. The new study confirmed the causal relationship and investigated the underlying biological mechanism. <

Limburg launches Brightlands Startup League: a springboard for innovative startups

Entrepreneurs have a new option for incubating their innovative startups in a safe, fertile environment: the Brightlands Startup League. The initiative was launched in partnership between the four Brightlands campuses, Maastricht University, LIOF and the Province of Limburg. Startups in the areas of health, sustainability, digitisation and more will receive all the support they

Latest HBO Monitor: strong labour market position of graduates of higher vocational education

The latest HBO Monitor by UM's Research Centre for Education and the Labour Market (ROA) shows that graduates of higher vocational education (HBO) are in a strong position in the labour market. "With an unemployment rate of 2.8% in 2023, the same as in the previous year, the outlook for recent graduates remains positive," says Barbara Belfi, project manager and researcher at ROA. "What is noteworthy is that 69% of this group has a permanent job within a year and a half, a significant improvement over previous years."

The trend is particularly evident in health-care and education, where 78% and 76% of graduates secured permanent positions, respectively. A year and a half after graduation, graduates in these fields also received the highest gross hourly wages. The results show that HBO graduates are quickly and effectively employable in the labour market, especially in high-demand sectors. Nearly 25,000 graduates from the 2021/22 academic year participated in the study. <

Prince Friso Engineering Prize: UM wins both public prizes

Professor of Circular Plastics Kim Ragaert and the SublimeStone student team won the two public's prizes awarded during the Engineer of the Year contest. Their nomination by the Royal Netherlands Society of Engineers demonstrates that UM's Faculty of Science and Engineering, established only five years ago, is among the best of Dutch engineering research and education.

The Royal Netherlands Society of Engineers awards the Prince Friso Engineering Prize annually to engineers who stand out for their competence, innovative capability, social impact and entrepreneurship. <



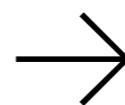
need to grow and flourish. Interested parties can register via www.brightlandsstartup-league.com. The partners hope this springboard will help innovations find their way to the market and grow into successful Limburg companies. <

Portrait

Text
Femke Kools

Photography
Arjen Schmitz

Not one for the spotlight



*Vice-president
Maastricht University*
Nick Bos

Nick Bos describes himself as “a fairly rational person.” When he so much as mentions words like *pleasure, love or lonely*, he immediately corrects himself: “Well, *love* is a big word. Let’s just say my affinity with the university blossomed at UM.” In Maastricht, the man who initially aspired to an academic career discovered that his real gift lay in facilitating other academics. After 25 years at UM, Nick Bos is now set to retire.

“Don’t make it too much about me”, he repeats towards the end of the interview. “I want to emphasise that when I talk about my work, I’m referring to the teams I worked with.” Bos is not one for the spotlight. He admires the warmth of the current university president, Rianne Letschert, which enables her to connect with people quickly. “An extraordinary trait. I need more time to build rapport. But I usually show up to things well-prepared, and if you make an agreement with me, I’ll stick to it.”

Cyberhack

He is the kind of person who “attaches importance to facts,” he says. He is referring to the cyberhack that hit UM shortly before Christmas 2019. Bos headed the Crisis Management Team (CMT), and was responsible for the decision not to communicate with the media as long as the cause of the hack remained unclear. A great deal of solidarity was called for; many employees continued working with the CMT over the holidays to ensure that teaching could resume a few weeks later. It was one of the most intense periods of his career, and in a strange way, also a highlight. “The feelings were very mixed, yes. Naturally you feel embarrassed for having been hacked. But we received a lot of recognition for how we handled the aftermath, both as a university and as individual employees.”

He never felt anger over the attack. “I’m very solution oriented, and at times like that I go into a kind of action mode. What made me well-suited to leading the CMT was that I always remained calm. I might be raging on the inside, but I don’t show it. I’m willing to take decisions at the risk of them later turning out to be wrong. It helped that I knew the organisation inside out.”



PhD research

Hardly a university committee exists with which Bos is not personally acquainted. He studied history at Utrecht University, where he also worked as a student assistant. Thanks to a grant from what is now the NWO, he did his PhD research on major social transactions in 19th century Limburg. It didn’t hurt that Bos hails from the region himself. He was born in Amstenrade as the youngest of three boys and attended high school in Hoensbroek, where he met his current wife Marly at the age of 14. “We both repeated Year 9. That’s where it all started.”

In 1985, the couple moved back to Limburg for his PhD research. He struggled with the fact that his dissertation was still unfinished after four and a half years. “I’d worked hard and published, but that was often the case in those days. Many people applied for benefits just so they could complete their dissertation, but I didn’t want that. It’s possible I suffered some degree of social deprivation. I was in the archives, I was writing at home; it was ... well, lonely isn’t the right word, but I didn’t want the situation to drag on. It might have made me more of an academic, but that offered no guarantees for the future.”

For me, a university is a collection of passionate, talented people.

Change of direction

Applying for jobs, Bos was no stranger to rejection. He worked as a freelancer, including as a writer of commemorative books, and held a junior academic role in Utrecht. “But those were awful contracts; I saw with my own eyes how poorly an organisation can treat its employees.” Eventually, two events led him to abandon his academic career. His eldest daughter was born in 1993, which left him wanting a more stable income. And a few years later, he applied for a professorship with a job description that could have been written just for him. “I was the second-choice candidate, rightly so, but it made me question whether I wanted to spend the rest of my life hoping for another chance. I didn’t want to end up bitter. I decided to stay in academia, but figured I might be better suited to facilitating others in their research.”

He took a job as a study adviser in Utrecht while completing his dissertation, and rose to head of Education and Student Affairs at the Faculty of Arts. The commute from Limburg took four hours a day. “Our youngest daughter turned out to be a crier, so I was lucky to be able to nap on the train.”



Nick Bos studied history at Utrecht University and obtained his PhD in 1995. From 1990 to 1999, he worked in Utrecht as an assistant professor, study adviser, head of Education and Student Affairs, and manager/administrator of the Education Institute for Media and Re-/Presentation. In 1999, he traded his academic aspirations for an appointment as head of the Student Services Centre at Maastricht University. He served as general director for 15 years before being appointed vice president of the university. After a decade in this role, he is now retiring.

Freedom

In 1999, he was pointed to a vacancy in Maastricht: head of what was to become the Student Services Centre. “I wasn’t looking for a job, and Maastricht wasn’t highly regarded in my network because of its Problem-Based Learning system. So I’d never even considered the possibility.” But it was a good position, and closer to Brunssum, where he lives to this day. The interviews went well and the switch to Maastricht marked the beginning of an illustrious career. He soon rose to the highest administrative position: general director of the university. “In Maastricht, my love for the university finally really blossomed. Well, love is a big word. Let’s say my affinity. I learnt that an institution like this can really make a difference for its surroundings. For me, a university is a collection of passionate, talented people. They might be able to earn more elsewhere, yet they choose to work here. The freedom also appeals to me: that if you have a good idea, you can pursue it and are less likely to get bogged down in bureaucracy and hierarchy.”

He continued to appreciate that freedom even as vice president of the university, his role for the past decade. His advocacy of the Brightlands campuses over the past 15 years included both a management side as well as a content component. “I’m very grateful for the space my colleagues on the board have given me.” He also reflects with satisfaction on the growth of the student body, which tripled in 25 years without harming the financial health of the institution. Not to mention the establishment of the Faculty of Science and Engineering. In fact, as far as Bos is concerned, there are too many successes to mention. “Something is there. It would have been built without me too, but it’s nice to have played an important role.”

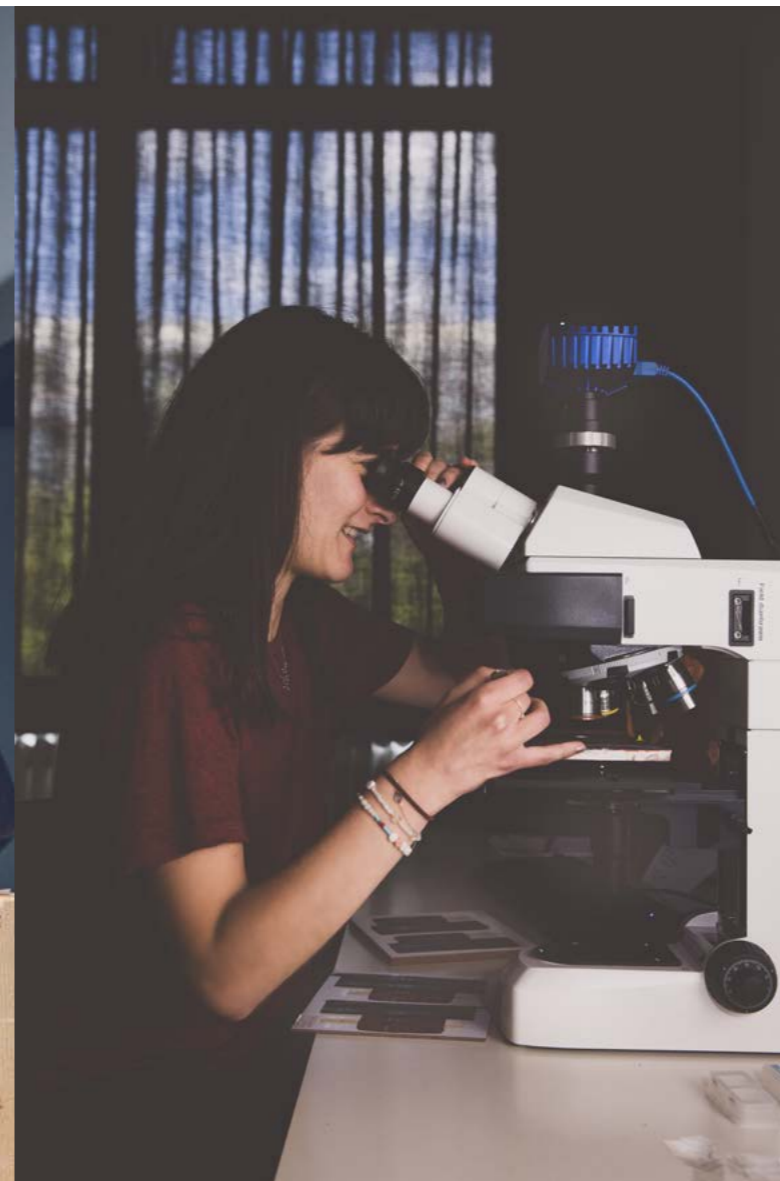
Pleasure

It soothes the pain of retirement somewhat, though naturally he wouldn’t go so far as to call it pain. Too much of a big word. “After 10 years, it’s only right for someone else to come in with a new focus. On a personal level, I found it difficult to accept. I don’t feel too old for this job yet. But through many conversations, mainly with myself, I’ve been able to rationalise it.”

A two-hour hike with his dog Borre every morning has also helped. As a child, Bos had a German Shorthaired Pointer. Four years ago, he and his wife acquired another dog of the same breed. They chose Borre for his gentle and enterprising character—and, admittedly, his looks. “Marly and I are aesthetically inclined,” he says. She is an artist; they have been buying art together for 40 years. And when she cooks, which Bos doesn’t do himself, it is a feast for the eye as well as the taste buds. “She’s better at enjoying things than I am. It’s not one of my strengths; I can never fully give myself over to pleasure. That’s something I’ve had my whole life. I know what I like, but I always see the downside, too.” That being said, he looks back on his 25 years at UM with satisfaction. “Also gratitude. It’s a wonderful institution.” <

Innovative ToF research on chemical processes in old paintings

Postdoctoral researcher
Caroline Bouvier



Caroline Bouvier likes to look beyond the image. Or more accurately, beneath it. A postdoctoral researcher from Paris, she is less interested in what a painting depicts—the iconography—than in the chemical processes behind the composition.

Sciences

Text
Ludo Diels

Photography
Philip Driessen

It's not that she doesn't have an eye for the beauty or the art-historical value of a work—far from it. But her research in Maastricht focuses on identifying the materials used in old paintings by applying state-of-the-art ToF-SIMS (time-of-flight secondary ion mass spectrometry). The ultimate aim? Helping to preserve art by gaining insight into its underlying chemical composition.

"This is a very important area in art conservation. It helps us to understand how paintings are preserved, which is of great importance to society all over the world. The ToF-SIMS imaging technique has been around for four decades, but in my field, interdisciplinary 'heritage science', it's only been used for 20 years or so," says Bouvier in her office at the Faculty of Health, Medicine and Life Sciences (FHML). "Paintings age, which can completely change their appearance." Conservators play an important role in pinpointing what causes the ageing, decay and deterioration of a painting, and whether it can be slowed down or even prevented.

Botticelli's Venus

The average person might be surprised to learn that the pigments of world-famous paintings, such as Botticelli's Venus, are largely held together by egg yolks. "I wouldn't go so far as to compare them with mayonnaise," Bouvier says, laughing, "but the fact is that many of the pigments in paintings from Botticelli's era [1445–1510] were full of egg yolk. So it's important to find out how egg yolk remains stable over time; after all, it can occasionally react to elements in its environment and break down. A painting is a living object that needs more and more care as it ages."

Bouvier looks, literally, 'behind the scenes' of a canvas. Using advanced technologies, she aims to find out how paintings were made and thus how long it will take for the often inevitable decay to set in. "I'm fascinated by the material; the more you understand about it, the more impressive the art becomes. Curiosity is what drives me. I want to know what a painting is made of. Demystifying the beauty of paintings doesn't affect my admiration in the least. All matter is made up of molecules; even feelings are formed by molecules, and that doesn't make them any less real. On the contrary—for me, that knowledge only enhances the intrigue." >

Sometimes
I see it as
detective
work.

Antibodies in paint samples

The name of Bouvier's Marie Skłodowska-Curie project is quite a mouthful: Synergistic Combination of Immunolabeling and Molecular Imaging Technologies for Art Research (SCIMITAR). In a nutshell, it involves taking paint samples from artworks dating from the 15th to the 17th centuries and making visible the proteins in their binding materials (such as glue or egg yolk). Bouvier does this by means of immunohistochemistry, a technique that uses antibodies to visualise proteins in tissues. The ToF-SIMS technique also enables her to identify inorganic pigments, organic dyes and other binding materials, such as oil. This way, Bouvier can identify almost all the materials used in a painting.

Even paintings that are hundreds of years old are subject to ongoing chemical processes. "That's why exposing a painting to light, like a flash from a camera, can damage the work." She laughs. "Sometimes I see it as detective work. We investigate how the work was made and what chemical processes are involved, right down to the smallest detail."



Kindred spirits

Bouvier is supervised by Sebastiaan Van Nuffel and Giuditta Perversi at the Maastricht MultiModal Molecular Imaging Institute (M4i) at the FHML. She also collaborates with SRAL, the conservation institute of the Bonnefanten Museum. "So I zip from one side of the city to the other," she says. "And I work with the Rijksmuseum in Amsterdam and the Courtauld in London. This research gives us insight into preservation and tools that will help us conserve artworks for the longer term. The method is not yet in routine use. The idea is that my research results can be used to draw up new guidelines, instructions and protocols for other conservators who want to try their hand at ToF-SIMS."

For Bouvier, the project brings all her interests together. "My love of analytical chemistry, my passion for art and my belief in conservation. As a child, I collected all kinds of things; my room was a total mess. I was always drawing. Actually, I wanted to be an illustrator, but then I stumbled across chemistry, which didn't feel at all alien to me. The conservation of art raises far-reaching issues, such as the ethical question of what it's worth to us as a society. My answer to that question is easy to guess. Thankfully, I meet many kindred spirits here in Maastricht, which helps me stay positive and keen to continue my research." <

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Caroline Bouvier completed her PhD in Analytical Chemistry at Sorbonne University, Paris, in 2022. Prior to that, she obtained MSc degrees in Analytical Chemistry and Materials Science at the Sorbonne. Between 2022 and 2023, she worked as a postdoc in the scientific laboratory of the French national library (BnF) on ESPYON, a research project to identify elastomers in heritage collections.

Moving forward
in circles



Professor of
Sustainable Business
& Circular Economy
Nancy Bocken

Sustainability

Text
Florian Raïth

Photography
Paul van der Veer

Society is stuck on a one-way superhighway of value destruction, if you ask [Nancy Bocken](#). Here, the professor of Sustainable Business & Circular Economy proposes how we might exit the highway of linear consumption—and why what we do matters.

“We currently have a linear economic model,” Bocken explains. “We take resources, make something out of them, use it once or twice and throw it away.” In contrast, a circular economy has built-in value retention loops: products remain functional for as long as possible through remanufacturing, repairing, refurbishing and recycling.

“I studied International Business at Maastricht University, and once I started working, I discovered that it’s all ‘business as usual’. There was no concern about the climate, the environment or wellbeing. I found that scary and frustrating. It’s common sense that we have to address these issues.” This is what motivated Bocken to specialise in sustainable business.

Changing consumers

Some people will always insist on buying the latest iPhone, but Bocken’s research has shown that half of Dutch consumers could be convinced to buy a refurbished phone. “For some market segments, price might be decisive; for those seeking novelty, new features or upgrades might do the trick.” Solutions range from better communication strategies to service-model innovation, such as subscriptions for new features or refurbished phones every year.

Bocken suspects that the green consumer niche—currently estimated at around 10% to 25%, depending on the study—is growing. “I notice a clear shift. Even 10 years ago, I had to explain the threat of climate change to students. Now people are well-informed; they’re just not sure what to do about it.” A sense of agency is crucial when it comes to translating awareness and intentions into action.

Your actions matter

Bocken disagrees with the typical reasoning ‘what I do doesn’t matter because other people will do the wrong thing anyway’. “Food, mobility, energy and

consumer goods, especially clothes—that’s where everyone can make a difference.” In terms of mobility, flying less and switching from cars to public transport or cycling move the dial. “Dutch cities are often cited as exemplary here, because we have a well-developed bicycle infrastructure.”

Insulating your home and optimising the use of electric appliances also helps. “I co-founded HOMIE, a business where people can rent appliances and pay per use. That raises awareness of resource usage.” In addition to buying seasonal, local produce, “eating less meat obviously makes the biggest difference, so becoming a flexitarian is a good start.”

A major issue in the retail sector is fashion, which exemplifies the problem of product longevity. While the idea of sewing on buttons might seem quaint and outdated, Bocken was involved in a project with a major UK retailer that offered surprisingly popular clothes-repair workshops. Of course, clothes can already be mended or made to last. There’s just no financial incentive to do so—quite the contrary.

Better business models, better laws

This is where innovative business models come in. “You could have a premium business model with higher profit margins, but products that last longer,” Bocken suggests. “There are already examples of this.” Everyone likes a bargain, though, so good branding is key. “We’re quite bad at product lifecycle costing. My dishwasher broke last week and it really is counterintuitive to factor how long you will use a product into its price.”

Well-intentioned individuals need to be protected, too. “We need better legislation. Ideas that go beyond the two-year-warranty currently required by EU regulations.” The circular economy package, part of the European Green Deal, emphasises producer responsi-



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Many people actually want to do the right thing.

bility. “It will lead to longer product lives. Companies have to provide spare parts to comply with the right to repair; they’ll also have to cut back on planned obsolescence.” France already has a law that restricts planned obsolescence, and successfully sued Apple for intentionally slowing down older phones with updates.

Circular X

Through Circular X, an ERC-funded research project, Bocken has created a circular economy network spanning academia, industry, policymaking and civic society. “There was a lack of circular business models in practice, and I wanted to change that by conducting research and gathering best practices.” Circular X has a well-visited website with open-access tools and case studies. “Universities use it for their sustainability courses; companies use it for inspiration and to book workshops with us.”

Bocken has created circular strategies for regenerating natural systems. She also advocates narrowing, closing and slowing loops, terms that refer, respectively, to eliminating waste from production systems and

maximising resource efficiency, recycling, and increasing product lifecycles. “In our workshops, we create awareness, explain different strategies and make sure product designers can experiment with them in practice.”

Naturally, Bocken and her colleagues are also researching the efficacy of these strategies. “We see how policy in the EU is influencing the US and Asia. Europe is a big market and a major industrial player, so what we do at an EU level really matters.” Her research has made her more positive. “During covid, I did a lot of desk research and found that big companies were starting to experiment with ways of complying with the forthcoming EU regulations. Ikea is working on making spare parts available; H&M is partnering with a nonprofit clothing-repair company. And it’s not just about compliance. Many people actually want to do the right thing.” <

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Nancy Bocken is professor of Sustainable Business & Circular Economy at the Maastricht Sustainability Institute, a fellow of the Cambridge Institute for Sustainability Leadership and an adviser to TNO, the Dutch association for applied scientific research. She studied International Business at UM and holds a PhD from the Department of Engineering at the University of Cambridge. She is a co-founder of the circular, sustainable business HOMIE.



Unique electrical research greenhouse in Venlo

This special greenhouse for scientific research was designed to facilitate the agriculture and horticulture of the future. One of the most pressing challenges facing society today is to figure out how to feed the world's population in a healthy, safe and sustainable way by 2050. The Venlo greenhouse is a key component of the Brightlands Future Farming Institute, where Maastricht University researchers study the transition to healthier and more sustainable means of food production. The greenhouse will facilitate research on cultivation techniques, plant development, optimisation of nutrients and circular, sustainable production. <

Spread

Photography
Arjen Schmitz

PhD candidate
Jenna Barrett

Professor of
Financial Services
Lisa Brüggem

Reimagining financial wellbeing

Professor – student

Text
Martina Langeveld

Photography
Philip Driessen

“Do you make lists too?” This was one of the first questions that professor of Financial Services Lisa Brüggem asked PhD candidate Jenna Barrett. Her affirmative reply sealed the deal. An inspiring and fruitful partnership ensued, resulting in Barrett’s dissertation *Money matters: Understanding and improving financial wellbeing*. “My research provides new insights into how you can define, measure and improve financial wellbeing.”

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There’s a lack of knowledge about how to define and measure financial wellbeing.

Barrett has a background in psychology and a research master’s in Social and Behavioural Sciences from Tilburg University. When she saw in early 2019 that Maastricht University’s School of Business and Economics was looking for PhD candidates, she decided to apply.

Research mindset

“We received 200 responses, but Jenna’s immediately stood out,” Brüggem says. “Her application was sparkling and personal. What particularly excited me was her research mindset and her mature vision of her research topic. That position ended up going to somebody else, but I knew I wanted to supervise Jenna’s research in the field of financial wellbeing. I did my best to sort out the funding, and then we formulated a research question together.”

With her dissertation, Barrett aims to increase our understanding of and find new ways to improve financial wellbeing. “Policymakers and companies are very interested in this topic. At the same time, there’s a lack of knowledge about how to define and measure financial wellbeing. I opted for a multidisciplinary approach, using different methods and insights from psychology, marketing, finance and economics to understand and improve financial wellbeing.”

Realistic picture

Barrett distinguishes between objective financial indicators and subjective financial wellbeing. “By objective financial indicators, I mean things like income, assets and debts. Subjective financial wellbeing is about how people feel about their financial situation: do they have enough money to pay for their desired standard of living, now and in the future?”

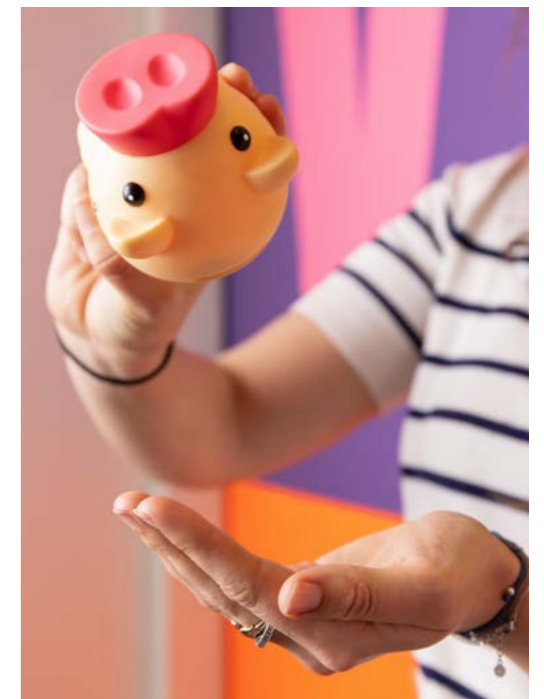
To measure the objective indicators, she used data from the Dutch tax register, enriched with survey data from a nationally representative sample. “According to the literature, there’s only a weak to average correla-

tion between a person’s feelings about their financial situation and their actual income, assets or debts. So somebody with €80,000 might feel worse off than someone with just €500 in the bank; for example, if they’re comparing themselves financially to friends or family. Whereas I found a medium to strong correlation, which suggests that most people have a realistic picture of how they’re doing financially.”

Barrett’s findings are good news for companies and organisations looking to improve financial wellbeing. “They should be able to make reliable predictions about their customers’ subjective sense of financial wellbeing if they have accurate information on the objective indicators.”

Pension

Barrett also bridges the gap between the literature on customer engagement and involvement in complex financial products such as pensions. “In practice, it’s very difficult to make people enthusiastic about their pension. Few people think about the future at all. But it’s important to think long and hard now about your financial situation after you retire. During my research, I found that it helps to make pension information concrete and understandable. Don’t just mention the monthly amount someone will receive after retirement, but point out what they’ll be able to do with that amount. What kind of house can you live in? What kind of stuff can you buy? Where can you go on holiday? This appeals to the imagination and encourages people to take action.” >



Netspar

For Barrett, being able to share her interim research results through Netspar was valuable. Brüggén is the director of this independent knowledge network, which advocates a better understanding of the economic and social consequences of pensions, ageing and old age in the Netherlands. "Thanks to Netspar, Jenna received useful feedback from government stakeholders, regulators, pension funds, pension administrators and insurers," Brüggén says. "She used that feedback to refine her research questions."

Buying behaviour in the supermarket

Last November, Barrett became a postdoc at Tilburg University's Department of Marketing, where she studies how people's finances influence their purchasing behaviour in the supermarket. "It's a very interesting subject," she says. "I'm learning all kinds of new research skills and analytical methods. I may have a doctorate, but there's still a lot to learn and discover." <



International

Text
Jolien Linssen

Photography
Paul van der Veer

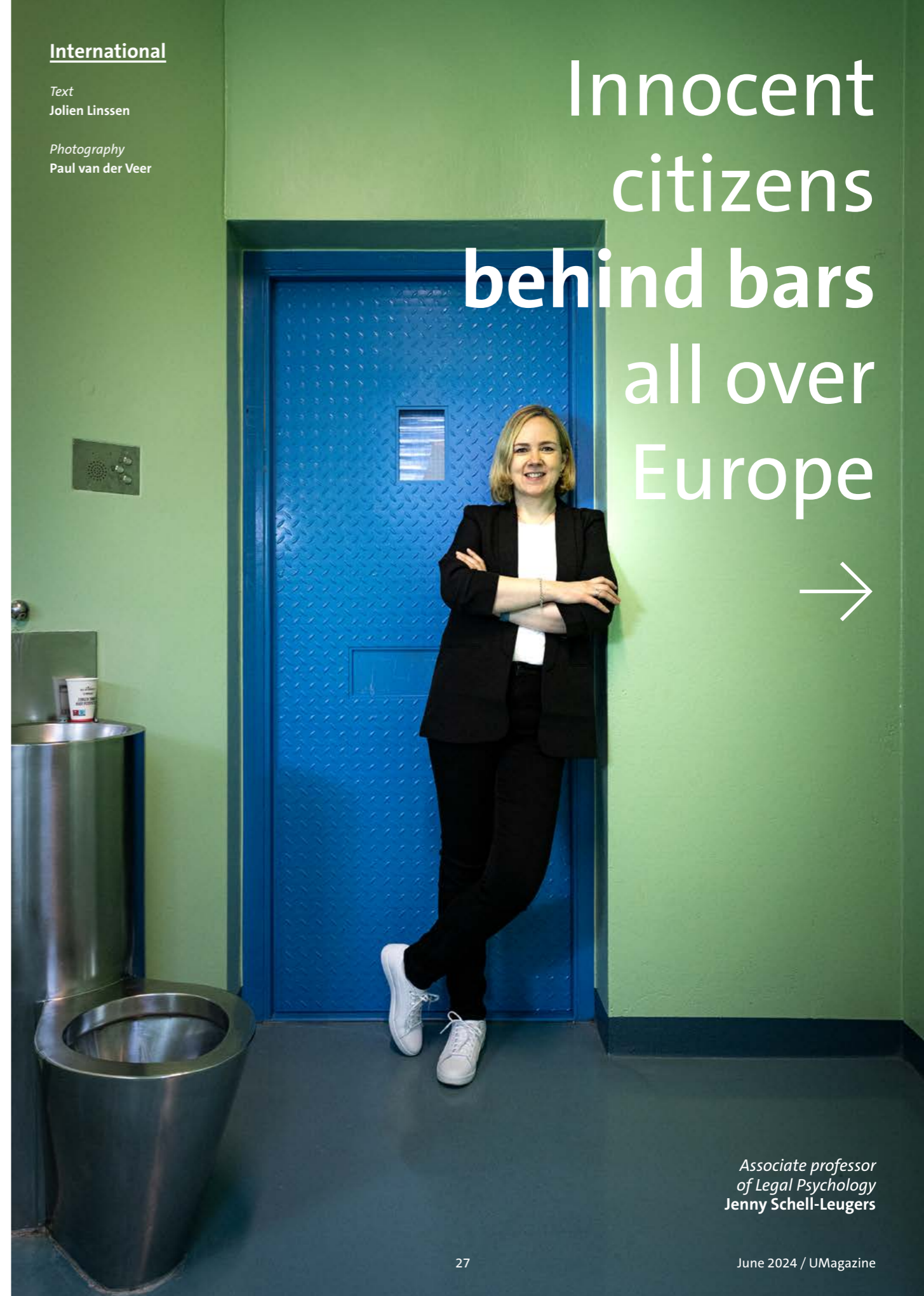


Jenna Barrett is a post-doctoral researcher at Tilburg University. Her research is at the intersection of psychology, marketing, finance and behavioural economics. She obtained her dissertation, *Money matters: Understanding and improving financial wellbeing*, from the UM Department of Marketing and Supply Chain Management in April 2024.



Lisa Brüggén is professor of Financial Services at UM's School of Business and Economics. She is internationally recognised for her expertise in financial services, financial behaviour, choice guidance and pension communication. In addition, she is the director of the Network for Studies on Pensions, Ageing and Retirement (Netspar), endowed professor of Pension Communication and Choice Guidance at Tilburg University (funded by the Gak institute), principal investigator at the Brightlands Institute for Smart Society (BISS) and a member of the Supervisory Board of the Dutch National Institute for Family Finance Information (Nibud).

Innocent citizens behind bars all over Europe



Associate professor
of Legal Psychology
Jenny Schell-Leugers

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Jenny Schell-Leugers completed a bachelor's degree at University College Maastricht and a master's in Legal Psychology at the Faculty of Psychology and Neuroscience, where she obtained her PhD in 2014. She is now an associate professor of Legal Psychology and research director at University College Maastricht. Her research focuses on false confessions and their impact on wrongful convictions. She was recently appointed chair of the Maastricht Young Academy (MYA) and is co-founder of EUREX, a database of miscarriages of justice in Europe that have led to acquittal: www.registryofexonerations.eu

If you ever find yourself detained by the police — even when innocent — get a lawyer and keep quiet. This is the most important lesson Jenny Schell-Leugers passes on to her students. Don't make the mistake of thinking, "I've nothing to hide and can explain myself," the legal psychologist says. Experience shows that anybody can fall victim to a miscarriage of justice. With a new database, she is trying to chart the extent of this problem in Europe. "This is just the beginning."

Jenny Schell-Leugers was in the room when the Italian Angelo Massaro told his story at a conference in Switzerland earlier this year. In 1995, he was convicted of the murder of a young man. The only evidence was a recorded telephone conversation between Massaro and his wife, in which he allegedly said, "I've got a body". But Massaro speaks a local dialect with a strong accent; in reality, he was talking about a piece of farm equipment. He was imprisoned for more than 20 years before his case was reopened and he was exonerated.

EUREX

"Seeing and hearing him—not on TV, but with my own eyes—brought home to me exactly why we're doing what we're doing," says Schell-Leugers. She is referring to the European Registry of Exonerations (EUREX), the database she set up together with two fellow legal psychologists, Linda Geven from the Netherlands and Teresa Schneider from Germany.

The EUREX database synthesises information on miscarriages of justice in Europe. The researchers use a strict definition, including only those cases in which individuals received a definitive conviction but were exonerated after their cases were reopened. To date, they have registered 123 exonerations in 17 countries—and they suspect this is just the tip of the iceberg. "The threshold for reopening a case is extremely high. Many innocent people may still be in prison who have little chance of being exonerated. With EUREX, we hope to raise awareness about this."

American figures

Miscarriages of justice are often seen as a primarily American phenomenon, despite notorious examples from the Netherlands; take the case of nurse Lucia de Berk, or the Putten murder case. Until recently, however, only US data were available. "Before EUREX, we always had to rely on an American database. Lawyers would use it to make a certain point, such as to argue that perhaps a false confession was at play. But then the judge would say that American figures don't apply here."

Yet, there are similarities between the American and European cases. Five key factors contribute to miscarriages of justice in both datasets: false confessions, flawed eyewitness identification (procedures), false accusations, false or misleading forensic evidence, and official misconduct.

"I did it"

False confessions appear to be the most common in Europe, occurring in 34% of miscarriages of justice. "Suspects may want to protect somebody, start to believe they actually did it, or crack under the pressure of the interrogation," Schell-Leugers says. "A confession is still seen as the holy grail of evidence. If the suspect has confessed, the case is as good as closed, even if the confession is later retracted."

But this is gradually changing, thanks in part to research conducted over the past 10 to 15 years.



These are the places where I can make a difference.



"Investigators are increasingly abandoning the use of accusatory techniques in interrogations and focusing more on obtaining reliable information. After all, that should be the purpose of an interrogation: not to extract a confession, but to uncover the truth." Schell-Leugers also argues for all interrogations to be recorded. "In Germany, there was a bizarre case surrounding the disappearance of Rudolf Rupp. His wife, daughters and son-in-law all independently confessed to killing him and feeding him to the dogs. Afterwards, none of it turned out to be true. In cases like that, you want to be able to find out what happened in that interrogation room."

Motivation

EUREX was created to provide insight into the extent, causes and consequences of miscarriages of justice in Europe, with the aim of learning from them. "These cases have a huge impact. Angelo Massaro didn't get to see his children grow up; something like that can never be made right." Victims of a miscarriage of justice rarely receive an official apology, compensation or help with reintegrating in society. This gives Schell-Leugers the energy to go the extra mile.

"The work we do for EUREX mainly happens in the evenings and weekends; it's basically volunteer work," she says. The same can be said for her recent appointment as chair of the Maastricht Young Academy (MYA), an independent platform committed to a better work-life balance for emerging researchers among other things. "I always take on too much; that's one of my weaknesses," she admits, "though I'm getting better at setting priorities. Working for both EUREX and MYA just gives me so much motivation. These are the places where I can make a difference." <



It's happened every May and June for the last 15 years. Groups of 60 pupils—Year 7 students from primary schools around the region—filing into UM lecture halls to get acquainted with academia. What happens if you break the law? How are new medicines developed? The lectures are pitched in an accessible way, from the doctor's coats to real-life ambulances. Here, creator [Ingrid Wijk](#) and lecturer [Martijn Poeze](#) discuss the KidzCollege initiative.

KidzCollege: 15 years of linking primary schools with the university

The idea arose 18 years ago. "My daughter is to blame," Ingrid Wijk jokes. Her daughter was in Year 7 at the time. Every week, her teacher would take the class to visit a parent's workplace. "My office work wasn't going to be all that interesting to 11- and 12-year-olds. I figured it'd be more fun to show them a real lecture."

Marketing professor Ko de Ruyter taught her daughter's class how the concept of influence works using a cola test with different brands. "The students and teachers were so enthusiastic that the school asked if we could run something like that more often," Wijk recalls. "Other primary schools in Maastricht were interested, too."

Introduction to Science

And thus KidzCollege was born, in which Year 7 students are introduced to academic themes in a low-threshold, engaging way. Teachers can register their class for a free 80-minute lecture. "We deliberately chose not to have individual pupils sign up," Wijk explains. "There's already so much gatekeeping that goes on after primary school. The value lies in the fact that all pupils can participate, no matter what type of high school they end up going to." One comment has long stuck with her. "A 12-year-old once came up to me afterwards and said, 'I'll probably never go to university, but I'm glad I experienced this.'"

Less talking, more doing

The lectures cover a wide range of themes. This year's topics include 'Know what you eat!', 'The obstacle course to a new medicine' and 'What happens if you break the law?' The most popular lectures are recycled annually. The 'Brokkenboel' lecture, for example, has been a fixed part of the programme since the outset, when it was first offered by Peter Brink. Trauma surgeon Martijn Poeze now delivers this lecture.

Speaking to a young audience is no more challenging than usual, Poeze says. "As with regular lectures, it's important to make it interactive and ask questions. Asking 'Who's ever had a broken bone?' is enough to get a lively discussion going. I speak for 15 minutes at most. Then we get to work."

Going home in a cast

The highlight of the Brokkenboel lecture is that students get to wear doctor's coats and play the role of medical specialists themselves. "I tell them about a primary school student who's been in a car accident," Poeze explains enthusiastically. "Together, we go through the steps that follow. It involves a whole medical team. First, an ambulance arrives, which is >

Region

Text
Romy Veul

Photography
Harry Heuts and the regional intensive care network (NAZL)



Head of surgery MUMC+
Martijn Poeze



Spotlight on: teacher Ivo Leenders

Ivo Leenders has been teaching Year 7 at the Sint Aloysius primary school in Maastricht for 12 years. A colleague introduced him to the KidzCollege programme. “We’ve been taking our classes to the lectures from the very beginning. The students always find it fascinating—even the lecture hall is impressive for them. We always walk there together, which is easy from our school in the city centre.

“It’s interesting for the students to see themes being addressed that we cover in subjects like reading comprehension and world orientation, but in more depth. ‘Know what you eat!’, for example, complements our biology lessons on the Food Wheel, and the lecture on breaking the law resonates with the topics we cover in news comprehension. I’m already looking forward to signing up again this year; I hope we can go to ‘Brokkenboel’ again. The students often talk about it for days or weeks afterwards.”



a spectacle in itself. One student volunteers to play the patient; the others serve as the anaesthetist, trauma surgeon and nurses. Then they get to ‘operate’ on a fake bone, including plates and screws to repair it. They even put the ‘patient’ in a real plaster cast. I joke with them, ‘Tell your parents you had to be rushed to hospital!’”

Beyond the ivory tower

Between 2010 and 2023, more than 93 primary schools and 8,700 children from the Maastricht region took part. This year, KidzCollege celebrates its 15th anniversary, and there are ample plans for the future. One initiative is a pilot project in collaboration with STEAM, a network organisation in science and technology for Limburg primary schools and companies.

What has stayed constant throughout: KidzCollege’s goal of introducing school students to academia. “Universities are sometimes accused of being ivory towers,” Wijk says. “KidzCollege allows us to give society a peek into what we’re doing. We have a lot of knowledge here that should also be visible outside the university walls.” <

→ Professor **Martijn Poeze** is a trauma surgeon and acting head of surgery at the Maastricht UMC+. He also works as a researcher at UM and has delivered the Brokkenboel lecture for KidzCollege no fewer than seven times.

→ **Ingrid Wijk** is the creator of KidzCollege. She founded the programme with Margot Krijnen and Denise Villerius and served as one of its organisers from 2009 to 2015. In 2010, Wijk, Krijnen and Villerius received the UM Staff Award for the initiative. Wijk now works as a strategic adviser at UM.



A peek inside the kitchen of UM employees

Soul kitchen

Text
Hans van Vinkeveen

Photography
Sem Shayne

PhD candidate
Pieter du Plessis



I miss the smell of street food





As a toddler, Pieter du Plessis couldn't stay away from the kitchen. He later entertained the idea of becoming a chef—until his dream faltered under the harsh light of reality. Now a PhD candidate at Maastricht University, he uses national dishes as a lens to examine South Africa's past and identity. A juicy fact: Du Plessis, who grew up in a meat-eating culture, recently went vegan.

I like to experiment rather than following a recipe.

"I've been cooking since I could walk," he says as we enjoy our rooibos tea with homemade melktert. "Coconut tart" would be a more apt term: having recently turned vegan, Du Plessis substituted the milk with coconut cream. "I was always in the kitchen, helping whoever was cooking—usually my grandmother or our housekeeper. All my childhood pictures have me holding food. There's a video of me sleeping on a magazine opened to the recipe section, where it looks like I'm eating the food right off the page."

Du Plessis grew up in the town of Kriel, now Ga-Nala, in South Africa's main coal-mining region. Almost all its residents were involved with the mines. "People there often ate meat, lots of it, like boerewors cooked on the braai. At home, we ate bobotie and meat pies, and for breakfast we had pap—porridge—with milk, cinnamon and sugar. But pap is also the basis of a traditional South African dish: pap, chakalaka and boerewors. My grandmother, our housekeeper and family friends taught me a lot about how to make simple but delicious dishes, without using expensive ingredients."

Pommes Anna

Du Plessis got serious about cooking when he was a teenager. He read food magazines, tried out recipes, went to hospitality school and even won a chef competition. "My winning dish was filet mignon with chocolate and a red wine sauce, asparagus and Pommes Anna." But the harsh reality of everyday life left his dream in tatters. "I was working myself to the bone for very little money. I wanted to make money, because that was a way for less privileged people like me to go to university. I decided to study anthropology, not that I had any idea what it was about." Cooking remained his favourite hobby.

Biltong

Du Plessis's research reflects his fascination with food and cooking. He even wrote his master's thesis in the form of a recipe book. "I used the lens of food to look at the past and identity of South Africa, specifically white Afrikaners. What you see is that different population groups claim dishes as their own. Take biltong and droëwors, dried meat brought in ships by Dutch colonists; history shows that indigenous peoples were also familiar with this preservation method. If you trace their history, many recipes turn

out to be a mixture of different cultures. This diversity and range of cultural influences are typical of South African cuisine."

Boerewors

At its core, he says, this is a debate about the process of identity and nation building through food. "Boerewors, for instance, is a difficult food to discuss, as it's associated with boers or Afrikaners—highly charged terms. And historians debate whether bobotie was brought over by Dutch colonists or created in their kitchens by the people they enslaved. These tensions are about who controls the narrative of what is typically South African, and who has contributed what." Du Plessis sees these debates as a positive sign: they show that people want to belong. But there are more important questions to ask. "Those are about our willingness to change ourselves. How do we bring these groups together? When do you call something 'national food'? When do we become a country?"

Bobotie

In recent years, Du Plessis has been combining different cuisines—Italian, Indian, Japanese and Korean. "I like to experiment rather than following a recipe. Maybe I just don't like following rules," he laughs. He sees food as a way of connecting with friends, family and acquaintances. "Talking about what you like to eat gives you a glimpse into each other's lives. It can kick off a relationship or even lead to love. That's how my boyfriend and I got together. I cooked bobotie for him, with lentils instead of mince. He loved it. He keeps asking me to cook it again. It's like they say—the way to a man's heart is through his stomach."

Vetkoek

He misses South African cuisine and food culture, especially the smell of street food. "Vetkoek, a snack you buy on the street and eat with your fingers. Or roasted corn for lunch. At the mall, there was always a woman selling samosas, triangular savoury pastries from India. These are the smells of my childhood that were part of everyday life." For somebody who grew up in a meat-eating culture, the main challenge of veganism lies in adapting his cooking habits. "I approach it like a researcher: how can I solve this? How can I make a plant-based melktert?" <

Typically South African

- afval:** offal dish
- biltong:** snack of dried strips of meat
- bobotie:** dish of spiced minced meat with yellow rice and raisins
- boerewors:** sausage to cook on the braai
- braai:** barbecue
- chakalaka:** spicy vegetable relish
- droëwors:** dried sausage eaten as a snack food
- koeksister:** confectionery made of plaited fried dough
- melktert:** sweet pastry crust with a creamy filling of milk, sugar and eggs
- pap:** maize porridge
- potjiekos:** stew made with meat, potatoes or rice and vegetables
- rooibos:** herbal tea, national beverage
- vetkoek:** a small cake of deep-fried dough filled with meat, cheese or jam

→

Pieter du Plessis obtained his master's degree in Gender Studies (cum laude) from Utrecht University. His PhD research at the UM Faculty of Arts and Social Sciences focuses on the transnational and relational construction of Dutch "whiteness" through the lens of Dutch cultural heritage institutions, particularly the South Africa House in Amsterdam.



Alum [Saara Martinmäki](#) volunteered for the Red Cross, and during high school helped drowning survivors overcome their fear of water. She came to Maastricht University in 2015 to pursue a master's in Clinical Psychology. Today, she conducts research on the wellbeing of humanitarian aid workers and advises international organisations on how best to support their employees. "I became fascinated by applied mental health research when I saw how successful trauma treatment can be."

Carer of carers

Alumni meeting minds

Text
Hans van Vinkeveen

Photography
Saara Martinmäki

Martinmäki laughs as she recalls an early misadventure in Maastricht. "I was cycling home from a party and got lost in a park. It was pitch dark. Suddenly I saw this giraffe and other animals around me. I believe there was a bear sitting on a bench. Thankfully, I realised they were statues. I remember wondering where on earth I was. I didn't have a Dutch SIM card yet, so I had no internet on my phone. It felt like I cycled around that city park for hours until somebody pointed me in the right direction."

Martinmäki followed the master's in Clinical Psychology, then called Psychopathology. She was attracted to the programme by the combination of clinical skills and research skills in the field of mental health. "You learnt how to design interventions and how to help people with psychological disorders. You reviewed published research in class: how was this study conducted, and how could it be improved? And you

could delve into specific conditions, like anxiety disorders, eating disorders, stress or trauma. The Advanced Statistics course in particular proved crucial to my career and my PhD research."

War veterans

The programme absolutely met her expectations. "I'm not exaggerating when I say it was fantastic. It was tough, not easy, but you got a lot of support from fellow students and a team of passionate teachers, often genuine specialists. The lecturer on stress and trauma actually did research in the field. And the students supported one another and did everything they could to help each other get through the programme. We were very close. That's my advice to current students—rely on your network of peers and lecturers."



Martinmäki has long been intrigued by traumas and other stress-related disorders. Her interest was piqued in California, where she spent a year as a research assistant in a clinic for traumatised war veterans. "I was involved in a study of the effectiveness of different treatments for PTSD. What I saw there was remarkable. The veterans' symptoms often improved week by week. I found it impressive that a treatment could be so effective. That was also when I discovered my passion for applied research."

Care for carers

After her master's, she became a researcher and policy adviser at the ARQ National Psychotrauma Centre before transferring to its international department. ARQ International assists organisations in providing psychosocial support to victims of wars and disasters in low- and middle-income countries. Martinmäki's focus is on humanitarian aid workers and other carers. "We work with local partners, mainly NGOs. As a staff member, I advise on research projects, help to develop psychosocial interventions and write funding proposals." ARQ uses the "care for carers" model, she explains, which is based on the idea that carers can't effectively help others when suffering from undue strain themselves. "So, we assist aid organisations in better supporting their employees' social and psychological wellbeing."

Stressors

A surprising conclusion of Martinmäki's PhD research is that humanitarian aid workers generally don't become traumatised by the terrible things they see. Instead, the stressors tend to be organisational in nature, such as unclear communication, high workload, bullying and sexual harassment—stressors

that also tend to accumulate. Her advice to aid organisations is to focus on these kinds of manageable stressors. "Ultimately, my goal is to create systems that protect and improve aid workers' wellbeing. I love making a positive impact by helping humanitarian workers to stay healthy and do their jobs to the best of their ability."

Trained mentors

The current situations in Gaza and Ukraine haven't discouraged her. "I do find it depressing that the growth in humanitarian aid and funding doesn't keep pace with the increased need. We're always playing catch-up. But what gives me hope is that more attention is being paid to interventions like Problem Management Plus, which was developed by the World Health Organisation. The great thing about PM+ is that it doesn't have to be delivered by professionals, but by trained non-specialists from the community. In the Netherlands, this method has been used to train Syrian refugees to help fellow Syrian refugees. It's also a good solution for low-income countries with a shortage of mental health professionals."

Data science

After defending her PhD, which focuses on the impact of the work environment on humanitarian aid workers' wellbeing, Martinmäki intends to continue her research on mental health interventions in low- and middle-income countries and conflict zones. She's also interested in the potential of data science to improve global mental health. "I'll keep doing research, but I also want to translate my findings into recommendations for policy, treatment and mental healthcare practice." <

Text
Jos Cortenraad

Photography
Paul Fehlinger

It was curiosity that brought him to Maastricht. “I wanted to understand what drives the EU. I was looking for the kind of broad-based, international programme that didn’t exist in Germany. The curriculum immediately appealed to me. Looking back, the combination of an international perspective, a diverse student population and Problem-Based Learning taught me how to investigate complex global issues. The skills I acquired there—critical thinking, collaboration and an ability to ask the right questions—have proven invaluable throughout my career.”

Ambassador

Fehlinger has fond memories of the Grote Gracht. “I spent three great years in Maastricht, a cosy, compact and hospitable city. The classes and debates were interactive and often brought students from 10 or more countries together. And I enjoyed working in groups, addressing issues together. That’s how you learn to collaborate and particularly to ask the right questions—a skill you never lose. Thanks to those dynamics and the quality of the education, I still recommend Maastricht to students today.”

After graduating, Fehlinger initially pursued his passion for journalism. He did internships at various media outlets in Berlin, including the German public broadcasters ZDF and ARD. He then worked for Radio France Internationale in Paris, where he has lived ever since.

Sciences Po

In Paris, Fehlinger’s career took a different turn when he was admitted to the master’s in International Relations at Sciences Po. He immersed himself in the rapidly developing internet and the challenges of cross-border governance and data flows—not exactly hot topics back in 2009. It was around this time that he met Bertrand de la Chapelle, with whom he founded the Internet & Jurisdiction Policy Network in 2012. Focusing on the future of the internet in times of digitisation, it has grown into an influential network with over 400 entities from more than 70 countries: international organisations, governments, the world’s largest tech companies, civil society groups and top universities.



Working on responsible technological innovation

Paul Fehlinger was fascinated by the digital economy from a young age. Born in Berlin and raised in Munich, he obtained his bachelor’s degree in European Studies from Maastricht University. This laid the foundation for a flourishing career, culminating in his current role as director of Policy, Governance Innovation and Impact at Project Liberty.



Paul Fehlinger obtained his bachelor’s degree from Maastricht University and a master’s degree from Sciences Po Paris with a grant from the German National Academic Foundation. In 2023 he completed the Newton Venture Program, a joint venture between London Business School and LocalGlobe VC. He is a senior fellow at the Hertie School of Governance and an affiliate at Harvard’s Berkman Klein Center.

Global platform

“We built a global platform where international heavyweights come together to find a balance between the cross-border nature of the internet and the territorial nature of national jurisdictions,” Fehlinger explains. “We organised conferences and meetings all over the world to put the issue of online jurisdiction on the global agenda. And not only that, but also topics like the digital economy, security, ethical issues, risks, human rights and privacy. What laws and regulations apply to online developments? How do they work across national borders? During all those sessions, I saw many similarities between our model of multistakeholder governance and Maastricht’s Problem-Based Learning approach, with its interdisciplinary groups. We discussed themes like whether data can only be used by the judiciary, for example in the European Union, or what major tech companies like Facebook and Google are and aren’t permitted to do.”

Frameworks

The network’s pioneering work to foster global cooperation and innovative, cross-border policy approaches has been acknowledged by the G7, the United Nations and the OECD. “It was incredibly intense, but we accomplished so much in 10 years,” he says. “The discussions in the Internet & Jurisdiction Policy Network helped shape the frameworks and processes for how we now deal with cross-border data access and digital services.”

Today, Fehlinger is considered a leading expert on digital governance and responsible technological innovation. His insights into the future of the global digital economy have been published by prestigious

outlets such as the Economist, the New York Times, Fortune and Politico. He is a sought-after chair and speaker at global forums, including the United Nations, OECD, G7 and WTO. He has served on advisory groups of the Council of Europe, the Freedom Online Coalition, the World Economic Forum and more. He is also affiliated with Harvard University and a senior fellow at Berlin’s Hertie School of Governance.

Responsible

In 2022, Fehlinger was appointed director of Policy, Governance Innovation and Impact at Project Liberty, an initiative of the US businessman Frank McCourt. “We work with technologists, capital providers, entrepreneurs, academics and policymakers to ensure that emerging technologies are developed and used for the common good. Innovation is moving incredibly quickly—just look at the developments in artificial intelligence and augmented reality. Laws and regulations are not keeping pace. We need a new approach, which is why Project Liberty’s founder has committed half a billion dollars to incentivise the development of technical infrastructure solutions and frameworks for a fair digital economy. It makes me proud to contribute to one of the world’s most ambitious initiatives to create a more responsible and sustainable digital future.”

Anniversary

The man who now stands at the forefront of global debates on technology and digital innovation looks back on his Maastricht years with gratitude. “It’s wonderful to be able to celebrate the 20th anniversary of the bachelor’s programme. I look forward to seeing everyone again.” <

University Fund Limburg's new fundraising strategy pays off

Larger role for alumni and businesses

Earlier this year, a medical school in New York City received a billion-dollar bequest from the widow of a wealthy investor. An eye-watering sum—but donating to universities is not out of the ordinary in the Anglo-American tradition. Successful alumni in particular are known to give back to their alma mater through generous gifts and bequests.

Guido Vanderbroeck, senior adviser at the University Fund Limburg (UFL), was astonished to read the news. “Donations of that size are unheard of in the Netherlands. A million euros would already be extraordinary, given that our annual donations currently amount to about one and a half million. The general assumption here is that universities are funded by the government. Which is true, although universities increasingly need to seek other sources of funding, especially for special research initiatives, endowed chairs and scholarships. These are difficult to pull off without additional funding. This is where alumni could play a larger role.”

Charity status

“And not just alumni,” confirms UFL director Bouwien Janssen. “Individuals and businesses in the Netherlands are often unaware that they can donate to universities. Or that they can specifically earmark their donations for students and PhD candidates, endow a chair or fund cancer research, to name a few examples. As a recognised public benefit organisation, we have official charity status. Unfortunately, few people know this.”

Lack of awareness in the region was one of the challenges Janssen faced in 2018, when she took the helm of the UFL after a long career in banking. “I felt that we should be more proactive in reaching out, including by publishing a professional, public annual report to inform our stakeholders of all our wonderful networking events and creative campaigns. The Fund is uncontroversial and my predecessors achieved a great deal, but it was time for a new direction and market strategy.”

Senior adviser UFL
Guido Vanderbroeck

Director UFL
Bouwien Janssen



University Fund Limburg

Text
Jos Cortenraad

Photography
Harry Heuts

Crowdfunding

Janssen and Vanderbroeck wrote a five-year plan aimed at proactive fundraising, with a focus on businesses and alumni. One of the first steps was to set up a crowdfunding platform. “It’s a low-threshold tool for involving individuals and companies in initiatives and projects across the various university faculties that our Fund wants to support,” explains Vanderbroeck. “A few years later, we can conclude that it’s been a success. The platform has raised money for dozens of projects and initiatives, ranging from scholar-

ships for underprivileged students and energy poverty reduction to heart failure therapy, research on brain injury and Alzheimer’s, and diagnostic tools for detecting diseases such as cancer. The tally now stands at 56 campaigns of varying scale, with over 6200 donors.”

The fundraising plan emphasises a targeted and personal approach. “More outreach, in short,” Janssen says. “We approach local businesses that have a social orientation and specific knowledge needs, inviting them to gatherings and events like the annual UM dinner. We connect with the region. We reach out to alumni who are doing special things or building successful careers in the Netherlands or abroad, asking them to give guest lectures or support projects. Alumni are often surprised to learn about the options and eager to give back, financially or otherwise, to the university. They also see the benefits of networking and connecting with current students—talents who will later enter the tight labour market.”

Network

It’s a great way to build reciprocal relationships and raise money for education and research, Vanderbroeck adds. “But it goes beyond that. Our crowdfunding platform and inspiring events enhance our visibility and expand our network. Very effectively, too; the majority of donations come from people and companies in Limburg. Donors identify with initiatives and projects they feel close to. This also applies to other forms of donations and bequests. You can support a specific project or study and even attach your name to it—a Named Fund—so you know exactly where your donation is going. Together we draw up a contract to ensure that the gifts are tax deductible.”

Green investment strategy

The five-year plan also covers the financial management of the UFL. “The Fund has had a moderately defensive investment strategy for years,” Janssen says. “This risk profile still makes sense, but we also wanted to increase our sustainable investments. We now have a dark green investment portfolio. Overall, we’re very pleased with our investment performance. The returns will allow us to offer a helping hand to many research and education projects at UM.”

Marketing

Alumni contributions have steadily increased over the past years. “Next year we’ll team up again with other Dutch universities on a national awareness campaign. It’s expensive, but as a university fund, we have to invest in visibility. Shifting the cultural mindset will take time and money. Besides, UM is still young and hasn’t yet reached the milestone of 100,000 alumni.”

In 2026, the UFL will celebrate its diamond jubilee and UM its golden jubilee. “We’re already making preparations,” says Janssen. “We see ourselves as the bridge between UM and society. And a jubilee is the perfect opportunity to tell the outside world what we do and how we can contribute to the region!” <



PAS Festival 2024: Pleasure, Art & Science

Friday 6 and Saturday 7 September from 19.00 hours

Children's programme on Saturday afternoon

Various UM locations at Jekerkwartier

Free admission

During the ninth free PAS Festival, Maastricht University will open its doors to treat residents of the city and region to a programme filled with interesting facts, great music, theatre and more. This year's festival, organised by Studium Generale, will again take place in the Jekerkwartier. Visitors can map out their own route in the gardens, courtyards and halls of UM's monumental buildings.

Each evening, there will be more than 60 events to choose from. Guests can enjoy musical acts such as Calle Mambo and Sjang, Sjer & de Sjele, attend lectures on conspiracy theories, false testimonies and the Einstein telescope, or be surprised by one of the many demonstrations. On Saturday afternoon a special children's programme will be organised, including fascinating lectures from KidzCollege.

Visit our website or follow us on social media as acts are added to the programme. The definitive programme booklet will be released in mid-August. For more information, see www.pasmaastricht.nl.



News

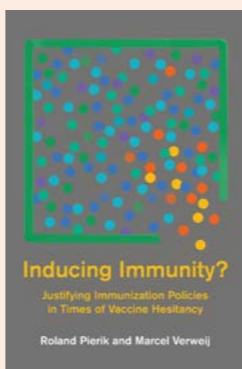
Freedom to refuse vaccination is not unlimited

How can and should the government respond to the current low participation rates in the national immunisation programme? Can certain forms of coercion be justified? A new book by Roland Pierik (Philosophy of Law, Maastricht University) and Marcel Verweij (Philosophical Ethics, Utrecht University) seeks to provide answers. In *Inducing immunity? Justifying immunisation Policies in Times of Vaccine Hesitancy*, the researchers make recommendations for immunisation policies that are responsible towards people who embrace vaccinations, but also towards those who are reluctant or even reject them. This is the first book to offer a comprehensive ethical and legal-philosophical analysis of collective vaccination.

Pierik and Verweij discuss the many factors determining what kind of policy is justified and under what circumstances. Factors include the severity of the disease, how

easily the infection can spread and the nature of the measures considered. Ultimately, they make a practical proposal for limited coercion within the Dutch National Vaccination Programme.

"When vaccine coverage is in decline," Verweij explains, "the government must take responsibility and draw a clear line: what is the lower limit that should not be surpassed? And it should lay down in law what measures will be taken at that lower limit." The researchers refer to the context of childcare. "A reasonable response for the government is to enforce that every child in daycare or after-school care is vaccinated according to regular schedule. Parents who refuse immunisation would then not be allowed to send their children to childcare centres. Obviously, the ideal is to maintain sufficient vaccine coverage such that coercion isn't needed at all."



Profile

Education and research at Maastricht University is organised primarily on the basis of faculties, schools and institutes.

Faculty of Arts and Social Sciences

- Arts, Media and Culture (AMC)
- Globalisation, Transnationalism and Development (GTD)
- Politics and Culture in Europe (PCE)
- Science, Technology and Society Studies (MUSTS)
- Faculty of Arts and Social Sciences Graduate School
- Centre for Gender and Diversity (CGD)
- Centre for the Innovation of Classical Music (MCICM)
- Centre for the Social History of Limburg (SHCL)

Faculty of Health, Medicine and Life Sciences

- School of Nutrition and Translational Research in Metabolism (NUTRIM)
- School for Cardiovascular Diseases (CARIM)
- School for Public Health and Primary Care (CAPHRI)
- School for Mental Health and Neuroscience (MHeNS)
- School for Oncology & Reproduction (GROW)
- School of Health Professions Education (SHE)

Faculty of Science and Engineering

- University College Maastricht (UCM)
- University College Venlo (UCV)
- Maastricht Science Programme (MSP)
- Department of Advanced Computing Sciences (DACs)
- Aachen-Maastricht Institute for Biobased Materials (AMIBM)
- Brightlands Institute for Smart Society (BISS)
- Brightlands Future of Farming Institute (BFFI)
- Department of Circular Chemical Engineering (CCE)
- Department of Molecular Genetics (DMG)
- Department of Sensor Engineering (SE)
- Gravitational Waves and Fundamental Physics (GWFP)

Faculty of Law

- Institute for Globalisation and International Regulation (IGIR)
- Institute for Transnational Legal Research (METRO)
- Institute for Corporate Law, Governance and Innovation Policies (ICGI)
- Maastricht Centre for European Law (MCEL)
- Maastricht Centre for Human Rights
- Maastricht Centre for Taxation (MCT)
- Maastricht European Private Law Institute (MEPLI)

- Maastricht Graduate School of Law
- Montesquieu Institute Maastricht

Faculty of Psychology and Neuroscience

- Graduate School of Psychology and Neuroscience (GSPN)
- Clinical Psychological Science (CPS)
- Cognitive Neuroscience (CN)
- Experimental Psychopathology (EPP)
- Neuropsychology & Psychopharmacology (NP&PP)
- Work & Social Psychology (WSP)
- Maastricht Brain Imaging Centre (M-BIC)
- Section Teaching and Innovation of Learning (STILL)

School of Business and Economics

- Graduate School of Business and Economics (GSBE)
- Research Centre for Education and the Labour Market (ROA)
- Network Social Innovation (NSI)
- Limburg Institute of Financial Economics (LIFE)
- The Maastricht Academic Centre for Research in Services (MAXX)
- Accounting, Auditing & Information Management Research Centre (MARC)
- European Centre for Corporate Engagement (ECCE)
- United Nations University – Maastricht Economic Research Institute on Innovation and Technology (UNU-MERIT)
- Social Innovation for Competitiveness, Organisational Performance and human Excellence (NSCOPE)
- Marketing-Finance Research Lab
- Service Science Factory (SSF)
- Maastricht Sustainability Institute (MSI)
- UMIO - executive branch of SBE
- Education Institute
- Maastricht School of Management (MSM)

Interfaculty institutes

- The Maastricht Forensic Institute (tMFI)
- MERLN Institute for Technology-Inspired Regenerative Medicine
- The Maastricht Centre for Citizenship, Migration and Development (MACIMIDE)
- Maastricht MultiModal Molecular Imaging Institute (M4I)
- Maastricht Centre for Systems Biology (MaCSBio)
- Maastricht Centre for Arts and Culture, Conservation and Heritage (MACCH)
- Centre for European Research in Maastricht (CERIM)
- Institute for Transnational and Euregional cross border cooperation and Mobility (ITEM)
- Institute of Data Science (IDS)
- Centre for Integrative Neuroscience (CIN)
- Maastricht Science in Court (MSiC)

Colophon

Publisher
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Translations and English editing
Alison Edwards

Graphic concept and Design
Zuiderlicht, Maastricht

Print
Andi smart print solutions, Beek

Maastricht University magazine is published in February, June and October. It is sent on demand to UM alumni and to external relations.

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ISSN
2210-5212

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