

UMagazine

October 2023

on education and research at Maastricht University

The law is not neutral

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ReGEN Biomedical: accelerating regenerative medicine

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Learning to stay calm in life-threatening situations

Can neurofeedback help police recruits become more psychologically resilient? In its search for an answer, the Special Intervention Service of the Central Unit of the Netherlands Police approached **Andreas Bressler**, PhD candidate in cognitive neuroscience. His research focuses on improving emotion regulation and attention through neurofeedback techniques.

Alum Georgina Sturge

House of Commons librarian and Public Policy and Human Development alum **Georgina Sturge** explains what numbers do and don't mean to policymakers and the public. She loves her work and credits UM for that as well. "It gave me not only the academic skills to pursue this amazing career path, but also confidence and resilience."



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Cover

For the cover image, photographer **Sem Shayne** was inspired by the interview with Nozizwe Dube who was selected as a Face of Science. As a PhD candidate at the Faculty of Law Dube's research focuses on intersectional discrimination—exclusion based on not one but several personal characteristics, such as being both Black and female.

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Foreword

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

The theme of our latest Opening of the Academic Year was 'Compassion and challenges: flourishing through resilience.' This theme was selected together with a group of UM students, who have seen—and experienced for themselves—the pressure on today's students to constantly perform and achieve. The report 'Harder Better Faster Stronger?', published by the Trimbos Institute earlier this year, shone a spotlight on the subject and received a great deal of media attention. According to the report, the pressure on students to excel in practically every area causes so much stress that it can lead to breakdowns. Concerns about the future, be it the housing market or the planet, don't make things any easier.

All this is in line with the general focus in our society on success and status. The need to be successful seems to have seeped into our drinking water; we consume it daily without thinking about the consequences. One way to counteract this is to communicate openly and honestly about our mistakes. See them as learning moments and opportunities to try again. And understand that achievements are only valuable if they have a positive impact on others or your own development. These themes were addressed at this year's opening ceremony; it is our hope that learning from one another's setbacks will remain a theme throughout this academic year.

Photography
Hugo Thomassen

Student wellbeing high on the agenda

Student wellbeing is high on the agenda of the Dutch government. At UM, too, we are continuing to invest in initiatives related to student wellbeing and academic advising, which form an integral part of our learning environment. Advising at UM encompasses teaching as well as caring for one another, helping students to develop a sense of being in charge of not only their studies but also their lives. To feel that they are on solid footing, regardless of the number of likes they receive on social media. By passing this on to students, we give them a gift that will benefit them for the rest of their lives. After all, you don't grow from perfectionism. You grow by failing forward. <



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The trailblazing cohort of the Global Studies bachelor's programme has graduated. Gaia Gazzara and Vincent Tadday look back on transdisciplinarity, challenging yourself and integrating new perspectives.

Putting things into perspectives



Graduate Global Studies
Gaia Gazzara

Graduate Global Studies
Vincent Tadday

Education

Text
Florian Raith

Photography
Harry Heuts

In 2020, Maastricht University launched a brand new bachelor's programme. Co-taught by all six faculties, Global Studies (GS) posits that the big problems facing us cannot be solved by the wisdom of any one discipline. Along with skills and knowledge, students learn to navigate complexity by incorporating different perspectives and approaches.

"I knew I wanted to study at UM," remembers Vincent Tadday, who went to high school in Krefeld, where he also played water polo in Germany's first division. "I'd been to the Open Day and knew some people who studied in Maastricht and loved it." His main interest at the time was international relations and GS contained many of those elements. "I also really liked how it was taught by six faculties and would offer so many different perspectives."

Every GS semester has a guiding topic, co-designed and taught by different faculties. "Migration & Citizenship was my favourite topic," says Vincent. "It was taught by professors and researchers of law, psychology and UNU MERIT because just one perspective won't allow you to grasp a complex phenomenon like global migration." Gaia Gazzara describes the programme's broadness as a strength. "Of course, there is a lot of ground to cover –it's both stimulating and very challenging. It allows you to discover complex interdependencies and also what you're passionate about."

Transdisciplinary knowledge and skills

The curriculum is laden with research methods and academic and professional skills. "In the first two years, there is language training, quantitative methods like basic programming, data analysis and statistics, but also interview techniques, presentation skills and much more." Both admit that they didn't become

experts in any discipline but point out that they have integrated perspectives and techniques from all of them.

Vincent found the theme Tolerance & Beliefs the most challenging. "It's very confronting and you really have to reflect and question yourself. It gave me a much richer understanding in the end." Gaia adds that the concept of positionality not only made her a better interviewer but a much more effective communicator. "Like with so many things we learned, it made me realise that things are much more complex than they seem, especially on a human level."

Solving real problems

While the students have to get a daunting amount of transdisciplinary theory under their belt, there is also plenty opportunity to apply it. Semester 5 contains a field study that sees small teams of students go abroad for a month. Vincent went to

Cyprus to interview people on both sides of the island to find out how self-perception and identity relate to citizenship. "It was an intense experience but I learned a lot –not just about research but also about myself."

Gaia went to Bogotá to conduct research around social entrepreneurship and an organisation teaching disabled children. "It was an amazing opportunity but also a bit intimidating. I think in general, GS made me challenge myself so much that I came out much more confident." The learning also paid off closer to home: "I've found the informatics and statistic we learned to understand how the carbon tax works really challenging. At the same time, many of those IT skills have already come in handy in my position as president of Philia [UM's first international sorority] and volunteering for Amnesty International; as has everything we learned about data management and privacy." >

It's both stimulating and very challenging.

Valuable perspectives

The final semester has students do project work with external stakeholders and write their bachelor thesis. Gaia's centred around feminist collectives in Mexico using Instagram and the challenges and issues surrounding digital activism in general. Vincent decided to write his thesis on foreign and security policy, in particular the UN's regulations on using private security companies. "Everyone could follow their own interests and it's amazing how diverse the range of thesis topics was."

Vincent thinks that everyone benefitted from the cohort's diversity. "I feel like I've grown a lot learning and working with students with different backgrounds, ideas, and approaches." Gaia is delighted with the GS community and stresses the importance of informal learning. "Sometimes you get different insights depending on which faculty your tutor comes from—which you can then discuss with people from other tutorial groups."

Community

While comprising many different nationalities, there was a large European contingent among those who could be so bold as to be the pioneers, but as GS becomes more established and prestigious—it is already top-rated in the Netherlands' study guide—it might reach more prospective students from the global south. "You can already see the cohorts after us getting more diverse," says Gaia. "That's great because you learn together and from each other the whole time."

GS students are very invested in the programme and had every chance to be involved in the co-creation process. Vincent was in the educational programme committee and co-founded the Global Studies Community, a study association where Gaia served as board member. "It does feel special to be the first cohort," she says. "I get the sense we helped shape the programme." While the curriculum is constantly evolving, both point out how well it's constructed and that learnings from different semesters reinforce each other.

The different perspectives and experiences have prepared me for everything that might come my way.

"Of course we learned—and learned to apply—a lot of hard skills, but I feel that especially the different perspectives and experiences have prepared me for everything that might come my way," says Vincent who will go on to study Public Policy in Paris and Berlin. Gaia's key takeaway was to be more critical and reflective about her own opinions, to listen to others before speaking and to integrate different perspectives. She will start an internship at a marketing agency in Milan.

While acknowledging the challenge that this extremely ambitious programme posed, head of the Global Studies development team Valentina Mazzucato is delighted with the result—and also a bit relieved: "This also feels like a graduation for us developers and teachers! It's one thing to design a new bachelor's programme, it's another to make it reality. With this graduation, we have seen that our idea of an interdisciplinary and interfaculty curriculum works." <



Gaia Gazzara and Vincent Tadday graduated from the first cohort of Global Studies. **Valentina Mazzucato** is professor of Globalisation and Development at FASoS.



International

Text
Jolien Linssen

Photography
Sem Shayne

PhD candidate
Nozizwe Dube



The law is not neutral →

Nozizwe Dube's life reads like a novel. The 27-year-old was born in Zimbabwe and, at the age of 14, was reunited with her refugee mother in Belgium. Determined to fight injustice, she became the chair of the Flemish Youth Council within just a few years. She is now a PhD candidate at the Faculty of Law and one of the 'Faces of Science' in the Netherlands. "I may be a role model, but I've had my own struggles against exclusion."

Faces of Science

They are the ambassadors of young academics in our country: the 12 PhD candidates selected annually by the Royal Netherlands Academy of Arts and Sciences (KNAW), the Young Academy and NEMO Kennislink. "Yes, it's quite an honour," Nozizwe Dube says. As one of these Faces of Science, she is tasked with making her research accessible to a wide audience through vlogs, blogs and lectures.

Role model

"Our main goal is to give young people an idea of what it's like to be a researcher," she explains. "For me, it's a useful exercise in going back to basics and explaining my research as clearly as possible." She is very conscious of her position as a role model, especially for young people with similar backgrounds to hers. "For certain groups of people, going into academia may not be an obvious choice. It can be helpful to see people who look like you."

At the same time, Dube has mixed feelings. "The risk is that role models are used as a smokescreen. Only the positives are highlighted; the successes. But I've struggled with exclusion too. And I've been lucky—my life could easily have been completely different. That's just as important to a role model's story."

Human rights

Much of the motivation for her research comes from personal experience. Under President Robert Mugabe's regime in her native Zimbabwe, she witnessed human-rights violations up close. Protests were brutally suppressed, political opponents were tortured and international sanctions left shops empty.

Later, as the daughter of a refugee in Belgium, she had to start over, learning a new language and integrating in a different culture. "When you come from an African country, you often encounter racism and sexism. I saw how my mother and her friends were excluded from the labour and housing markets." Once again in her young life, she was confronted with human-rights violations. It was a major factor in her decision to study law.



Nozizwe Dube earned her bachelor's and master's degrees in law from KU Leuven in Belgium. She served as chair of the Flemish Youth Council and was elected Young European of the Year in 2017, a title awarded annually by the Schwarzkopf Foundation Young Europe. Dube interned at the Constitutional Court of Belgium and the Permanent Mission of Belgium to the UN in New York. She is currently a PhD candidate at the UM Faculty of Law.



Intersectional discrimination

Dube's research focuses on intersectional discrimination—exclusion based on not one but several personal characteristics, such as being both Black and female. The phenomenon has existed for centuries, she explains, but only in the past decade did it gather steam as a research topic at Dutch and Belgian law faculties. "The problem is that intersectional discrimination is not recognised in the jurisprudence and antidiscrimination law of the European Union. EU law assumes that people can only be discriminated against based on a single trait."

Intersectional discrimination was aptly highlighted in a now famous case analysed by the US professor Kimberlé Crenshaw, who coined the term intersectionality. In the 1970s, in a 'last-in-first-out' layoff, the car company General Motors fired only Black women. After all, they had been the last to gain access to the labour market, following white women and Black men. In other words, it was only for this group that racism and sexism intersected to produce a specific form of exclusion.

"The judge disagreed," says Dube. "There could only be one grounds for a discrimination case—either race or sex. And since General Motors employed both Black men and white women, the judge ruled that neither applied."

Recognition

This could happen even today, as EU antidiscrimination directives—which member states turn into national laws—do not recognise intersectional discrimination. With her research, Dube hopes to change this. Based on analyses of legal cases, comparative law research in the European Court of Human Rights, the US Supreme Court and the Constitutional Court of South Africa, and interviews with legislators and policymakers, she is formulating recommendations for the Court of Justice of the European Union, EU antidiscrimination legislators and EU equality policymakers.

"I hope these three actors will apply my recommendations," Dube says. "But my ultimate dream is for the EU to recognise that intersectional discrimination exists and to combat it more effectively."

Activism

Given her desire to make an impact, would she consider an alternative career as a politician or an activist? "I've spent time in local politics, and learnt that it's not for me," she says. "I'm an idealist; it's all or nothing. In 2023 there are issues on which you just shouldn't accept compromise."

She feels more connected with activists, who energise and inspire her. "I know it's not a view shared by many legal scholars, but I think academics can learn from activism. The recognition that the law is not neutral, for example, but arbitrary and subjective. The law can be used to emancipate people, but also to oppress them." <

UM researcher receives €1.5 million for brain research

The European Research Council (ERC) has awarded 400 grants worth an average of €1.5 million to young researchers. Of these, 44 are employed at Dutch universities and research institutes, including Sanne ten Oever, assistant professor at the UM Faculty of Psychology and Neuroscience.

The starting grants are intended for early-career researchers who completed their PhDs two to seven years ago. Almost 2,700 proposals were submitted this round, with a success rate of 14.8 percent. Ten Oever was awarded €1.5 million for her five-year research programme *Back to the Future*, which focuses on communication between two parts of the brain: the frontal and sensory areas.

“We know that the frontal areas send information to the sensory areas to better process new input from the senses, but we don’t yet know exactly how,” Ten Oever explains. “So the first research question is how that communication happens. The second is whether we can improve that communication by stimulating the brain with electrical signals.” <



Further integration of university and Maastricht academic hospital

In the coming years, Maastricht University and the MUMC+/azM will strengthen, deepen and broaden their existing cooperation. A declaration of intent outlines how the two organisations plan to join forces in response to the growing issues in healthcare and other societal challenges. These problems call for a robust approach, utilising the latest scientific insights and technological innovations, and an even better connection between fundamental scientific insights and clinical practice.

For 15 years, the Maastricht academic hospital (azM) and the Faculty of Health, Medicine and Life Sciences (FHML) have worked closely together under the name

Maastricht UMC+. The aim is to expand this existing cooperation into an integrated university medical centre, with a greater role for UM’s other faculties too.

The new, integrated approach focuses on two themes: a healthy society and technology. In the healthy society theme, both organisations combine research, education and valorisation on topics such as prevention, healthy nutrition, and virtual and data-driven care. The aim is to provide affordable and personalised care solutions and minimise the pressure on scarce human resources. Training for healthcare professionals will be broad and interdisciplinary, involving other UM faculties on the ethical, legal, economic and social aspects of healthcare.

This integrated approach will also be applied to the second theme, technology: responsible disruption. Important benefits can be gained by further merging medical technology, engineering and data sciences. Examples include the ‘operating theatre of the future,’ mathematical models to replace animal testing in biomedical research, and wearables and implants for the diagnosis and treatment of disorders and chronic diseases. <

Professor of Philosophy of Public Health
Klasien Horstman

A fan of the snack bar



Portrait

Text

Annelotte Huiskes

Photography

Sem Shayne

For Klasien Horstman, professor of Philosophy of Public Health, science is the “realm of freedom.” Unfortunately, reality is more intractable. She is irritated by the patronising lifestyle interventions imposed top-down on groups that have been epidemiologically classified as high risk. “The ‘you have to live healthily’ discourse doesn’t sit well with me.”

If there is a common thread in Klasien Horstman’s work, it’s social inequality. It frustrates her that lifestyle recommendations tend to ignore the everyday reality of “high-risk groups,” which often consist of people with a low income. She sees the word “intervention” as a veiled form of academic paternalism that is, moreover, directed at the individual without taking account of the environment.

Economic insecurity: a major health threat

The moment Horstman became a professor, she decided to do things differently. “We wanted to talk to people in low-income neighbourhoods and ask them how they themselves define health. Economic insecurity is a major source of stress, which is detrimental to health and wellbeing. The path forward is clear—put a stop to all these different interventions for umpteen individual health risks. Every expert comes up with their own risk, but the real world isn’t that fragmented. Make sure everyone has an adequate income. The people with low incomes we talk to know perfectly well that smoking is bad and exercise is good for you. But they have other things on their mind.”

Eight years ago, she set up the living lab *UniversiteitmetdeBuurt* (“University in the Neighbourhood”) in Maastricht-Noordwest, a low socioeconomic status (SES) neighbourhood. The goal was to tap into residents’ knowledge in and of the neighbourhood and connect it to scientific knowledge. With her colleague Mare Knibbe, she wrote *De gezonde stad. Uitsluiting en ontmoeting in de publieke ruimte*, a scholarly book focused on the nexus between health, social interaction and exclusion. “We see public spaces as social infrastructure, as places to combat exclusion and inequality. From that perspective, the local snack bar isn’t just a symbol of an unhealthy lifestyle. It’s one of

the few places where people can get together in a neighbourhood with a dearth of public spaces. My health-sciences colleagues call snack bars unhealthy, but their value goes beyond the calorific value of their food. They also serve a social function. I’m a fan of the neighbourhood snack bar. As it happens, my parents ran a snack bar from home on weekends to make extra money. Once a week my grandparents would come over to peel potatoes for the chips.”

Philosophy café

The main problem in purely residential suburbs like Maastricht-Noordwest is a lack of social interaction. “We pulled at that thread. We organised a citizens’ summit, where residents told us they would like to have more places to get together. They wanted a healthcare café, an arts incubator, a community coffee shop. Just talk to people and you’ll see they know exactly what the problem is. They also told us, ‘We’re tired of people thinking we only want to play bingo. We want to have philosophical discussions.’ Residents of low-SES neighbourhoods feel stigmatised by institutions and researchers alike. Many researchers associate ‘low SES neighbourhood’ with ‘less educated,’ which they assume means ‘unintelligent.’ And this while being stigmatised increases unhealthy behaviour! Our philosophy café has been running for over five years now, with very meaningful discussions on a broad range of topics. You don’t need a degree to have a lot of wisdom. The next theme is compassion.”

Both feet in the peat

Born and raised in the peatlands of southeast Drenthe, Horstman knows what it’s like to grow up in modest circumstances. Her grandfather was a peat worker with nine children to feed. After finishing primary school, her father was sent out to work. “He used to slaughter animals at farms. When that



You don't need a degree to have a lot of wisdom.

work moved into slaughterhouses, he lost interest and got a job in a canning factory. We always had a beef cow at home. We didn’t have a lot of money,” she laughs, “but we always had good meat.”

When Horstman was ten, her mother died of stomach and colon cancer. “I’ve blocked out those memories. She suffered terribly. Back then, in 1969, you didn’t talk about death. When she came home from the hospital, we had cake to celebrate. But I knew she wasn’t going to make it.” Her father was left behind with three young children, two girls and a boy. Horstman was the eldest. “Back then there was no pension for widowers, only for widows. He had to go back to work three days after her death. And he had to get a new wife, which he did. She gave us another brother. The marriage broke down after seven years. But she was a teacher, so she brought books into our house. That opened up a whole new world for me.”

These boots are made for walking

In primary school, Horstman proved to be a good learner. “I was offered extra French lessons, and once I’d finished all the maths workbooks of the year I was in, I’d move on to the next year’s. I had to go and fetch the workbooks from the next classroom myself, which was difficult. I was a shy child, but people saw me as an overachiever and a know-it-all.” She was glad to move on to high school in the city of Coevorden. “Every step I took outside the village was a relief. It was easier to be myself in high school. I loved learning. And I was into the alternative look—Afghan coats, ripped jeans, sturdy boots. It was my way of rebelling against the conventions of village life.”

Communist stronghold

She became the first in her family to attend university, studying philosophy in Groningen. “I enjoyed reflection and discussion, and I’d loved doing a history >



Klasien Horstman studied philosophical and historical sociology in Groningen. She obtained her PhD from Maastricht University in 1996. From 2001 to 2009, she held the Socrates Chair at Eindhoven University of Technology as professor of Philosophy and Ethics of Bioengineering. She has been professor of Philosophy of Public Health at Maastricht University since 2009.

project on Jean-Jacques Rousseau. Philosophy seemed like a good fit for me. My father was proud. He wanted us to learn as much as we could so we'd always be able to take care of ourselves, no matter what life threw at us. 'Knowledge is power'—that was one of his slogans. He'd have liked to have gone to university himself."

But she soon became disillusioned. "I felt intimidated by the political ideology in the faculty. A lot of the students were older than me, and the faculty of philosophy was a stronghold of the local student union, dominated by communist ideology. Many of the professors were Marxists or communists. My social-democratic views were ridiculed. I developed an aversion to peer pressure and dominant social codes. After a year, I switched to historical and philosophical sociology, which was a breath of fresh air. I learnt all about the historical context and philosophical critique of totalitarian and dogmatic thinking. Philosophy of science, the relationship between science and democracy—all themes I'm still involved in. The lecturers were wonderful; I had a great time there. After 2000, when our FHML began to idealise evidence-based medicine and allow only one kind of knowledge, I sometimes felt like I was back in that faculty of philosophy."

The emergence of preventive healthcare

One of her professors pointed her to a PhD position in Maastricht under Louis Boon. They met at a traditional café near Amsterdam Central Station. She'd been out late the night before, so when Boon asked

her where she wanted to sit, she said, "Away from the light, please—I'm a bit hungover." He appreciated her honesty. The PhD position involved research on health philosophy. "After my mother's death, I'd avoided anything related to health and healthcare. But I was handed a blank cheque. I spent three months in the library, poring over all issues of the Dutch Journal of Medicine published between 1865 and 1920 to identify the social themes and debates in healthcare. I saw how preventive healthcare emerged during that period, how the concept of risk was introduced, the social debates about vaccination and the ethics of double-blind studies—fascinating sociological-philosophical themes."

She also explored the role of insurance companies, which were the first to distinguish high-risk groups and introduce screening tests. "They screened healthy people to predict whether they would live longer or shorter lives. I analysed how this way of thinking developed and how it affected people who were refused insurance. Even then, the theme of social inequality was close to my heart: who is included in or excluded from collective care arrangements, and on what grounds?"

Single mother

Her PhD research coincided with a difficult time in her personal life. Her first child unexpectedly died at birth. "I was really out of it for a long time. But I badly wanted a child, and two years later, my son was born. My relationship didn't survive, so I suddenly found myself a single mother. I'm now happily together with someone else, but back then, I was finishing my dissertation. I scrapped half my chapters and wrote like crazy during my pregnancy leave. I submitted my dissertation on a Friday; my son was born on the Sunday. I defended my PhD a year later." One thing she didn't have to worry about was putting food on the table. "I was doing a lot of teaching—philosophy and women's studies—and I was made assistant professor within two years."

A good life

What does living a good and healthy life mean to her? After a moment's thought, she says, "To be able to mean something to a few people. To have meaningful relationships; that's what matters to me. To have the freedom to think and do what you want. To take things as they come and not make yourself too important. I don't believe we can control our lives. You never know what will happen. Most people do their best, but you can be unlucky, and everybody makes mistakes from time to time. Let's not judge one another too harshly, but help each other out when things go wrong. Of course we have to take responsibility, but it's an illusion to think we can foresee and control everything. That's why good healthcare arrangements are crucial to society." <

News

Opening of the Academic Year 2023/24

The traditional festive launch of the new academic year 2023/24 was held in the Theater aan het Vrijthof on 4 September. The programme included an inspiring keynote speech by entrepreneur Yama Saraj and the presentation of the annual Student Award, the Edmond Hustinx Prize and the Impact Award.

Keynote speaker Yama Saraj

Professor **Rianne Letschert**, President of the Executive Board, opened the event with a speech that tied in seamlessly with the theme of the opening of the academic year, 'Compassion and challenges: flourishing through resilience.' She emphasised the importance of the wellbeing of UM students and staff in an academic world increasingly focused on performance and status.

This year's keynote speaker was entrepreneur **Yama Saraj**. He shared his life story, full of setbacks and triumphs. Together with students Rosanne Vosters, Okeeno Hamilton and Natalia Podstawka, he discussed the mental hurdles faced by young academics in particular. He left us with important insights that we will work on together in the coming academic year.



The audience was also treated to the magical sounds of the musical duo **Aafke Romeijn** and **Bram Leven**, and the jazz band CLS Trio from the Conservatorium Maastricht.

Impact Prize

The Impact Prize is awarded annually to the PhD student whose research has had the greatest impact on society. This year, it was Study Smart by PhD candidate **Felicitas Biwer**. Study Smart is an online platform that provides training and insight into effective study methods. Biwer developed the platform—which some 3,000 students already use—in collaboration with EDLAB, the Faculty of Health, Medicine and Life Sciences and representatives from other faculties.

UM Student Award

Every year, the UM Student Award is awarded to students who have made exceptional social or cultural contributions alongside their studies. This year, the prize went to the Diversity, Inclusivity, Accessibility and Sustainability (DIAS) project group consisting of **Maaïke van Uum**, **Helena Sanvincente**, **Serena Boukelmoun** and **Anna-Maria Lipolit**. As part of their 'Are you okay?' campaign, the students created stickers with a QR code linking to an interactive infographic that provides the contact details of emergency services.

Edmond Hustinx Prize

This year's Edmond Hustinx Prize was awarded to **Natasha Mason**, assistant professor in the Department of Psychopharmacology and Neuropsychology. For the past nine years, she has been investigating the potential therapeutic benefits of psychedelic drugs and cannabis. The Edmond Hustinx Prize is awarded annually by the Edmond Hustinx Foundation to highlight the impact of science in South Limburg. <



Keynote speaker Yama Saraj



Felicitas Biwer receiving the Impact Prize



The DIAS project group receiving the Student Award 2023



Natasha Mason receiving the Edmond Hustinx Prize



Operations manager
Tom Mastenbroek

Technological manager
Ravi Sinha



ReGEN Biomedical: accelerating regenerative medicine

Science

Text
Jos Cortenraad

Photography
Paul van der Veer

In Europe, particularly in the Netherlands, RegMed XB is gearing up to take on the United States, Japan and Israel in the field of regenerative medicine. ReGEN Biomedical—affiliated with Maastricht University and a spin-off of RegMed XB—is building a facility to grow human tissue that will one day be used to repair failing organs, cartilage and muscle.

According to operations manager Tom Mastenbroek, regenerative medicine is nothing short of a paradigm shift. “We’re going to see a transition from treatment to recovery: from care to cure. Cell therapy will enable doctors to repair or reconstruct organs and muscles. They’ll be able to repair damaged heart tissue, reconstruct cartilage, rebuild parts of the eye, and eventually grow more complex organs like kidneys. It’s the future of medicine. In our international team at ReGEN Biomedical, people of five different nationalities are working hard to make this future a reality.”

Collaboration and long-term vision

ReGEN Biomedical is a spin-off of RegMed XB, a consortium founded in 2017 consisting of leading health funds, 30 companies, national and regional authorities, and five universities: Leiden, Utrecht and Maastricht, plus Eindhoven University of Technology and KU Leuven. Their collaboration resulted in the establishment of a pilot factory with four product lines, including ReGEN Biomedical. Each partner brings its own strengths to the table.

“Collaboration and a long-term vision are critical to success,” says Mastenbroek. “Each of our four pilot production facilities has its own focus. Together, our ultimate goal is to print organs and grow tissue from human cells. We still have a long way to go—especially when it comes to growing more complex tissues—but stem-cell and gene therapy are gradually making their way into clinical practice.”

Macro-tissues

Two years ago, technological manager Ravi Sinha was tasked with building an entire pilot production factory. “The challenge was to automate the production process as far as possible. Regenerative medicine is still very labour intensive, with lots of people working in labs. The field offers great potential and opportunities, but costs are a critical factor. Automation is key.”

“We’re drawing on the knowledge of Maastricht University, particularly its research institutes CARIM and MERLN, but we’re targeting a broad international market,” adds Mastenbroek. “For example, CARIM is conducting research on the regeneration of cardiovascular tissue after a heart attack. We’re working closely together to show that we can produce heart-muscle cells.

“But for us, it’s not just about growing human tissue. We’ll also make our equipment available to other companies. Innovation in regenerative medicine is complex and capital intensive. You need labs, state-of-the-art cleanrooms, specialists. >



To make investments like that, startups have to secure substantial funding; even established pharmaceutical companies have to weigh up the pros and cons. With our facilities, we aim to become a collaborative partner offering services to others in the field. We want to accelerate this new medical paradigm, foster ideas and innovations, and facilitate the transition from lab to patient for large and small parties alike. From reliance on subsidies to commercial viability.”

Automation

Sinha proudly shows off the various cleanrooms, featuring equipment from suppliers from the Netherlands and abroad. This is where human cells and other materials are processed and stored. The heart of ReGEN Biomedical is the cleanroom where the actual production takes place, carried out by an automated system. It was configured by Sinha and his international team, including software they developed themselves. Entirely automatically, the system places cells into thousands of tiny compartments, feeds them, and combines them to grow into small tissue slices. “These slices will initially be used for personalised drug screening—and, one day, to heal patients.”

Moonshot

Enthusiasm aside, Mastebroek is keen to play down the high expectations. “We’re at the very beginning of this process. Compare it to the 1960s, when we wanted to go to the moon. It seemed impossible, but we did it. Regenerative medicine is a moonshot. We know it’s possible, but there are still many obstacles to overcome. Every step is progress. Together with the other facilities—biomaterials in Eindhoven, stem cell production in Leiden and personalised cell therapy in Utrecht—we’re aiming for the moon.” <

ReGEN Biomedical was founded by professors **Marianne van der Steen** and **Clemens van Blitterswijk**.

Marianne van der Steen: “Collaboration between regions, universities and private parties on this scale is truly unique. Thanks to funding from the National Growth Fund and REACT-EU, ReGEN Biomedical is giving the Netherlands a genuine opportunity to compete with major hotspots like Boston, California, and Japan.”

Clemens van Blitterswijk: “Over the past eight years, the MERLN research arm has created over 150 jobs and been involved in many prestigious projects and publications. We’re now turning our focus to achieving the same level of success in commercial applications. ReGEN Biomedical represents a significant step that will form the backbone of a robust commercial regenerative-medicine ecosystem in Limburg.”



Tom Mastebroek studied cell biology in Wageningen and obtained his PhD from Maastricht University, where he is currently completing his MBA. He previously worked at UM and RegMed XB. In 2021 he was appointed operations manager at ReGEN Biomedical. He is also a board member of the Limburg Foundation for Nature and the Environment.



Ravi Sinha moved to the Netherlands in 2011 after studying in India and the US. He obtained his PhD in Biomechanical Engineering from the University of Twente. He has held postdoc positions at Maastricht University and KU Leuven. He joined ReGEN Biomedical in 2021.



Vulnerable
young people
require a



PhD candidate
Lynn van Vugt

Professor of Health,
Education and Work
Mark Levels

personalised
approach

They may study an unconventional group, but they have fun doing so. **Lynn van Vugt and Mark Levels focus on NEETs: young people who are Not in Education, Employment or Training, and are difficult to engage. Van Vugt's PhD research—supervised by Levels, professor of Health, Education and Work—produced eye-opening findings that point to the need for policy changes.**

Her PhD was part of a broad-based international consortium study on NEETs led by Levels. Focusing on young people aged 15 to 29, Van Vugt examined the role of institutions from an international perspective. Across countries, low literacy (lacking the reading and writing skills to participate in today's information society) turned out to be the strongest predictor of becoming NEET. Active labour-market policies, such as job-application training, were of little help. "These policies only work for people who are literate. Policymakers, including here in Limburg, tend to focus on this easier-to-reach group, as there are often subsidies involved."

At the national level, Van Vugt examined the role of the family in becoming NEET. Her findings showed that parental resources (income, education and skills) have a protective and preventive effect. However, 'shocks' such as divorce or a sharp drop in household income can lead to school dropout—a strong predictor of becoming NEET.

These are eye-opening findings, says Levels. "Lynn has convincingly shown that children are often not to blame for dropping out of school. It's their socioeconomic background that makes them vulnerable. Their disengagement usually stems from a lack of ability rather than a lack of willingness. If you look at it that way, it's clear that policy changes are needed."

Relevant research

When the research position became available, Levels immediately approached Van Vugt. "As a young researcher, Lynn had already proven herself. She'd previously developed the school reports for the Netherlands Cohort Study on Education, so I knew she had the skills to organise this highly complex project." For Van Vugt, what mattered was that the study was of both academic and societal relevance. "It wouldn't end up in a drawer somewhere. Policymakers can actually use our findings."

The pair enjoyed working together. They formed a genuine team, says Van Vugt, together with her second supervisor, emeritus professor Rolf van der Velden. "What I've always appreciated about Lynn is her ability to use reason and persuasion," Levels says. "These are important skills that require courage. She taught me that amid all the chaos, it's possible to respectfully request priority for something you urgently need." In turn, Van Vugt learnt a lot from her supervisor—not least the importance of a good work-life balance. Levels: "She kept on working through her pregnancy until I told her, 'Now it's time to stop.'"

Personalised approach

There is no one-size-fits-all solution to prevent young people from becoming NEET. "Tax incentives, home visits from school inspectors—they don't solve the underlying problem," Levels says. "Current policies fail because they target the common denominator, the easy cases." Childcare may be an exception, Van Vugt suggests: "If you make childcare cheaper—or better yet, free—young mothers are more likely to use it, and thus return to work or school."

But in most cases, Van Vugt recommends a personalised approach. "There's always more going on than just low literacy. Every case is complex." As for prevention, she envisions a larger role for schools, which should enter into dialogue with vulnerable students facing multiple, complex problems. "Paid internships for younger people could also help. Combining working and learning would allow them to build up a professional network and gain relevant skills."

Youth coaches

The first challenge in addressing NEETs is reaching them. They are rarely registered in the education system or included in unemployment statistics. They also tend to be distrustful and reluctant to accept help. Youth coaches could play a role here, the sociologists agree. Van Vugt: "For each case, we have to identify the obstacles and consider how to circumvent or remove them. What motivates these young people? Should we help them go back to school, get an internship or find a suitable job? You can also involve parents and help them acquire new skills."

Social resilience

Van Vugt, now project leader of the Netherlands Cohort Study on Education, is working on several publications. She is also looking forward to the challenge of conducting a new study focused on persistent NEETs. "We have new data coming in for the NEET study, including data on non-cognitive skills like social resilience. Lack of motivation is not usually the core problem. Making vulnerable young people more resilient may prevent them from becoming NEET in the first place." As for Levels: given the increase in psychosocial issues caused by the covid pandemic, he expects NEETs to remain a major social problem for the foreseeable future. <

Professor – student

Text
Hans van Vinkeveen

Photography
Philip Driessen



Lynn van Vugt obtained her PhD from the Research Centre for Education and the Labour Market (ROA) at the Maastricht University School of Business and Economics. Her research focuses on NEETs, young people who are Not in Education, Employment or Training. She currently works as a project leader at ROA and is involved with the Netherlands Cohort Study on Education and the Education Monitor Limburg.



Mark Levels is professor of Health, Education and Work and programme director at ROA. He is also dean of lifelong development at Maastricht University and one of the founders of the Netherlands Cohort Study on Education. His research focuses on how legislation and government policy influence human behaviour and decision making.



Renovation of UNS50

The Biochemistry Department is housed in the southern wing on the first floor. This is the first floor to have been renovated. The laboratories and office spaces are now lighter and more open; the other floors of UNS50 will be given the same treatment. Renovations are currently underway in the southern wings of the second and fourth floors and the University Library in Randwyck. The size and complexity, as well as the need for teaching and research to continue elsewhere in the buildings at the same time, mean the renovations will continue until 2030. <

Spread

Photography
Arjen Schmitz

The relationship between plant genetics and the environment is vital

He knows everything there is to know about potatoes—he earned a PhD in the subject. Since then, the scope of Jan van den Berg's work has widened. The new professor of Plant Envirogenetics studies the relationship between plant genetics, growing and storage conditions, and quality factors such as nutrients and taste.



Region

Text
Ludo Diels

Photography
Arjen Schmitz

Van den Berg's field of research is paving the way to a circular future for society. In line with his vision, the Brightlands Future Farming Institute (BFFI) is currently being established at the Brightlands Campus Greenport Venlo. "We still know relatively little about the envirogenetic regulation of consumer characteristics in vegetables, so more research is needed."

Brightlands Future Farming Institute

The importance of vegetables for the future of food is hard to overstate. Vegetables can feed the world sustainably, and a healthy diet rich in fruits and vegetables plays a vital role in disease prevention. But in times of climate change and public-health crises, finding a sustainable way to produce vegetables that

appeal to consumers is essential. BFFI researchers will collaborate to this end with other experts on campus in the fields of nutrition education and plant-based food innovation.

Van den Berg is a man on a mission. "It's clear that we can't continue to exploit the Earth as we have been doing. The future of food is plant-based. In times of global warming, we want to find out how we can grow food in a responsible and sustainable way. We study plant genetics as well as growing conditions and the post-harvest journey of vegetables, including packaging, processing and storage. We're looking at the whole chain."

The big picture

Van den Berg studied agronomy in Wageningen. "It's a multidisciplinary programme that encompasses the natural, economic and social sciences as they relate to agriculture. I specialised in crop cultivation and became interested in plant physiology and genetics. After interning at Cornell University, where I did my PhD in potato research, I joined BASF's vegetable-seeds business."

At BASF, he focused on R&D in seed technology and molecular breeding. "I'm now manager of strategic alliances and partnerships, connecting with research institutes and other companies active in plant genetics, cultivation and post-harvest physiology." >

Envirogenetics

Vegetables are increasingly seen as an effective means of preventing disease and promoting a healthy lifestyle. The new BFFI will have a broad scope. “I coined the term envirogenetics to describe the complex interaction between genetics and the environment. For example, we’re studying the effect of blue light on carotenoid production in spinach and tomatoes. In addition to finding significant genetic differences, this kind of research allows us to adapt the environment and genetics to each other. It will help us develop vegetable solutions with a positive impact on health and even on the prevention and treatment of certain diseases. But it’s not just about nutrients; it’s also about factors like taste, colour and freshness. Or consider crops that are not only nutritious, but also resistant to drought, heat or particular pathogens.”

Resistance

Van den Berg is aware of the public concerns about crop production and breeding techniques. Food is one of our basic needs; it must be responsibly produced. Today, breeding for natural resistance using related species has reduced the need for crop-protection products. With growing in greenhouses now also ‘cleaner,’ he sees no cause for concern.

“People have been crossbreeding crops for centuries. Introducing DNA from wild species is nothing new. Besides, the EU is rigorous about food safety. There’s absolutely no need to be afraid. I have no qualms about buying vegetables from the supermarket, even though I have my own vegetable garden,” he laughs. “Breeding techniques, like gene editing using CRISP-CAS, are developing rapidly. Products bred using those techniques are not currently available on the European market, but it’s important to have an honest and nuanced discussion about them. This will be incorporated into the BFFI curriculum. It’s important for students in nutrition-related fields to have at least a basic understanding of how plant-based food is produced, which includes some knowledge of plant breeding. That way they can form and share well-informed opinions.”

Academia and practice

Van den Berg enjoys having one foot back in academia. “It allows us to exchange knowledge and expertise. With all the startups on campus, research is leading to business opportunities here in Venlo. Bringing together education, industry and the authorities is fruitful; it creates a stimulating learning environment that encourages entrepreneurship. I want my research to go somewhere. Applicability is important to me. It’s inspiring to realise that vegetables grown from BASF seeds reach half a billion people every day, and that many other Dutch companies make a significant contribution to feeding the world.” <



Jan van den Berg studied agronomy in Wageningen and earned his PhD in vegetable crops from Cornell University in the USA. He has over 25 years of experience in R&D management in the vegetable-seeds industry. For Nunhems Netherlands BV, the vegetable-seeds division of BASF, he was in charge of seed technology, molecular breeding and various R&D crop teams worldwide. As endowed professor of Plant Envirogenetics, he is helping to establish the Brightlands Future Farming Institute. Van den Berg is a board member of the sectoral organisation Top Sector for Horticulture & Starting Materials in the Netherlands and the Precision Indoor Plants consortium in the USA.



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There’s absolutely no need to be afraid.

Research and society

Text
Hans van Vinkeveen

Photography
Paul van der Veer

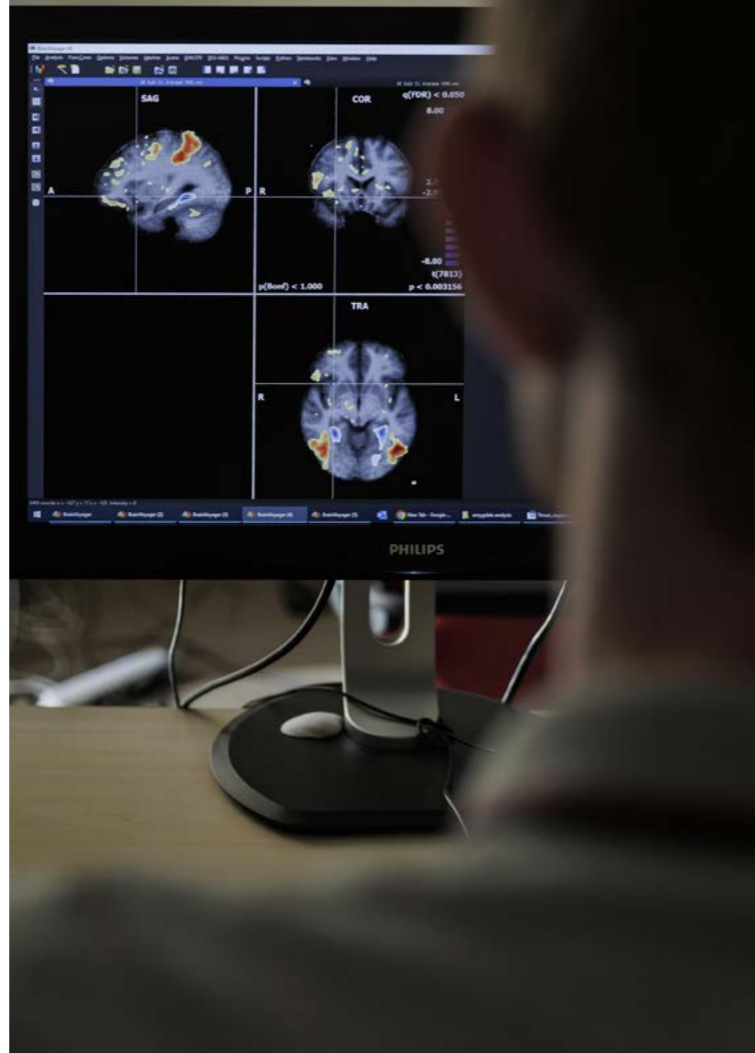


Learning to stay calm in life-threatening situations

PhD candidate
Andreas Bressler



Can neurofeedback help police recruits become more psychologically resilient? In its search for an answer, the Special Intervention Service of the Central Unit of the Netherlands Police approached Andreas Bressler, PhD candidate in cognitive neuroscience. His research focuses on improving emotion regulation and attention through neuro-feedback techniques. “This is the first study in the world to examine how neurofeedback can support people operating in high-performance situations.”



Such situations are an everyday reality for members of the Special Intervention Service (DSI) of the police and defence forces. DSI operators are called on to arrest armed and dangerous individuals, for example suspects of terrorism or serious violence. They also take part in high-risk operations involving explosives or heavy firearms. This can cause stress and anxiety, disrupting decision-making processes and potentially leading to long-term mental-health disorders. The Netherlands Police asked the Faculty of Psychology and Neuroscience to study whether neuro-feedback can be used to increase the psychological resilience of DSI recruits—experienced military personnel who have previously worked in conflict zones.

The study involved two neurofeedback paradigms, Andreas Bressler explains. The first model focused on improving emotion regulation in dangerous or life-threatening situations. “For members of these units, being able to control their emotions and stay calm is often a matter of life and death.” The second paradigm was aimed at maintaining focus in high-performance situations. “These units are often called up in an emergency, but then have to sit through

long periods of inactivity. It’s important for them to recognise the moment when their focus slips.” Both paradigms had previously proved successful in clinical populations. “Our study was the first to test these neurofeedback techniques in people operating in high-performance situations.”

Threatening images

After a pre-test consisting of a questionnaire on negative emotions and an assessment of threatening images, the experimental group participated in six sessions involving specific tasks. For example, they were instructed to respond to an image of an opponent wielding a firearm. Functional MRI (fMRI) scans were used to identify which areas of the brain lit up during certain sensations and actions. Neural activity decreased if a participant managed to downregulate his emotions (all of the test subjects were male). As a reward, the image would shrink. Conversely, if brain activity increased, the image grew larger and thus more intense, meaning the participant had to work even harder to calm down. Bressler: “We wanted to find out if participants could successfully downregulate their emotions and how they could use this strategy in their work.”

They managed to teach themselves to stay even calmer.

During the attention tasks, participants were presented with an image containing faces and scenes mixed together. They were instructed to focus on the faces, after which the composition of the image changed. “If they managed to keep their attention on the faces, we could see this in their brain activity and rewarded them by making the faces more salient. If they got distracted, we made the faces less salient to alert participants to the fact that their attention was slipping and they had to work harder to maintain focus.”

Low brain activity

Bressler drew several conclusions from the study. Having observed no improvement in the attention tasks, he is now working to improve the paradigm for future applications. With respect to emotion regulation, the fMRI data did show a demonstrable improvement. A remarkable finding, Bressler says, given that the experimental group consisted of

veterans of peacekeeping missions who were already quite capable of downregulating their emotions. “They managed to teach themselves to stay even calmer in high-risk situations, reaching surprisingly low levels of brain activity.” In short, these neurofeedback techniques can bolster psychological resilience and guard against post-traumatic stress disorder, making them a valuable addition to the intense training programme for DSI recruits.

The strategies participants used to successfully downregulate their emotions were highly individual, Bressler says. The study essentially involved self-discovery. “Our goal was to let participants find out for themselves which strategy worked best for them. Some used breathing techniques to calm down. Others went through specific police procedures to control the situation depicted and disarm or eliminate the opponent.”

Moment of distraction

Bressler’s study confirms that fMRI methods for emotion regulation also work well for individuals operating in high-performance situations. In the future, he aims to test neurofeedback techniques in children with ADHD to increase their attention span. “From the outside, it can be difficult to determine whether someone is just staring, actually paying attention, or thinking about something else. Our paradigm revolves around learning to recognise the moment of distraction. How do you identify the moment when your focus slips, and bring your attention back to what you were doing? We use neurofeedback to show whether brain activity increases or decreases when you maintain or lose focus.” <

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Andreas Bressler is a PhD candidate in cognitive neuroscience at the Faculty of Psychology and Neuroscience. His research focuses on the use of functional MRI scans to improve emotion regulation and attention in special units of the Netherlands Police. Bressler is also the project coordinator of research and innovation at the Young Universities for the Future of Europe of Maastricht University.





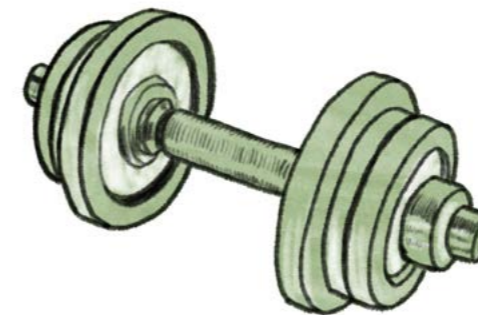
Daisy Jonkers, scientific director of the NUTRIM research institute and professor of Intestinal Health, is calling for more inclusivity and diversity in scientific research. Why is this important, and how can we make research more diverse? “It’s no longer just about the number of publications or grants awarded.”

A different approach to scientific research

Sustainability

Text
Milou Schreuders

Illustrations
Ted Struwer



Wanted: Participants for a health experiment. But preferably men, who meet strict selection criteria.

Homogeneous, male research groups have conventionally been the standard in medical research. There are several reasons for this, Daisy Jonkers explains. “The more diverse the research population, the more additional variables that may influence the results. And the greater the diversity, the more people that are needed for comparative purposes. By using male participants, scientists didn’t have to take into account variables like the female hormone cycle.”

In principle, there is nothing wrong with homogeneous research groups, says Jonkers, provided they are well-suited to the research question. “But I do think the scientific community has to become more aware of the differences between people and the translation of the results to everyday practice. We have to realise that the findings for one group don’t automatically apply to another group.” How can we close this knowledge gap?

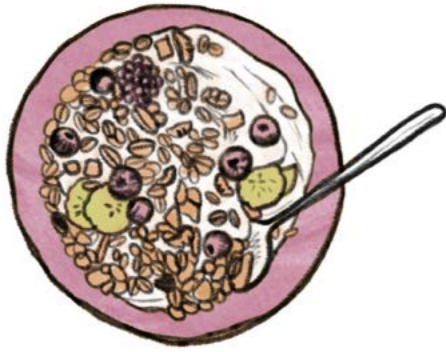
New mindset

The solution, she suggests, lies in a new, critical mindset among scientists. “That mindset involves questions such as: is my research question adequately geared towards the underlying societal problem? Can we take the next step and ensure that the data and insights we gain are also more broadly applicable to other groups? And is further research required, for example with a heterogeneous population or in a different group?”

“Depending on their research question, scientists could take better account of differences in gender, age, culture, psychosocial factors or economic status. And in the case of biomedical research, they could consider variables such as genetic sensitivity, but also metabolism and muscle strength. Exercise studies are often carried out in carefully selected young men and athletes, but do the findings also apply to older people, or people who are less fit?”

One size doesn’t fit all

What drives Jonkers in her role as scientific director of the NUTRIM research institute and professor of Intestinal Health? “I was interested in nutrition and health from a young age. These are themes that have formed the common thread in my career. >



Daisy Jonkers studied Biological Health Sciences and obtained her PhD at Maastricht University. She previously held various positions in the Gastroenterology division at the Department of Internal Medicine. She is now scientific director of the School of Nutrition and Translational Research in Metabolism (NUTRIM) and professor of Intestinal Health at the Faculty of Health, Medicine and Life Sciences.

The diseases and symptoms prevalent in my field—stomach, liver and intestinal diseases—are often taboo. People don't like to talk about their bowel movements or flatulence. I hope my work can make a difference in patients' everyday lives and help to reduce their symptoms. To this end, nutrition often plays a key role."

Society is becoming increasingly diverse, and scientific research is growing along with it.



In her research, she often encounters important differences between people. "I see an enormous diversity in personal factors that contribute to the development of the disease. Take the microbiota present in the intestine, sensitivity to certain food products, dietary preferences. One patient is fine with yogurt with muesli; in another, it triggers symptoms. We need to move towards more personalised treatment. One size doesn't fit all."

Additionally complex

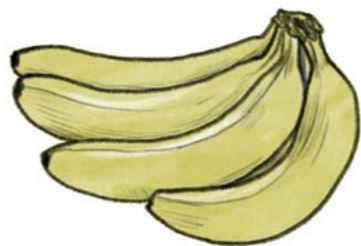
More diverse research leads to more personalised treatments and more innovation in the scientific community. But it can also make things even more complicated—"a challenge that we have to, and want to, embrace." It can complicate the interpretation and analysis of data, and make research more expensive because it requires more participants or more complex analyses. Fortunately, there are solutions. "When we're struggling to find participants, we can now increasingly turn to 'real-world data.' These are large sets of standardised data that have been collected—with consent—from patients' everyday lives."

Challenging one another

On 22 November, NUTRIM is organising the symposium Closing the Gap to draw more attention to inclusivity in scientific research. And there are other developments too. "In our organisation, we actively challenge one another to apply the new mindset. An example of a recent inclusive study is that by Ellen Blaak's research group. They found that taking the metabolic profile of people with metabolic diseases into account in their diet can lead to significant health benefits. Real-world data is also being used to study the development of inflammatory bowel disease in patients."

A different approach

Why did inclusive scientific research begin receiving attention only recently? "Patients today want more influence over their treatment, and are starting to ask doctors to take their differences and preferences into account. Most importantly, society is becoming increasingly diverse, and scientific research is growing along with it. We're on the cusp of a different approach to research. You already notice in assessments and rankings that societal value and inclusivity are gaining in importance. It's no longer just about the number of publications or grants awarded." <



A peek inside the kitchens of UM employees

Soul kitchen

Text
Annelotte Huiskes

Photography
Philip Driessen

Policy and quality-assurance adviser at SBE
Alexx Allen-De Rijk



**An AGA
cooker to
warm the
heart and
home**

When she first laid eyes on the AGA cooker during the viewing five years ago, she knew the house was meant to be hers. To **Alexx Allen-de Rijk**, who grew up in the United States and England, this iconic stove brand is the epitome of home comfort. Her best friend Pip's parents had one. "When we came home from school soaking wet from the rain, we'd hang our uniforms above the cooker to dry and sit in front of it to warm up. Those memories are very precious to me."

Alexx Allen-de Rijk was born in Chattanooga, Tennessee. Her parents divorced when she was eight years old. Her mother worked long hours as a nuclear engineer, so home cooking wasn't on the cards until she remarried. Allen-de Rijk's stepfather was German-Indian. His mother regularly visited from Berlin, often staying for six months at a time. She brought warmth and good food into the house. "She's the one who taught me how to cook. She made German food—stuffed cabbage rolls, Knödel, Salzkartoffeln and Königsberger Klopse: veal meatballs in a delicious sauce with capers. But she'd also learnt to make the most wonderful curries when she lived in India with her husband. Vegetable curries are still my favourite."

Family dinners are very important to me now.



Alexx Allen-De Rijk earned her Bachelor of Law from the University of London and her Master of Globalisation and Law from Maastricht University. She currently works as a policy and quality-assurance adviser at the School of Business and Economics.

English boarding school

At the age of 12, Allen-de Rijk was sent to boarding school in England alone. "It was tough at first, but in the end it worked out all right." Her roommate Pip became her best friend. Pip's parents lived near the school and invited her over on weekends. "They lived in this old 15th century mill; it was beautiful. Everything was wonky and they had an AGA cooker that always had a kettle on it, boiling water for tea. I wasn't much of a meat eater even then, so Pip's mother made separate meals for me, delicious pastas and the like. They were so welcoming. Back home, nobody had ever made separate meals for me. Pip and I liked to cook too. Our favourite dish was shrimp bok choy noodles with ginger and fish sauce." The AGA also heated the water for the house. "You couldn't cook and shower at the same time; you had to coordinate."

Distance learning and working at Aldi

After high school, she returned to the USA and moved in with her mother and stepfather. "I wanted to keep doing ballet or study psychology, because I wanted to help people. But my parents felt there was no money in that, so I ended up doing law." Since studying in England was too expensive, she enrolled in

a distance-learning degree at the University of London. "They sent me a box of books and that was it. I had to do everything on my own." Things weren't going well at home, so she moved in with a friend who was looking for a housemate. To earn money alongside her studies, she worked at a gym and at Aldi. "In the US, Aldi is a great employer that pays above minimum wage and offers health coverage and pension premiums even for part-time employees. With the money I earned there, I was able to study International Law in Maastricht." She chose the programme because it is taught in English and offers Human Rights not just as a single course, but as a full specialisation.

Potatoes with beans

It was in the University Library in Randwyck that she met her now husband, Thijs. He was studying psychology. "So cute—he'd cook for me in his room. Potatoes and beans, or stuffed bell peppers in one of those mini ovens. He's been a vegetarian from childhood." She herself switched to a flexitarian diet to reduce her carbon footprint. She still cooks meat on holidays like Thanksgiving or Christmas. "But I buy it from an organic butcher. Everyone thinks Thanksgiving is all about the turkey, but it's really about the side dishes—roasted vegetables, pumpkin pie, green-bean casserole. My favourite side dish is sweet-potato casserole with marshmallows, brown sugar and pecans."

The AGA does call for a different way of cooking. "It has two hotplates that are large enough to hold several pots and pans," she explains enthusiastically. "The inner one is the hottest. But you use the ovens most. It has four of them: 70, 100, 180 and 240 degrees Celsius. Once the potatoes have boiled, you let them cook in the oven. At Christmas I like to make beef bourguignon; the AGA is perfect for that. Hours upon hours of slow cooking. I love family dinners. I missed out on them at home as a child, so they're very important to me now."

An eco-friendly AGA?

In the summer months, they put an induction hob on the cooker or cook outside. "The AGA is best for cold weather, because you also use it as a heater and dryer. Unfortunately, ours is not very eco-friendly—it's from around 1945 and runs on gas. I try to make up for it by growing my own vegetables, keeping chickens and using reusable nappies for my son. We're considering getting it converted to electric, but that costs €4000 and we'd need 13 solar panels for the cooker alone. We're saving up to convert it or replace it with a more eco-friendly model. If it all turns out to be too expensive, I'm afraid I'll have to part with the AGA." <

After graduating from Public Policy and Human Development at Maastricht University, she became a librarian at the House of Commons, the lower house of the UK parliament. Here, [Georgina Sturge](#) explains what numbers do and don't mean to policymakers and the public.

Careful with numbers and stories

Alumni meeting minds

Text
Florian Raith

Photography
Georgina Sturge

Her decision to study at UM was itself based partly on numbers: tuition fees had just tripled in UK, so she embraced the challenge to go abroad. Sturge had studied English Literature at the University of Oxford and had always had an interest in politics. Working for charities had convinced her that policymaking could have a positive impact on society. The master's in Public Policy and Human Development looked ideal.

"The programme focuses on the developing world and policy interventions, rather than just 'Western' politics. There were 120 people from all over the world, and we learnt a lot from each other. I absolutely loved it." Sheepishly, she adds, "I hadn't anticipated so much maths, but it's an MSc, after all."

Lifelong friends

Sturge developed a taste for econometrics and statistics, and stayed on as a researcher at the migration department. "I was cleaning data and doing statistical analyses day in, day out—which is sort of what led me to become a full-time statistician. If it hadn't been for Maastricht, I'd be doing something completely different now."



Georgina Sturge studied English Language and Literature at the University of Oxford and graduated in 2013 from the master's in Public Policy and Human Development at Maastricht University. Since 2018, she has been senior library clerk at the House of Commons.

She looks back fondly on her time here. Despite being new to the Netherlands, she integrated relatively easily. "I turned up on the first day with a bike helmet, noticed that everyone was staring at me and never wore it again." She made friends for life, and even met her future wife here. "It was a great experience. The people were open and friendly, and I loved the rich cultural life of Maastricht's squats."

Fancy commons

Sturge spent several years as a researcher at the Overseas Development Institute, a global-affairs think tank. But she soon grew disillusioned. "I started to wonder how much of a difference I was actually making. I wanted to be closer to the policymaking process." Then she saw a job opening for a statistician at the 200-year-old House of Commons Library.

The Houses of Parliament in London make for a prestigious workplace. "Every time I walk in, I'm overwhelmed that I work in this amazing palace at the heart of British politics." Pomp and circumstance abound: the ominously named Lady Usher of the Black Rod can be seen carrying around a silver-gilt ceremonial mace – otherwise how would one pass a law? "For the most part, it's just a normal workplace where thousands of people do their jobs," Sturge says—even if there are more tourists and armed guards than in most offices.

The House of Commons Library is a civil service that provides information to all Members of Parliament. It does not have to advocate for the Government. In fact, Sturge mostly fields requests from the MPs of whichever party happens to be in opposition, looking for data as they go about scrutinising the Government.

Good book, bad data

Last year, she published *Bad data: How governments, politicians and the rest of us get misled by numbers*, a book full of politically impartial case studies that illustrate the origins (and potentially misleading nature) of the data, numbers and statistics

used by governments. "It's basically a collection of examples about how policy and decision making can go wrong when they're based on unreliable data." Sturge deliberately avoids charts and tables, instead relying on anecdotes on topics ranging from crime and gambling to poverty. Communication is an undervalued part of her work, she says. "On a day-to-day basis, I'm doing not incredibly sophisticated statistical calculations. It's more about understanding and communicating the context, significance and uncertainty of these numbers to the very busy people who'll be using them."

To illustrate, Sturge explains how the UK has no population register, instead basing its migration statistics on passenger surveys at the border. "It worked well enough until the 2000s, when more migrants than expected arrived from the new EU countries. The estimates were off by hundreds of thousands. A census in 2011 revealed half a million more people than expected."

This gave the impression that the government was not in control of migration and borders, which in turn generated momentum for Brexit and the idea of 'taking back control.' "There was a lack of confidence in numbers, statistics and ways of gathering data—a suspicion of the system as a whole."

An unsexy topic

Politicians need to project more certainty and decisiveness than is justified by the data they cite. "Often they just don't have the time and bandwidth for nuance. Answers like 'we're not sure' and 'it depends' are not what they're looking for." The pandemic and Brexit have made the electorate wary of numbers. "We need to acknowledge the inherent limitations of what we can actually track. I hope it makes people sceptical of soundbite claims without making them cynical."

In terms of numeracy, MPs and journalists are largely on par with the public—which is perfectly fine, Sturge says. "Everyone relies on the input of experts and institutions, so the collection of data should be well-resourced." That being said: "It's not a very sexy topic to advocate for."

While Sturge hopes to do more writing in the future, she modestly describes it as a side hustle. She loves her work and credits UM for that as well. "It gave me not only the academic skills to pursue this amazing career path, but also confidence and resilience." <



Inspired by his childhood dream of becoming a professional cyclist, UM alum [Dajo Sanders](#) decided to study Human Movement Sciences. His other dream did come true: he ended up working in pro cycling. He is now a trainer/coach for one of the world's best teams, INEOS Grenadiers. "The magic of cycling lies in the unexpected."

The cycling coach as sports scientist

From an early age, cycling was everything to Dajo Sanders. Talented and fanatical, he rose through the youth ranks. In high school, his main goal was to become a professional cyclist; studying came a distant second. "After high school, I decided to go to university because fewer contact hours would give me more time for cycling. I chose the programme based on my passion." He pursued a bachelor's degree in Biomedical Sciences, followed by a master's in Human Movement Sciences.

Sanders turned semi-pro and participated in various international races. But it gradually dawned on him that he didn't have what it took to compete with the best of the best. "I was riding in the under-23 category, and only a few of us would make it to the big leagues. By then, my interest had been piqued in the scientific approach to sports. I was already coaching junior riders. Towards the end of my master's, I bit the bullet and decided to pursue a career in human movement sciences.

Areas for improvement

Having set his sights on working in the world of pro cycling, Sanders interned with teams such as Belkin ProTeam, later Jumbo-Visma. He recalls from his undergraduate days a study of the Argos-Shimano team. "It was a performance analysis of their two top sprinters, Marcel Kittel and John Degenkolb. To my surprise, the team used the results to decide who would do the sprint in each stage of the Tour de France. It was my first experience of the direct application of sports-science research to pro cycling."

Alumni meeting minds

Text
Hans van Vinkeveen

Photography
Yuhan Tan



Dajo Sanders and Geraint Thomas



Dajo Sanders completed his bachelor's in Biomedical Sciences and master's in Human Movement Sciences at Maastricht University. After obtaining a PhD in Sport and Exercise Science at Liverpool Hope University, he became a professional cycling trainer/coach at Team Dimension Data and Team DSM. Since 2022, he has been a trainer/coach for the INEOS Grenadiers.

Sanders obtained his PhD in Sport and Exercise Science from Liverpool Hope University, where he studied the monitoring of training load in professional cycling. He then became a trainer/coach at Team DSM, where his responsibilities included analysing performance data, developing training plans and conducting physiological tests. His ultimate goal: to make each cyclist faster. "The best part is gearing your sports-science knowledge to each individual rider's personality. You analyse their performance data to identify the most promising areas for improvement, which interventions to use, which aspects of training to focus on. It's like solving a jigsaw puzzle."

Off days

He recently moved to one of the world's top three teams, INEOS Grenadiers (formerly Sky)—a team known for its scientific approach to optimising performance. Sanders is responsible for the riders' physical preparation and supporting the psychological aspects of performance. "I try to keep them focused on things they can control. But in cycling, you always have to expect the unexpected—a crash, an off day. It's essential for them to overcome these kinds of setbacks and realise that cycling will always bring new opportunities."

Working with top cyclists motivates him. "They have these driven, dedicated, disciplined personalities that you have to rein in rather than push. It gives me a lot of energy. How can you help each individual rider get the best out of himself?" Sanders already has a string of successes to his name. Two of the cyclists he coached, Jai Hindley and Wilco Kelderman, placed second and third respectively in the 2020 Giro d'Italia.

The magic of cycling

The research skills he developed during his studies still help him on a daily basis. "They're general academic skills, like interpreting research and critically evaluating evidence." Today's cycling coach is essentially a sports scientist, he says. "During the Tour de France, for every rider you get data on more than ten variables per second. Data from heart-rate monitors, power meters, body-temperature sensors. Even training plans—monitoring trends and progress—are based on all kinds of data. How do you decide which information matters?"

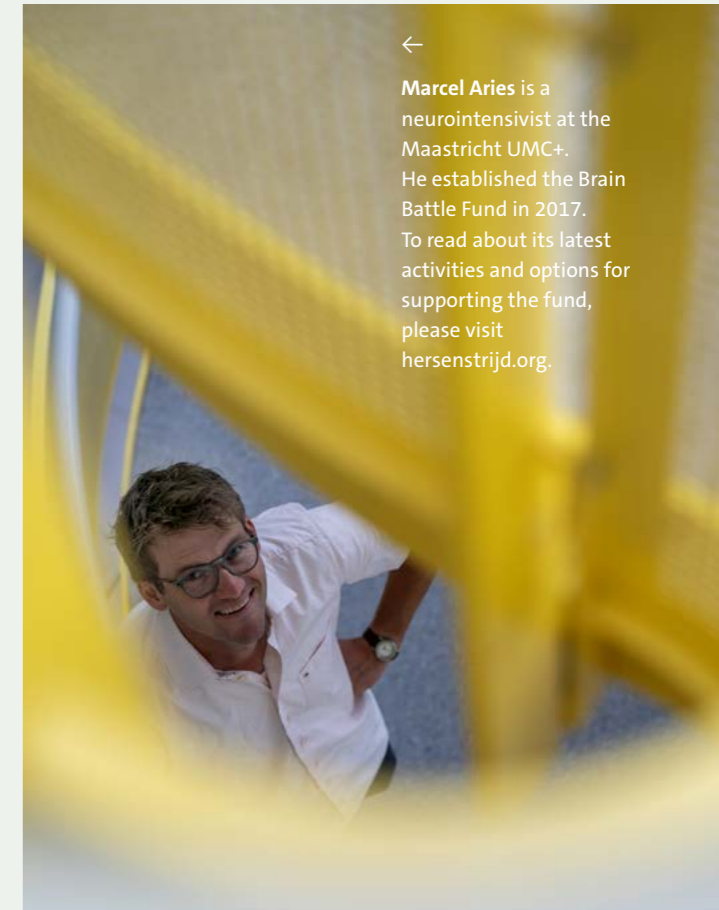
He is not worried that the increasingly scientific approach will make the sport less exciting. "We're actually seeing the opposite, with early attacking and more aggressive racing. Cycling will never become an automated system—too many unexpected things happen. That's the magic of cycling." As for whether the mountain of data is overwhelming for the cyclists themselves, it depends on the individual. "Some riders prefer more freedom and dislike being dictated by data. Others like how it takes decisions and uncertainties off their plate. As a coach, you take their personalities into account."

Pro-athlete mindset

To work with pro athletes, he says, you need to have a pro mindset yourself. "I work for a team that wants to win big races. That's the best we can strive to achieve. To do that, it's essential for everyone, myself included, to keep learning and improving. This is a 24/7 job. I'm always available to give feedback, or on the road supporting the riders. My goal—the thing that drives me—is to be the best cycling coach I can be." <

A gift from heaven

Research on women's health, childhood obesity, a cancer screening tool, anxiety in older people with dementia, severe brain damage—Maastricht University researchers affiliated with the University Fund Limburg work on a wide range of topics. What do they have in common? They are bursting with pioneering ideas for research of great importance to society, but often lack the funding to bring them to fruition. Yet our world is in dire need of researchers who dare to dream big.



←
Marcel Aries is a neurointensivist at the Maastricht UMC+. He established the Brain Battle Fund in 2017. To read about its latest activities and options for supporting the fund, please visit hersenstrijd.org.

University Fund Limburg

Text
Anouk van den Brink

Photography
Harry Heuts

Universities are increasingly dependent on private donations. Marcel Aries, a neurointensivist at the Maastricht University Medical Centre+, knows this all too well. He founded the Brain Battle Fund over five years ago and has since, with colleagues and volunteers, raised tens of thousands of euros through crowdfunding and public-health campaigns. Their goal is to save as many brain cells as possible and raise awareness of brain damage. But this requires money—a great deal of money. Receiving a bequest can make all the difference to a foundation like his.

Helmets depicting healthy brains

Aries previously featured in UMagazine in 2019, when his initiative was still in its infancy. The Brain Battle Fund has since grown into a strong organisation with a distinct identity both in and outside UM. “Five years ago, our focus was on reaching out through sports events, roundtable discussions, lectures and auctions. Today, people find us. For example, the Jumbo-Visma cycling team and their helmet supplier Lazer made us their charity of choice at this year’s Paris-Roubaix race. Their riders wore special helmets depicting healthy, pink brains, which were later auctioned off. It was a milestone for us. As our

Let your legacy live on by including UM in your will. Making a charitable donation is tax deductible and contributes to a better future. You can decide which research theme, study or project to support, which means that even when you are no longer around, UM researchers continue working towards your ideals. Donating to UM gives you peace of mind that your estate will be in safe hands. For information on the various options, feel free to contact us at info@ufl-swol.nl.

reputation grows, we can devote more time to our research on acute brain damage. That’s why we’re constantly looking for funding.”

Bequest funds two PhD projects

In early 2023, the Brain Battle Fund received what Aries describes as a ‘gift from heaven.’ A private individual included the fund in her will, leaving a generous portion of her estate to UM. Such a donation can trigger a major scientific breakthrough. “For a researcher, it’s a kind of catalyst,” Aries explains. “A bequest opens doors, enabling us to apply for grants that require a financial contribution, collaborate with other researchers or travel abroad.”

The Brain Battle Fund had been saving up for a second PhD project—a dream that suddenly became a reality. “Our first PhD project investigated a new treatment for intensive-care patients who had been in a serious accident. This second project involves a broader target group, including intensive-care patients with brain damage due to bleeding or infection. Brain monitoring has been neglected in intensive-care medicine; we aim to change that. We’re already saving up for our next goal: hiring a postdoc.”

Invitation to creativity

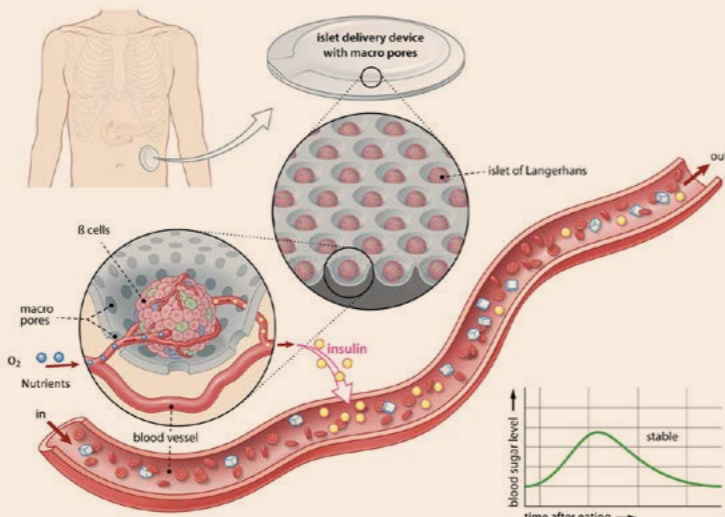
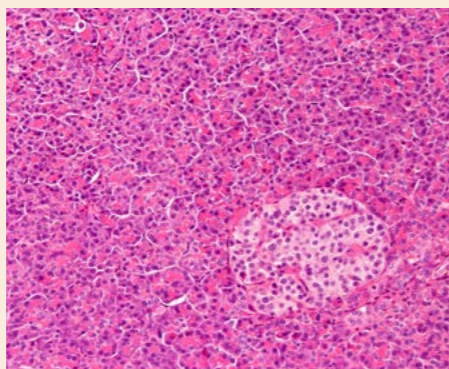
A bequest gives researchers the freedom to be creative. Without the usual checklist of conditions and requirements, researchers have more freedom. “A research field like acute brain damage cries out for creativity. When it comes to intensive care, there’s been no major discovery in the past 25 years. This needs to change. We want to give our PhD candidates the creativity and freedom to arrive at groundbreaking insights.”

Generous bequests also make researchers feel personally supported in their work. “It’s an amazing feeling to know that this person cared so deeply about my research. I put so much effort into the Brain Battle Fund every day. Sometimes you can’t help but wonder if all the hours you’re putting in are worth it. But when you hear that someone has left you such a personal and valuable gift, everything falls into place.”

A new medical implant to treat type I diabetes

Type I diabetes is an autoimmune disease in which the body destroys its own insulin-producing cells, located in the islets of Langerhans. Instead of continuous insulin injections, patients can opt for clinical islet transplantation, where donor islets are placed in their liver. The liver is a suboptimal location, however, and donor islets tend to die quickly. Rick de Vries and colleagues have been investigating the development of a medical implant that can be placed outside the liver. Recently he defended his PhD research at Maastricht University.

Clinical trials are due to begin within one to two years. First, a combined treatment involving both clinical islet transplantation and the medical implant will be investigated. The ultimate goal, however, is to replace the original procedure completely with the implant. Because the islets in the implant have a higher survival rate, fewer donors are needed. In a few years, type I diabetes patients may thus be able to opt for a genuinely sustainable treatment. <



News

Veni grants for talented Maastricht researchers

The Dutch Research Council (NWO) this week awarded Veni grants worth up to €280,000 to five talented researchers at Maastricht University. These grants are intended for early-career researchers who recently obtained their PhDs. The funding will allow the recipients to develop their own innovative line of research and set up their own research group.

Rob Holtackers: *Interventional cardiac MRI: a new treatment method for cardiac arrhythmias.* This study investigates whether the outcome of ablation therapy for cardiac arrhythmias can be predicted based on specific findings in MRI images at the time of treatment. This would allow additional treatment to be provided immediately, improving long-term outcomes.

Massimiliano Simons: *Towards an ecology of technoscience.* This project mobilises the notion from French philosophy of technology that every technology can only function within certain environments. In this way, it sheds new light on contemporary technosciences such as synthetic biology, robotics and AI.

Juan Francisco Palacios Temprano: *The social impact of decarbonising the housing market.* The housing market is undergoing an unprecedented transformation to reduce carbon emissions. This project sheds new light on the broader societal outcomes of energy renovations. The results will allow for better policy evaluations of home energy retrofit programmes.

Max Löffler: *Housing markets and economic inequality.* Cities around the world are experiencing tremendous housing booms. However, there exists little systematic evidence on the consequences of house price booms for income inequality and the socio-economic segregation of cities. Combining recent theoretical advances with newly available data and quasi-experimental

statistical methods, this project will provide the empirical basis for urgently needed policy recommendations.

Jorn Trommelen: *More protein for better health.* Dietary protein provides the building blocks for organs. While the current recommendations for protein intake aim to prevent deficiencies, higher levels of protein intake offer further health benefits. This research uses a new method to determine how much protein should be consumed to optimise health. <



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

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

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