

Campus



**ALUMNUS
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RETURNS TO
ENSCHEDÉ
AS THE
NEW MAYOR**

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DOCTORATE FOR
PRINCE CONSTANTIJN**

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OF THE
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**NANO TOOLS
FOR THE QUANTUM
REVOLUTION**

COLOPHON

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BEER CRATES

Our university is sixty years old. And that, of course, is not very old at all. But neither is it particularly young. In fact, I've experienced a third of those sixty years myself at the UT. Do you find that surprising to hear? Well, the reason is quite simple: I enjoy going to work at the most beautiful campus in the country. What particularly makes the UT such an appealing and attractive place to be is that the campus is constantly evolving and developing.

The editors of Campus Magazine write about new developments on campus and (far) beyond. We carry out interviews with scientists, UT staff, students and alumni to shine a spotlight on everyone that drives us forward. In the end, it is the people who do it – the people who inspire and connect.

And it is this latter point that also happens to be the theme of this 60th dies natalis. Have a read of the interview with Prince Constantijn (pages 4-9); he is one of four people who are set to be awarded an honorary doctorate from the University of Twente on the 20th of May. Together with President Vinod Subramaniam, his goal is to take the UT to the next level in terms of entrepreneurship. 'I want to make my contribution to that,' stated the determined Prince.

The world record attempt by the study association Concept was something completely different, but was equally 'inspiring and connecting'. In the spring, they attempted to build a bridge made from beer crates that was 36 metres long and used 12,000 crates from a well-known regional brand of beer. It was quite simply a pleasure to follow this enthusiastic group over the weeks, watching them do their challenging job. Here and there, you could notice various comments filtering through. Beer and students: that's another one-sided, typical image in the media. It's bad for the image... blah blah blah. In my opinion, the students succeeded in managing a complex project. They wrote their own software, applied for permits and handled all of the PR.

The fact that they didn't manage to gain a world record was a bitter pill to swallow for the budding bridge builders. Fortunately, Concept has promised that they will continue building. That is also what development is about. So let us hope for many more beer crate bridges in the next sixty years! •

Maaïke Platvoet
Editor-in-chief Campus Magazine

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MEET THE HONORARY DOCTORS

TO CELEBRATE ITS 60TH ANNIVERSARY, THE UNIVERSITY OF TWENTE GAVE OUT FOUR HONORARY DOCTORATES THIS YEAR. THE DEGREES, HANDED OUT DURING THE DIES NATALIS ON THE 20TH OF MAY, 2022, WERE AWARDED TO IPCC CO-CHAIR DEBRA ROBERTS, PHYSICIST WIM VAN SAARLOOS, CYBERSECURITY EXPERT JAYA BALOO AND PRINCE CONSTANTIJN, THE FACE OF THE START-UP LOBBY IN THE NETHERLANDS.

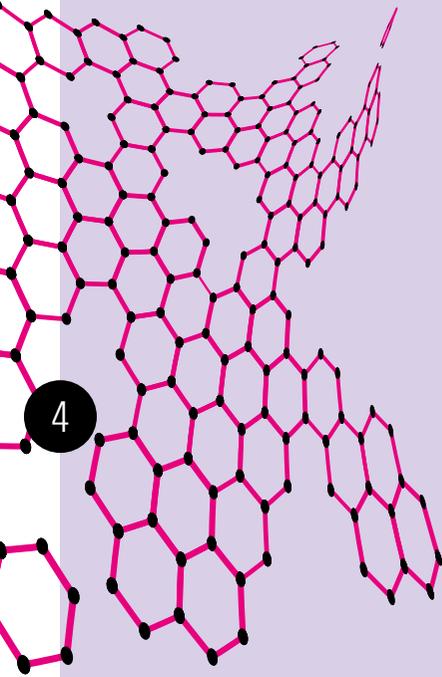


Photo: Tilanie Grote

'THIS ACKNOWLEDGEMENT IS EXTREMELY EMPOWERING'

Debra Roberts (1961) is an influential figure in the field of climate change adaptation, a government official in South Africa and one of the Co-Chairs of the Intergovernmental Panel on Climate Change (IPCC). She has been named one of the 100 most influential people worldwide in climate policy. She has received several awards for her work including the AfriCan Climate Research Award.

'I'm a scientist working in a variety of different spaces, trying to improve the world we live in, especially the cities we live in,' says Roberts. The honorary degree, for which she was nominated by UT professor Maarten van Aalst, came as a surprise for her. 'The problem of a person who works as a bridge between two worlds is that you are never really accepted in either. To my policy maker colleagues, I'm way too academic. To my scientific colleagues, I'm too practical and policy oriented. Having this type of acknowledgement, particularly from an academic institution, is extremely empowering.' •

**READ MORE ABOUT THE HONORARY DOCTORATES
IN OUR SPECIAL MAGAZINE EDITION:**



specials.utoday.nl/3284948

'I'VE ALWAYS HAD A WEAK SPOT FOR THE UT'

Wim van Saarloos (1955), emeritus professor of theoretical physics at Leiden, is receiving an honorary doctoral degree from the UT for his outstanding merits as scientist, research administrator and visionary. Until 2020, Van Saarloos was chairman of the Royal Netherlands Academy of Arts and Sciences (KNAW) and he led the reorganization of the Netherlands Organization for Scientific Research (NWO). His scientific research focuses mainly on statistical physics and soft materials.

University professor Detlef Lohse was the one – together with former Rector Magnificus Thom Palstra and professor Ariana Need - who nominated Van Saarloos for the honorary doctorate - 'an absolute honour' that came out of the blue, says the physicist. 'I've always had a weak spot for the UT, mostly because of the atmosphere there. It feels like a club of friends. All of us together, that's the feeling I get when I visit the UT. It's really wonderful and a tremendous honour that in receiving this honorary degree I also get to participate in that atmosphere.' •



Photo: Christaan Krouwels



Photo: Christaan Krouwels

'IT REALLY IS AN ENORMOUS HONOUR'

Jaya Baloo (1973) currently holds the position of Chief Information Security Officer (CISO) at Avast, a major information security and antivirus software company. She heads up multiple teams in multiple countries. Her company has half a billion customers, and with its anti-virus programs, is capable of preventing a billion and a half cyber-attacks each month. Baloo is one of the world leaders in the field of cyber security in particular and technology in general. In 2019 the non-profit organisation InspiringFifty selected her as one of the most inspiring women of the Netherlands.

She's been awarded the UT honorary degree based on nomination by Aiko Pras, UT professor of Network Operations & Management. 'When I heard that I was going to receive an honorary title, I was so happy I cried!', she reveals. 'It feels so unreal. It's so wonderful. I'm just doing my work. It really is an enormous honour.' •

Last, but certainly not least, this year's honorary doctorate went to **Prince Constantijn** (1969), younger brother of King Willem-Alexander and Special Envoy for TechLeap.nl, formerly Startup Delta, where he represents the interests of high-tech start-ups. You can read all about the prince and how he aims to help the UT 'rise to the next level' on the next pages. ▶

PRINCE CONSTANTIJN WANTS TO HELP THE UT TO GET TO THE NEXT LEVEL

'IT IS IMPORTANT THAT MY HONORARY DOCTORATE MAKES A POSITIVE CONTRIBUTION'



PRINCE CONSTANTIJN (52) HAS BEEN THE NETHERLANDS' START-UP AMBASSADOR SINCE 2016. UNIVERSITY OF TWENTE IS AWARDING HIM AN HONORARY DOCTORAL DEGREE FOR HIS EFFORTS AS FIGUREHEAD FOR NEW ENTREPRENEURS. BY CELEBRATING CONSTANTIJN WITH AN HONORARY TITLE, THE UT HOPES TO RISE TO THE NEXT LEVEL AS ENTREPRENEURIAL UNIVERSITY. HIS ADVICE? 'BE GENEROUS AND TREAT ENTREPRENEURS LIKE TOP ATHLETES.'

'Constantijn' — the prince introduces himself with a fist bump. No exaggerated ceremonial display. And that's exactly how he approaches his honorary doctoral degree from the UT. 'Of course it is an honour. Only, I'm not so thrilled by the honour in itself, that's a lot of window dressing. I'm a man of actual content. It's important to me that my honorary doctorate makes a real contribution. At the end of the day, it can't just be an empty honour.'

It's the same today during our interview about the honorary doctoral degree — the focus is on content. The interview takes place in a historic building in the stately neighbourhood of Benoordenhout in The Hague. The listed building, which is adjacent to the house where the prince and his family live, houses a number of different organisations Constantijn and his wife Laurentien are associated with. The premises are elegant — there's no scrimping on oak panelling and marble floors, but the interior design of the rooms has the feel of a house. 'We want to bring together different kinds of players here,' he explains. 'This is neutral ground. The whole building has to feel like one big living room.'

In one of the living rooms, Constantijn tells about his work as 'special envoy' for Techleap (previously Startup Delta) whose goal is to help new Dutch tech companies become successful. As standard bearer, the prince tries to attract large investment funds to the Netherlands and lobbies the Dutch government for better regulations and financing. Before Covid he also visited the most important trade fairs for the sector, such as the Consumer Electronics Show (CES) in Las Vegas, along with Dutch companies and agencies. 'The University of Twente was always well represented,' Constantijn says. 'It is one of the most committed technical universities.'

ENTREPRENEURIAL SPIRIT

The importance of universities for successful startups seems a one-two punch. After all, talent, facilities and knowledge are abundantly available on Dutch campuses. Yet the role of universities is not as obvious as it seems, says Constantijn. 'At the end of the day, it's not universities who set up successful start-ups, but business people. And usually it's private investors who finance new companies.'

It is a somewhat sobering revelation for universities who are keen to talk about successful, entrepreneurial alumni. What, then, should we think of Jitse Groen (Thuisbezorgd) and Geert-Jan Bruinsma (Booking.com), who were both students at University of Twente? 'Naturally, universities make claims based on their alumni, and it's their right to do so. Only, you shouldn't draw any conclusions from such claims. The majority of successful business people didn't learn how to be entrepreneurs by sitting in lecture halls, that's just the way it is.'

MARKET DEMAND

That doesn't mean universities don't deserve recognition, Constantijn explains. Universities, in his view, play a crucial role within the ecosystems where start-ups thrive. In such an ecosystem — the word keeps popping up during the interview — businesses, knowledge institutions, universities and government agencies create the ideal climate for start-ups. 'Universities develop technology, deliver talent and infrastructure, and come up with unbelievable inventions. So they are extremely important for such ecosystems. But it is a specific role and they could do a better job of it.'

First of all, according to Constantijn, there's a big gap between the technology that's supplied and the demands of the market. 'The way universities in the Netherlands often see it is that if you just push the technology hard enough and you collect enough patents, a successful company will automatically materialise. But it works differently in practice. Building a company demands a lot of other skills. Successful companies respond to market problems by finding the right technology to solve the problem.' The latest, most stunning technology often doesn't match any demand in the market and is difficult to implement within existing production chains, the foreman of Techleap explains. 'What it boils down to is a good idea that fits the market, the right people and adequate financing.'

INVESTMENT

When it comes to financing, things occasionally go wrong at universities, too, Constantijn says. 'Often universities are extremely valuable for start-ups at the beginning, because they provide research facilities and talent. But when a company grows, and starts to make money, then all of a sudden the university is sitting on the other

side of the table. It would be very helpful if, when that time comes, universities stood behind the entrepreneurs instead of suddenly negotiating about repayment. Universities really shouldn't hold shares in companies or only a very tiny percentage — the American university Stanford applies a maximum of five percent. Payments for IP [intellectual property] are also undesirable in the early phases of start-ups. First let companies grow and attract investment before universities try to cash in on IP.'

'That's why universities should be generous, because it's hard enough — no, almost impossible — to get a successful company off the ground based on new technology alone. Entrepreneurs need all the help they can get.' Later on, Constantijn asserts that investment will automatically pay returns to the university. 'Take for example the University of Twente. The culture of an entrepreneurial university, which is created thanks to successful start-ups and spin-offs, attracts talented people to the university. And you can make arrangements about anything, even money.'

NEXT LEVEL

Traditionally, the UT bears the image of an entrepreneurial university — or rather, the entrepreneurial university of the Netherlands. In the early 1980s, the then rector Harry van den Kroonenberg introduced this as part of the university's official strategy and vision. According to UT's Professor Jos van Hillegersberg, Constantijn's honorary promoter, it's time to move up to the next level as entrepreneurial university. 'The UT was one of the first in the 1980s. Since then the successful model has been copied everywhere. It's time for the next stage, and Prince Constantijn can help us. For years he's been playing an important role with the start-up climate in the Netherlands, comes to the UT regularly and has made his love for the tech sector crystal clear.'

Within our renewed, entrepreneurial course, diversity, internationalisation and social entrepreneurship should have the leading roles, Van Hillegersberg says. These social entrepreneurs have an intrinsic drive to make the world more sustainable and socially responsible, he asserts. Getting rich is no longer their motivation. The UT professor also sees socially responsible approaches to business among his own students. 'We're undergoing a real change in society and the university has to respond to it with a new strategy.'

Constantijn also sees internationalisation, inclusivity and diversity as essential ingredients for becoming the next level entrepreneurial university. 'It's about creating an environment that makes talented people everywhere in the world want to come here. If you want to be a thriving international ecosystem, then an inclusive culture — for example, in the area of language policy — is essential.'

He cites the example of Adyen, the Dutch payment company that has now grown to one of the most successful fintech companies in the Netherlands. 'At Adyen they were saying right from the very beginning: we want to be a global payment company. That's why we immediately chose English as our main language, even though a large proportion of our staff were Dutch. But Adyen was thinking about the future. Later, when a company has grown substantially, a language change will be very difficult. Then, for example, managers would still be speaking Dutch to each other, while everything else in the workplace would be conducted in English. A situation like that wouldn't do anything for the inclusivity within the company.' When considering the right policy, it ultimately comes down to a question of where a company or institution's ambitions lie, Constantijn suggests. 'A university with international ambitions won't be able to avoid an inclusivity policy either.'

MONEY MAKERS

Van Hillegersberg listed something else, in addition to diversity, inclusivity and internationalisation, namely the social entrepreneur who no longer sees big money as the most important driver. Constantijn sees this differently. 'I make a podcast where we talk to successful business people. Almost all the business people I interview for my podcast say they didn't do it for the money. They find it exciting, have a tremendous drive and think they can make a substantial contribution. But to grow and to have an impact, you just need to have the funds. Take Tesla, for example: they've had an unbelievable impact on electric cars. At the same time, they always thought big when it came to earning, so that the company could keep growing. The two things aren't mutually exclusive.'

Making money and universities: it's a combination that often begs the question. Commercialisation is still too often seen as lacking integrity and in conflict with academic independence, Constantijn asserts. What happens when an entrepreneurial student or researcher attracts a lot of private capital with a company that was set up with help from the university? In his eyes, there is still a lot of envy for the 'professor with a Porsche' and the feeling that the university didn't earn enough from the commercial success.

That's the totally wrong way of looking at it, Constantijn says. 'It's true that public money goes to research and facilities. That can be used to help companies that are starting out. Only, it takes private effort to set up and manage an organisation, make a business plan, map out a strategy, implement it and attract financing. The

*'Give new entrepreneurs
the same treatment as top athletes'*

university doesn't have anything further to do with these stages. It just so happens that a successful company is going to make money. If a university discourages that, then there is no stimulus for researchers and students to start a company and for other entrepreneurs to get involved.'

TOP-LEVEL SPORT

The entrepreneurial spirit ought to be valued more by universities, the prince feels. 'There are all kinds of arrangements for students who play on the Netherlands field hockey team. But a student entrepreneur who's just starting out and has to meet with an investor doesn't usually get an alternate date for his or her exam. It's somewhat cheap if universities lay claim to the success of their alumni retrospectively, when a company has become a success.'

Constantijn proposes giving new entrepreneurs the same treatment as top athletes. In the prince's eyes, they are cut from the same cloth. 'Successful business people are just like top athletes: they act in a highly conscious, focused and disciplined way at every step. That's why we should give more consideration to the needs of entrepreneurial students: set up a place where they can submit their requests for extensions, or integrate their start-ups into their programmes so that students can graduate within their own company, for example. If young people know that at the University of Twente they can set up a business — not alongside but during their undergraduate studies — then I know for sure that many talented young people will be choosing Twente as the place to do their degree.'

MAKING CHOICES

According to Constantijn, universities in the Netherlands in general, and the UT in particular, have everything they need to compete in the international arena. More collaboration and more specialisation are both crucial, he argues. 'Making Dutch universities compete with each other to attract students is something I find really idiotic. There's no point in starting a mechanical engineering programme in Leiden. You have to complement each other. When I was in Canada I saw how they designated three academic centres for artificial intelligence: Toronto, Montreal and Edmonton. Canada is now one of the major players in the field of artificial intelligence in the world. It can be done. My making choices, specialising and creating ecosystems. If it can work there, it can work in Twente too.'

As one of the UT's honorary doctorates, the prince would be happy to join the discussion. It's a good thing that the University of Twente is not unknown territory for Constantijn. 'I know the new president, Vinod Subramaniam, really well. We both sit on the supervisory board of the Rijksakademie (State Academy of Fine Arts). With him, and with others, I want to see how we can take the UT to the next level in the field of entrepreneurship. That's where I want to make my contribution.' •



PROFILE — PRINCE CONSTANTIJN (1969)

Constantijn van Oranje-Nassau was born on 11 October 1969 in Utrecht, the third son of Princess Beatrix and Prince Claus. He has two brothers, King Willem-Alexander (1967) and Prince Friso (1968-2013). Constantijn studied law at Leiden University. In 2000, he took an MBA at the European Institute of Business Administration (INSEAD) in France. In his working life, Constantijn has been adviser on European public relations at the Ministry of Foreign Affairs (from 2003 to 2008), amongst other posts. In 2010, he took up a series of posts at the European Commission — first as adviser, later as adjunct Cabinet secretary, and Cabinet secretary for vice-president of the European Commission and Commissioner for the Digital Agenda, Neelie Kroes. Since 2016, Prince Constantijn is Special Envoy for TechLeap.nl, formerly known as Startup Delta. •



CONTAINER COMPLEX ON WITBREUKSWEG

As a solution to the student housing shortage, two hundred housing containers were placed on Witbreuksweg at the University of Twente campus. The container apartments are fully furnished and intended for students of the UT and Saxion. First students moved into the flex homes in February 2022. The houses will remain in place for a minimum of seven years. The container complex is an initiative of Twente Board, the municipality and housing corporations, in consultation with the UT. •

STUDENTS SATISFIED WITH CO-OPTION

The Central Residents Council (Centrale BewonersRaad - CBR) announced the results of a survey held among UT campus residents in February. Most students are satisfied with their living situation and the associated co-option, but there are also areas for improvement, especially in the field of inclusion. 'As a residents' council, we want to know what campus residents think about important themes, especially about co-option. There is always a lot to do, but it seems that many students are happy with the way things are going now. 81 percent say they do not want to change the policy, even though there are definitely points for improvement,' says Mirre van den Bos, chairperson of the residents' council. 'It is important that we as a community do not exclude anyone in advance. You can think of the language that is spoken in a house, or of a 'Dutch only' policy. That can and must be improved.' •



WELL-BEING SURVEY

The UT conducted a well-being survey among its staff in three separate 'waves' last year: in spring, summer and autumn. 1,406 UT employees completed the survey. The results show that the majority of UT staff is committed and enthusiastic. With an average score of over 7.5, UT employees were 'very satisfied' with their university last year. However, this satisfaction is offset by hard figures that indicate considerable work pressure. There are several figures in the report that reflect this work overload. The academic staff experience the highest work pressure, followed by managers. Approximately ten per cent of UT employees work more than ten hours overtime per week on a structural basis. 28 per cent of the employees take days off to get their work done. 'These are all indicators that suggest that staff experience high pressure of work,' says head researcher Jan de Leede. 'These problems occur at all Dutch universities, and they are just as prevalent here.' •



HELP FOR UKRAINE



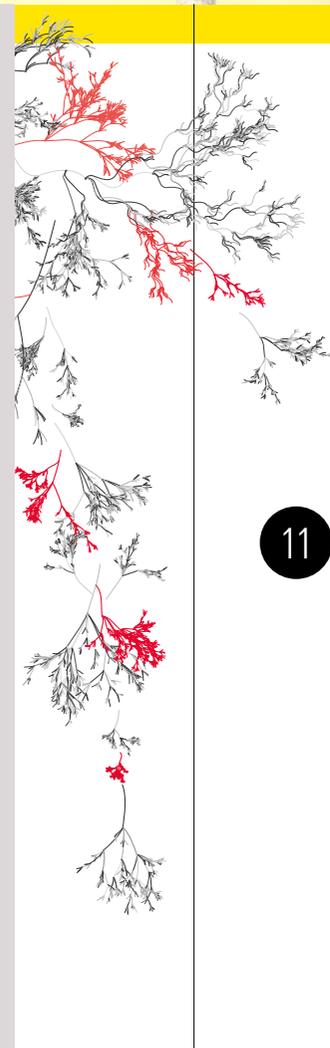
Various initiatives have been started by the UT community to help people affected by the war in Ukraine. Ukrainian students and employees at the University of Twente started a campaign to help people in their home country. They organized collection points in Enschede, including one directly on the campus, where people could bring needed items. The university also organized a 'walk-in café' for students and employees

who for any reason felt the need to talk to others about the events in Ukraine in a safe place. On top of that, Twente University Fund started a crowdfunding campaign to help UT students and employees from Ukraine, Russia and Belarus. The emergency fund is available to members of the UT community with Ukrainian, Russian or Belarusian nationality, who are experiencing financial troubles due to the war. •

ERC STARTING GRANTS FOR THREE UT SCIENTISTS

UT scientists Christoph Baeumer, Nienke Bosschaart and Sander Huisman have been awarded with the European Research Council (ERC) Starting Grants. The scientist are all working at the Faculty of Science and Technology. The grants are worth on average €1.5 million and designed to support early-career researchers who are starting their own independent research team or programme.

Sander Huisman, assistant professor in the Physics of Fluids group, will conduct research to fully understand melting and dissolution in turbulent flows. Nienke Bosschaart, Associate Professor in Biomedical Photonic Imaging, won the ERC grant for her work on new methods to help women breast-feed. Christoph Baeumer, assistant professor at the Inorganic Materials Science group, will conduct research which can provide better understanding of how to store renewable energy more efficiently. •



Christoph Baeumer



Nienke Bosschaart



Sander Huisman



PRESIDENT VINOD SUBRAMANIAM

'Accessibility is a key principle in education,' says Vinod Subramaniam, the president of the UT Executive Board, when discussing the theme of diversity, equity and inclusion.

01

THERE HAVE BEEN VARIOUS OCCASIONS AND INTERVIEWS WHEN YOU'VE SAID THAT DIVERSITY, EQUITY AND INCLUSION ARE IMPORTANT TOPICS FOR YOU. WHY IS THAT?

'I never really thought about it for a long time. In my home country India, I just took it for granted that I was surrounded by a rich mix of religion, language and heritage. It was only when I became the rector of Vrije Universiteit Amsterdam that it dawned on me that diversity isn't always obvious. As rector, acting as a role model proved to be something particularly tangible, especially for students. I also began to understand how something previously seen as being quite abstract in concept can in fact be hugely important. And diversity is important; I can see that diverse teams perform better because they approach their work from different perspectives. And you won't just be better off as a team, but as an entire university. We have taken the firm decision to be a people-first institution. This means you have to focus on diversity in all dimensions within your community.'

02

SO WHAT DO YOU THINK OF THE UT COMMUNITY, NOW THAT YOU'VE COME BACK TO UT TO TAKE UP THE ROLE OF PRESIDENT?

'Compared to ten years ago, we have a much more diverse population. I can see it's thriving. Accessing equal opportunities is an extremely important notion for us as a technical university; it is about ensuring somebody's background or origin does not impede them in their choice of study. That particularly applies to the STEM subjects (science, technology, engineering and mathematics, ed.) that we offer. This is something we very much need to be aware of, not only at our university, but throughout the entire educational chain.'

03

HOW DO YOU THINK THIS UNIVERSITY SHOULD DEVELOP IN TERMS OF DIVERSITY AND INCLUSION?

'We want to have a community where we inspire each other. A place where people can flourish within an environment where everybody feels socially connected, safe and welcome. There is also a community aspect to diversity and inclusion. For example, that's why I'm looking forward to ITC coming to the campus – it's a faculty that can draw on decades of experience in intercultural cooperation. Looking at a different type of example, 22% of our professors are now female. This is quite a good proportion for a technical university, but equally, we can't lose sight of gender diversity. This figure of 22% is still far from being a true reflection of society. There are no quick fixes for this, so we need to keep talking, investing and, most of all, we need to keep doing.'

04

WHAT SHOULD THE UT DO IN THE SHORT TERM?

'I'm looking to establish equity and, above all, accessibility. The Berkhoff hall in the Waaier, which we often use for doctoral graduations, is not wheelchair accessible. So that's why we're adapting this space this summer. In a similar vein, we signed a UN declaration of intent, to create an inclusive educational institution. This is something to which we are committed. Accessibility is a key principle in education.'

05

DO YOU THINK THERE IS A RISK THAT CREATING A SAFE ENVIRONMENT WILL STAND AT ODDS WITH FREE DEBATE?

'Not as long as we do it properly. I personally think that a university is a safe space. It is somewhere to share opinions in a respectful manner, and a place where we can help our students to develop. Even more so, when you are diametrically opposed to a person, this becomes the very place to debate matters. For as long as people dare to speak out. That is what we want to encourage, which is why we have created a new series of discussion meetings called 'Perspectives'. During these, we will come together with the UT community four or five times a year to discuss topical and probing subjects.' •

PEACEFUL BATA

The starting pistol sounds at midnight, sending runners sprinting off into the darkness. Assuming all goes well (so no sign of scary viruses, wars or breaches of dykes), the 50th Batavierenrace is due to be run at the end of April. The largest relay race in the world, it starts in Nijmegen and ends on the UT campus, with almost 10,000 runners taking part. In fact, I took part three times and each time I learned something about myself.

In 1998, I had just started a job as a science communicator at the university; all my colleagues swore to me that taking part in the Bata was an essential part of my job. In Rotterdam, I ended up jogging around the Kralingse Forest with a bunch of men who needed each other far more than they needed me. I was definitely the rookie, which is why I ended up with the shortest distance of about 3 kilometres. It took me 30 minutes. Now that wasn't particularly quick, but I was just so happy that I'd made it round. But you're also part of a team and so one woman snapped at me for bringing down the average speed. Still out of breath, I processed what she had said. In her eyes, it didn't matter that I'd done my best as a beginner. I remember thinking at the time that I needed to remain happy about the experience because for me, it was still an achievement. Valuing your own qualities is important for everything in life.

On the following occasions, I ran a much longer distance. That suited me much better, because I've become a keen long-distance runner. For almost 25 years now, twice a week, I run ten kilometres within an hour. I end up looking around me a lot so that I don't fixate on how my body is feeling. This is how I relax. And so it was with the second time I took part in the Bata. I ended up jogging smoothly at my own pace. My companion, who was cycling alongside me, clearly had a different idea of how I should be running and how to support me. He continuously gave me pep talks, shouting things like: Focus! Faster! You can do it! When we got to the checkpoint, he snatched the vest that registered the time from me and was off



like a shot. I think he wanted to make up for what he saw as the embarrassing time I had set. And so he did, quite wonderfully. At the end of his stage, he lay on the ground for a minute, panting for breath.

That was the point at which I realised that I'm the type of runner who focuses on looking after their body. I'm not at all bothered about destroying myself. In fact, quite the contrary: I still want to be running when I'm in my 70s. But for now, I want to enjoy my time. There are plenty of horrid, rotten events going on that I can't control (those scary viruses, wars and dyke breaches). So for pity's sake, just let me do what I enjoy.

The last time I took part in the race it was because a team was missing a runner. I'd told them I'd be happy to step in, but I'd do it my way. And that was fine. Some great running.

And so I do it all by myself. I do a half-marathon in a beautiful city every year. I run along through the Brandenburg Gate or past the Florence Cathedral together with people from all sorts of countries. And afterwards, I'm happy to have gained another victory over myself. So, thank you to the Batavierenrace for turning me into a runner! •

Hiska Bakker

Historian, journalist and a presenter at Studium Generale

NETWORKING EDUCATIONAL DATA RESEARCHER KIM SCHILDKAMP

'DON'T START WITH DATA, START WITH A GOAL'

KIM SCHILDKAMP IS A FIRST-GENERATION STUDENT WHO HAS CLIMBED THE LADDER TO BECOME A PROFESSOR, SOMEONE WHO CONDUCTS RESEARCH INTO EDUCATION AND HAS A NETWORK ALL OVER THE WORLD, WITH TWENTE AS HER HOME BASE. SHE MIGHT SEEM LIKE A PERSON OF EXTREMES, BUT SHE IS ABOVE ALL A CONNECTOR. 'I AM CERTAINLY NOT SOMEONE WHO HIDES AWAY IN AN OFFICE.'

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Kim Schildkamp was once a curious and even perhaps an overly ambitious primary school pupil. 'When I got my reports back from school, I was only ever satisfied with a positive review for every topic. The only exception was writing; I knew that was a bit of a lost cause. I have always had a doctor's handwriting. And a doctor is what I became, although not a medical one, haha. I was always referred to as the family professor. I love the fact that I can now see the same type of curiosity in our four-year old son, Dylan.'

She has officially been a professor since last year, with her own chair in Data-Informed Decision Making for Learning and Development. Nevertheless, studying was never the obvious choice for the now professor Schildkamp. Her parents were not poor, but not rich either when she was growing up. 'And borrowing money was not something you did. I grew up with the idea that you only spent the money you had already earned.' Thanks to a resolute dean at Twickel College in her place of birth, Hengelo, the mental support she received from her parents, a part-time job at HEMA, and an additional scholarship, Schildkamp was able to study at university.

ADVENTURE

After having some doubts over whether to study educational science with a focus on pedagogy and learning difficulties or educational science in general in either Utrecht or Nijmegen, she ultimately chose to study the latter in Nijmegen. As she worked on her studies, Schildkamp's lust for adventure began to beckon. She thus ended up at the University of Toronto for her final-year thesis examining the problem-solving capacity of school leaders. It was an adventure from day one. 'The aircraft landed in the winter when they had had the highest snowfall for fifty years. The first couple of weeks I was living in an apartment that was an hour and a half away from the university. As a young twenty-year-old, I hadn't really thought it through. But, in that period, I discovered that I really enjoyed and wanted to focus on research.'

In fact, she wanted to start working for a research agency as soon as she finished studying. 'But their message was loud and clear: only come back once you have a PhD,' says Schildkamp. She then found a doctoral subject at the UT that felt as if it was made for her, with the former department 'Educational Organisation and Management'.



And what's more, while she was in Toronto, she got to know Lorna Earl, first as a mentor and later a friend for life. 'When I achieved my PhD, she immediately took me under her wing. Then, one day, she said to me, "We're going to write a book with someone from New Zealand". So we wrote a book together. She also encouraged me to draft a plan for a mentorship award for the biggest educational research conference in the world. And it was a success! She was also one of the people who encouraged me to put myself forward as a candidate in the election for president of the ICSEI, the International Congress for School Effectiveness and Improvement, which I went on to win!'

CROCODILES ALONG THE ROAD

After graduating in Canada, the travel bug had certainly not gone away. Schildkamp had wanted to go abroad during her PhD too. Adrie Visscher – now a professor at the department for teacher development, then her supervisor, encouraged her to apply for the prestigious Fulbright scholarship, which she was also awarded. 'I had no idea that the scholarship was this prestigious; I just wanted to gain more experience abroad. But various people told me that the scholarship would open doors for me.' So, she went to Louisiana State University in Baton Rouge. While there, she noticed that some doors were thrown open to her while others remained firmly shut. 'My housemates only spoke Cajun and refused to speak to me in English. And, at the university, there were plenty of sociable people but they all worked with their doors closed. Luckily, I found a lovely, close group of like-minded individuals via a meeting for international students. But the research stalled; in order to gather data, I first had to seek permission from the state of Louisiana. This was only granted on the second attempt, when I mentioned that I had a Fulbright scholarship. Then, suddenly, I was able to collect the data I needed for my research, and I drove around the whole state visiting different schools, passing a few crocodiles along the road.'

But the high point of it all was a visit to the University of West Alabama, where they invited her to give a lecture. 'I felt like a celebrity. I was picked up by a private chauffeur, who was quite the character, and, upon arrival at the university, I was given various gifts and noticed the bright neon letters which said: "We welcome Fulbright scholar Kim Schildkamp". It felt very strange! I was supposed to give a lecture to the entire university. But, because of the imminent arrival of a storm, the lecture was cancelled. However, someone from the university invited me to stay with her

and on the day of the lecture, she invited other colleagues to her home too. In the end, I gave my lecture in a living room that was bursting with people, while sitting on the ground, with a glass of wine in my hand.'

RESEARCH AND DEVELOPMENT TOGETHER

After obtaining her PhD, and once back in Twente, the UT gave her the opportunity to determine her own research, as a postdoc. 'It's a dream of every academic,' says Schildkamp. Although she started out researching leadership in education, as she completed the doctoral route, she became increasingly interested in the use of data in the education sector. During her postdoc in 2007, she laid the foundations for the data team intervention which focuses on supporting schools in using the information that is available in schools to improve education. 'Although nowadays we are already examining how artificial intelligence can help in the collection and analysis of data, back then the use of data was in its infancy. There was little understanding of the types of data available in schools, let alone how they could be used.'

In 2009, when Schildkamp was an assistant professor, she came into contact with the Stichting Carmel College. Five schools from this school board began working with data teams. In 2022, this intervention has been applied in five countries, from Sweden to the United States. The reason for its success? 'The wind was blowing in the right direction for us, as data use in schools was just emerging. But what helped was the fact that we developed the intervention in collaboration with schools,' explains Schildkamp. This statement immediately goes back to her *raison d'être* as an academic; the connection with the practical application. 'This has been the underlying principle throughout my entire career. I am not someone who hides away behind a screen in an office. I want to be out there, conducting research into the reality of how education manifests and develops. That is why it is also great that the UT offers teacher-training programmes. I really enjoy carrying out research and development in co-creation with practice. That is how you find the best solutions for improving education and, in the end, that what it's all about.'

It helps that networking seems to come naturally to Schildkamp. 'My friends always say I can talk non-stop. That's one way of putting it, ha ha, but it's just part of who I am. There are academics

who prefer to retire to their hotel rooms after a conference, but I love to seek out the receptions and talk to people. Everyone can learn how to network. But it's whether you enjoy it or not that makes a difference. I think my approach has opened doors for me that might otherwise have stayed closed. I have been able to create an extensive network and, along the way, build new friendships too.'

GOAL

She also had a special relationship with late PhD candidate Wilma Kippers. In the summer of 2018, Kippers was involved in a fatal accident on the Greek island of Santorini. Ultimately, Schildkamp and her colleagues Cindy Poortman and Adrie Visscher defended the doctoral thesis for the PhD candidate a few months later. 'It was incredibly hard. We were always a very close team; we had been to her house on the farm once and, to the great amusement of her father, had been allowed to ride on the tractor. It is a bitter-sweet fact that she still lives on in her academic work. A while ago, we even published another article written by her.'

Academia never stands still. As for Schildkamp, she still enjoys working at the UT, where she conducts research into data use in various contexts, from within the EU through America, to New Zealand. In the meantime, she has not only become a professor, but also leads one of the zones in the national 'Acceleration plan educational innovation with ICT'. Some of the expertise gained as a result has been applied in the UT context, especially now that education has become increasingly digitalised as a result of Covid. Together with CODE professor, Bernard Veldkamp, she has also created a new UT network on AI and data in education (AID-E), under the flag of the Digital Society Institute. This unites all UT employees who are interested in this topic in the context of research, education and policy. Schildkamp's main aim remains to support educational organization in using data for the purposes of improving education. The most important lesson that she can offer? 'You don't start with the data – you start with a goal. Otherwise, you will end up drowning in data. We are currently examining, for example, the use of artificial intelligence and how to enhance data literacy in order to improve education. However, the starting point has not really changed since fifteen years ago; first a goal, then the data.' ●

FIFTY YEARS OF THE BATAVIERENRACE:

'A SPECTACLE OF
INTERNATIONAL
STATURE'

THE BATAVIERENRACE IS THE LARGEST RELAY RACE IN THE WORLD AND THIS YEAR, IT CELEBRATES ITS 50TH EDITION. AFTER HALF A CENTURY OF THE STUDENT SPECTACLE, THERE ARE PLENTY OF TALL TALES IN THE ARCHIVES. IN FACT, THERE'S A WHOLE ANTHOLOGY FULL OF THE ADVENTURES OF THOUSANDS OF RUNNERS, PARTYGOERS AND VOLUNTEERS.

Ask any average student or alumnus about the Twente campus and the chances are that they will start talking about the Batavierenrace. This is the largest relay race in the world and has been a household name in the Dutch student world for decades. The race, which starts in Nijmegen and boasts a starting line-up of more than 8,000 participants annually, goes straight through Germany, the Achterhoek and Twente and finally ends at the Enschede campus. At that point, the final athletes—often wearing bizarre fancy dress costumes—cross the finish line in a state of near exhaustion, cheered on by thousands of fellow students. It is a grandiose student spectacle that celebrates its 50th anniversary in 2022.

TREE TRUNKS AND THE BAADER-MEINHOF GROUP

The origins of the Batavierenrace can be found in Sweden, where a group of students from Nijmegen took part in the SOLA relay race in the 1970s. It was them who decided to introduce the Swedish tradition to the Netherlands in 1973. The route runs from Nijmegen to Rotterdam. Going via the Rhine, the runners 'descend' into Holland, just as the Germanic Batavians did centuries ago in their hollowed-out tree trunks. The race quickly found its new name. Furthermore, just like Batavians, students love a beer.

Quite quickly, it became clear that the route to Rotterdam was less than ideal. There are various stories as to why this was the case. According to Nijmegen students, the route that went through Rotterdam's harbour area was 'tough on the heart and blood vessels'. Perhaps more to the point, a relay race does not work particularly well with the busy traffic in the Randstad. So that is why the organisation moved into the peaceful Achterhoek region with a finish line at the Twente campus, where students can pitch their tents without encountering any problems.

The race also goes through Germany. Shortly after it begins in Nijmegen, the runners cross the border in the dead of night and run past places like Kleve and Emmerik. This regularly results in confusion for our neighbours to the east. For example, one of the organisers was mistaken for a member of the Baader-Meinhof-Gruppe, which is a left-wing extremist organisation that launched a series of attacks throughout Germany. During the first years of the race, runners had to take their passports with them, just to be on the safe side, in case German customs decided to carry out a check at the border. Locals and farmers in the Achterhoek regions weren't always happy either with a bunch of students invading the countryside. All of this ended up upsetting the dairy cattle herds. But hey, it's only once a year...

15,000 LITRES OF BEER AND 8,000 STORIES

Over time, the relay race grew into a 'spectacle of international stature' and a total of 4,500 participants took part in 1982, which was enough to get a mention in the Guinness Book of Records. Another equally impressive figure is the quantities of beer consumed at the final party. 'In the early years, anything went,' said former events manager Tonnie Buitink, in an interview with UT-Nieuws (now called U-Today) in 2009. 'The staff and the organisation had a great time drinking through the whole evening.' But with growing numbers of participants, the party also became busier and larger. 'The Red Cross workers told us that we couldn't continue on like this, that it was just irresponsible. From then on, we started to manage things better and better.' What's more is that 13,000 partying students, various artists and 15,000 litres of lager all equates to the main event now unofficially being known as Europe's largest student party, and it's simply impossible to imagine the relay race happening without it.



The Batavierenrace is also becoming more widely known outside the student world. In the early 1990s, the NOS decided to send a film crew to the event. They returned to Hilversum with a ten-minute report of the relay race. In fact, the students themselves have been doing non-stop reports live from the race for years. At first they reported on-air on Radio Drienerlo and then later online via Bata-Radio. 'Every participant or volunteer has their own experience of their individual adventure and a unique story. That is how more than eight thousand stories can come out of one race,' explained one of the radio producers when discussing the magic of the Batavierenrace.

CRISIS

Of course, you still get people suffering with the almost inevitable blisters, thunderstorms and lost team buses. But the first thirty Bata years passed without any major disasters. It wasn't until 2001 that things took a turn for the worse. Because of the foot-and-mouth crisis, the Batavierenrace wasn't able to take place that year. 'All unnecessary movements of people and animals are dissuaded: footpaths and walking routes are closed, Easter bonfires are cancelled, and property valuers aren't visiting the countryside. It looks bleak for the army of relay runners,' wrote the UT-Nieuws in the run-up to the 2001 edition.

In 2020—a global year of disaster—the Batavierenrace was cancelled once again. Yet again, a virus threw a spanner into the works, and this time it was Covid-19. 'It is a strange feeling, but somewhere along the line I accepted it,' the Chair of the organising committee told U-Today. 'However, speaking in a personal capacity, it all feels incredibly empty at the moment.' The relay race could not take place in 2021 either, although an online alternative was set up which saw thousands of runners participate.

After two years of Coronavirus, there is perhaps even a slight feeling of concern as to whether the relay race still has a future. It is becoming increasingly difficult to put together an organising committee. 'If no new students show up, it will all come to an end,' said Nijmegen-based news outlet Vox. Fortunately, an enthusiastic new committee has now eventually been found. They believe that this 50th edition of the Batavierenrace will be 'extra special'. Nevertheless, the main ingredients of the student spectacle, including over 175 kilometres of running and a huge final party, will remain unchanged... and that can only be a good thing. For fifty years, this relay race has created an indelible impression on different student generations. Now we can all hope that there will be at least another 50 years of the race ahead of us. ●

WELLBASED HELPS STUDENTS GROW

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UT ALUMNUS DANIËL DE VRIES' CHILDHOOD WAS SHAPED BY BEING BADLY BULLIED AND FEELINGS OF BEING ISOLATED. THAT PERIOD MAY HAVE LEFT HIM EMOTIONALLY SCARRED, BUT IT ALSO PROVIDED THE INSPIRATION FOR HIS START-UP, WELLBASED. WORKING TOGETHER WITH HIS TEAM, HE CREATES READY-MADE TRAINING COURSES IN SOFT SKILLS AND PERSONAL SKILLS SPECIFICALLY AIMED AT YOUNG PEOPLE AGED 12 TO 18.

For most entrepreneurs starting out, their idea of a viable business isn't quite as close to home as it is for De Vries. He was eight when he first had to start dealing with bullies and a sense of not belonging. It went on for years, starting in primary school and continuing through secondary school. One place that he did find support, though, was from his Dutch teacher who helped him to grow and develop on a personal level. And it is that experience, that notion that every pupil deserves support, which forms the heart of his business: 'The feeling that this is something I really want to devote my time to is particularly strong. This is what I want to be doing.'

It also means that he has to dredge up memories from the past on occasion: 'It was hard at the beginning to keep talking about the bullying. I had my doubts as to whether I'd be able to even tell my own story so openly. It took me quite a while to actually get to that stage,' he explains from his office in Utrecht. 'I have always been willing to be vulnerable. Even in the past. And I was always quite open. That's just who I am. It is just part of who I am to tell my own story. I know my story is quite heavy in places, but I also know that it helps to create something that is bigger than myself – that's what really makes it worth it.'

FURTHER EXPANSION

De Vries is also working with a team of four full-time employees to see how they can expand WellBased. Together, they are developing the training courses and generating contacts with new schools to get them on board. 'The big challenge is to scale up from ten schools taking part, to one hundred schools. At the beginning it all happened very quickly. We linked up with four schools in Enschede. Schools that didn't just say, 'that's great that you're from Enschede, so are we', but also said, 'we have faith in this project, we want to grow together, so let's do it.'

De Vries and his team were pleasantly surprised by the response they got, especially since they were fully aware that schools are often approached about all sorts of initiatives. 'Actually, all of the school contacts I spoke to reacted enthusiastically. But then we had to deal with Covid. During the pandemic, schools were mostly concerned with surviving, not with new opportunities. And we fall straight into that category of new opportunities, and there's often less time for that.'

WellBased was recently approached by the University of Twente to run a pilot; their approach fits perfectly with the challenge-based learning concept that the UT follows in their teaching. 'We want to show students how they can improve and how they can collaborate together to achieve something wonderful as a group.'

SUCCESS

Reflecting on how he defines success in relation to his company, De Vries explains that for him personally, 'success means ensuring that as many students as possible benefit from the programme. That they are able to genuinely develop new personal skills that make them happier.' 'I know how important it was for me back then that somebody helped me to develop my skills so I could learn how to become part of a group. It's great to be able to pass that on to students now.'

He senses the same urgency in this current generation. 'At that age, everybody is busy pondering the big questions: how to become part of a group, how to carry yourself and function within a group, and at the same time how not to worry too much about what other people think. It's great if you can get some guidance on this, and that's exactly what we're offering. We always start with one question: what will these skills enable you to do? Students need to understand why it is relevant, otherwise they will just quit the process.'

LESSONS LEARNED FROM STUDYING

Once he had left secondary school, De Vries flourished. He did an undergraduate degree in Industrial Engineering and Management and played an active role in the Students' Union, becoming its President. He also began a master's degree in Business Administration, but decided instead to prioritise developing WellBased. 'Of course I got something out of my studies. Industrial Engineering and Management taught me all about successful business models and I learned how to analyse things. But most of all, I gained such a lot from my year on the Student Union Committee. With the Student Union, you are actually managing a fairly large organisation and group of students. At the time, the pandemic was in full swing and so we needed to think about a coronavirus policy for the UT. Suddenly you're functioning at a different level of thinking, and it's not something you really get to do as part of your degree. But that's when I started to learn how an organisation works and how to get the most out of it.' •



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ERIK FABER

APPLYING THE PRINCIPLES OF TAI CHI TO EDUCATION

WHAT MAKES A GOOD TEACHER? WHERE DOES A PERSON FIND THE ENTHUSIASM TO TURN SOMETIMES DULL SUBJECTS INTO INTERESTING AND UNDERSTANDABLE TOPICS? IN 'MEET THE TEACHER' SERIES, WE PRESENT UT STAFF WITH A PASSION FOR EDUCATION. THIS TIME, IT'S ERIK FABER.

Faber started working as a teacher within Creative Technology around ten years ago. He has been awarded a Create teaching award twice; once in 2014 and again in 2016. According to Faber, he owes the second award in particular to the class of students he was teaching. The rapport he felt with his students at the time, as far as Faber is concerned, was vital in terms of winning the prize; after all, no two classes are ever the same. Sometimes, as a teacher, you are faced with a generation with very little cohesion but, in 2016, everyone really pulled together. Faber believes that a teacher has an important role to play herein, by creating a climate which is nourishing and in which collective effort is tangible.

BARREN

Faber cannot elaborate on his role as a teacher without mentioning the situation during the lockdowns. He understands that everyone did their best to get through this period but the barren nature of an environment without physical contact has had, in his opinion, a profound impact. He has become much more aware of the need for and importance of human contact and the physical elements of teaching. This is what motivates him. Faber believes that the most important lesson is never to teach in that way again. He is now seeing groups of students who are less well developed socially than other groups simply because there was little consideration for the situations of young people.

Faber was also shocked by the academic climate during the pandemic. Specifically, by the fact that some issues could not be critically assessed, that there was an atmosphere full of taboos, in which opinions were good or bad, without a central ground where there was a meeting of minds and ideas. This triggered something in him. He believes that the climate in which academia can thrive was put under huge pressure. Scepticism can generate questions that are worthy of investigation and which push science forward. This suddenly became a no-go area.

Faber never expected to be standing here with ten years' teaching experience behind him. He uses this as a lesson for his students. Not everything can be scheduled in a five or ten-year career plan. A more adventurous route can also pay dividends and lead to success. He just happened to come into contact with a group of amazing people who had started the Creative Technology course. He was drawn to their pioneering spirit, and the sense that he was always missing something was suddenly resolved.

FULL SPEED AHEAD

Over the past few years, Faber has benefited from his expanding experience. It has served him well, made him calmer and allowed for greater improvisation in his lessons. He can draw from a richer, more fertile base. He sees this as a layer of 'fertiliser' which is further fed and nourished by his experiences. Simultaneously, he sees the world

becoming more complex; an engine that is getting faster and faster. According to Faber, it sometimes feels as if modern technology is making everything much easier for students while, at the same time, the use of technology means our heads are becoming increasingly overloaded. With this in mind, it is worth asking whether students have greater control as a result of this technology or whether the technology is effectively controlling the students.

Passion. That is Faber's short and to-the-point answer when asked what makes him a good teacher. He believes a student can tell, within seconds, whether a teacher is really engaged in what they are doing. Faber also appreciates being able to integrate social themes within his subject area and finds it important to be inspired by role models. He mentions two of these role models, from very different periods of his life.

One was a teacher at his primary school. A huge bear of a man, who used to play around with the pupils on a Friday afternoon. It was a 'fight' that the kids always lost but Faber describes it as an interaction that effectively captured the sparring that occurs between teacher and pupil. His second role model is professor Miko Elwenspoek, who died last year at the age of 72. According to Faber, he was a huge source of inspiration; he was not only able to captivate students with his lectures but was also able to interact with students on their level.

Faber tries to do this every day. For example, by seeking the boundaries of physics from a philosophical perspective. After all, in his opinion, issues are sometimes so interconnected that when you arrive at a point where physics can no longer offer an explanation, awe can simply take over. And it is often at that moment that teachers and students realise that knowledge is so much more than a chunk of information.

As far as Faber is concerned, there are two important aspects in the changing role of the teacher. A teacher can become a much greater role model if he considers how students live. Personal and professional development are generally kept separate but, in his opinion, a combination of the two would be better suited to a university that focuses on knowledge. As a fan of martial arts such as Tai Chi, he recognises principles in this that ought to be included within education. These could offer a stable basis and also help regulate stress. Faber believes that stress affects not only your mind but also your body and his ability to regulate this stress has benefited him throughout his life and is something he would like to pass on to his students. •

RECORD ATTEMPT

Quidquid accidit, construere perseveramus. This is the motto of civil engineering students at the UT. It means something along the lines of: whatever happens, we keep on building. And that is certainly a handy point to remember when it comes to the longest beer crate bridge in the world. It was due to be 36 metres long, with two imposing towers on either side, and would require more than 12,000 beer crates to build.

For a fortnight, students from Twente undertook building work in an attempt to rival their fellow students in Eindhoven. The Brabanders held the 'old' record of 26.69 metres. On 12 March, this record was meant to be smashed and the first attempt was made amid great interest. But it was not successful. A second attempt in the middle of the night was also to no avail. The crate bridge simply did not remain upright on its own. So what was the problem? Something to do with the hydraulic jacks and the fact that the towers were too heavy. But the students didn't drown their sorrows and wallow in this. After all, he who does not dare, does not win. And as I said, whatever happens, the students will keep on building: perhaps a new attempt next year? •



NANO TOOLS FOR THE QUANTUM REVOLUTION

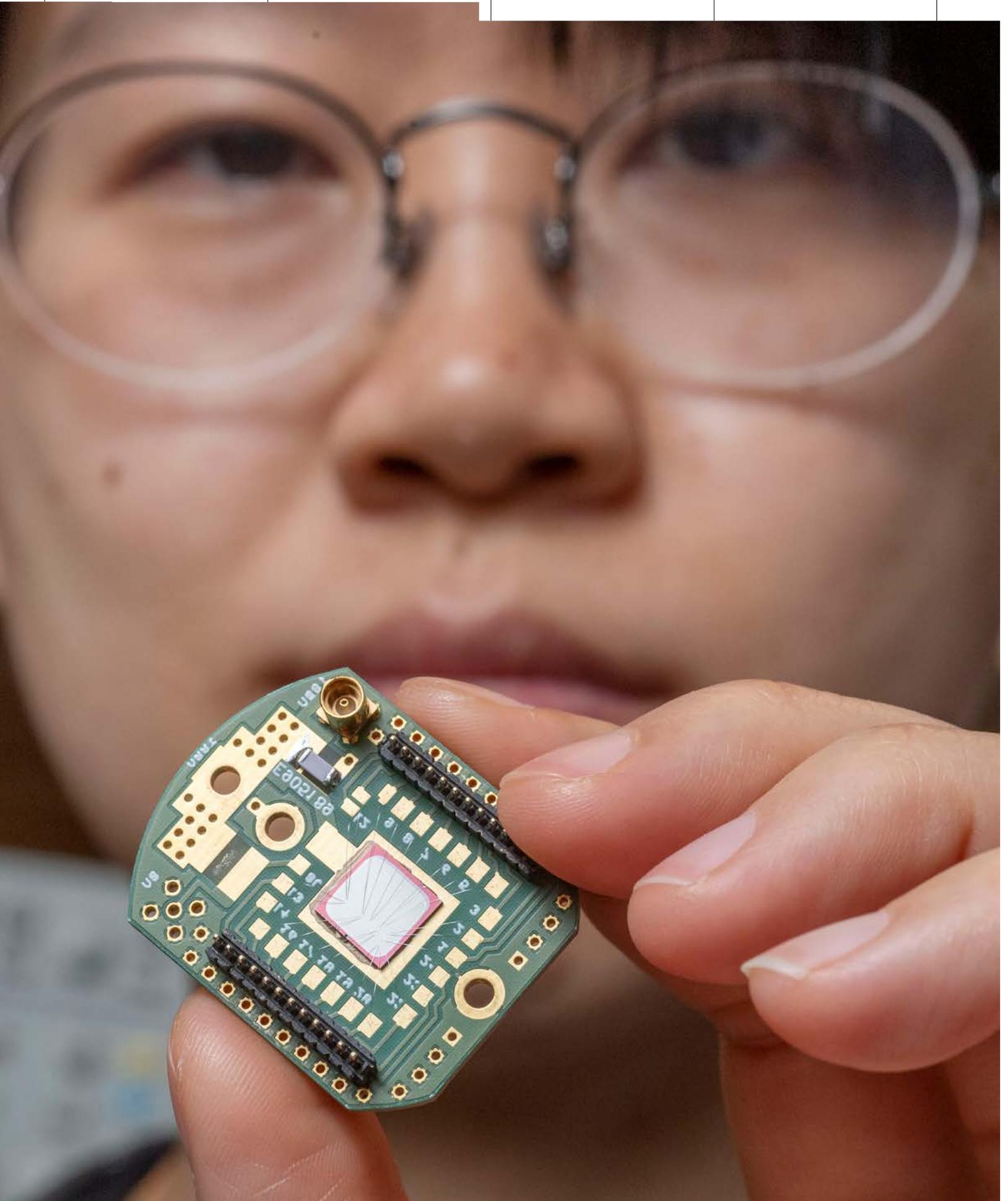
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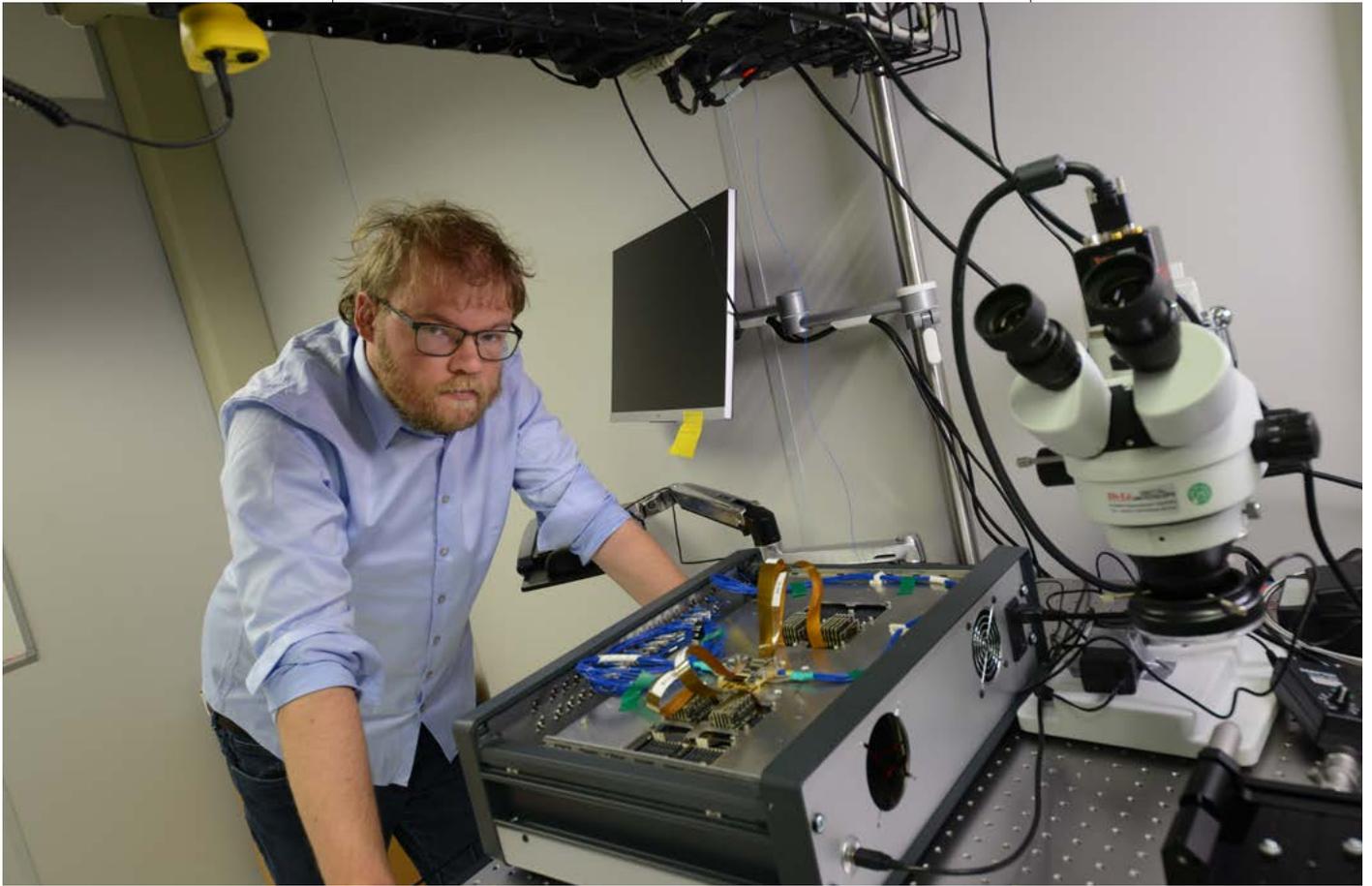
QUANTUM COMPUTING IS SLOWLY EMERGING, STEP BY STEP, FROM THE WORLD OF MYSTERIOUS PREDICTIONS. THE FIRST PROCESSORS HAVE BEEN CREATED AND, IN SOME CIRCUMSTANCES, THEY DO MUCH BETTER THAN THE FASTEST SUPERCOMPUTERS. THE UT IS CONTRIBUTING TO THIS, ON VARIOUS FRONTS. WITH EXTREMELY LOW-LOSS LIGHT CONNECTIONS, PERFECT PHOTONS AND PLENTY OF EXPERTISE REGARDING SUPERCONDUCTORS, THE RESEARCHERS CERTAINLY HAVE THE SPECIAL SKILLS REQUIRED.

The timing is coincidental, isn't it? With quantum you sometimes just don't know. A few days before writing this article, the UT spin-off QuiX Quantum presented the 'largest photonic quantum processor in the world'. This is a processor that works with photons or, in other words, light. UT researcher Jelmer Renema is also the Chief Technology Officer (CTO) of this young company and was named by the platform 'The Quantum Insider' as 'a CTO to watch in the world of quantum computing'. The latest processor is not yet a replacement for the processor in our tablets. There is not even any certainty as to whether that is a realistic future option. However, the development demonstrates that quantum computing is no longer the stuff of dreams, existing only in textbooks. We now have the first systems that have shown that they can tackle calculation problems that are too hard for supercomputers. QuiX Quantum has now sold several processors to organisations that wish to gain experience with this method of thinking and calculating.

STRIKING GOLD

The processor of Renema and his team works using light. It looks a bit like a switch board with 20 inputs and outputs, all with light conducting channels. The first version, with eight-by-eight channels, was not designed for 'quantum' at all. It was to be used within 5G communications. But then Renema reconsidered the concept, realised that the light conductors had extremely low losses and thought: 'We have struck gold'. One thing led to another. After all, he thought, if you can send a few photons through the network of light conducting tracks, you can also perform quantum operations; you can let the photons entangle, you can apply superpositions. All moved along the light conductors like in a pinball machine but, in this case, moving under the influence of heat. But, if you wish to follow the route of the photons from input to output, the photons must continue to give off sufficient light and be identical where possible, otherwise you cannot demonstrate the quantum effects. And the UT has successfully been working on a source of just this type of identical photons.





In the photo researcher Jelmer Renema (Photo: Bits&Chips)

Working with photons as quantum bits (qubits) offers significant advantages, according to Renema. The system can function at room temperature, cooling to near the absolute zero point is not required, and photons are pretty robust. Not long ago, a Chinese research team showed that a quantum computer, working with over 100 photons, could solve a problem that could not be solved by a supercomputer: this is also referred to as the quantum advantage. The only Dutch person in the team, Renema, made a substantial contribution to the theory.

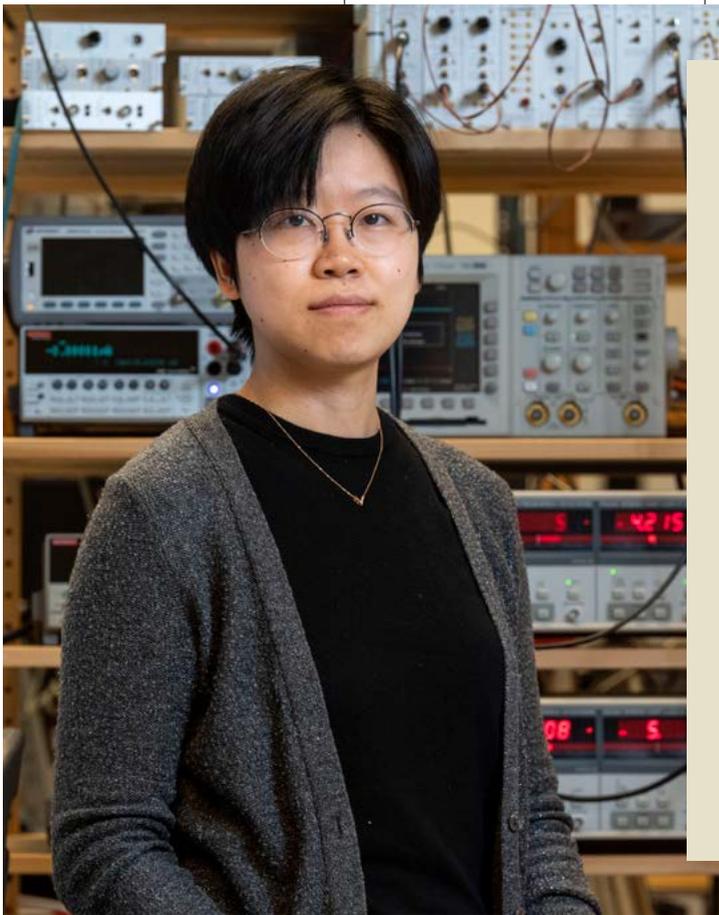
SECURITY

With this in mind, and knowing how complex 'ordinary calculating' is, with regular bits that are '1' or '0', what can we expect of qubits which can take on all values at once? You often hear that 'a quantum computer calculates all solutions in one go'. But this is not about solving a sudoku puzzle; that can be done using a laptop with a few lines of code. How about if we look at complex phenomena such as weather turbulence, where enormous computer systems are used for calculations? Pepijn Pinkse: 'These are not yet problems that we can "map" using a quantum system; I don't see any opportunities for this for the time being. The problem itself must also preferably have a quantum character. We are considering, for example, ongoing calculations of chemical processes in a living cell. Don't forget that the phase we currently inhabit with quantum computers is also called "NISQ": noisy intermediate-scale quantum era.'

Together, Pepijn Pinkse and Floris Zwanenburg head up the Centre for Quantum Nano Technology Twente (QUANT). This centre is part of the MESA+ institute. Pinkse also focuses on light, by using it to design quantum security. Soon, he and his colleagues in Münster will install a fibre optic cable to test quantum communication at high speed. Quantum communication could end up being more widespread than quantum computing, and this offers extremely robust security. 'Banks and critical infrastructure should be working hard on this too,' says Pinkse. If you want to try to tap information from the fibre optic cable along the way, your efforts will be in vain; the system recognises the eavesdropper, alarms are triggered, and no information is released.

OWN ANTIPARTICLE

Within QUANT, work is also focussing on other types of qubits, besides photons. These work very well at extremely low temperatures. 'We have excelled at superconductors for years,' says professor Alexander Brinkman. 'Below a certain temperature, the resistance reduces to zero. But that's not the only thing. With superconductors, there are also particles that have their own antiparticles. These are also called majoranas. When an electron moves from one energy level to another, a hole is created. These terms are also known from classic semiconductors. But what if a particle is simultaneously an electron and a hole, and somehow spins around on its axis? Then, we have a topological quantum bit.'



i

TOPOLOGICAL MATERIALS

Chuan Li is an assistant professor in Alexander Brinkman's group, and recently received a major VIDI grant from the Dutch Research Council. 'With the ongoing shrinking of the dimensions of a conventional chip with "ones" and "zeros", you come up against "quantum confinement" and the temperature gradually increases; this inhibits the performance of electronics. Quantum bits, by contrast, encounter "decoherence". They lose their valuable properties so you can only use them briefly. This is the reason for creating qubits and new "one-dimensional materials": topological materials that have a special way of conducting power, such as bismuth telluride which does not conduct within the material, but only on the surface. We can use this to make quantum bits more robust. The great thing is that the UT is extremely good at making the materials for this purpose.' In 2019, Chuan Li also won the Professor De Winter award for the best publication by a female academic that year. •

The problem is that we can only use it for a fraction of a millisecond. One of the ways to make this more robust is to use topological materials, and this is the focus of various groups within the UT. These materials work partially as an insulator and partially as a conductor. In the conducting part, the electrons all move neatly to one side. This would be a method for keeping them in order.

Zwanenburg is also working on better protection. He is thinking in terms of quantum bits in silicon, from which current electronics are also made. The protection could comprise nanowires made from substances such as germanium. That material was used to make the very first transistor in 1947!

MAZE

The question we really want to ask Alexander Brinkman, who enjoys demonstrating complicated concepts such as 'teleportation', even on popular TV shows is: 'What will you actually calculate?' 'I often talk about a maze. A classic computer works according to "trial and error"; a quantum computer would solve it in one fell swoop.' Until recently, companies such as IBM and Google have demonstrated their 'quantum supremacy', i.e. that their quantum chip can do things that supercomputers cannot. They then engage in heated discussions about whether that really is the case. Until now, these were systems with around 53 quantum bits, aside from the

Chinese photonic computer that calculates using 100 photons. Would it not be better if the UT chose just one technology for qubits and focussed on this alone? Brinkman: 'If our goal was to build a working quantum computer, I would say yes. But we are researching the boundaries of this type of technique and, in the NanoLab, we have a whole range of materials and tools available. So, it's best to work on various alternatives.'

EDUCATION

'It's also important to mention that the UT plays an important role in a secondary education model on quantum mechanics. We have co-written the teaching methods and on my desk I have a demonstrator which clarifies how it works. Pupils visiting us always want to have a go, and that's no problem.' Companies such as Google, Microsoft and IBM are aware that they must involve the younger generation; after all, they will soon be coming up with creative concepts using quantum. It is already possible to write a piece of computer code, ready for a quantum computer, and have it processed on the quantum processor of the company. In the same way, Jelmer Renema sells his new processor to those who wish to acquaint themselves with the world of quantum. •

NAVIGATORS LOOK BEYOND THEIR OWN WALLS

THE UT HAS MASSES OF CLUBS, ASSOCIATIONS AND SOCIETIES. THIS COLUMN THROWS THE SPOTLIGHT ON SOME OF THEM. THIS TIME IT'S THE NAVIGATORS STUDENT ASSOCIATION ENSCHEDE, WHICH COMBINES STUDENT CULTURE WITH THE CHRISTIAN FAITH.

'KNOWING CHRIST AND INTRODUCING HIM TO OTHERS.'

The Navigators club room is tucked away in a corner of the third floor of the Bastille. To begin with, the room, which offers a view over the fields of the Drienerlo football association, makes no reference to the subject of Christianity. However, as president Rutger van den Berg (21) and secretary Hanneke Goud (22) take a seat, an enormous Bible appears on the table. The two explain that the Bible plays an important role in the association.

BIBLE STUDY

'On Tuesdays, we hold roundtable meetings which take place in our five association houses. We eat together and talk in small groups, prior to Bible study,' explains Van den Berg. Goud then clarifies the term 'Bible study'. 'First, you talk about how things are going. What are you looking forward to? And how is your relationship with God? Then we study the Bible. One of the members prepares a topic; these can vary hugely. Sometimes, someone then adds a more practical interpretation which can, in turn, lead to a discussion. At other times, a person might study the Bible more closely and the session focuses on gaining greater knowledge. The aim is always to understand the Bible in the context of your own life.'

The Navigators hold the roundtable on alternate Tuesdays. On the other Tuesdays they hold an association evening at the De Generaal clubhouse in Enschede city centre. Members eat and listen to a speaker. Goud: 'That could be anybody. Sometimes it is a priest but we also regularly invite people to come and talk about a specific topic.'



The most important thing for Navigators is to combine these two important evenings in the month with student life. According to Van den Berg, the depth of belief is always central. 'But we also like to have a drink together. After Bible study, some people always stay for a drink. We are interested in each other's lives and share any issues we may have.'

ALCOHOL

According to Goud, the aim of Navigators to combine the Christian faith with a lively student culture can sometimes generate friction. 'Members sometimes have differing viewpoints on the use of alcohol, but what is important is that we always get together. Nobody is obliged to do anything. If a member is not interested in drinks or parties, that's fine. We accept one another for who we are,' says Van den Berg, a Mechanical Engineering student.

It's not only Tuesdays that are important for members. On Sundays, the students gather regularly to attend church. This is often in Enschede, according to Goud who is a Creative Technology student. 'Our members come from all corners of the Netherlands. We don't all come from the Bible Belt.'

DISCIPLESHIP

Navigators is an international movement that has a rich history and was founded in America. The Enschede branch has been part of the movement since 2008. The association had existed for many years before that, but under another name: Agapè. Van den Berg: 'For us, it's all about learning from others. Providing direction and



sharing experiences within our faith. We call this discipleship. We are all students in the same phase of our lives but we want to learn from others' perspectives. To look outside our own walls. This is reflected in our motto: 'Knowing Christ and introducing Him to others.'

Goud loves the fact that the members of Navigators represent many different denominations. 'From reformed to evangelical, and the dozens of churches in between. Within these frameworks, people have differing views on many topics but our open atmosphere facilitates fantastic discussions. There is space to do this and we actively encourage it.'

The pair struggle to decide whether Navigators differs from other Christian student associations on the campus. 'The roundtable is perhaps more important to us,' says Van den Berg. 'They sometimes say that Alpha is a Christian social association and that we are a social Christian association but the differences are negligible.'

Ultimately, the management is delighted that the secularisation of society has not yet translated into member numbers. Goud: 'We have more new members than in the past few years put together. It always fluctuates, between the Christian associations themselves, but we are happy with our 100 members. We have no fewer than 35 committees. This clearly illustrates the commitment within our association.' •



ROELOF BLEKER

'I WAS ENGROSSED IN THE RICH CAMPUS LIFE'

AS AN INDUSTRIAL ENGINEERING AND MANAGEMENT STUDENT, ROELOF BLEKER (54) GOT TO KNOW ENSCHEDE. ALMOST THIRTY YEARS LATER, HE CAME BACK TO TAKE UP THE ROLE OF MAYOR. 'THE FIRST MONTH FELT LIKE SLIPPING ON A PAIR OF OLD COMFY SLIPPERS.'

Bleker is wearing a striking hat as he enters the Enschede town hall. He bought the hat in his first week as mayor from UT Professor Emeritus Dave Blank, who has run a hat shop in the centre of Enschede ever since he took retirement. For Bleker, visiting the shop is also a chance to reunite with an old acquaintance: he knows the renowned former professor from his time spent as an alderman and student in Twente.

During his first month as Mayor of Enschede, in February 2022, Bleker held lots of meetings like this, or rather reunions. 'Coming back felt like slipping on a pair of old comfy slippers,' he says. 'But it is also great that so much has changed over time. I come across lots of new faces and I'm impressed by the great plans that are in place, like the building plans for thousands of homes for young people and students dotted around the city centre.'

In his first month, the new mayor also visited the university campus. 'I saw the emergency accommodation for students on the Witbreuksweg and chatted to the builders. I told them that when I was alderman, I'd given the go-ahead for the construction of Sky and Box.' Incidentally, his visit to the campus is not particularly extraordinary considering that Bleker still returns to the campus each year. 'I come back for the water polo tournament of the Piranha swimming club, where I was President in my student days. I would cycle from the station to the campus and marvel at how many years it had been since I had cycled that route as a student. That always felt so familiar.'

STUDENT CITY OF ENSCHEDE

Bleker grew up in Appingedam, a small town in Groningen. He chose Enschede to study in because his broad interests made it difficult for him to choose which course he wanted to follow. 'I was told that the chance of getting in for Industrial Engineering and Management in Enschede was higher than

Groningen. The information day was fun, so I was quick to make a decision. I accidentally went to the information session for Public Administration, but I ended up thinking that if this programme seemed fun, then the Management course must be too!'

The first thing he did as a student in Twente was to sign up for the water polo competition. This meant that he would only return to Groningen in the autumn and over the Christmas holidays. 'That suited the campus student lifestyle. Many student cities were – and are – much more boring than Enschede, because lots of students stayed in Enschede during weekends. In my student days, Enschede meant the campus, the city centre and De Vluchtestraat. That is where I lived, except early on. At the start, I shared a house with fourteen students on the campus, on Witbreuksweg.'

A RICH CAMPUS LIFE

As a student, Bleker didn't just sit working with his nose in a book – quite the opposite, in fact. He was Chair of Piranha and headed up the Council for Campus Facilities, which was a kind of precursor to the Student Union. 'The Council was a campus board with three councillors and a chairman, "the campus mayor". It dealt with everything to do with housing, culture and sports. I remember that at the time, we were busy investing in artificial turf pitches. It was a great learning experience for me.'

In fact, much more than studies, his emphasis was on student life. 'I was really engrossed in the rich campus life. When the study association went on a trip abroad, I often didn't even know about it.' Bleker doesn't think that his Management course was particularly fascinating, except for one optional subject. 'I found the teacher, Maarten van Riemsdijk, especially interesting. He was pursuing a PhD at the time and I worked for two years as a lecturer in his department. I still sometimes talk to people now who say they were taught by me and it's rather funny.'



DOG POO POLICY

In his years as a UT lecturer, Bleker also sat on the city council. 'That's when the whole city really started to come alive for me; as a student, I was mainly focused on the campus and the city centre. I felt most connected to the PvdA [Labour Party]. I wanted to work on something with the party and so I started to focus on the dog poo policy. Clutching my two sheets of paper outlining a policy based on the one in Deventer, the group set to work. A majority of the council followed suit. The party then asked if I wanted to be on the list and I said yes, which is how I came to be a municipal councillor at the age of twenty-six.'

After a stint on the municipal council, he became an alderman in Enschede. Bleker then became a dijkgraaf, a president of the executive board of University of the Arts and, ultimately, a mayor. In fact, the career path that 54-year-old Bleker has followed is extraordinary. Moreover, it is varied and diverse. What does he think is the common thread running through all these different roles? 'More than anything this demonstrates the breadth of my interest. All of these roles are public tasks. I never thought about there being a common thread before, but what always excited me was the engagement of people and residents based in one particular area. As an alderman in Roombeek, I was involved in the reconstruction work that took place after the fireworks disaster. The way in which all the residents got involved was exceptional. It inspired me enormously. Even as a dijkgraaf, the broad perspective of residents always influenced my thinking.'

AN ENGINE TO DRIVE THE REGION

In his own words, Bleker wants to focus on safety during his first months as Mayor of Enschede. However, maintaining a link between the city and the UT is also one of his tasks. 'In the coming period, for example, we will be making important decisions about investments in the Kennispark. The UT is an important driving force for the region. It generates new technology and entrepreneurship as well as diversifying business.' That is why it is important that students decide to stay and live in Twente once they have completed their studies, says Bleker. It is precisely this idea of retaining talent in Twente, however, which has caused issues for years. 'On the one hand, it is all very logical: students feel like a change after they have finished studying. Nevertheless, we would like to try and entice our talent to stay in our region. It is a great city to live in, so ensuring there are sufficient career opportunities is key for this.'

This also applies to job opportunities that are available for partners, as Bleker knows. 'We want to invest over the coming years to ensure we have better links with other working regions, such as a good train connection between Zwolle, Enschede and Münster. Housing here is more affordable than in the West, so that is something that we can highlight to students.' And it is not just affordability that plays a role, explains Bleker. 'My wife and I are returning to Twente now, but I know quite a few people who are also coming back after spending several years in the Randstad. There is a less harsh atmosphere here. They would rather have their children grow up in Twente than in Schiedam, for example.' •

SHAKING 2030

In my previous column, I started pondering about how our campus would appear in 2041: bustling, dynamic, a pleasant space for people, plants and animals alike. But now, a new dimension has been added to the equation – an extension to the northern branch of the Betuwe line. If it is right up to the Port of Rotterdam that would mean that by about 2030, we'll be sat on the campus, day and night, shaking in the wake of passing goods trains. Now these are only plans, so for the time being the trains just run through my head and that of many others... but that is already unpleasant enough. The quiet that ensues at night once the growl of roaring engines has died down is in danger of disappearing forever. Landscapes and communities are being swallowed up: the railway line is cutting swathes through the Achterhoek, Twekkelo, the Kristalbad and the unique piece of Twente countryside and hamlet located between the campus and Hengelo, before going via Lonnekermeer to finish up at the railway line to Germany.

So, have we gone stark raving mad? I say 'we', because all these goods that are being lugged around the world are simply to meet our needs. This plan is a belated yet damaging revival of the 'more of the same' principle that should have been put to bed by now: more mobility, more consumption, more stuff, so more roads and railways. The fact that the attempt to widen the motorway through Amelisweert is likely to fail provides a hopeful sign of change. But the Port of Rotterdam still thinks in old-school terms.

They dangle a few carrots in front of us. Somebody working in transport says this will be a good thing for us. Imagine having direct trains between Nijmegen and Twente, and better regional rail transport. In fact, we should see this as an opportunity to transform Twente into an international passenger hub, they say. But of course, this is all nonsense. How many tracks precisely do they want to lay so that they can run all these local trains, express trains and goods trains at the same time? For reviving the ancient local railroad system,



it would be better to restore the old tracks: at least they linked up villages and towns, instead of nature reserves and farmland.

So why is all this activist talk included in a university magazine? As a university, we are committed to our region. As Drienerloërs, we need to support the residents of Driene in the fight against the old-fashioned thoughts of people who know how to lobby well and are a dab hand at smooth talking. And it also impacts us, even if the railway line is more than 2.5 km from our Nanolab, as a 2014 study explained, apparently in an attempt to reassure us. But the Nanolab is not our only sensitive location.

Incidentally, I am writing this months before publication. Maybe geopolitical events, further escalations in violence or a different world-view will put the brakes on the global movement of goods – whether that's by sea or, to be somewhat more poetic, via the New Silk Road that should end at the North Branch. •

Wiendelt Steenbergen
Professor of Biomedical Photonic Imaging



RIDE ALONG

BEING ABLE TO WORK 'OUT OF OFFICE' WAS ONE OF THE MAIN REASONS WHY MARIO BOOT DECIDED TO START HIS PHD RESEARCH, WHICH FOCUSES ON MEASURING THE IMPACT OF NEW BIKE TECHNOLOGIES ON USER EXPERIENCE. AND AS A SELF-PROCLAIMED CYCLING LOVER, BOOT IS MORE THAN HAPPY TO BE HIS OWN TEST SUBJECT. 'MY RESEARCH REVOLVES AROUND BICYCLES. CYCLING NATURALLY HAPPENS OUTSIDE, AND SO WE, RESEARCHERS, ALSO SPEND TIME OUTSIDE TO GET A BETTER INSIGHT INTO THE REAL-LIFE ENVIRONMENT.'

Mario Boot is really excited about his research. 'I have always loved cycling. My parents rode bikes more than they drove a car, and so it certainly runs in the family,' he says. 'I love being outdoors and I think field work is incredibly important. Going out of office was one of the first things I did when I started my PhD. I went to talk to technicians in bike shops, aiming to find out what the most common problems with e-bikes were. I went to Experience Centers where innovations are showcased and where people test new bicycles. I went to conferences and I connected with people on bike forums to get the first impression of how people felt about new developments for bikes. I want to understand people's experiences, so that we can enhance them using digital technology.'

The PhD candidate is part of the Smart Connected Bicycles project, jointly run by the Transport Planning Group at the Faculty of Engineering Technology and the Pervasive Systems Group at the Faculty of Computer Science. 'The project is quite special,' says Boot. 'Promoting cycling is very relevant for society. Universities, municipalities, and a global bicycle company work together on this.'

Boot's focus is on understanding how people experience emerging technology in the bike space. 'There are a lot of gadgets and new technologies available for bikes. Just think of GPS trackers, lights with radar systems, helmets with lights, sensors measuring your activity, and so on,' says Boot. 'But the value is sometimes questionable. My main research question therefore is: how does all this change the biking experience? Do new technologies make cycling more comfortable, safer, convenient and/or efficient? And how can we measure that?'

Answering these questions will happen (largely) outside. This spring and summer, Boot is organizing field tests in the streets of Enschede. 'In collaboration with the Enschede municipality, we want to test how new cycling technologies impact the cycling experience, especially regarding safety on specific road sections and intersections in the city,' he says. 'We will test new products and services available to cyclists and we will use various sensors to measure the participants' experience.'

'I borrowed this bike from our partner shop, because we will only use speed pedelecs and other e-bikes for the study,' says Boot. The bright orange bicycle certainly looks impressive, but it is not quite the same vehicle that will be part of the field tests. 'We want to equip bikes with a prototype of an intelligent speed adaptation system, which can suggest a safe speed to cyclists and thereby improve traffic safety. I'm really looking forward to that,' the researcher says, as he starts unpacking some of the devices he plans to use for the study. He puts on a Fitbit-like bracelet and carefully takes out a thin black circlet from a box. 'The goal is to collect physiological data. For example, we will wear this wrist band to measure stress levels and we are also considering using this brain sensing headband. Brain data is quite complicated, but it has a lot of potential.'

The scientist plans to work with one hundred participants. 'Fifty elderly people, who generally use bikes for leisure, and fifty commuters who cycle for more practical reasons.' The first testers, however, will be members of the research team – including Mario Boot himself. 'Together we can build knowledge about how to make cycling more attractive than it is already.' •

UT'ERS ON THE MOVE

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2013

CAROLINA SCHIEFER
BA'13

Since February 2022, Carolina Schiefer has worked for Sunrise UPC GmbH in Zurich. She completed her master's degree in Innovation Management & Entrepreneurship in 2013. She then she gained eight years of experience in a management consulting company with IT focus as Head of Digital Strategy & Innovation, in which she performed projects in Switzerland, Germany, Sweden & the US. •



2012

HAYRETTIN GÜRKÖK
PHD'12

Hayrettin Gürkök has been the Senior Product Manager at Booking.com since January 2022. Gürkök had already accumulated experience as a Product Owner/Manager with companies such as ABN Amro Bank. While there, he also functioned as a Scrum Master and Lead Business Analyst. Gürkök graduated in 2012 in Human Media Interaction. He also worked at the University of Twente as a Research Assistant from October 2008 to January 2013. •



2010

ANNEKE BREEUWSMA-BAKKER
IDE'10

Anneke Breeuwsma-Bakker graduated in Industrial Design Engineering in 2010 and has been working for Jacobs Douwe Egberts as a Media & Digital Manager since January 2022. This brought her four-year period at PepsiCo to a close, where she worked as (Sr.) Digital Marketing Specialist and Innovation Lead, among other things. Breeuwsma-Bakker also gained around 6.5 years of experience and expertise with Google, in various roles including Account and Industry Manager. •



2001

RIK HARBERS
AP'01

Rik Harbers has been working as a Senior Program Manager for SHL Medical in Switzerland since January 2022. Harbers graduated in 2001 in Applied Physics at the UT. He then completed a PhD and master's degree in Business Administration in Zurich. His new role at SHL Medical heralds the end of a 13-year period with Roche. He has worked in Switzerland and also the USA. He also gained further experience and knowledge at Philips in Eindhoven as a Senior Scientist. •



1991

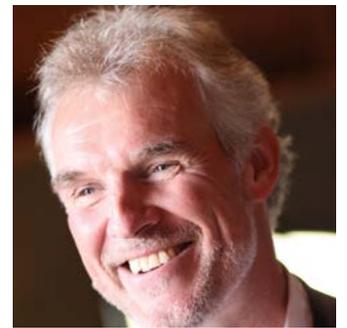
KRISTINE KLAVERS
CE'91

As of February 2022, Kristine Klavers has been the Managing Director of EcoEngineers in Houston. Klavers graduated in Chemical Engineering in 1991. Once she had completed her master's degree at the UT, she worked for around 16 years at Hart Energy Consulting as a Global Consulting and Publisher. She was also the owner of EMC Consulting, where she supported other businesses in creating their commercial strategies within the energy sector. •

1991

TJEERD VEENSTRA
BSK'91

In February 2022, Tjeerd Veenstra took up a post with the Ministry of Foreign Affairs as the Director of Information Provision and Digital Innovation. Veenstra studied Public Administration at the University of Twente and, after his studies, he started working for various ministries, including the Ministry of Economic Affairs. He worked there for over 12 years. He has held various positions there, such as Head HR & IT and CIO. He then worked for 7 years for the Authority for Consumers and Markets as Director of Operations. •



1990

PAUL GRIMBERG
INF'86/IEM'90

Paul Grimberg, who studied Information Technology and Industrial Engineering and Management at the UT between 1981 and 1990, has been working at RadboudUMC as the CIO/Director of IM since January 2022. Prior to his role at the hospital, he worked at Coöperatie VGZ as the ICT Director and Allianz Nederland as the COO, among other things. Grimberg combined his studies at the UT with working for Centraal Beheer Achmea, where he worked for a total of 16 years. •

ATLAS ALUMNI

IT ALL STARTED OUT AS AN ALUMNI COMMITTEE WITHIN ATLANTIS, THE STUDY ASSOCIATION OF ATLAS (UNIVERSITY COLLEGE TWENTE). THREE YEARS AGO, HOWEVER, THE COMMITTEE BECAME ANOTHER ASSOCIATION—THE UCT ALUMNI ASSOCIATION. FLOOR VAN DONKELAAR IS THE CHAIR AND PR REPRESENTATIVE. BASED IN ZURICH, WHERE SHE CURRENTLY LIVES AND WORKS, SHE DISCUSSES HOW THE ASSOCIATION ENSURES ALUMNI ARE KEPT INVOLVED.



ATLAS alumni live all over the world. It's therefore not really a surprise that board member Van Donkelaar herself did not remain in the Netherlands. She is undertaking a PhD in Computational Astrophysics at the University of Zurich. 'It means that I work with simulations a lot and look at how galaxies are formed and the Milky Way.' Floor van Donkelaar graduated from ATLAS in 2019. She thoroughly enjoyed her time there. 'You were sort of obliged to live on campus, of course, but that actually made everything so much more interesting and fun!' She played a very active role in the Atlantis student association, which made her want to remain involved once she had graduated. A board position at the UCT Alumni Association turned out to be just what she was looking for.

KEEP CONNECTING

With the alumni association, Van Donkelaar tries to ensure that ATLAS alumni remain interested in what other alumni are doing and that they remain connected with each other. In 2016, the first batch graduated from ATLAS. The number of ATLAS alumni is not particularly large, but that is what makes it fun. 'I know almost everyone who has graduated.' Each month, the board sends the alumni a newsletter. They also have an 'alumni in the spotlight' section where they do a feature on particular alumni and discuss what they are currently working on. They

also organise events. Together with Atlantis, they run a series of Alumni Talks, where alumni can come together to share their knowledge and experiences with each other and with students. An annual New Year's reception is also organised. Unfortunately, COVID-19 put an end to this year's get-together taking place in person, but it became an online version. And most importantly, the alumni want to attend. 'Even alumni living abroad wanted to come.'

All things considered, the UCT Alumni Association is really quite active. So what else is planned for the future? 'We want to see how we can grow and develop further.' Floor van Donkelaar believes that the foundations for a good alumni association start with the students themselves. 'We are working hard to make sure that students within ATLAS know that we exist.' Keeping in touch with fellow alumni is not just a fun thing to do, it can also provide lots of advantages. Van Donkelaar has experienced this herself. 'I was able to reach out and help someone who was interested in astrophysics.' •

Are you already part of an alumni association? Check out the different alumni associations at www.utwente.nl/en/alumni/your-alumni-benefits/alumni-associations/

**WILL YOU BE
ATTENDING
THE ALUMNI
DAY 2022?**

On Saturday 21 May, all UT alumni are invited to return to the campus to dive back into the glory of their student days. Take a guided tour of the campus, attend lectures held by UT scientists and have a drink with your study friends in the Vestingbar!

Visit utwente.nl/alumniday for further information and to book tickets!

TEAM UP FOR TALENT!

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Professor Wiebe de Vos



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Team leader student teams



KIPAJI SCHOLARSHIP

Donate towards talent in developing countries
Alonso Martinez, Chemical Engineering student



FIRST GENERATION FUND

Donate towards equal opportunities for all students
Sterre Mkatini, Diversity, Equity & Inclusion Officer

40

POWERED BY UNIVERSITY FUND TWENTE

'From the "Batavierenrace" to Theatresports, from intimate readings and huge parties to conferences and symposiums.' Two examples of events in the past few months that have been supported by the fund. •



In March study association ConceptT from Civil Engineering tried to beat the world record for the longest (beer) crate bridge by 10 metres. They built a 36-metre long beer crate bridge. Unfortunately the bridge collapsed. But of course Twente will never give up and do another attempt one day. •



The Stress Congress 2022 encompasses a company & alumni fair, readings, cases & training and a company dinner. •

INCLUDE THE UNIVERSITY IN YOUR WILL

Even when you are no longer around, you could benefit future generations at the University of Twente. By leaving a gift to the University Fund in your will, you will enable new generations of students to flourish and our research to provide a valuable contribution to society. Considering leaving money to the University Fund in your will? We would be happy to discuss the possibilities with you. •

For more information: www.utwente.nl/en/universityfoundation/donate-folder/leaveagiftinyourwill/

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For more information: www.utwente.nl/en/universityfoundation/donate-folder/periodic-donations/

NEW BOARD MEMBERS TWENTE UNIVERSITY FUND



MIRIAM LUIZINK
MSC (TN'98)

president (director/owner of Miriam Luizink Advies)

Miriam Luizink graduated in Applied Physics in Twente in '98 and, in 2006, became subsequently business director of the MESA+ research institute, director of Roessingh Research and Development and director of the Dutch Organisation for Scientific Research. Luizink, former Twents businesswoman of the year, now works independently and fulfils a number of supervisory directorships. 'The UT has played a vital role in my own life and I am delighted that I can contribute to strengthening the UT community of students, alumni, employees and other acquaintances, with the University Fund.' •



ERIK TISSINGH
MSC (CT&M'98)

member (entrepreneur and adviser)

Erik Tissingh is a businessman. He studied Civil Engineering and Management until 1996. In 2001, he started the engineering company 'Over Morgen' which he sold in 2020. Since then he has been an independently project manager and an active investor. Parallel he has run a creative business location in Zutphen called 'Moeski iGroeski', Russian for 'toys for boys'. With partners from Poland, Ukraine and Bulgaria he imports the iconic Russian car 'UAZ'. 'Being boardmember of the University Fund is a great way of giving back to the university and the campus community where I had such a great time as a student.' •



FRANK VROLIJKS
MSC (BSK'90)

member (general director, RPS Nederland)

His fellow students knew Vrolijk as the 'campus mayor'. Actually he was president of the Campus Executive Board (the forerunner of the current Student Union). Later he, as a student, also worked for the Executive Board of the university. Vrolijk studied Public Administration until 1990. After graduation he started working in infrastructure, property and engineering. First for the government and later for 'Grontmij'. Since 2007 he is the director of 'RPS Nederland'. 'I am exited being back at the UT after 30 years and with the University Fund support the university and the campus community.' •



UKRAINE FUND - WE ARE HERE FOR ONE ANOTHER!

The war in Ukraine has had an impact on the UT community. In addition to all the concerns for family and friends, the current situation could have financial consequences for some students. They might not be able to access their bank accounts or receive study grants from their homeland. With your contribution, the UT community can support their studies as much as possible. Every donation helps and will be matched by the University Fund! •



The Twente University Fund has officially been classified as a charity by the Tax Administration. The Foundation has been given the status of ANBI (Public Benefit Organisation, PBO). This means that donations to the fund are tax deductible under certain conditions. Visit our website at www.utwente.nl/ufonds for more information.

Contact:

Maurice Essers, director:
053 489 3993 or
m.l.g.essers@utwente.nl



SEBASTIAN PIEST

Researcher at the Department of Industrial Engineering and Business Information Systems (Faculty of Behavioural, Management and Social Sciences)



JAN EIJKEL

Full professor, The BIOS Lab-on-a-Chip chair (Faculty of Electrical Engineering, Mathematics and Computer Science)



'WE NEED TO DEVELOP OUR MINDS TO MAKE A CHANGE IN THE WORLD'

WHAT DOES 'SHAPING 2030' STRATEGY MEAN FOR THE STAFF OF THE UNIVERSITY OF TWENTE? IN A SERIES OF DOUBLE INTERVIEWS, TWO PROFESSIONALS SIT DOWN TO TALK TO EACH OTHER ABOUT THAT. WHERE DO THEIR ACTIVITIES OVERLAP? HOW DO THEY DIFFER? WHAT CAN ONE LEARN FROM THE OTHER AND VICE VERSA? IN THIS EDITION: SEBASTIAN PIEST AND JAN EIJKEL.

Jan: 'Nice to meet you! We have never seen each other before, but I understand that you didn't follow the traditional path to becoming a researcher. Me neither.'

Sebastian: 'Indeed, nice to meet you. That is true. I started as a gymnasium student, which went well for a while, but once I hit puberty I was more interested in partying than studying. Eventually I went to study at Saxion in Deventer and completed Human Resources Management (HRM) programme, specializing in career development. But once I graduated I wondered how I could advise people about their career and business since I was just starting my own career. I wanted to gain experience first. Through the traineeship programme Fast Forward I gained experience in different organizations and started working at a company in Enschede, where I stayed for eight and half years. I had a great time. I did part-time studies and did a double master in Business Administration and International Supply Chain Management. From there on I started doing research projects and followed it up with PhD in Information Systems, which involves hardware, software and all other processes involved to create IT – and the actual use of IT in organizations.'

Jan: 'Isn't HRM about people? How does it relate to IT?'

Sebastian: 'HRM is also about behavioral side of IT systems - how employees use IT and how we could empower people using

IT systems. That is something I focus on in my PhD work.'

Jan: 'So you combine HRM and IT systems. That is indeed very important. The process of implementing new software can be difficult. I know a lot of people struggle with these systems and it makes them upset. It's so important to focus on this, because these systems are intertwined in the whole organization. They need to function well for people to benefit from them.'

Sebastian: 'Yes, there is often a lot of friction. Anyway, that was my background and a story of how I became a researcher.'

Jan: 'At what point did you take the step? It sounds like you took quite a detour.'

Sebastian: 'When I was working at the company, I realized there was something in me that wanted to do more. I started focusing more on making impact in the logistics industry, because I saw a huge gap between the state-of-the-art technology available, such as artificial intelligence (AI), and what was actually used in logistics – which was essentially all Excel. This gap and bridging this gap really fascinated me. So I wondered: how can we equip companies, especially small and medium sized enterprises, to do more with their data?'

Jan: 'Those are two very different things, aren't they? The HRM focus and using AI to improve businesses? So you wanted to empower people and companies.'

Sebastian: 'Yes. What about you, though? You work on lab-on-a-chip, right? That sounds fascinating.'

Jan: 'Let me share my story. I coincidentally also started at a gymnasium. Unlike you, I was a diligent student. When I had to choose a study, I knew I wanted to do something scientific, so I chose pharmacy because the study was very broad – it included physics, biology, chemistry, a bit of engineering. It was nice, but I never wanted to become a pharmacist, I was interested in the science of it. However, at one point I became extremely interested in religion.'

Sebastian: 'Religion in the broad sense?'

Jan: 'Yes. I was raised catholic, but I was interested in religion in the broad sense. I started meditating and exploring my inner self. I experienced this profound relationship with the world, so to speak, and wanted to do as much with that as I did with science. So I decided to study theology.'

Sebastian: 'Wow, so you also took quite the detour!'

Jan: 'Oh yes. I got a part-time job as a pharmacist to make money for my studies. I started living in a community in Utrecht and I wanted to become a monk. I wanted to experience how that worked, and so at one point I took unpaid leave and joined a monastery for three months.'

Sebastian: 'For real? That is quite something.'

Jan: 'It was an extremely good experience. You live with a group of men, you eat and work together all day, mostly in silence. It's wonderful how you can connect with people just by being together. At the same time, however, I realized this life wasn't for me. There was a battle in me though. I resolved it when I realized I could be a scientist without giving up any of these experiences. In 1989, I went to do a PhD here in Twente, working on biosensors which was a bit similar to pharmacy. At the beginning it was a bit of disaster. I had studied theology. I had turned into a social scientist and social sciences are very different.'

Sebastian: 'I can definitely relate to that.'

Jan: 'I thought you would. It took me six years to do my PhD, instead of four. I think, at some point, my supervisor gave up on me, but I finished in the end and I followed it up with a postdoc position in London. That was the best time of my life! We had a lot of freedom and we could organize ourselves as a group. The experience I got from that stayed with me to this day. That is also why I always try to get the whole group involved in running everything – science is a team effort.'



INNER DEVELOPMENT GOALS

Sebastian: 'I think you might be interested in the 'Inner Development Goals' initiative. The Sustainable Development Goals, which have been defined for quite some time, mainly focus on the outside world. There is this new movement originally from Sweden, which believes that in order to achieve those goals we need to change and change happens by looking into your inner self. They came up with this new framework – the Inner Development Goals – for transformative growth. In order to change your world, you need to also change yourself, the way you think about others, have the ability to communicate and collaborate.'

Jan: 'That is super interesting!'

Sebastian: 'I even talked to the Career Development Centre here at the UT because I'd like to organize sessions focused on these Inner Development Goals. I'm passionate about this, because it relates nicely to my background. I have this natural drive to keep developing and finding your own unique competences. I'm really inspired by Japanese way of thinking. Your interest is in religion and I'm really interested in Japanese culture. They have this approach called Society 5.0, which is very people-centric. It's also about technological advancements and making profits, but the focus is about how to solve big societal problem – providing good education, healthcare and so on. It is very holistic and not only focused on economic growth. You went to monastery for three months. I will hopefully soon go to Japan for three months, in order to add the Japanese perspective to my research.'

Jan: 'And of course you will have to deal with the cultural gap so you will also learn that way.'

Sebastian: 'Exactly, it's about being completely out of my comfort zone. Travelling and opening up your mind is very important to me. My wife and I also spent a lot of time in Namibia, for example. I think experiencing different cultures makes you a more complete person.'

Jan: 'How does that work in your experience?'



Sebastian: 'It makes you aware of all the things you take for granted – like having a toilet, running water and electricity.'

Jan: 'It changes your perspective. I totally agree. You can't create the perfect outside world without knowing about your inside and knowing what you want. And how do you find out about that? You go out of your comfort zone.'

Sebastian: 'I'm also involved in 'Sport on the Move Foundation' which helps talented athletes in Namibia. We help create an environment where talent can develop. We provide basics, such as shoes and nutrition, so that people can develop through sport. For example, there is this blind runner who is a true inspiration for me. He is a Paralympic champion. He lost one eye to a bow and arrow accident and the other was kicked out by a donkey. And in Namibia, you don't have as much support as a disabled person, and so he turned to sport to have a chance to develop.'

Jan: 'How does this relate to the Inner Development Goals? I'm trying to puzzle it together.'

Sebastian: 'It is not directly related, but what I have learnt from these athletes is an enormous mental strength. The resilience really inspired me.'

Jan: 'It is all about growth mindset.'

Sebastian: 'Yes, there is a lot we can learn from such stories. I think we spend too much time on outer development, on engineering, economics, content and so on, but we need to develop our minds to make a change in the world.'

Jan: 'I entirely agree, but how do we get that going? I'd say it should be part of a normal curriculum, because it's important for everyone.'

Sebastian: 'That is also the question I ask myself. We need to rethink how we educate everyone, but at the same time everyone

has a different story. How can we make this widely available, while maintaining an individual approach? The biggest value is when you have each other's full attention.'

Jan: 'True. One of the things you could do is to promote listening and dialogue.'

FAREWELL

Sebastian: 'What do you do next to work?'

Jan: 'I sing in a choir and I really like digging up my ancestor's stories. I'm interested in where my ancestors came from, what moved them and which conditions they lived in. I found out about my father's side of the family for the first time. I found out that my father came from many generations of farmers. They were busy with the first farming unions and corporations. It's interesting to see how people organized themselves.'

Sebastian: 'That is so interesting because unions and corporations is also something we are exploring in my work. We'd like to see if this model could help small and medium sized companies and have added value. I really like to connect things – that is my mindset. I also really believe in team-based science.'

Jan: 'Yes, absolutely. You need each other.'

Sebastian: 'This talk was such a nice surprise. I didn't expect to hear all these things about you.'

Jan: 'Yes, it has been really nice. You are also invited to my farewell lecture. It will be all about talent development. Basically, everything we've just discussed. A lot of what you said is the message I want to pass on.'

Sebastian: 'I will be there!'

MORE STORIES

You can find more double interviews, featuring various members of the UT community, in the previous editions of Campus and online.

You can read more stories here:
www.utwente.nl/our-story

OUR OFFER



TACKLING GLOBAL PROBLEMS AT LOCAL, NATIONAL AND INTERNATIONAL LEVEL

The challenges society faces today are complex and far-reaching. More than ever, they call for the collaboration of many different, complementary stakeholders. At ECIU University, of which University of Twente is a partner, our vision is to help solve these complex challenges and make society futureproof by collaborating at local, national and international levels.

In order to realise this, ECIU University and University of Twente adopt a new approach to research, learning and innovation. We bring together students and scientists with government, businesses and citizens to identify urgent, definable problems across all societal domains, from transport and mobility to the energy transition or a smart circular economy. We then form international, multidisciplinary teams



We would definitely like to get in touch with you as a challenge provider

and help to solve complex societal problems through a challenge-based approach. Do you work for a public or private organisation and would you like to make an active contribution to this new learning programme? Then we are looking for you! Marike Boertien (Novel-T, University of Twente): 'We see challenges as an opportunity to build long-term relations within our ecosystem. Students, researchers and stakeholders working together to solve a challenge is a powerful mix of creativity and innovation and we hope you want to join us.'

WHO WE ARE

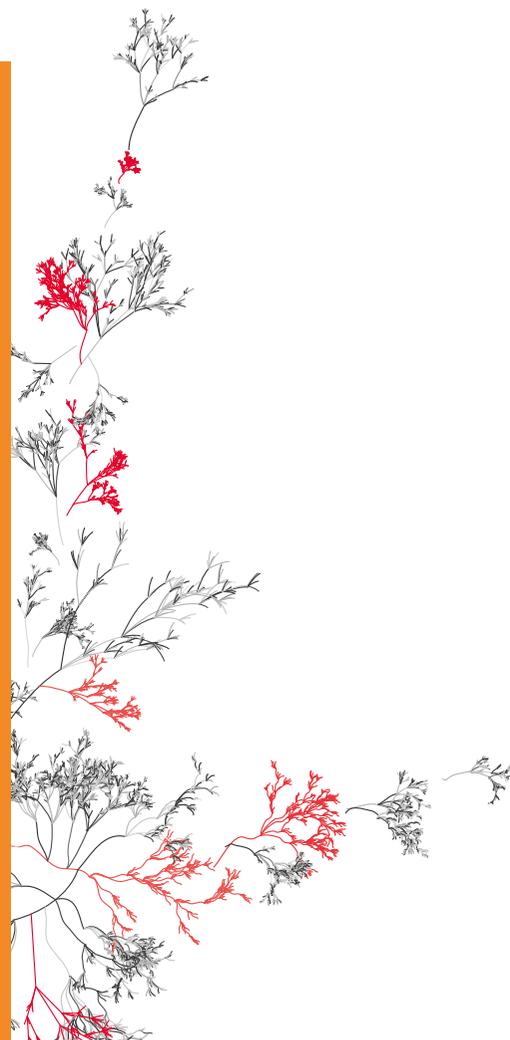
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- 12 connected regional ecosystems of universities, businesses and civic society
- 12 partners offering countless combinations of education, research & innovation opportunities
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- One transformational approach to on- and offline education, research and innovation

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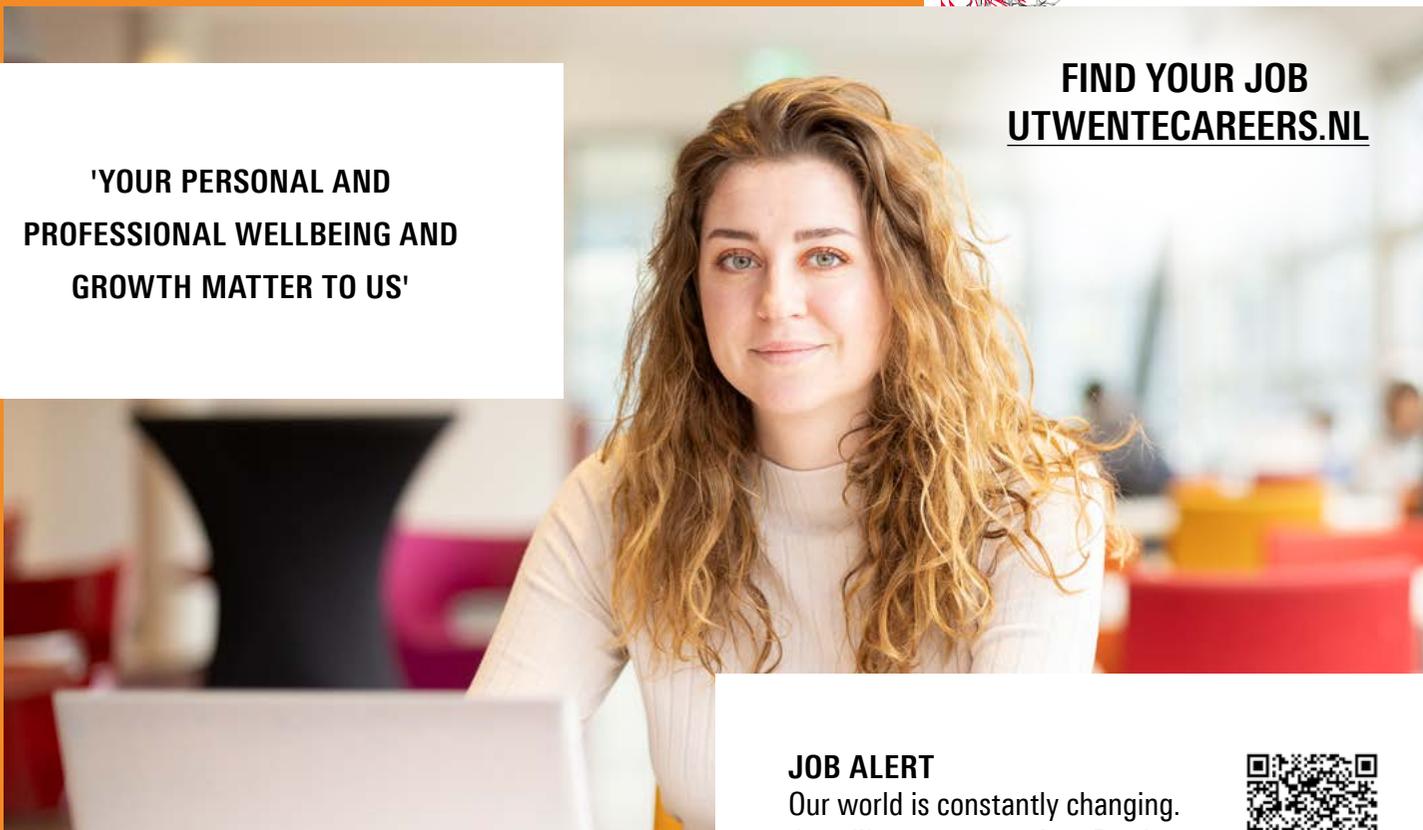
THRIVE IN OUR OPEN, INCLUSIVE AND ENTREPRENEURIAL CLIMATE

Whatever your job or tasks at the UT, you will contribute to a fair, inclusive, tech-enabled tomorrow. You will be actively involved in helping us to make those qualities a reality here and now. As a people-first organization with an informal culture, we value inclusiveness and accessibility. Your personal and professional wellbeing and growth matter to us. And as our country's most entrepreneurial university, we promise that the further you want to reach, the harder we'll work to support you.



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