

# Campus

**60  
YEARS  
UT**



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**COLOPHON**

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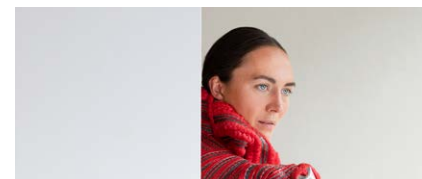


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FOREWORD



**DREAMING OF  
THE FUTURE**

As I type this foreword, I simultaneously keep one eye on the CNN footage of Afghanistan. I glance over to see the advancing Taliban, panicked Afghans, people who cling to airplane wheels, then fall to their deaths. I would have liked to begin the new academic year on a cheerier note. I would have liked to write something about long summers, coming back to work refreshed, finally getting that job in your arm, bye bye distance learning, hello colleagues after a year and a half, anyway; that is that. Sometimes the misery thousands of miles away puts things in a different perspective.

Two UT employees we interviewed for this magazine know this more than most. Such as David Fernandez Rivas (page 12), who won the Prince Friso Engineering Award this year. His research into needless injections is groundbreaking, but his personal life story is even more impressive. His story of growing up in Cuba under a communist regime and having to leave his daughter behind. 'I like working at the UT, I've built my little kingdom here. There are enough reasons to keep going. I love the process of solving a societal problem with scientific research.'

The story of Marcus Vinicius Pereira Pessôa (page 20), nominated for the education prize of the UT, is equally special. After thirty years of a career as a pilot, he exchanged the airspace of Brazil for that of a teacher at the UT. He retired eight years ago. Continuing to work is no longer necessary for him, but Pereira Pessôa is not thinking about stopping. As long as he has fun on campus he will continue to teach students.

These are inspiring and beautiful stories of successful UT'ers. People with a wealth of life experience, who managed to give their lives in another country a positive spin and now use their knowledge for education and research. It is exactly what I wish for the desperate Afghans too; despite all the misery make your future dream come true. Maybe at the UT. Let's keep that in mind as the Afghan refugee wave is set in motion. •

**Maaïke Platvoet**  
Editor-in-chief Campus Magazine

PART 2 1981-2000

# 'YOU COULD REALLY DO WHATEVER YOU WANTED IN TWENTE'



1984 - Girl introduction

THIS YEAR, THE UT IS CELEBRATING ITS SIXTIETH ANNIVERSARY. OVER THE COURSE OF THREE ARTICLES - THE SECOND OF WHICH APPEARS IN THIS EDITION - WE LOOK BACK ON THE UNIVERSITY'S HISTORY TOGETHER WITH EYE WITNESSES. LET'S TRAVEL BACK IN TIME TO THE YEARS 1981 - 2000. 'MANY THINGS WERE CHANGING VERY RAPIDLY AT THE TIME.'

**i** Would you like to read 'Part 1' of this story? You can find it in the previous edition of Campus Magazine and at [www.utoday.nl](http://www.utoday.nl)

**I**t's 1981 and the THT (Technische Hogeschool Twente / Twente Technical College) has officially existed for twenty years. While its first two decades were marked by student protests and efforts for improvements on campus, the eighties are the time to reap the rewards of that work. It's time to have fun. 'There was not a lot of student activism like in the 60's and 70's,' recalls UT alumnus Peter van der Linden, who arrived in Twente in 1983 to study Informatica (Computer Science). 'All battles have been fought already. We had a good financial support system from the government, we didn't have to worry about a thing. It was quite a relaxed time. You could really do whatever you wanted in Twente.'

'The study years were easy,' agrees Applied Physics graduate Daan Maatman, who studied and lived on campus from 1980 to 1986. 'We were not busy with protests, we only talked about it.'

'We improved the world by drinking coffee.' It was not only coffee that was drunk on campus, though. 'I didn't stay on campus throughout my studies,' recalls Van der Linden. 'After a while you've had enough of all the noise, all the parties, the trashcans on fire, fire brigade knocking on your door. With such a high concentration of students in one place, there was always someone with an idea for a party.' Most of these gatherings were related to the countless sport clubs on campus, adds the alumnus. 'Sport was the heart of campus.'

Sounds like the UT in the eighties offered a lot of opportunities for 'free time'. 'For us studies were quite relaxed and predictable,' admits Van der Linden. 'Nine weeks of courses, a couple of weeks of exams.' Daan Maatman also doesn't remember any enormous study stress. 'I myself didn't study that hard at first. The requirements for studying weren't that strict. Only a minority of students was really committed to studying all the time.'



1984 - Wendy Luiten

**THE FIRST LADY OF ENGINEERING**

Alumna Wendy Luiten was this minority. Even more so, she was THE minority. As the first woman to ever become a mechanical engineer at THT in 1984, her experiences offer a glimpse of a different reality. 'What I remember the most about my time on campus was the total astonishment,' says the alumna. 'So many people were amazed and surprised I wanted to study mechanical engineering and that I was doing it,' she says. 'I came to the UT in 1976. I was one of two girls in the whole year and the other girl was gone by Christmas. All other women were secretaries or cafeteria staff. And we all had only one toilet in the building and this toilet happened to be very far away from all the labs and classrooms.'

'I don't know how often I was asked why I wanted to study mechanical engineering, but in the early years it was at least on weekly basis,' continues Luiten. 'I was not prepared for the continuous questions on why I was there. It became a struggle, especially in the later years. At some point I stopped going to classes, I mostly studied at home. I got a lot of attention, and not always positive.'

With addition of new study programmes, it was mainly after Luiten's graduation in 1984 that more women started coming to the UT. Maatman and Van der Linden witnessed this, admitting that girls on campus were uncommon, but certainly no longer alien. Especially Van der Linden had relatively many female classmates. 'Informatica was new, it attracted a lot of people. About 10% of my classmates were women, which was definitely more than average at the university at the time.'

**COMPUTER REVOLUTION**

The 'Informatica' programme was unique in more than just its gender profile. It was brand-new. The first batch of Computer Science students only just arrived in 1981. 'Computers were something special at the time,' says Van der Linden. 'When I started my studies, I had to input my code using a large typewriter style keyboard, but in the second year those were gone. The developments were really fast.'

In late eighties, computers were becoming (only) slightly more commonplace. 'The entire group of 150 students had access to just six Apple computers. We had to make do with those,' remember alumni Dave Oesterholt and Erwin Platvoet, who were among the first students to enroll in the renewed chemical engineering programme. 'The chemical engineering programme was going through a bit of a rough patch. That meant we had a lot of freedom. We were given every opportunity to explore, but it also caused a lot of stress. The atmosphere was very school-like. In addition to attending lectures, we were also given lecture notes to study and we could only hope that everything was legible. It was hard work, but it did give those students a solid foundation and a strong mentality. Those years brought forth some excellent engineers,' says Platvoet.



1985 - Computer room



1986

**FROM THT TO UT**

In the summer of 1986, the THT changed its name to the University of Twente. Although this change had few practical consequences, Platvoet nevertheless felt its impact. 'The funny thing was that people began asking me if I was attending a university. It was like everyone suddenly thought I was smarter. Apparently, the new name was more prestigious than the last.'

Whereas the THT had focused primarily on the campus itself during the first twenty-five years of its existence, it gradually began shifting its attention to the region in the late eighties. The alumni duo says one could tell that it wanted to strengthen its ties to local businesses. 'That led to the arrival of several small companies. It was a wise move. I recently saw for myself just how strong the ties with the Kennispark opposite the campus are now and it looks great,' Platvoet says. Oesterholt: 'You could also feel it in our inorganic materials science department. Its attention was gradually shifting towards businesses off campus.'

Although the situation in the late eighties is hardly comparable to today, the UT was certainly internationalising at the time. Nevertheless, one could hardly tell by looking at the chemical engineering department. 'Out of our 150 first-year students, we had one person from Iran, one from Italy and one from Norway', says Platvoet.

**STUDENT TOWN**

Expanding off campus and the first hints of internationalization – the changes that began in late eighties only magnified in the next decade. 'The 1990's at the University of Twente were a very interesting period,' says alumnus Tobias Tasche, who arrived at the UT to study Mechanical Engineering in 1990, the year with the highest number of new students to date. 'Many things were changing very rapidly at the time.'

With the student influx growing, Enschede was becoming more of a student town with activities branching outside of the campus. 'For the first time, student clubs that were not affiliated with the campus or the UT studies started to emerge,' remembers Tasche. 'There was AEGEE, Taste and Audentis, which quickly became very popular. The first year clubs also started and just a few years later first 'disputen' began to appear.'

Even with such an active student population, the residues of the relaxed 1980's atmosphere were still remaining at the UT. At least if it came to the study rules. 'There were barely any rules for passing your studies,' says the alumnus. 'It was quite hard to get kicked out. I remember there was an article in UT Nieuws about a guy who was celebrating his 12,5 years as a student. This was not that unusual. Many people were on campus late into their 20's.'



1991 - La grande bouffe

**DIVERSITY**

Slowly, but surely, the campus was opening up to a more international and diverse crowd. 'There was quite an active group of foreign students already,' remembers Tasche. 'I think this was the first time there was a real increase in the number of internationals. I remember there was even an association dedicated to creating better reception for foreign students.'

Tobias Tasche was at the UT for yet another revolution. Emails. In 1991, the University of Twente became a 'test location' for the use of electronic communication. Two hundred terminals were installed, allowing the UT community to create their own email accounts and send each other the first digital messages. 'When the first email accounts started at the UT, we were all given a floppy disc with our email address and password. Most people didn't have a modem at home, and so we had to cycle to the UT to collect our emails.'

**FRAGMENTED UNIVERSITY**

While the alumni remember a university 'in bloom', when Frans van Vught started his job in 1997, he encountered an 'out-of-touch' university. The UT was struggling with declining student numbers, old-fashioned education and fragmented research efforts. 'In short, there was work to be done,' says Van Vught, who was a UT board member for eight years. In his second term, he even held a dual post as both Rector Magnificus and President of the Executive Board. He provides an outline of the situation he was facing. 'Just before I started, the UT scored nothing at all in terms of the so-called 'in-depth strategy', with which science funder NWO aimed to stimulate Dutch research. Delft and Eindhoven, conversely, got very high marks as technical universities. As such, the mood here in Twente regarding the university's own research was quite despondent. The UT was too inconspicuous and barely visible.'

Van Vught believes the problem lay in the university's considerable fragmentation. When he began, the university had no fewer than ten faculties. The UT was an insular organisation, and the various 'islands' barely worked together. 'My dream vision was a university with five faculties and five institutes with space and power of expression. The motto was therefore: reduce and unify.' A fine example of this 'reducing and unifying' is the establishment of the research institute MESA+. 'It was a huge gamble, which sometimes kept me awake at night, because what did I know about nanotechnology? It also involved a fifty-million-euro investment. Fortunately, it turned out well. MESA+ became a success.'

**STUDENT UNION**

Research was not the only thing that was fragmented when Van Vught took office: student life also took place on various small campus islands. 'There were an awful lot of clubs and associations,' the former rector recalls. 'Each with their own little drinking room hidden in a cellar somewhere. Furthermore, UT students were rather pampered in those years. Campus life was bureaucratically controlled by a campus director. Not much was allowed, there were closing times, and students had to apply for permits for all kinds of things. I found that very unappealing. I felt that as a campus, or rather as a university community, we should be able to do better than that.' Let the students organise things themselves, Van Vught thought. 'Along with a group of UT students, I visited the UK, where they are also familiar with the phenomenon of a student union. We picked up plenty of tips and tricks there and, not long after that, the first Student Union was founded in Twente.'

Another flagship of Van Vught's time in the office is the technical medicine programme, which he helped set up. The psychology, business sciences and biomedical technology programmes also saw the light of day during those years. Another one of Van Vught's important achievement is the introduction of the major/minor system.

As a researcher overseas, he saw how students received a broad education by taking subjects from different fields, i.e. minors. In the Netherlands however, in the late 1990s, the university world was a 'highly specialized degree factory', says Van Vught. The major/minor system aimed to change that, but it was not introduced without a fight. 'It meant that degree programmes lost part of their autonomy, which some saw as an infringement. Fortunately, there was also enough support for the plan and we were able to implement it. That's how the major/minor was born in Twente. Every university in the Netherlands now has a similar system.'

**MORE OPEN MINDED**

The university has indeed undergone a major transformation in the last twenty years of the previous millennium. And even more has changed since. 'From the stories I've heard, things are quite different now,' says alumnus Tasche, who stays in touch with the UT through his old student associations. 'The new generation seems a lot more open minded. As I mentioned, the campus used to be quite a masculine environment. Topics like mental health and gays weren't quite so openly discussed as they are now. Today it seems much easier. People have better opportunities to be themselves. And that is truly a good thing.' •



1997 - Frans van Vught

**WHO'S WHO**

i

In 1984 **WENDY LUITEN** became the first woman to obtain a degree in mechanical engineering at THT / UT. After graduation, she worked in various Philips R&D departments as thermal specialist and as certified Design for Six Sigma Master Black Belt. Five years ago she started her own consultancy company.

**DAAN MAATMAN** studied Applied Physics at THT / UT in years 1980-86. He now works as Head of Technology Department at the Ministry of Defense, where he supervises the development and testing of military equipment.

**PETER VAN DER LINDEN** holds a Master's degree from the University of Twente, where he studied Computer Science (Informatica) in years 1983-89. After many years as manager at companies such as Ericsson and Thales, he now works as R&D and ICT Manager at Menicon.

**ERWIN PLATVOET** studied chemical engineering at the UT and became a specialist in furnaces and heat transfer. He ended up living in New Jersey, Switzerland, Belgium, Texas, South Korea, France and now in Oklahoma.

**DAVE OESTERHOLT**, a chemical engineering graduate, has held several different jobs in the engineering sector in the Netherlands. He now works as a sales manager at VONK.

**TOBIAS TASCHE** studied Mechanical Engineering at the UT in years 1990-1997. Immediately after graduation he started working for Shell, where he held various positions, including Technology Manager for Formula One. Tasche spent more than twenty years in major international oil companies, living and working in many countries. He currently works as Director Of Marketing And Business Development at SIP Speciality Oils and Fluids in London.

**FRANS VAN VUGHT** graduated from Utrecht University and spent several years working as a researcher at various American universities. He obtained his doctorate at the UT in 1982, and four years later, he was appointed Professor of Public Administration here. In addition, he headed the UT Institute CHEPS from 1985 to 1997, and was Dean of Public Administration from 1990 to 1994. Van Vught was Rector Magnificus from 1997 to 2005 and also President of the Executive Board from 2001 to 2005. After Twente, he moved to Brussels where, among other things, he became an advisor to the President of the European Commission. •



## NEW LABS ON CAMPUS

Two new labs will soon be built on the UT campus. First, a 'water lab' will be constructed on the square near the Hogekamp after the summer. This lab will serve as a testing ground for water and membrane research at the UT and will mostly be used by the membrane cluster of the faculty of Science and Technology (TNW). By the end of 2022, a Living Innovation Lab should open up on the UT terrain. This outdoor 'lab' will serve for a variety of experiments, including research into subsurface infrastructure and vegetation and it will also be partly open to the general public. •

## NUMERUS FIXUS

Due to the steady influx of new students, the bachelor's programmes in Technical Computer Science and Psychology as well as the master's programme in Positive Clinical Psychology & Technology will implement a numerus fixus starting in the academic year 2022-2023. •

## DIGITAL DIG THROUGH UT HISTORY

The paper archive of UT-Nieuws (the current U-Today) - from the period 1963-1995 - has recently become fully digitally accessible to all interested parties. Thousands of pages of university news were scanned and transferred to the Historisch Centrum Overijssel (Historical Centre Overijssel).

'The complete history of the UT can only be found in one place, and that is in our archive,' says Maaïke Platvoet, editor-in-chief of U-Today. 'The archive is of great value to the UT, but also to the region, to alumni and staff, and we therefore really wished to digitize it. We have succeeded in this with the help of the University Fund Twente, the archive management department of LISA and the Overijssel Historical Center.'

Via the link: [www.utoday.nl/archive](http://www.utoday.nl/archive) every visitor can now browse through dozens of volumes of UT Nieuws, but also search specifically for keywords. •



## WELLBEING SURVEYS

A recently published wellbeing survey showed that, as a result of the corona crisis, UT employees feel less connected to the UT. On the other hand, the majority of the participants reported that they are still enthusiastic and dedicated to their work. The UT received an overall score of 7.5. At the same time, employees experience a high workload: 45 percent of them found their workload to be (much) too high. The survey also revealed that most employees want to continue working (partly) from home in the future.

The wellbeing survey was the first of its kind to be conducted this year. In order to keep good track of employees' welfare in a changing situation, two more surveys will be organized this year. •



## HONORARY DOCTORATES

To commemorate its lustrum, the University of Twente traditionally awards honorary doctorates every five years. On the occasion of the UT's 60th birthday, four carefully selected candidates will be given this honor. Among them is no other than Prince Constantijn of the Netherlands, younger brother of king Willem-Alexander and Special Envoy for TechLeap.NL, previously known as StartupDelta. A UT doctorate will also go to Jaya Baloo, a cybersecurity expert and the Chief Information Security Officer at Avast Software; and Debra Roberts, a South African government worker and one of the six co-chairs of the Intergovernmental Panel on Climate Change. Last but not least, Wim van Saarloos, Professor of Theoretical physics at Leiden University, will also receive an honorary doctorate in Twente. •

## FORMER VICE PRESIDENT MIRJAM BULT



AFTER SIX YEARS AS VICE-PRESIDENT OF THE EXECUTIVE BOARD, MIRJAM BULT IS LEAVING THE UT. IN HER ANSWERS TO FIVE QUESTIONS, SHE REFLECTS ON HER TIME HERE.

### 01

#### WHAT ARE YOU MOST PROUD OF?

'In recent years, a lot of attention has been given to the organisational development of the UT. Shaping 2030, for example, represents a new, widely supported vision for the University. I am also proud of the visible developments on campus. Think of the new buildings on the O&O square and the Hogekamp and the square around it. It has significantly improved the quality of the campus.'

### 02

#### WHAT DID YOU FIND WHEN YOU FIRST STARTED OUT AS VICE-PRESIDENT IN 2015?

'An organisation with 'professionalisation potential,' particularly with regard to its support services. There was a lack of integral coherence. The formation of Campus & Facility Management (CFM), among other things, has helped change that. We also adopted a more strategic mindset. Just look at the Long-Term Strategic Housing Plan (LTSH) and the new strategy for the Holding Technopolis Twente (HTT), where the UT's valorisation activities are conducted. Instead of moving from one project to the next, we devote more thought to our long-term plans and goals for the campus - without losing sight of the entrepreneurship that the UT is famous for.'

### 03

#### WHAT LESSONS HAVE YOU LEARNT AS A BOARD MEMBER?

'Oh, there are so many. I believe reflection is essential. You have to keep an eye on the impact of your decisions, so you can try to do even better next time. You can only achieve this learning ability by reflecting enough and always with an open mindset. As a board member, it is also important to question your own decisions. During the coronavirus pandemic, we were expected to act decisively and make decisions rapidly. However, even during that time, we never stopped reflecting on our own decisions, for example by having our crisis management evaluated.'

### 04

#### YOU ARE LEAVING TO BECOME A MEMBER OF THE COUNCIL OF STATE. A UNIQUE OPPORTUNITY?

'It certainly is. As a board member, you will encounter different things during the second term, but this offer was truly unique. For starters, it gives me the broader perspective that I was looking for. I did not want to spend the rest of my life presiding over educational institutions - no matter how much I love that job. As a member of the Council of State, I can look at the field of education and all other public sectors from a systems perspective. Secondly, the independence that the job offers appeals to me. Although the body sits at the heart of Dutch democracy, it serves an independent, non-political function. I feel confident leaving the UT. I feel like I gave the University everything I had to offer and helped build a self-sufficient organisation.'

### 05

#### WHAT WILL YOU MISS MOST ABOUT THE UT?

'The familiarity, without a doubt. I studied at the UT, obtained my PhD there and spent years working there as a researcher and administrator. In various roles, I have become intimately familiar with the campus and the people who make up the UT's organisation. I have made a conscious choice to make a fresh start, but I will definitely miss that degree of familiarity. I know I will never find its like again.' •

# LIVING IN YOUR OWN FUTURE

**M**y typewriting diploma, which I obtained using a mechanical typewriter, helped me get a bunch of easy holiday jobs. For one of them, I ended up working in the head office of Siemens Netherlands in The Hague. Besides electric typewriters, they had another innovation there: the telefax. From the basement of the building, where the only fax machine was located, I sent my very first fax all the way to Australia. One by one, the pages slid through the machine and after some beeping and whistling, it was done. On that day in the early 1980s, a new era dawned for me.

I believe some degree of nostalgia won't go amiss in this edition of Campus. I was born in 1964. The great thing about being my age is that I have quite a history behind me and - hopefully - a lot of future to look forward to as well. When I think about the time I grew up in, I wonder how we used to do certain things: finding our way around strange cities, planning holidays, buying tickets to go anywhere, getting together with a group of family members or friends.

When it comes to our expectations for the future, my generation has quite a past as well. Yesterday's future is today: I am living in my own future! We no longer have to rely on our own memory to see pictures of the past and of the future of yesteryear. Until recently, we depended on TV, media archives or the eight-millimetre videos shot by our grandfathers to take us back to those leisurely days of yore that make us go 'Ahh, yes.' Today, however, a truly staggering quantity of moving pictures is available on demand. This results in a different relationship to the past and to our earlier experiences. They are brought closer than ever before. With coloured high-quality footage, the two World Wars are no longer relics of a distant past.



As unimaginable as they were, they have become easier to imagine. When you search online for 'the future in the 80s' or 'the history of the future,' you can compare the expectations for the future that people had back then to today's reality.

What about today's future, then? Search for 'the world in 2050' and you will find myriad examples of technological marvels that will solve all of our modern-day problems. It is all just propaganda and in that sense, little has changed since the 80s. Science and technology will make our lives easier and cause more unforeseen problems along the way. To add some balance, we should take advice from people who know people, philosophers, believers and artists. That does not mean grabbing the nearest copy of Brave New World or Blade Runner. In her book *Otje*, Annie M.G. Schmidt described how a magic mirror can alleviate people's desire for closeness and how an unavailable government (located in 'the computer building') traps people. That was written in 1980. We have that magic mirror now. As for the other description; it proved quite apt as well. •

**Wiendelt Steenbergen**  
Professor of Biomedical Photonic Imaging



AGAINST ALL ODDS: THE STORY OF DAVID FERNANDEZ RIVAS

# 'I WANT TO REMAIN RELEVANT'

AT THE BEGINNING OF THIS STORY, IN HAVANA AT THE TURN OF THE CENTURY, IT SEEMED HIGHLY IMPROBABLE THAT A STUDENT, WITH A NEWBORN AND HARDLY ANY OPTIONS TO GO ABROAD, COULD BUILD A FINE SCIENTIFIC CAREER IN EUROPE, DEVELOP A SENSATIONAL MEDICAL INNOVATION AND BECOME THE DUTCH ENGINEER OF THE YEAR. YET THAT IS EXACTLY WHAT DAVID FERNANDEZ RIVAS (39) DID.

**T**his has been a crazy year on all fronts,' says David Fernandez Rivas. Throughout the lockdown, the UT scientist welcomed a second baby boy, received a promotion, secured a book deal and won the Prins Friso Ingenieursprijs 2021. This particular accomplishment threw him into a media whirlwind. 'Many journalists shoot the same questions at me,' he says. 'But you promised me that you wouldn't! Which is why we don't bring you a story about his – now famous – needleless injections, but about the journey leading up to them.'

The researcher arrives five minutes late to the interview, running in and apologizing. 'I was taking my youngest to daycare and on the way I smelled that we had a situation.' David Fernandez Rivas says it as it is. 'I don't want to bullshit anyone,' he mentions later, and clearly he means it.

'It's been a big year!' he proclaims and begins listing events of the past months, starting off with his main priority: family. 'Our second baby was born, but no family could come and see him yet. I come from Cuba and our family is scattered all over the world. It sounds exciting, but it is very difficult to see everyone. It was very heavy on us during the lockdown.'

## THE BIG PRIZE

Even with everyone locked at home, Fernandez Rivas' career got a big boost recently. 'My promotion to adjunct professor is official, so I will get my Harry Potter-styled robe soon,' he laughs. And there was the 'Prince Friso Engineering prize' of course, which launched the UT researcher into the international spotlight. 'Winning the prize was more work than I expected,' he says. 'There is a lot happening behind the scenes: writing motivation letters, give interviews, make a short movie in the lab, attend the ceremony... and more happening afterwards. Suddenly there was so much attention from the media. I am glad that this prize brought Cubans from both sides of the political spectrum together. Apart from that, we still have to see what the prize will bring, I didn't have a lot of chances to network yet due the pandemic. But it was certainly a special moment. Not because I could talk to royalty,' – he received the award (digitally) from Princess Mabel and Princess Beatrix. 'But because the prize is a memory to a great engineer and his family supports this recognition.'



**INSPIRING THE NEXT GENERATION**

'Anything else happened this year? Oh, where should I start?!' the scientist says with a big smile. 'I have been admitted to the Young Academy Europe and the Global Young Academy. I managed to secure a book deal. So, there is yet another deadline on my plate. The book should be something in between TikTok and classical professor writing on the blackboard. It should teach young people about innovation and empathy in Science, Technology, Engineering and Mathematics (STEM).'

Fernandez Rivas talks fast, jumping from one topic to another, but the enthusiasm never seems to leave him. 'I felt that my work is not just about my daily job doing research and supervising students, but about inspiring the younger generations, having conversations with the public. I hope my story inspires young people to pursue the path of science regardless of where they come from. My story shows that a foreigner can succeed here.'

'I even became a Facebook meme this year,' adds Fernandez Rivas. 'It's related to my work on injections without needles. People joked that of course I'd come up with injections without needles, because I grew up in Cuba during difficult years after the Soviet-bloc collapse, eating yoghurt made without milk or 'fake' meat such as soya-based stuff, and so on.'

**FROM HAVANA WITH LOVE**

He leans back, coffee in hand, and begins to tell his life story. No questions are necessary, David truly is an open book. 'Growing up in the 80's in Havana was rosy for me as a child. Running around, spending whole days on the beach. It was like paradise. After the Soviet collapse, it became difficult in Cuba. There was no transport, no food, low salaries. But we managed to get by united as family. I was good at sport, but also at school. I was interested in many different fields: medicine, music, chemistry... I wasn't sure what to do but I felt like I could do anything I wanted. I was into martial arts, tai chi, yoga. At some point I realized that anything that cannot be measured may be considered voodoo. I thought it would be cool if I could help find new types of measuring energy, things that were not tangible yet. I gravitated towards engineering, because I had an innate ability to fix everything with limited tools. If something broke down, you couldn't just buy a replacement. So eventually I chose to study nuclear engineering.'

First, he had to dedicate one year to military service. 'I think it's important for young people to go to the army for a couple of months. It gives you a good approximation of what war looks like and teaches you to value peace. I learnt that war was not for me. 'd rather build stuff or educate, than destroy or humiliate others.'

He stayed on course, planning to get a degree and build a career – which he did – but it turned out to be more complicated than anyone anticipated. 'While I was in the army, my girlfriend got pregnant. It was of course completely unplanned, but we were in it together. It actually made me more determined to make something of myself and stay focused. I was just nineteen, but I was either doing my studies or changing diapers, and not much else.'

This determination landed him a spot on a project for the International Atomic Energy Agency (IAEA). 'That actually changed my life.' His efforts to optimize sugar crystallization earned him a lot of recognition and awards in Cuba. Part of the prize was getting access to the internet and international email. 'It might sound silly but in the year 2000 in Cuba that was huge!' He started exchanging emails with renowned scientists and got invited abroad. It also gave him access to a new scientific journal on microfluidics and nanofluidics, field that was to become his expertise. 'The first issue was for free, so I could read all its articles and realized the topic was really cool. And nobody was doing microfluidics in Cuba yet, so I could put my flag in it.'

**'THE LOWEST POINT OF MY LIFE'**

Thanks to his unique research focus, Fernandez Rivas traveled to Europe regularly. During a short trip in the snowy winter of 2005, he made a quick stop at the University of Twente, not knowing this would soon become his long-term home. When he received an offer for a PhD position at the UT, he didn't know if he could accept it. 'I could not leave my daughter. I love science, but family comes first.' The main restriction came from Cuban government rules that did not allow underage children to travel abroad. However, he did move to Twente after all. 'A UT professor offered me a project with lots of flexibility. I could go back to Cuba for short periods of time in order to see my daughter. I managed to finish my PhD, but in the process my links with Cuba were strained and I had not much to get back to. Those years were the lowest point of my life.'

The beginnings in Twente were harsh, but looking back now, the scientist doesn't regret staying. 'In the end, I managed to publish good articles, started a spin-off, I met my wife. I like working here, I've built my little kingdom here. There are enough reasons to keep going. I love the process of solving a societal problem with scientific research. In academia, you have the freedom to gain knowledge and I can collaborate with industry at the same time. I started my own company to transform an idea into technology that really solves problems. Serving people is very satisfying. It gives you adrenaline and allows you to stay awake when everyone else is sleeping.'

*'I love science but family comes first'***TIME FOR REFLECTION**

Does he do that a lot? Work while everyone else is sleeping? 'Yes, I have done it since my student years, and even though when I'm very tired, it became the norm. My free time is scarce, but if I get a chance, I go running or play guitar. I used to play in two bands I founded, but after my friends graduated and moved out, I only have my little kids to slam the guitar. I definitely have enough to do, but I try to bundle everything into one theme: knowledge transfer. I'm not known to be patient, but it helps to be strategic and understand that for good things to work it takes time. For example, the book idea has been developing for months, when I was doing the dishes or changing a diaper. That is also part of the freedom that academia gives you and why I chose to stay. Science is your own challenge and responsibility. It can seem like I'm a crazy bee just buzzing around, but I do sit down regularly and think about what I'm doing, and why it is important.'

'It has been a crazy year,' repeats David Fernandez Rivas. 'It has also been a year of reflection. Reflection on what I can do for others, how can I help people around me. I want to remain relevant, to continue working on topics that are important not just for me. The possibility to use technology for good causes is a huge privilege and I want to share it with society.' •

**DAVID FERNANDEZ RIVAS**

David Fernandez Rivas is an adjunct professor at the Mesoscale Chemical Systems group of the Faculty Science and Technology (TNW) at the University of Twente. He is best known for his research on needle-free injection of fluids. He is developing a technique in which needles are unnecessary. Instead, liquids are 'pushed' into the skin using laser-made bubbles. This research project has been awarded the ERC Starting Grant in the amount of € 1.5 million. On top of his scientific work, Rivas co-founded two UT spin-offs: InkBeams, company focused on injecting ink or medication without the use of needles, and BuBclean, engineering firm specialized in finding solutions to complex ultrasonic tasks. •





## 'A PRIME MINISTER FROM ENSCHEDE - SOUNDS GOOD, RIGHT?'

TOGETHER WITH THE MEMBERS OF HIS STUDENT CABINET, 'PRIME MINISTER' TIMON METZ (23) DREW UP AN ALTERNATIVE GOVERNMENT AGREEMENT FOR THE NETHERLANDS. MEANWHILE, THE STUDENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT IS ALSO ENJOYING STUDENT LIFE TO THE FULLEST.

**I**n the spacious extension of Huize Patatras, Timon Metz has taken a seat at the dining table. The common room was recently remodelled, he says with pride. On his lap sits the house cat, Archduke Charles Ferdinand van Horstlanden-Stadsweide or Barry for short. The residents of this iconic house in Enschede are good at coming up with nicknames. His housemates recently began calling Metz 'minpres.' 'It is all good fun,' he is quick to add.

Metz earned his nickname by being the first prime minister of the Dutch student cabinet. On behalf of the fourteen universities, the student cabinet strives to develop a long-term vision for the Netherlands that is centred around scientific knowledge. 'Our message is a simple one: policy makers should make use of the knowledge that universities possess to help them resolve major societal issues. As members of the student cabinet, we are the ambassadors of that knowledge.'

### APPEALING

The name 'student cabinet' attracts people's attention, Metz knows. 'Though it is sometimes made bigger than it is. My mother even got stopped in the supermarket because the paper mentioned my name and my role as prime minister. For us, it is mostly a good way to meet with important organisations to present our plans to. We have already visited several ministries. Once we have obtained a seat at the table, we are eager to provide input.'

The student cabinet convenes every week. Most ministries are new. Wageningen, for example, has supplied a minister of LOVE (Landbouw, Omgeving, Voedsel en Energie; Agriculture, Environment, Food and Energy), while Delft has provided the Ministry for the New Delta Works. The cabinet members were selected by the universities themselves. The UT nominated Metz for the role of prime minister. 'A prime minister from Enschede; that sounds good, right?'

His student cabinet wrote its own government agreement. Last spring, it was presented to outgoing Minister of Education Van Engelshoven in The Hague. The newly minted student ministers had hoped their agreement would attract a bit more attention, Metz says. Just when they were handing over their government agreement in The Hague, Kajsa Ollongren walked out with the infamous 'functie elders' note. 'The media thought that was slightly more newsworthy than our future-proof policy,' Metz says with a small grin on his face.

### POLITICAL AMBITIONS

The difficult formation process, the childcare benefits scandal and the corona crisis: national politics are far from dull at the moment. 'Meanwhile, it also has an extremely short-term focus,' Metz believes. 'We continue to face major challenges, such as the climate crisis. Our generation will have to deal with that, which is exactly what the members of the student cabinet want to talk about.' Metz says the members of his cabinet perform their duties without letting their political beliefs get in the way. 'Our goal is to translate science into policy for the Netherlands for twenty, thirty or even fifty years in the future.'

With great interest, Metz keeps an eye on the latest developments in the world of politics. 'Things are moving fast, fierce debates are being held and the politicians have a crisis to manage. It is all very exciting to watch. Still, I wonder if normal, everyday politics are like that as well.' Metz has been asked about his own political aspirations a few times now. 'The honest answer is that I just don't know yet. I like crisis management, but I suspect the normal political process to be far slower. I don't know if that is right for me.'

He can reveal a little bit about his own preferences. He has an unread copy of the book written by former VVD politician Klaas Dijkhoff sitting on his nightstand. 'That was a gift. I like Dijkhoff's down-to-earth approach. I'm like that a bit myself. He is honest and has a positive outlook on life, which appeals to me. I don't like polarisation. There is enough bullshit in the world as it is.'

### ACTIVE STUDENT

Metz comes from Diepenveen, a town near Deventer. He is the first member of his family to attend university. He chose Technical Medicine at the University of Twente. Before long, he moved into one of the rooms of Huize Patatras on the Emmastraat. 'Living on your own is an essential part of the student experience. That is how you make these the best years of your life - as corny as that may sound. For example, I would never dream of living at home with my parents just to save a bit of money.'

He spends his student life studying and doing many, many extracurricular activities. In addition to presiding over the student cabinet, he is a member of Yunophiat, student association Audentis and the University Council. 'I have plenty to do,' Metz laughs. 'I like a lot of things and I'm quite good at dividing my time between different activities. At the same time, I tend to lose focus quickly. When it comes to my studies, I am not such a try-hard at all. For me, that is a good excuse to undertake as many extra activities as I can. I believe merely obtaining a degree does not prepare you well enough for your future.'

Ambition is encouraged in Huize Patatras, the student says. 'Everyone has great plans for their future. We all see eye to eye in that regard and we support each other. During my first year, an older housemate encouraged me to sign up for the Kick-In committee. He had done that himself. I did not regret that at all. Serving on a committee is important for your development. You may fail once or twice, but that is okay. It is great practice for the future.'

In between all his activities, Metz also managed to earn his degree in Technical Medicine. 'I had to take plenty of resits,' he adds. Metz is now working to obtain a master's degree in Industrial Engineering and Management. 'I am interested in the human body, but I learned during my internship that the hospital world is not always a fun one.' He has not figured out what he wants to do instead. 'For now, I'm focusing on obtaining my degree. After that, I'll see what life throws at me.'

'I am young and I am living a great student life. I want to enjoy that while I can. As prime minister, I might think a little more carefully about what I'm doing. At the same time, drunken nights and fun parties are part of student life. After all, I am not the prime minister of the Netherlands, but of the student cabinet.' •

# SHINE A LIGHT

'THERE ARE A LOT OF LONELY PEOPLE AND I WANT TO HELP AS MANY AS POSSIBLE,' SAYS SEFORA TUNC, UT PHD CANDIDATE AND FOUNDER OF 'IBILIGHT'. HER START-UP HAS ONE GOAL: TO FIGHT LONELINESS OF ELDERLY PEOPLE. WITH LIGHT. AND IT IS NOW ENTERING THE MARKET.

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**I**bilight is rather simple. It is a lamp that older adults, such as your grandparents, keep at home. They can touch it anytime to send you signals. You, on the other end, have an app that receives the notification and that turns the light on, letting your grandmother know that you are thinking of her.

Which is precisely what inspired Tunc to create the lamp. 'I was doing research into e-health technologies for older adults but, shortly after the Covid-19 pandemic started, my focus shifted to loneliness,' she says. 'We used to visit my grandmother in Brussels all the time, but suddenly that was not possible at all and she was all alone. That motivated me.' Tunc decided to help people in the same situation as her grandmother. 'It can be incredibly hard on older people who live alone. If their spouse dies, their life often falls apart. They lose their routine, they don't go to sleep on time, they fall into unhealthy habits. It has been shown that loneliness leads to many health problems, both physically and mentally.'

## CO-DESIGNED BY OLDER ADULTS

'I really wanted to find a solution that fits the needs and wishes of older people,' says the young entrepreneur. 'Things are often designed for them, but not with them. You need to consider their mindset. Yes, there are apps, like Tinder, that allow you to meet new people, but that is too much of a leap for most older adults. So I started a project to co-design a solution against loneliness directly with elderly.' Based on their input, Tunc found out that a product like ibilight fits their needs the best. 'Ibilight is very user friendly and very universal. You don't need to know any language to use it. It connects you to people you already know and love. That was very important to most people. They already have a network, but they want a way to stay connected while not bothering anyone. Furthermore, most elderly people told us that they feel the most lonely in the evenings – which is why I decided to make a light, a light that shows them that they are not alone.'

Ibilight is still in development, but Tunc already has a functioning app and lamps, both of which have been tested and adjusted based on the users' feedback. 'For instance, the first prototype could display many colours, each one symbolizing a different message. However, the users didn't respond too well to this,' says the founder. 'They forgot which colour meant what and they also didn't like how their living room looked with the coloured light.' Apart from these small points of criticism, the response to the product has been positive so far. 'Some people are skeptical, but most seem to like it a lot. During the tests, we saw that it helped create a deeper bond within the family. We noticed that the younger person thought of their parent or grandparent much more often when using the ibilight.'

## START-UP CHALLENGES

This positive feedback is one of the main reasons why Sefora Tunc pursued the idea, despite some start-up challenges. 'My parents are both entrepreneurs so this is not an entirely new area for me. And it is a great feeling to be the one in charge! But doing it all alone can be very hard. I have some support, but the heavy lifting is all on me. In the beginning, it is not always rewarding, because you face a lot of rejection. I had trouble finding testers, many elderly homes refused the idea due to the pandemic. I also need to search for a more optimal manufacturing process, because all the lamps are currently made by hand. I would really love to find a business partner, who is technically savvy and can support me in that regard. I think finding a passionate co-owner and the right brainpower will be the biggest challenge for me.'

Regardless of these hurdles, the UT researcher is determined to keep going. She is currently conducting a larger pilot study to validate her design and improve it further. Later this year, she plans to run a Kickstarter campaign and supply ibilight to anyone interested. 'Loneliness is a big problem and not everyone is so lucky to have family nearby,' says Tunc. 'I want everyone to feel connected, let them experience the privilege of family. For me, family is the most important thing in the world.' •

## SEFORA TUNC

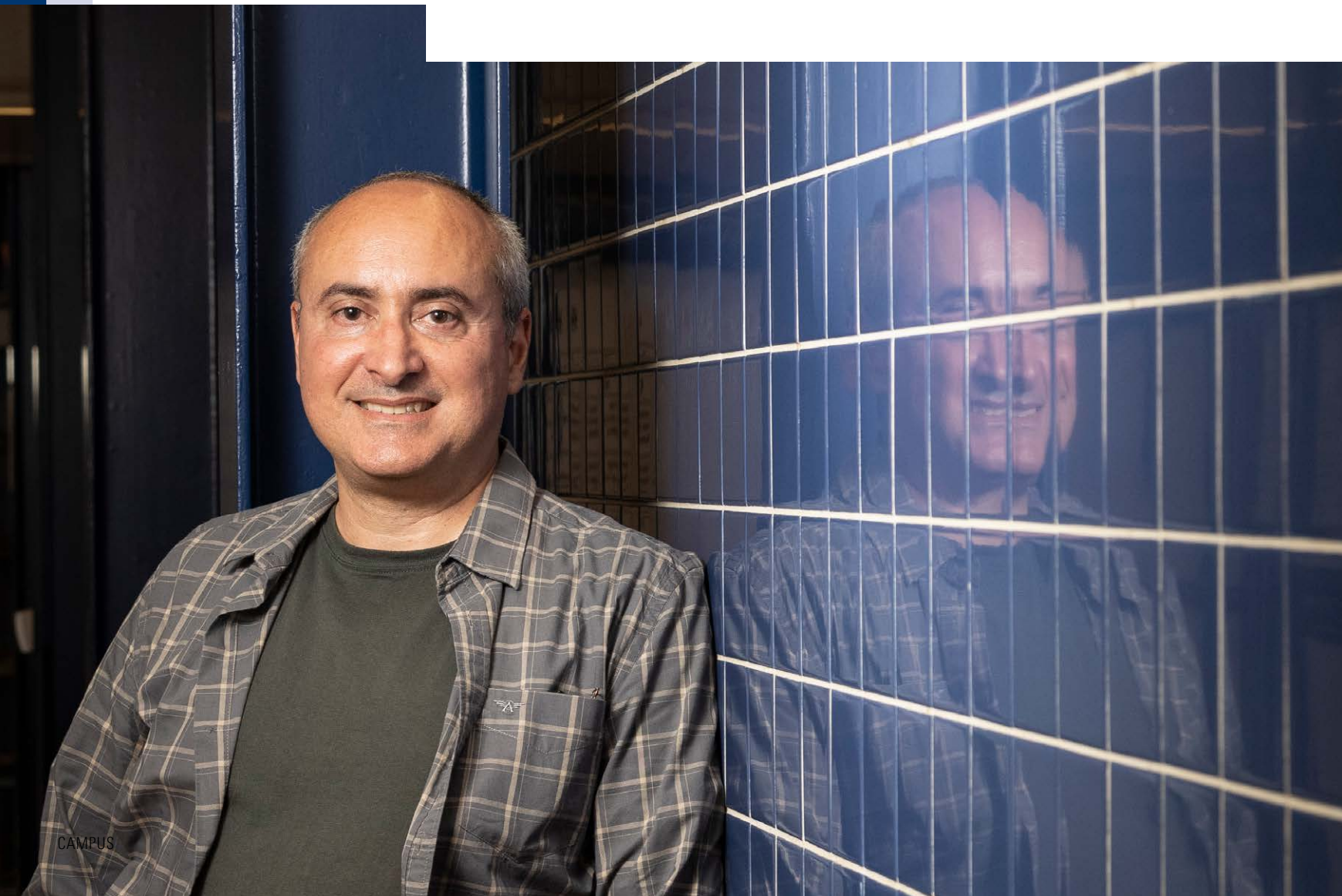
Sefora Tunc, the founder of ibilight, is a PhD candidate at the Biomedical Signals and Systems group (Faculty of Electrical Engineering, Mathematics and Computer Science at the UT). She also holds a Bachelor and Master degree from the University of Twente, where she studied Creative Technology and Industrial Design and Engineering. Ibilight is, in fact, a result of her Master thesis which she completed in 2020 and immediately followed by her ongoing doctoral research. With her start-up, Tunc won the UT Challenge category Prototype in June and will represent the UT in Helsinki for the Impact Challenge in December 2021. •



# LESSONS FROM THE BRAZILIAN AIR FORCE

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WHAT MAKES A GOOD LECTURER? WHERE DOES SOMEONE GET THE PASSION AND INSPIRATION TO PRESENT THE SOMETIMES DRY MATERIAL IN AN EQUALLY FASCINATING AND UNDERSTANDABLE MANNER? THE 'MEET THE TEACHER' SERIES INTRODUCES YOU TO UT STAFF MEMBERS WHO TRULY LOVE THE WORLD OF EDUCATION. IN THIS EDITION: MARCUS VINICIUS PEREIRA PESSÔA.



Every lecturer has walked their own path to end up where they are now. One might go the traditional route, while another makes a remarkable career move that changes their life forever. Marcus Pereira Pessôa (52) undoubtedly belongs to the latter category. For about thirty years, he worked for the Força Aérea Brasileira, the Brazilian air force. Pereira Pessôa, who now works as a lecturer in the ET department Design, Production and Management, joined the air force when he was just fourteen. Given that Brazilian law at the time stipulated that anyone was entitled to retire after thirty years of service in the armed forces, Pereira Pessôa was looking forward to doing just that at the young age of forty-four.

## AIRBORNE ACROBAT

His work in Brazil mainly consisted of delivering medication to inhospitable areas or picking up sick people. He operated Cargos and trainers, two types of small aircraft. He preferred the latter, because it allowed him to - as he puts it - 'be an acrobat in the skies.' He also operated special aircraft that monitor whether all equipment at the airport functions during take-off and landing. When Pessôa wasn't flying, he was on the ground conducting research into ways to improve the technology that powered the air force's defence systems.

After his career in the armed forces, the Brazilian obtained a postgraduate degree from the prestigious Massachusetts Institute of Technology (MIT) before coming to Twente in 2016. He says this region is 'perfect.' These days, he only visits Brazil as a tourist and only takes to the skies as a passenger. His framed military awards have been given a place of honour in his office. He views his former career as a bunch of memories that he can look back on with fondness, even though he has embarked on a new chapter of his life.

## MODEST

On campus, Pereira Pessôa teaches master's students. In May of 2020, he received a Comenius Teaching Fellow grant worth €50,000 for his work related to the phenomenon of 'just-in-time learning.' By making information freely available, students can decide for themselves when to use specific knowledge. He recently received a nomination as a finalist for the Centrale Onderwijsprijs (Central Education Award). It said that he was 'appreciated for his modest, kind and hard-working personality.' Winking, he says that he does not recognise himself in that description. After all, saying he did would not be particularly modest of him. Nevertheless, Pereira Pessôa appreciated the nomination, because it serves as a clear signal that his customers are satisfied. He does not feel bad about not winning the prize; being nominated was enough of a victory for him.

The lecturer, who now lives in Enschede, believes a good lecturer should update their lessons every year. If they teach students the same things this year as they did last year, they are teaching them about the past. Revisions have to be made, if only because it would be boring to have the same discussions year after year. He also appreciates it when a lecturer strives to be a mentor rather than a teacher. It is about being close, admitting it when a student knows something that they don't and challenging each other.

Pereira Pessôa believes a lecturer should adapt to changing methods. He cites the dawn of the internet as an example. You can always find more information about a topic online than you can ever know as a lecturer - no matter how good or experienced you may be. As a teacher of master's students, he says, all you have is more experience under your belt. That is why he prefers to learn alongside his students and appreciates it when they do not agree with him.

## RANK

He says his way of interacting with his students - with modesty and as their equal, instead of their superior - harkens back to his career in Brazil. As a flight instructor, he says, you can be a lieutenant, a captain or a general, but your rank has zero practical impact on your teaching. Although you respect the rank, it is all relative when it comes to knowledge.

That is not the only lesson that Pereira Pessôa the lecturer learned from Pereira Pessôa the pilot. When he had to take his test as a novice pilot, he learned first-hand that it is good to allow students to make mistakes. The instructor placed a hand on his shoulder and told him not to be nervous, because he would be allowed to make one mistake after another - just as long as he mastered everything by the time they were done. All the time the instructor and he had together was time for learning.

## THE CARIBBEAN NETHERLANDS

Despite his young age, he retired eight years ago. Although Pereira Pessôa does not have to keep working, he is not thinking about quitting just yet. As long as he continues to enjoy his life on campus, he will stick around. He likes to surround himself with smart people, he has noticed that his daughter is more Dutch than Brazilian now and he likes the pace at which people in Twente live their lives - striking the right balance between their families and their careers. Besides, after travelling so much all his life, nowhere truly feels like home for him anyway. 'There are really only two things I miss here: the beach and the sun. Who know? I might leave for the Caribbean Netherlands one day.' •

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# FROM PUPIL TO STUDENT

Nowhere is this 'rebirth' more visible than during the traditional Storming of the Bastille, which finally took place again this year. While crawling, wriggling and clambering, the freshmen say goodbye to their life as secondary school pupils, check out from Hotel Mama, and begin anew in Enschede. That sometimes takes a bit of effort, as witnessed by the facial expressions, but the reward, once at the top of the Vestingbar, is all the better. With a fresh snack and a shower, the real student life can begin. •



# VAN OF ALL TRADES

WITH ITS 'EXPERIVAN,' THE UT WANTS TO REACH OUT TO PEOPLE OUTSIDE THE UNIVERSITY'S OWN BUBBLE. AT THE VAN HEEKPLEIN IN ENSCHEDE, FOR EXAMPLE, TO STUDY PEOPLE'S WILLINGNESS TO GET VACCINATED. 'IT DOESN'T GET ANY MORE ACCESSIBLE THAN THIS.'



In the centre of Enschede, there is little left to remind you of the pandemic. The sun is shining and the Van Heekplein is full of shoppers. There is a long line outside the Primark, a street musician is playing his saxophone and a little farther off, a market vendor is loudly hawking his wares. He turns to a group of German tourists. 'Sie sind Deutsch? Zwei für einen Euro!'

Amidst the usual hustle and bustle, a long blue Mercedes van looks somewhat out of place. 'Well, there it is,' says Jan-Willem van 't Klooster, managing director of the BMS Lab. The side of the van bears the slogan 'Research on the road.' This is the UT's mobile test lab, also known as the ExperiVan. Van 't Klooster got up early this morning to get everything ready. 'I had to make some final arrangements with the market manager. He asked me what we were selling. Apparently, not everyone has fully grasped the concept behind the ExperiVan yet.'

## WILLINGNESS TO GET VACCINATED

They're not selling anything. The ExperiVan has been parked on the Van Heekplein today to conduct a study into people's willingness to get vaccinated. 'We want to find out how people feel about messages about the coronavirus vaccinations,' Van 't Klooster explains. 'In our ExperiVan, we show people different messages. Simply put, we want to study what effect each message has.'

Some of these messages have a neutral tone, while others are persuasive and positive, the director of the BMS Lab continues. The messages also come from different sources. 'There is an underlying psychological theory, which states that our behaviour is determined by three basic psychological needs: autonomy, competence and connectedness. All these needs are addressed in our test. Take connectedness, for example. Who are people more inclined to believe when it comes to information about vaccination? Their general practitioner, the national government or an acquaintance?'

*'It is good of the university to come to the centre of Enschede'*

The goal is to reach out to as many different groups of people as possible on the Van Heekplein, Van 't Klooster explains. 'We are particularly interested in people who do not want to get vaccinated and those who have not decided yet. In the Netherlands, we have thus far opted for a fairly neutral vaccination campaign that centres around people's freedom of choice. The question remains how that approach impacts the doubters. We hope to find representatives of this group on the Van Heekplein. There is a large diversity of people walking around here. It is nothing like the campus, where you'll mostly find highly educated test subjects. People from all walks of life come to the market to shop.'

## IN THE LAB

'Shall we give it a go?' Van 't Klooster asks. He opens the door of the ExperiVan, where two student assistants are hard at work setting up the equipment. 'The ExperiVan is equipped for conducting research on the road, so it has everything we need. Just like on campus, we can create a stable laboratory setup here, with the same test conditions for every subject. That makes our research repeatable and the data we gather comparable.'

For the study of people's willingness to get vaccinated, the bus features two objective measurement methods, Van 't Klooster explains. 'A facial expression sensor measures how the participant reacts to the campaign materials. The question is what expression the test subject displays. We also use a so-called eye tracker to measure whether or not the participant reads all the information and checks the source reference. We want to know whether the message is getting across to them. The major advantage of using these objective sensors is that we do not need hundreds of test subjects, as is the case with surveys. If we can test twenty-five people or so today and tomorrow, I'll be satisfied.'

In the meantime, the student assistant has finished their preparations. 'Would you please sign this consent form first?' The laptop is set up. 'Please take a seat. Lean forward a bit. That's right. A little more. Perfect! Now your head is positioned correctly. Please follow the dots on the screen with your eyes.'

Several tweets appear on screen. The test subject is asked to rate their reliability and value. First up is a tweet from the National Institute for Public Health and the Environment (RIVM) about the effectiveness of the vaccination campaign. Next, general practitioner Willems emphasises how important it is that everyone gets vaccinated. There is even a tweet written by EO presenter Andries Knevel. Lastly, there is one @xxEmma\_94.

### IVORY TOWER

Outside, Van 't Klooster has struck up a conversation with a man riding a mobility scooter. The man is wearing an FC Twente jersey. 'Whaddaya doin'?' he asks curiously. 'We are studying people's willingness to get vaccinated,' Van 't Klooster answers. 'Oh, I have already been vaccinated twice,' the man replies. 'I'm sorry, but you cannot take part in our study then. Perhaps you know someone who hasn't decided yet if they want to get vaccinated?'

Most people are curious about the ExperiVan, Van 't Klooster knows. 'That is good, because this mobile lab helps us scientists climb down from our ivory tower. In my view, it also goes very well with the UT's Shaping 2030 vision, which states that the university wants to conduct more socially relevant research. We have come to Enschede with our van a few times and I notice that people are beginning to recognise the name of the BMS faculty.' There is the occasional negative reaction as well, especially now that the study concerns vaccination. 'Some people view the university as an extension of the government and therefore want nothing to do with us. However, the university certainly does not belong to the government. We pride ourselves on our independent research.'

### CITIZEN SCIENCE

The ExperiVan is part of the BMS Lab, which Van 't Klooster is in charge of. On the second floor of the Cubicus, circa 400 m2 has been cleared for researchers and students to experiment and rent mobile equipment. The BMS Lab helps them set up and perform their experiments.

The ExperiVan was added to the arsenal two years ago. A fully stripped van was bought from a car dealer in Twente. The next summer, Van 't Klooster borrowed a camper and went on holiday in it, together with his wife, to discover first-hand the best way to pack such a vehicle. After his holiday, he brought the UT van to a company that converts the police force's ME vehicles. To top it all off, a secretary came up with the winning name: the ExperiVan.

The mobile lab was deployed several times over the past two years, e.g. for a study of zoonoses: diseases that can jump from animals to humans. 'Back then, we were parked on the other side of the van Heekplein,' says lecturer Nienke Beerlage-de Jong, who was in charge of that study. As a member of the HTSR (Health Technology and Services Research) department, she is also involved in the study of people's willingness to get vaccinated, which is supervised by UT Professor Vera Araujo-Soares.

'The BMS faculty set up a fund for research related to COVID-19,' Beerlage-de Jong explains. 'Our proposal for a study of people's willingness to get vaccinated was selected as one of the winners of an internal competition.' The lecturer knows that the Ministry of Health, Welfare and Sport is curious about the results of the study. 'We will ultimately share our findings with the ministry as well. They want to provide information to the doubters as effectively as possible. On top of that, the lessons learned from this study can also be relevant during a possible future pandemic.'

Beerlage-de Jong is excited about the ExperiVan. 'For us, it is a fantastic way to reach out to people. I think this is a great example of citizen science, for which citizens are actively involved in scientific research. It doesn't get any more accessible than this.'

### PUT INTO PRACTICE

The student assistants are talking to a married couple from Syria. While the father takes a seat in the ExperiVan, the mother waits outside with their youngest daughter. After a while, they switch places. 'I particularly liked the short messages,' the wife says afterwards. 'My Dutch isn't that good yet and those were easier for me to understand. I also liked the tweets that said you're not only doing it for yourself, but also for elderly people around you.'

They both plan on getting vaccinated. 'With this information, I do have more faith in the vaccine,' the mother says. 'You read a lot on social media about the vaccine being unreliable and how you can still get infected with the coronavirus after a few months. At least now I know that - if you do get infected - you will not get as sick if you have been vaccinated than you might otherwise become.'

'It is good of the university to come to the centre of Enschede,' she continues. 'There are many different cultures here. I imagine it is quite different here than at the university itself. I especially liked the messages from the government and the general practitioners. I don't know where the 'regular people' get their ideas.'

As the family continues on its way, the student assistants and researchers begin looking for a new test subject. That proves to be quite a challenge today; it is a German bank holiday and it is hard to pick out the Dutch people amidst the German tourists. The market salesman around the corner couldn't care less. He has clearly rehearsed his speech in many languages. 'Jetzt ein Kilo für einen Euro!' •



*'This mobile lab helps us scientists climb down from our ivory tower'*

THE PANDEMIC AS SEEN BY A.S.V. TASTE:

# 'AN ENORMOUS SOCIAL SAFETY NET'

THE UT IS HOME TO COUNTLESS CLUBS, SOCIETIES AND ASSOCIATIONS. IN THIS SERIES, WE SHINE A SPOTLIGHT ON ALL OF THEM. THIS TIME, THE HONOUR GOES TO A.S.V. TASTE. DESPITE THE PANDEMIC, THE CLUB HAS HAD A MORE TUMULTUOUS YEAR THAN EVER BEFORE. 'WE WALKED A SICK LADY'S DOG THREE TIMES A DAY.'



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**O**n a normal weekday in early March of 2020, the members of Taste have gathered in their favourite bar on the Oude Markt. Although the coronavirus has landed in the Netherlands, its impact appears to be relatively minor, especially in Twente. Less than forty-eight hours later, the bar has to close its doors for the foreseeable future. At the time, no one could suspect that a night like that would remain a distant dream for almost eighteen months.

## UNCONCERNED

The same goes for Floor van Maarschalkerwaard (22), a student of Applied Mathematics and president of Taste since September of 2020. 'Just like everyone else, the lockdown caught us by surprise. At the time, we were relatively unconcerned and thought it would all blow over in a few short weeks. Nevertheless, we did not rest our laurels as an organisation. From day one, we set ourselves a goal of organising at least two activities per week. To this day, we have not broken that promise.'

Although Taste was not in it to attract positive attention, the club managed to perform one good deed after another during the

pandemic. The board did more than organise online gatherings. Whenever possible, they tried to work together with various charities. 'Although we did that before the pandemic as well, it certainly took off during the last year or so. We formed an active partnership with the Present Enschede Foundation and they approached us with requests for members to help out here and there. We had our hands full from day one,' Van Maarschalkerwaard reflects.

## WAITING LIST

The members helped out the Salvation Army, for one. While the permanent staff were out delivering meals, the members of Taste took care of the cooking. Others served as host or hostess at the blood bank, because more manpower was needed there. They also lent a helping hand to the food bank. Caregivers received fruit baskets, while the elderly got some pastries and handmade Christmas and Valentine's Day cards. The members of Taste helped out wherever they were needed. 'In twos, we also walked the dog of a sick lady who could no longer leave the house three times a day. So many of our members wanted to do that - even if it was just to get out of their room for a little while - that we even had a waiting list.'

According to the president, the success of the club's efforts is due to a combination of factors. 'Our members were bored out of their minds. I'm not saying that the pandemic hit students the hardest, but there is no other group of people for whom life changed so drastically so quickly. Our members are always very active; in the club, but also in fraternities and sororities, committees, sports and cultural clubs and with their studies. Except for the latter, everything came to a complete halt almost overnight. If you can spend some of your time doing something fun and noble, that is the best way to make yourself useful. Even the opportunity to get together in small groups was nice.'

## MINISTER

One year ago, Van Maarschalkerwaard, who is originally from The Hague, knew she was embarking on a unique period as president of Taste, but she had no idea what was in store for her. In Lucht je Hart Enschede, she spoke about it with Minister of Education Ingrid van Engelshoven. She told the minister that she personally witnessed how hard students' lives were every day. The network KRO-NCRV shadowed the president for a day last October for an episode of We Houden Vol to show how a student association can keep things fun during difficult times.

*'Every opportunity to get together in small groups was nice'*

Now that the end of the pandemic is in sight, Van Maarschalkerwaard concludes that she would rather have had a 'normal' year as president. 'You try your best to carry on as usual. We have had to cancel so much. We would work hard to organise things, knowing full well that our efforts would ultimately be in vain. The bar was closed for most of the year, so although things were not necessarily busier than usual, they were certainly more hectic. At first, when the members of the board could still get together, we were doing our best to manage the crisis when one of us turned out to be infected. I got infected myself, so I had to draw up our club's coronavirus policy while being quite sick myself. It was a bizarre time, but I also learned a lot. I am also proud of the fact that we could serve as an enormous social safety net on behalf of Taste.' •

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# TRENDSETTER IN TWENTE

AN UNORTHODOX STUDY CHOICE BROUGHT EMMA VAN GEEL (28) TO TWENTE. IT TURNED OUT TO BE LOVE AT FIRST SIGHT. FROM THE KENNISPARK BUILDING OF UT SPINOFF DEMCON, WHERE THE ALUMNA HAS WORKED EVER SINCE SHE DID HER INTERNSHIP THERE, SHE ENJOYS A VIEW OF HER ALMA MATER EVERY DAY. 'I NEVER FELT LIKE I WAS JUST A NUMBER IN TWENTE.'

**L**ife could have turned out very differently for Emma, who was born in Amsterdam and grew up in the West-Frisian town of Broek op Langedijk. 'At my local secondary school, you pretty much had two choices: you could either become a doctor or a lawyer. I figured I would go against the grain and do things my own way. The only problem was that I couldn't find a study programme that interested me.' Luckily, her little sister was there to help. 'She came to me with a flyer on which she had taped off the names of universities and said: 'I found something that is perfect for you.' She was right! Although it was all the way over in Enschede, I knew I had to come here after attending a welcome day.'

She ended up choosing Creative Technology. 'That programme was still in its infancy at the time and proved to have been a poor choice after the first few months. My parents told me I should come home when I took a break from my studies, but I made a deliberate choice to stay here instead. During that first year, I was fortunate enough to discover what I did want to do; using technology to help improve the health care sector. That's why I ended up choosing the Health Sciences programme.'

On top of that, Van Geel had already fallen in love with her student life in Enschede. 'I had made a life for myself here. I actually found a job before I found a place to stay; the coffee chain I was already working at also had a store in Enschede. I was a fairly active member of the study association and I joined Sapphira, the first

sorority for speciality beer drinkers in the Beiaard. I had told my mother that I would not cycle home in the dark, which is a promise I always kept.'

## FULLY EXPOSED

The alumna continues to be amazed by the impact that students have on Enschede and the surrounding area. 'When it comes to facilities, experiences and having a nice, affordable place to live, you can find everything you need here. The students make the city feel smaller than it actually is. It still feels like everyone knows each other. I recently had to go to a DIY store as an ordinary civilian. Suddenly, I was overtaken by a van from fraternity Pineut with two naked butts hanging out the window. What can I say? In their own way, things like that are also part of the feeling of togetherness you experience here.'

She was also drawn to the serious side of living an active student life. Van Geel wanted to join Solar Team Twente, but ultimately decided against submitting her application. However, she ended up meeting her boyfriend when he was part of the student team and began helping out behind the scenes with the communication from the back office during the solar car's races. As she was also looking for an internship at the time, she decided to reach out to one of the team's main sponsors: Demcon. After completing her internship, she got a job there as a QA/RA engineer.

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**TRAINING THOROUGH THINKERS**

As she explored the finer points of legislation and quality requirements for medical technology at Demcon, she was also working to obtain her master's degree in Health Sciences. 'During my bachelor's, I had no idea what kind of jobs were available in the region. I expected to end up working for a health care organisation or in a hospital's purchasing department. Getting my first job at a high-tech company like Demcon was therefore very thrilling. I also thought it would be hard for me to fit in, because I don't have a technical background myself.'

She was wrong about that, though. 'What seemed like an obstacle at first quickly turned out to be a positive instead. When developing medical technology, you need to form connections. You cannot jump straight from a vague sketch to a finished medical product that is used in hospitals. In reality, this is a complex process that requires a variety of qualities.'

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*'The UT is supposed to train thorough thinkers'*

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If it were up to Van Geel, the products being developed by Demcon will ultimately end up being used in the UT's TechMed Centre. 'We absolutely have to seek out that collaboration more. Let students and researchers go wild with it. Right away, I'm thinking about usability studies and clinical studies, as well as laws and regulations. Every study programme can benefit from such a broad perspective; a mechanical engineer has to understand why an endoscope should not have an odd rotation point. Even if you are a hardcore engineer, it all comes down to the physical integrity of a person. As an academic, you should never think too lightly of that. The UT is supposed to train thorough thinkers. As a company, we can contribute to that goal.'

**VENTILATORS**

The 28-year-old Van Geel has been working at a stone's throw away from the campus for almost six years now. In the meantime, Demcon has expanded its operations significantly and it now has more than eight hundred employees across five national and three international locations. Recently, she became Business Developer Sport Innovation. 'We have extremely lofty ambitions, but realising those will require the right people. Finding and retaining talent continues to be a challenge. I suspect Demcon's high-tech reputation may deter some people, even though I am living proof of the fact that you can fit in perfectly well here even with a non-technical background, if that is what you really want. It is high time we do something about that belief, which usually begins to form in secondary school.'

At the start of the corona crisis, this UT spinoff suddenly saw its brand recognition skyrocket when the company came to the aid of the Ministry of Health, Welfare and Sport and allocated a tonne of resources and manpower to the development of ventilators. 'We suspended virtually all other operations, both here and at our facility near Eindhoven. We also received help from our regional partners. In fact, this quickly became a priority for the entire region. That tells you all you need to know about the feeling of togetherness that exists here in Twente; the realisation that we are all in it together. In the end, dozens of ventilator modules passed through my hands during the final inspection of the systems. When you think about the fact that those same devices were delivered to end users last year and that each one may have saved the lives of multiple people, you realise the impact that our work has.'

**THE FUTURE OF AND IN TWENTE**

She is still pursuing her professional mission of finding and retaining talent. Together with ten other women from the region, she became a shirt sponsor of the women's team of FC Twente. This season, the shirts worn by the national champion's players will read 'Future of Twente' in bold letters. 'A lot of talent - especially female talent - is lost in this region. We want to show people that there is a place for everyone here.' Van Geel believes that Twente should try to get rid of its image problem. 'It is about how you present yourself as a region. On the one hand, we are a bit high-tech; on the other hand, Twente is known as a recreational region. Meanwhile, too clubs that cannot seem to agree on anything. On top of that, pushing back against 'those westerners' only serves to create yet another divide. I have always been drawn to that personal, friendly approach. I never felt like I was just a number in Twente.'

That coincides with one of the life lessons she learned. 'I was always so jealous of people who had the next ten years of their lives all figured out and who knew exactly how they were going to conquer the world. Then again, what is wrong about starting small and focusing on the things you can actually influence?' A unique example of happened in early 2019, when Van Geel - an enthusiastic runner herself - single-handedly unleashed a media frenzy when she organised a protest run against sexual violence, during a time when a molester was targeting people between Enschede and Hengelo. 'It was absurd to me that the police had 133 reports on record, so I decided to take action myself. Since that event, there have been no new reports. You know, it is all well and good to say you want to change the world, but I have learned that it is best to stay true to yourself. I always want to be able to look at myself in the mirror and answer the question of 'Am I doing what I truly want to do?' with a resounding 'Yes!' My choices have never been very deliberate, but I have always found my way in the end: something with talent, something in this region, because I truly feel at home here. I want to become a trendsetter in Twente. There you have it: my ambitious plan for the future!' •

# THUMBING ONE'S NOSE AT SCIENCE

At the heart of the campus, a church tower stands halfway submerged in water. It is an art installation designed by Wim T. Schippers. His design for 'The Tower of Drienerloo' consisted of four elements: a church steeple, a spirelet, postcards distributed via bookshops and Tourist Information Centres and 'the spreading of false stories regarding the origin of the thing.' He called his project 'the thing.' Schippers loathes intellectual swagger. Defiant, anti-authoritarian, original and versatile: songwriter, playwright, radio and TV maker, presenter of the Nationale Wetenschapsquiz and Zomergasten, the voice of Ernie and Kermit on the Dutch version of Sesame Street...

The campus is home to many pieces of modern art. That is all due to the one-percent scheme: one percent of the construction cost of new government buildings was reserved for art. That scheme was introduced after the end of the Second World War to create more work for artists. After all, the years of crisis and war had left many of them living in a state of destitution. Generally speaking, such art had to be affixed on the in- or outside of a building, such as a mural or a relief on a façade. When Twente Technical College was established in 1961, it started out with plenty of land but no buildings. An exception was made to allow the TTC to use the scheme to purchase art that was placed in the vicinity of new buildings. That was why five artists were invited to submit their designs for the space around de Vrijhof in 1978. Schippers was one of those lucky few. His initial idea was to throw the pond in front of the building full of kale. His partner - who possessed more business sense than Schippers - put a stop to that: non-conformism is a fine ideal, but at times one has no choice but to accept the reality of rules and criteria. Schippers then came up with the idea for the submerged steeple. Much to his surprise, a vast majority of staff and students voted for his design - including his suggestion that false stories about the tower had to spread. Was there an entire farming village hidden under the water?



Deliberately spreading falsehoods in an environment where scientists do their best to disprove false theories or conclusively demonstrate the veracity of their hypotheses - how is that for provocation? After all, the campus is generally governed by common sense. In a way, Schippers' intent to sow misinformation was him thumbing his nose at science.

Does the submerged church tower make a mockery of religion? Schippers never talked about that. Religious faith simply has no place in his absurdist universe. Nevertheless, I interpret his church steeple as a symbol of a different kind of meaning, other than the scientific variety. A reference to religion also has its place on campus, whether it be a church steeple or a minaret.

Schippers would later talk about the official unveiling in 1979. To the dismay of the many fancy guests in attendance, an unknown man with a foaming mouth began ranting about how the tower wasn't art and Schippers was a third-rate artist at best. Schippers claimed he had hired the man himself: an actor tasked with shaking up the proceedings. Nobody could confirm for me that this event had actually happened. Is it just another one of the falsehoods that Schippers is so keen to make the world believe in? •

**Hiska Bakker**

Historian, journalist and a presenter at Studium Generale

# FROM FINISH LINE TO FORMULA

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THE ATHLETICS TRACK IS NOT ONLY RESERVED FOR SPRINT SPECIALISTS AND MARATHON MANIACS. MATHEMATICIAN AND STATISTICIAN RUPSA BASU ALSO REGULARLY VENTURES INSIDE THE LINES. THE PHD CANDIDATE IS TRYING TO FIGURE OUT HOW FATIGUE AFFECTS RUNNING PATTERNS. THE AIM IS TO IMPROVE SPORTS PERFORMANCE AND PREVENT INJURIES.

**M**ost fellow statisticians dig through existing data sets from A to Z. Basu is an exception to that rule; she, along with fellow researchers, has to collect her own data. 'We use sensors, cameras, fitness trackers and a drone to collect them. At the moment we are mainly looking at knee angles when a runner is rested, pre-fatigued or fatigued. From the preliminary results, we can already see, for example, that the knee's range of motion decreases when an athlete is fatigued. Such an observation can help to improve sports performance and to prevent injuries.'

After all, it's better to prevent than to cure. Basu, connected to the mathematical statistics group at the EEMCS faculty, and her colleagues are therefore also developing a feedback system for runners. 'For the time being, we are working with experienced runners in order to be able to monitor better. But what we really want is to create a system that works for runners at every level. We are striving to create an online system that gives feedback on different parameters through the run. So runners will know whether they need to reduce their speed, increase their stride frequency or maybe take a rest.'

The big challenge for this form of 'out of office' research is to demarcate it as well as possible. 'One sharp turn can cause the sensors to not register properly, which makes the data unusable. That is why we have collected data on a treadmill before, where the run is more regulated. We also fitted the runner with sensors, filmed the session and got the force plate data from the treadmill. Meanwhile, the subject had to run at 103 percent of her normal pace. In doing so, she slowly but surely became very tired and we obtained valuable data.'

At the moment, Basu's main focus is still on running. In the coming years, she will also focus on other sports: rowing and volleyball. 'Running and rowing are relatively well-defined sports in terms of movement. In rowing, things already become more complex when we start investigating the movements of several rowers in the same boat. But volleyball, as a team sport where players are scattered around, is really next level. That will definitely be a challenge.'



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At the same time, it is precisely the scientific approach that must make the difference compared to fitness apps, fanatical coaches and physiotherapists. 'Applying is one thing, but it is better to have a deeper understanding. This is a mathematical and data-driven approach, so this is prone to a more efficient approach.'

Basu finds it particularly exciting to see where theory and practice meet in this project, called 'Theme Team: Health'. 'I studied in Germany, where there was a strong emphasis on theory. With good reason of course; most mathematicians work on something that will pay off in the distant future, in decades to come. This project is the other extreme. Here, we collect and process our own data and we see results almost immediately. But during my PhD, I came to appreciate the theoretical background all the more. That foundation, combined with working with real data and people, makes for an ideal total package. It feels like I have an extensive toolbox at my disposal.'

*'It feels like I have an extensive toolbox at my disposal'*

What appeals to her most about the project is the human connection. 'Other researchers who are involved work in electrical engineering and Human Media Interaction. From three totally different fields of research, we are working together on the same concrete case, while also trying to make a substantial contribution to each individual field. To some extent, the image of mathematicians is that we often stay in our own bubble, but that is absolutely not the case here. Yes, I am thoroughly enjoying it. This is how I imagine the future of science: approaching a problem together and coming up with a multi-faceted solution.' •

## UT'ERS ON THE MOVE

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### 2020

**SANDER WOLBERS**  
BA'20

After completing his Business Administration studies - during which he did an internship at Engel & Völkers in Park City in the United States, among other things - Sander Wolbers has now landed his first job. Since 1 May, he works as Sales Operations Administrator at Thales. •



### 2019

**JANIQUE WESTERBEEK**  
BA'19

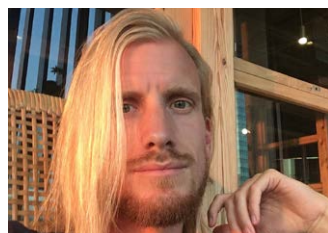
Per 1 June, Janique Westerbeek works at BLU, a creative agency located in The Gallery on the UT campus. She is also doing a traineeship at Ascending people. Before this, Westerbeek worked at Moma Beauty, first as a trainee and later as brand coordinator. She also serves as the social media coordinator of the Young Alumni Network. •



### 2012

**JEROEN DE WIT**  
CS'12

In May of 2021, Jeroen de Wit started his new job as Associate Partner Threat Management at the Center of Competence in the EMEA region at IBM. In this new role, he is partly responsible for all of IBM's services related to cybersecurity, with a focus on Threat Intelligence, Vulnerability Management, Security Monitoring and Incident Response. Before joining IBM, De Wit worked at KPMG Nederland. •



### 2011

**SIMON ROSENKÖTTER**  
ES'11

After a long time spent travelling through the Alps, the Mediterranean and Asia, Simon Rosenkötter started a new job as Senior Level Designer at Fast Travel Games in May of 2021. His job at the Stockholm-based company has him developing VR games. Rosenkötter has extensive experience as a Level Designer: he used to work at Tarsier Studios in Malmo and at Sumo Digital Ltd in Sheffield (UK). •



### 2002

**HELEN ZUURMOND**  
COM'02

Since 1 May 2021, Helen Zuurmond works as Chief Strategy Officer (CSO) at TBWA\X. This internet marketing firm, whose client list includes such heavyweights as Adidas and Schiphol, is based in Amsterdam. After obtaining her degree in Communication Studies, Zuurmond got a job as junior product manager at De Twentsche Courant Tubantia. Over the years, she held strategic roles at various other companies, including V&D, HEMA and Wehkamp. •



### 1996

**CHANTAL DROSTE**  
IEM'96

After working at financial service providers such as AEGON and Rabobank for several years and growing to the position of Director Customer & Sales Support, Chantal moved to Elkien in Heerenveen on 1 June. Elkien is a housing corporation that rents out social housing in Friesland. Droste now holds the position of managing director there. •



### 1997

**HADEWYCH VERMUNT**  
TBK'97

Per 1 July, Hadewych Vermunt is the new CFO of Delhaize, the Belgian supermarket chain. After five years as Finance Director at Unilever, Hadewych got a job at Ahold in 2011, where she performed various roles related to finance. She spent the last three years as the CFO of MEGA IMAGE, a Romanian supermarket chain that is part of Ahold-Delhaize. •



### 1988

**MERT ALBERTS**  
EE '88 PHD '93

Mert Alberts will be working as interim Team Head Special Portfolios ICMT at the MST as of 1 June. The job falls under his own company called Innovarum, which he founded in April 2021. Innovarum is focused on independent consultancy, interim and program management, in the field of digital innovation, transformation and operation. •

YOUNG ALUMNI NETWORK:

## 'LEARNING FROM AND INSPIRING EACH OTHER'

AFTER AN ACTIVE STUDENT LIFE, - DURING WHICH SHE COMPLETED A BOARD YEAR AT KRONOS, A MINOR IN SWEDEN AND AN INTERNSHIP IN FRANKFURT, JOINED MULTIPLE COMMITTEES AT ABACUS AND SERVED AS PRESIDENT OF AEGEE ASSOCIATION QUENOUILLE - TINEKE SCHOOL DECIDED THAT SHE WANTED TO STAY COMMITTED TO THE UT EVEN AFTER HER GRADUATION. THAT IS EXACTLY WHAT SHE DID: SHE IS NOW THE PRESIDENT OF THE YOUNG ALUMNI NETWORK (YAN).

School originally hails from the north of Limburg. Twente was quite a ways away for her. Nevertheless, she made a conscious choice to study at the UT. 'I really loved the open atmosphere here. The people in Enschede are very kind and supportive.' She enrolled in the Mathematics programme and graduated in 2018. After her graduation, School received the alumni newsletter. It stated that the Young Alumni Network was looking for new board members. 'I still felt a very strong connection to Enschede, so that sounded like a lot of fun. It also took me quite a while to find a good job. I figured other people were having the same difficulties I was, so I wanted to help them by playing an administrative role in the YAN.' She applied and was given one of the available positions.

What is the Young Alumni Network, exactly? 'It is a network in which you can learn from and inspire each other, both at the business and application level and in terms of your personal development,' School explains. The YAN does this by organising events, such as company visits and webinars, as well as chair yoga workshops and a Secret Santa celebration. Although the YAN mostly organised physical events prior to the coronavirus pandemic, its focus will shift to a combination of on- and offline events after the crisis. 'During the pandemic, we began offering a different type of event,' School explains. 'We tried to account for the fact that many people were stuck working from home and were looking for more active events. The online chair yoga workshop is just one example of that.'

In the long run, the alumna hopes to see the effects of the activities that the YAN organises. 'I hope that people benefit from these activities and tips.' Since joining the YAN, she has found a job at an IT mobility agency in Deventer, where she uses data science to e.g. predict traffic jams and track the mobility behaviour of people in the Netherlands.

The Young Alumni Network welcomes everyone who has recently graduated, up to the age of circa thirty-five. The president hopes to see many alumni in person during one of the YAN's events before long. 'If you have a good idea of your own, for a company visit or an event, be sure to let us know!' •

#### STAY UP TO DATE ON THE YAN'S EVENTS

By following them on Instagram: @utwente.yan  
And joining the LinkedIn group: UT Young Alumni Network.



School is 26 years old and lives together with her boyfriend and her cat in Deventer. She studied mathematics from 2012 until 2018 and now works as a Data Scientist & Model Developer at DAT.Mobility.





**€100,000 GIFT**

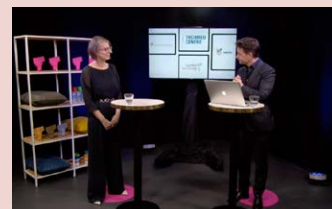
Earlier this year, the Twente University Fund received a donation of €100,000 from a caring resident of Twente. Based on agreement with the donor, this money will be divided between two research projects. This is not the first time that Professor Michel van Putten and Professor Jeannette Hofmeijer have received a contribution from this donor to help with their research into the recovery from brain damage caused by oxygen deprivation. Professor Wiebe Vos will receive a contribution for the realisation of a miniature water laboratory near the U Parkhotel. Among other things, waste water from the hotel will be used in this lab to conduct research into the removal of micro-pollutants. •

**POWERED BY TWENTE UNIVERSITY FUND**

From Batavierenrace to theatre, from intimate lecture and banging party to conventions and symposiums. Nothing has remained the same during the coronavirus pandemic and most things have to take place online. Here are some examples of recent events that were made possible with support from the Fund. •



Symposium 'Disseminate' about the increasing speed of our media – online – Inter-Actief



Supporting Health by Technology Conference – online - Psychology, Health and Technology



Symposium 'Generation Next' about the impact of AI – online – Sirius



TEDxTwenteU 2021 'Outsmarting ourselves!' - online



**YSBRAND WIJNANT AND ERIC DE VRIES WIN THE VAN DEN KROONENBERG PRIZE**

Ysbrand Wijnant and Eric de Vries, the founders of 4Silence, received the Van den Kroonenberg Prize 2021 during the finale of the Entrepreneurial Challenge held on 8 June. This prize is given out every year to entrepreneurs who have demonstrated the technical and economic viability of their UT spinoff. •

4Silence develops and produces noise-dampening products for roads and railways. These direct sound upwards to reduce noise pollution in surrounding residential neighbourhoods. The basic idea was developed in 2007-2008 in Professor Tijdeman's Applied Mechanics department. Wijnant discovered how sound can affect sound. A patent application was soon submitted. With help from Novel-T, the company 4Silence was built around this idea, with Wijnant serving as CTO and De Vries as CEO. •

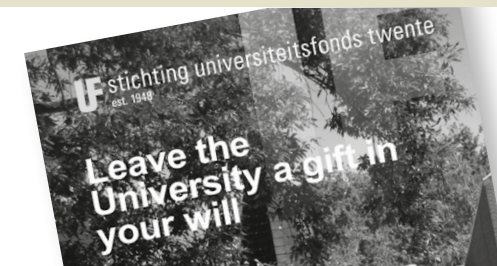
The Van den Kroonenberg Prize is a tribute to former rector magnificus Harry van den Kroonenberg. He is the founding father of 'the entrepreneurial university.' This year marked the thirty-seventh time that the prize was given out. •

**MIRJAM'S DREAM**

Studying at a university can often be a bigger challenge for first-generation students than for those whose parents came before them. Member of the Executive Board Mirjam Bult dreams of offering these students more support. In honour of her tenure as vice-president of the University of Twente, we are therefore establishing a Support Fund for first-generation students. You can contribute to this fund. •

Read more about Mirjam's personal motivation and find out how you can help: <https://www.steunutwente.nl/project/mirjams-droom>

**A GIFT FOR MIRJAM: SUPPORT FIRST-GENERATION STUDENTS**



**LEAVE A GIFT IN YOUR WILL**

Even after you are gone, you can still have an impact on talent at the University of Twente. With your donation to the UT, new generations of students can develop themselves and our research can make a meaningful contribution to society. Are you thinking about including the UT in your will? We would be happy to discuss the possibilities with you. •

For more information, visit: [www.utwente.nl/leaveagiftinyourwill](http://www.utwente.nl/leaveagiftinyourwill)



**TEAM UP FOR TALENT!**

Thanks to gifts from nearly 500 generous donors, the Annual Campaign 2021 is well underway! If you would like to contribute to research to screen for breast cancer, technical innovations for the Campus carillon, Green Team Twente or the Kipaji Scholarship Fund, visit [www.utwente.nl/team-up-for-talent](http://www.utwente.nl/team-up-for-talent). •

All donors are invited to attend the donors' gathering on Friday 1 October, during which we will tell you more about the impact your generous donations have had on these projects. •



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](http://www.utwente.nl/ufonds) for more information.

**Contact:**  
Maurice Essers, director:  
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# 'AS A UNIVERSITY, WE HAVE TO POSITION OURSELVES IN THE HEART OF SOCIETY'

IN THIS SERIES, TWO UT STAFF MEMBERS SIT DOWN TO DISCUSS, AMONG OTHER THINGS, THE SOCIAL RELEVANCE OF THEIR PROFESSION (TODAY AND TOMORROW), THE DILEMMAS OF SCIENCE VERSUS PRACTICE AND THE THINGS THEY CAN LEARN FROM EACH OTHER. THIS TIME, THE HONOUR GOES TO PROFESSOR OF MAINTENANCE ENGINEERING LEO VAN DONGEN AND LECTURER OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION CAROLINE GEVAERT.

**Caroline:** 'Leo, you have had a long career at Netherlands Railways (NS). What brings a practically-minded individual like yourself to the University?'

**Leo:** 'Even during my time at NS, before I entered the world of science, I would publish articles and speak at conventions. It was important to me that the outside world became aware of our insights and experiences. At the same time, I also wanted to learn from others myself. That is why it seemed like a good idea to me to have doctoral candidates from the technical universities, including the University of Twente, come work at NS. Those scientists could conduct research with us and we could benefit from their knowledge. That was the symbiosis.'

**Caroline:** 'We are a bit alike in that sense. I also have one foot in the world of science and the other in that of professional practice. In addition to my work as a consultant at the World Bank, I spend sixty percent of my time at the UT, at the ITC - Geo-Information Science and Earth Observation faculty. I lecture, supervise students and conduct research. At our faculty, we are working on the practical application of satellite and drone imagery in our society.'

**Leo:** 'The practical application of drone and satellite imagery. What does that mean?'

**Caroline:** 'It is both high tech and human touch. On the one hand, it is about analysing the images with algorithms. On the other hand, we ask ourselves what good it can do for society. My doctoral research was about how drone footage can help improve life in the slums. I spent a lot of time in Rwanda. If you want to construct a road through the slums, it can be hard to decide where to begin, since everything is built up. Drone footage is more detailed than satellite imagery; you can easily identify landmarks such as markets. The great thing is that this helps people recognise their environment. They can see for themselves that some buildings will have to be demolished in order for the road to be built. That creates support and opens the door to conversation.'

**Leo:** 'It is great how that works. How does your work at the university differ from what you do at the World Bank?'

**Caroline:** 'The two are fairly similar. At the World Bank, it is about how new technologies such as drones and artificial intelligence can be used in practice to find solutions to societal

issues. At the university, the focus is obviously more on scientific innovation. Nevertheless, the demands of the World Bank can be stricter than the university's, at times. Simply coming up with something new is not enough; it has to have practical applications as well. Sometimes, we may do things that are not entirely new or one hundred percent scientifically accurate, but that will do good for people.'

**Caroline:** 'Working in the field of science or in practice are not always the same. What drove you to utilise your experiences at the UT after your career at NS?'

**Leo:** 'The UT wanted to focus more on maintenance and hire someone with experience in that field. That is why I was asked to apply for the position of professor of Maintenance Engineering in 2010. I liked that, because it helped me realise my mission of bringing research and practice closer together. In our field, it is about how we can keep the Dutch infrastructure in good condition. Machines, trains, sluices and power plants: they all cost a lot of money and must be reliable, because our society depends on them. So what is the best way to go about that? These days, we rely heavily on sensors and Big Data. The question then becomes how we can utilise the information from an installation or vehicle to optimise the efficiency of our maintenance activities?'

**Caroline:** 'Those sound like interesting challenges. What was the transition like for you?'

**Leo:** 'I was a lone ranger at first. I only had one doctoral candidate, sent to me by NS, and spent one day per week in Twente. One year later, a subsidy from Lloyds Register Foundation helped me get two doctoral candidates and a lecturer on my team. From then on, my department began to grow. Where did your interest in science come from?'

**Caroline:** 'That happened in Bolivia, where I was conducting research as part of my International Land and Water Management studies in Wageningen. While I was there, I learned just how important satellite imagery is for the provision of information. For example, there was a section of the river where two settlements were located. The question was how we should direct the water to prevent floods. Residents from both villages claimed that the water used to flow in their direction. Satellite images revealed that the water had actually flowed in both directions. That information helped people work together effectively to come up with a solution.'

**Leo:** 'You obviously did some useful work there. Yet you still decided to come back to the Netherlands...'

## *'I like to think that I am bringing the university into contact with the outside world'*

**Caroline:** 'That's right, I came to the UT in 2014 to obtain my PhD. I opted for the ITC faculty because of its international renown and its mission: to stimulate development cooperation. That is perfect for me.'

**Caroline:** 'In some way, we are both working on the question of how technology can offer solutions to societal issues, aren't we?'

**Leo:** 'You're right about that. It ties into a trend. After the Second World War, the Netherlands was developed by engineers. Technology was their primary concern: ease of use came first and the client came second - even at NS. It wasn't until the 1990s that the focus began to shift towards the user and technology became less important.'

**Caroline:** 'That sounds like a good development. In the end, what we do is all about people.'

**Leo:** 'I agree that it is a fine idea in theory. However, because many sectors were outsourcing more and more of the work, quite a few things went wrong. Think of the NS scandal with the Fyra: the technicians were no longer in charge and the project was run primarily with a legal focus. I was there to watch it all happen. It was a disappointment, as was what happened with the housing corporations and Rijkswaterstaat.'

**Caroline:** 'That sounds familiar! As a substantive expert, you simply cannot control everything all the time. We have to deal with different areas of expertise and conflicting interests. Yet you still decided to stay on at NS. What kept you there?'

**Leo:** 'The fleet of three thousand carriages also had to be maintained. That may not sound like much of a challenge, but it definitely was. Four hundred million euros a year are spent on it. Computers were installed on board trains. We could use the data they gathered to improve things further and determine when maintenance was needed. Developments like that ultimately resulted in the partnership with the UT. The technical facilities that NS now has were developed in part by our university.'

**Caroline:** 'Speaking of collaboration: the traditional image of scientists is that they prefer to keep to themselves most of the time. That is not what I've seen. We actually work together a lot. Open science is becoming increasingly important. These days, there is less of an emphasis on publishing many articles. Instead, there are other measures that factor into your success. What do you think about that?'

**Leo:** 'Today's society calls for multidisciplinary administration and management. A one-dimensional approach in which everyone does their own thing is no longer suitable. As a university, we have to position ourselves in the heart of society. People first. We shouldn't focus solely on prestige and publications. It is about what society needs and what we can do to contribute to that. At the same time, I am also thinking about the staff, our own people. Support staff, researchers and lecturers: everyone should have the opportunity to grow and develop.'

**Caroline:** 'I have to say that it is not always easy for me to find others. The university is so large that it is impossible to know what everyone is working on and whose research is potentially interesting for your own field.'

**Leo:** 'That is a major drive for me: bringing people together and making sure they get to know and strengthen each other.'

**Caroline:** 'There is great added value in new introductions. That is also one of the reasons why I chose to keep working at both the university and the World Bank. You get to deal with different perspectives. All parties benefit from that; the university, my other cooperative partners and I, too.'

**Caroline:** 'You have officially retired, haven't you?'

**Leo:** 'That's right. I left NS in August of last year. Since then, I have spent more time on my department. These days, I spent three days a week in Twente. My team now consists of seven doctoral candidates and three lecturers. As programme owner, I am responsible for various projects related to capital goods management; the maintenance of e.g. refineries, power plants and trains. I am more of a coach than a teacher. Everything I do has to do with bringing people and companies together.'

**Caroline:** 'What would you say sums up your work?'

**Leo:** 'I like to think that I am bringing the university into contact with the outside world. Don't get me wrong, you also need scientists who dedicate themselves to research. Academics and

people from the field of practice can strengthen each other. Does the dichotomy between research and practice ever get in your way?'

**Caroline:** 'It can be difficult at times, yes. The two also strengthen each other, though. On top of that, I have a lot of freedom. When I have to travel for my work at the World Bank, the university accommodates me in that. I sometimes go away for weeks at a time and I am grateful that people back home understand that. For now, I'm not having any trouble combining the two roles, especially because I am still young. The combination is fairly intensive, though, so I cannot keep this up forever.'

**Leo:** 'If you had to choose, would you choose the university or the World Bank?'

**Caroline:** 'Ouch, good one! Ask me again in 2030.'

### CAROLINE GEVAERT

**Born:** 9 July 1989 in Philadelphia (US)

**Works as:** Lecturer of Geo-Information Science and Earth Observation and consultant at the World Bank

**Study programme:** International Land and Water Management (WUR) and a PhD in Remote Sensing

**Home town:** Enschede

**Hobbies:** Boulderling, travelling and being out in nature

### LEO VAN DONGEN

**Born:** 3 May 1954 in Bergen op Zoom

**Works as:** Professor of Maintenance Engineering and President of the Department Design Production & Management (ET)

**Was:** Chief Technology Officer at Netherlands Railways (retired since September of 2019)

**Study programme:** Mechanical Engineering and a PhD with research into the Electric Car from Eindhoven University of Technology in 1983

**Home town:** Eindhoven (and Francheville, Belgium), together with Danielle

**Hobbies:** Running, hockey and being outside in the Ardennes

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