

# Campus

**60  
YEARS  
UT**

**04**

OPENING STORY:  
HISTORY OF THE UT  
2001-2021

**10**

STUDENT HOUSING  
SHORTAGE IN ENSCHEDE

**ROOM WANTED!**

**22**

ARTIFICIAL NOSE:  
SMELLING USING  
POLYMER BRUSHES

**28**

UT ALUMNUS  
AND PROFESSOR  
HANS HILGENKAMP



## COLOPHON

This Campus Magazine is a co-production of U-Today, Marketing & Communications and the Alumni Office at the University of Twente.

## Campus Magazine Team

Ratna Toering (publisher),  
Maaïke Platvoet (editor-in-chief),  
Michaela Nesvarova (magazine coordinator),  
Sandra Pool, Rense Kuipers,  
Jelle Posthuma, Stan Waning,  
Laurens van der Velde,  
Maurice Essers, Hilde Luiten,  
Wiebe van der Veen.

## Other writers who contributed to this issue

Wiendelt Steenbergen,  
Hiska Bakker, Hans Wolkers.

## Photos by

Rikkert Harink, archive UT,  
Eric Brinkhorst,  
Christiaan Krouwels,  
Corné Sparidaens,  
Jérôme Wassenaar,  
Hans Wolkers.

## To change your address, opt-out from receiving the magazine or only receive an online version:

See [www.utwente.nl/my-alumni-preferences](http://www.utwente.nl/my-alumni-preferences) (for UT alumni)

See [www.utwente.nl/magazinepreferences](http://www.utwente.nl/magazinepreferences) (for UT employees)

Or email to: [alumni@utwente.nl](mailto:alumni@utwente.nl)

## Contact & tips for editorial team:

[utoday@utwente.nl](mailto:utoday@utwente.nl)

## Design and realization:

Vanille ([www.vanille.design](http://www.vanille.design))

## Copyright notice

Copyright © 2021 All rights reserved. No part of this magazine may be reproduced or distributed without the written consent of the Campus magazine team.

# 04 OPENING STORY: HISTORY OF THE UT 2001-2021



# 08 HIGHLIGHTS

The main developments at the University of Twente in the recent months.

# 10 STUDENT HOUSING SHORTAGE



# 14 COLUMN BY HISKA BAKKER

# 15 FIVE QUESTIONS FOR VICE PRESIDENT MACHTELD ROOS



# 16 INTO THE UNKNOWN DESIGNER FURNITURE FOR NEXT TO NOTHING



# 18 MEET THE TEACHER ROBIN DE GRAAF

# 20 IN THE PICTURE



# 22 ARTIFICIAL NOSE: SMELLING USING POLYMER BRUSHES



# 26 MY CLUB: HIPPOCAMPUS

# 28 UT ALUMNUS AND PROFESSOR HANS HILGENKAMP



# 31 COLUMN BY WIENDELT STEENBERGEN



---

**32****OUT OF OFFICE  
GETTING TO THE  
BOTTOM OF IT**

---

---

**34****UT'ERS  
ON THE MOVE**

---



---

**35****ALUMNI NEWS**

---



---

**36****TWENTE UNIVERSITY FUND  
TEAM UP FOR TALENT**

---



---

**38****DOUBLE INTERVIEW  
NETTY KOLLEN AND  
EDWIN DERTIEN**

---



## FOREWORD



## GOOD IDEAS

'The university has given me a lot of possibilities to grow. I feel like I owe a lot to the UT in that sense and I want to contribute back.' These words from Hans Hilgenkamp, alumnus and UT professor, are taken from his interview on page 28. Although the work I do on campus is of a completely different nature than his and I never even studied here, I understand exactly what he means.

Like I do, Hans feels connected to the University of Twente. You, dear reader - whatever your background may be - also have certain ties to the UT. I believe feeling that sense of connection is essential in order to study and work pleasantly on campus.

The question remains how you can create this feeling of connectedness? Does it grow on its own or do you have to work hard to nurture it?

I think it all begins with 'feeling at home,' either in a team of colleagues, a group of fellow students or in your student accommodation. Students who come to the UT from abroad are disadvantaged in this regard. Finding student housing in particular can be a real challenge for them. In this magazine (page 10), you can read the personal stories of four students looking for a place to stay.

Due to the shortage of student housing, the UT's slogan of being the most welcoming university was called into question. Justifiably so? Yes. On the other hand, it also resulted in a wonderful initiative from a group of lecturers and the Erasmus Student Network to help internationals find a roof over their heads.

Once again, Hans hits the nail squarely on the head: 'People at the UT are very collegial and open to good ideas. Those willing can get things done here and make a real difference. Being here in Twente was and is a great choice for me.'

I couldn't agree more with him on that. •

**Maaïke Platvoet**

Editor-in-chief Campus Magazine



## PART 3 2001-2021

# 'I FELT THE SAME PIONEERING MENTALITY AS DURING THE EARLY YEARS'

THIS YEAR, THE UT IS CELEBRATING ITS SIXTIETH ANNIVERSARY. TOGETHER WITH THE PEOPLE WHO WERE THERE, WE LOOK BACK ON THE UNIVERSITY'S HISTORY IN THREE ARTICLES. IN THIS FINAL EDITION, WE ARE TAKING A CLOSER LOOK AT THE YEARS FROM 2001 TO 2021. ABOUT FAR-REACHING INTERNATIONALISATION, THE TWENTE EDUCATION MODEL AND CHANGES TO STUDENT LIFE.



Would you like to read 'Part 1 & 2' of this story? You can find them in the previous editions of Campus Magazine and at [www.utoday.nl](http://www.utoday.nl)

In the year 2021, internationalisation is evident at the UT. It is firmly anchored in policy documents, the main language has been English for years now and the number of international students continues to rise steadily. Twenty years ago, at the start of the new millennium, things were very different: the vast majority of students were from the Netherlands and if there were any foreign students at all at the UT, they were mostly from Germany. But that has changed rapidly.

According to Stephan Maathuis, Director of Business Operations at the EEMCS faculty, internationalisation really took off around the turn of the millennium. As a former lecturer in International Business Management, he was on top of things. 'The real turning point happened around 2000. That is when the Bologna Declaration for higher education in Europe was signed and the bachelor-master model was introduced. Subsequently, the UT expressed its ambitions to become an international university. You could see it, for example, in the Executive Board, which started to visit international partners

much more often.' Incidentally, Maathuis immediately adds an important disclaimer to his story. 'Naturally, researchers have always had an international network. For them, it was nothing new.'

From the 1990s onwards, the world opened up. ICT developments lead to globalisation. With the rise of the Internet, everyone can talk to everyone else almost instantly. Boundaries faded away. This did not go unnoticed by Dutch students either. 'They wanted to experience it,' Maathuis says. 'For example, students increasingly went on exchange abroad. And the university itself also joined in this development. From 2000 onwards, this international ambition was actually written into the policies.' The new policy had major implications for the UT, says Maathuis. 'If you want to internationalise, you have to be attractive to both international students and members of staff. From that moment onwards, there was talk of new language standards, facilities such as places of worship, codes of conduct and other things that would create an international environment.'







2013 - Kick-In

### STAG PARTY

Leonie van der Steen, who studied Civil Engineering at the UT from 1999 to 2005, also remembers the first developments towards an international university. 'It was certainly on everyone's mind, but in an entirely different way than today. Students mainly saw it as an opportunity to go abroad. There was no structural internationalisation yet. My Civil Engineering studies, for example, were still taught entirely in Dutch, and the content of the course was also geared towards Dutch building culture.'

Hiska Bakker, who was the coordinator of visual arts at the cultural department at the time and currently works at Studium Generale, agrees. 'When I look back on what things were like fifteen-odd years ago, the campus was primarily very white and Dutch. There was an influx of German students, which was undoubtedly the result of the introduction of the Psychology programme. There were also some researchers from other countries. Most of all, though, internationalisation was something we talked about but did not actually work towards. We did little to make people feel welcome here. These days, things are much better in that regard.'

Alumna Van der Steen believes that the new, broader profile that the UT tried to adopt around the turn of the millennium is more characteristic of that time. Things had to become less technical in Twente. That is why studies such as Technical Medicine, Communication Sciences and Educational Sciences were added to the university's palette. For the student culture in Enschede, that was undoubtedly a good thing, Van der Steen says. 'There was a reason why the term 'stag party' was commonly used in Enschede. There were simply too many men.'

### ABANDONING THE PRIVATE ISLANDS

The UT's new, broader profile and international ambitions also represented the first steps towards a renewed strategy. Farewell to *The Entrepreneurial University*, hello to *High Tech, Human Touch*. At the time, the reveal of the new style and the new logo caused quite a stir, especially when the costs of roughly three million euros were announced. According to Hiska Bakker, there was a clear philosophy behind the new image. It was purely a centralising move, she says. 'It was a move away from the private islands and different logos. Everything had to conform to the same style guidelines. The university had to start projecting a feeling of unity.'

The relocations in those years symbolised the UT's efforts to become a more centralised institution. For example, the brand-new and hyper-modern Carré became a gathering place for physicists, chemists and (bio)medical technologists. The Mensa moved from the Bastille to the Waaier. 'From 2010, you could roughly divide the campus into three parts: a residential section, a section for sports and culture and one dedicated to education and research,' says Stefan Kooij, a lecturer at the time and now the director of the Applied Physics programme.

The centralisation also had a practical impact, Kooij explains. 'Every programme used to have its own little library, administrative system, IT expert, HR employee and education support staff. Those were all replaced by a central education support service (now CES, ed.), a central library in the Vrijhof and central IT and HR departments. Even the printers were centralised at one point.'



2015 - Official welcome for new international students by the municipality of Enschede



## OPENING STORY



2016 - Ed Brinksma

### STUDENT LIFE

This was not the only revolution to play out on campus in those years. Student life was also going through an upheaval. 'Fifteen years or so ago, students had a lot more free time in addition to their studies,' Bakker says. 'Everything was less rigid, there were fewer assessment moments. Students felt a strong urge to engage in extracurricular activities and develop themselves outside the classroom. That made student life a lot of fun. I do see that the workload these days has had an impact on student activism. Just try to schedule a meeting with a group of today's students. Back then, student life was less hectic.'

Eline van Hove agrees with that statement. She studied Applied Mathematics at the UT from 2012 until 2019. 'When I first started, it was completely normal for students to engage in various other activities, join many different associations and boards and so on. I could tell that things were changing as time went on. I did an administrative year with the Student Union and I was a member of AEGEE, so I was a fifth-year student when I started working on my master's degree. I met a fellow student who was surprised by that. For him, that was completely unheard of. He was obviously part of the new generation of students.'

### EDUCATIONAL REVOLUTION

The changes in student activism closely coincide with the introduction of the Twente Education Model – Twents Onderwijsmodel (TOM for short) in 2013. Modules, projects and personal responsibility became the new standard from then on. According to Ed Brinksma, who served as the UT's rector magnificus from 2009 until 2016, its implementation was necessary. 'These days, a growing number of students suffers from a burn-out or has trouble coping with their

workload. The question is whether we are asking too much of them. At the time, the government told us to be tougher on our students. The intensity had to go up and the Ministry wanted to see more than lip service being paid.' The UT also had to get ready for the rise of digitisation, Brinksma says. 'We did not want to lose ourselves as an educational institution. The time of lectures as a means to impart knowledge was over. The focus had to be on learning by doing, i.e. a project with thematic courses around it.'

The new educational model was met with its fair share of criticism from within the university. The all-or-nothing modules and the binding recommendation, combined with the increased financial pressure caused by the loan scheme that was introduced in 2015, put student activism - and students in general - under quite a bit of pressure. Although Brinksma understood the criticism, he refused to yield to it. 'True student activism hardly suffered at all,' he concludes with hindsight. 'Notably, the students who were heavily engaged in activism were able to manage everything quite well. Many students' definition of activism was perhaps a bit too broad. You had to ask yourself if that was a good thing. Activism had to have some added value.'

'It might sound a bit self-aggrandising because I was the rector magnificus at the time, but the UT's visibility and standing increased during those years. Our institution mattered again. I don't mean to suggest that we were doing poorly before that time, but the UT's star had begun to fade somewhat. TOM certainly helped to reinvigorate the campus. On top of that, it felt to me like something of a return to the educational idealism of the early years of the THT. I felt the same pioneering mentality.'

### FUTURE

The true pioneers were the first students and staff who had to build the THT from nothing in 1964. The term can also easily be applied to describe the university's last ten years. Major developments have taken and are taking place and no one knows exactly where we are going. TOM has already been mentioned. What about the far-reaching internationalisation and the introduction of English





as the main language or, more recently, the corona crisis that made working from home a new and perhaps permanent staple of life at the UT?

UT professor Tanya Bondarouk, who has worked at the university for almost twenty years now, acknowledges that the language policy and internationalisation represent important developments. She is excited about them. 'Having English as the main language makes it easier to interact with different cultures. It helps to understand different perspectives and interpretations. That does not mean that Dutch should be banned from campus, though. I notice that more and more people ask during a meeting whether they should speak Dutch or English. The support staff also has no trouble making the switch to English when necessary. People are simply more aware of it. At the same time, many of our international students are trying to learn Dutch. There is feeling of mutual respect and we all do our best to understand each other.'

According to Bondarouk, the discussion about the UT's language policy is connected to the issues of diversity and inclusion - two terms that are heard more and more at the UT these days. The idea is that everyone should feel at home on campus. This ideal is also deeply embedded in Shaping 2030, which was introduced in 2019 as the UT's new vision. In the coming years, we will be moving away from *High Tech, Human Touch* towards being a 'people-first' university.

Luckily, the campus feels like a safe haven to many, including alumna Van Hove. 'I once attended a lecture about happiness at the UT. We were asked to grade our lives on a scale from one to ten. I gave my life a nine. I was so happy during those years at the UT. I miss the campus and the freedom of campus life. Going to the pool during lunch, seeing all the market stands during the Kick-In. I loved that time. All those people, so many off-beat committees, so many parties, all that creativity. If all I ever did was study, I don't know if I would have made it to the finish line. I truly felt bad for students during the pandemic. I hope that all students get to experience every aspect of student life.' •

2018 - Culture festival on campus



## WHO'S WHO

i

**STEPHAN MAATHUIS** is the director of business operations of the EEMCS faculty. He was a lecturer of international business operations at the UT from 1992 until 2009. Maathuis studied Business Administration and technology in Twente.

RUG alumna **HISKA BAKKER** came to the UT in 1997. She started out in the communication department. One year later and until 2014, she served as the coordinator of visual arts in the cultural department. She has worked as producer and presenter at Studium Generale since 2014.

**LEONIE VAN DER STEEN** studied Civil Engineering at the UT from 1999 until 2005. During her student years, she was a board member of the Student Union. These days, Van der Steen works at transition agency Squarewise in Amsterdam.

After studying at and obtaining a doctoral degree from Utrecht University, followed by a postdoc from the Vrije Universiteit, **STEFAN KOOIJ** got a job as a lecturer at the UT in 2000. He became programme director of the Applied Physics programme in 2015.

**TANYA BONDAROUK** is a UT professor of Human Resource Management (HRM) & Technology, with a focus on technology and innovation. She came to Twente as a doctoral candidate in 1999 and has worked at the UT ever since.

After a long career in science, **ED BRINKSMA** became rector magnificus of the UT in 2009. He left in 2018 to become the president of Hamburg University of Technology. Two years later, Brinksma moved to Rotterdam to become the chairman of the board at Erasmus University Rotterdam.

**ELINE VAN HOVE** studied Applied Mathematics at the UT from 2012 until 2019. She was a member of AEGEE and the Student Union. After graduating, she got a job as a consultant at Hiemstra & De Vries in Utrecht. •

# NEW COFFEE SUPPLIER ON CAMPUS

The UT community chose a new supplier for coffee served on campus. Company Maas won based on a taste test organized at the university in October. Maas scored better than its competitor Van Zelst in terms of price, taste, experience and quality – in which sustainability also counted. The new vending machines will be on campus from 1 January. •



## PRINCESS MARGRIET OPENS THE CENTRE FOR DISASTER RESILIENCE AT ITC

On 28 October, Her Royal Highness Princess Margriet and Professor Pieter van Vollenhoven opened the Centre for Disaster Resilience (CDR) at the University of Twente's Faculty of Geo-Information Science and Earth Observation (ITC). The opening of the centre was part of celebration of ITC's 70th anniversary. CDR represents the culmination of the ITC's expertise in the field of disaster resilience, the underlying causes of disasters and their impact on society. The Centre's foundation is a logical consequence of the work of the Princess Margriet Climate and Disaster Resilience chair, established in 2018. This chair is held by Professor Maarten van Aalst, who is also director of the International Red Cross Crescent Climate Centre. •

# 'SPORT DATA VALLEY' LAB OPENED IN THE UT SPORTS CENTRE

The canteen of the Sports Centre now includes a laboratory. The Sport Data Valley Lab was opened by EEMCS dean Joost Kok in September. The lab is part of UT's involvement in Sport Data Valley, a national digital infrastructure for data analysis of sports and exercise. The small lab, equipped with several screens, should serve as a place where athletes, scientists, students and the business community come together for the benefit of sport, health and data science. •





# DIES NATALIS POSTPONED UNTIL MAY 2022

Due to the worsening Covid-19 situation and associated measures, the UT's Dies Natalis could not take place in November as planned. The event has been postponed and the UT's sixtieth birthday will be celebrated on 20 May 2022. The honorary doctorates, given out every lustrum, will also be officially awarded that day. •

## UN DECLARATION OF INTENT FOR **STUDYING WITH A DISABILITY**



The University of Twente signed the UN Declaration of Intent for studying with disability. By signing the statement, the UT declares it aims to create an inclusive study environment and ensure that the university is accessible for students with disabilities. 'It is a natural step in our process of becoming as inclusive and equitable as we can,' says the UT Diversity, Equity & Inclusion Officer Sterre Mkatini.

The UT isn't the first educational institute in Twente to add its signature to the declaration. 'Saxion has already signed and we hope ROC will do so as well. Together we want to become the most inclusive educational region in the Netherlands,' says Mkatini. 'We need to be more intentional about this effort. We want to create a true sense of belonging for all students who decide to study in Twente. Hopefully this declaration shows people that we are aware of the challenges and we are committed to working on them.' •

## WEARABLE TRAINER FOR CHILDREN WITH BREATHING PROBLEMS

BRISH is a breathing trainer for children with dysfunctional breathing symptoms. This wearable piece of technology, co-developed by UT researcher Geke Ludden and designer Hellen van Rees from Saxion, was nominated for the Klokhuis Science Prize. This year, there were more than sixty applications for a nomination and BRISH was one of the final ten nominees.

'BRISH is a smart wearable for children who have troubles with breathing, such as asthma and other types of dysfunctional breathing,' explains Ludden. 'When children are diagnosed with breathing problems, the paediatric physiotherapist provides breathing exercises for children to do at home. However, they often don't do them and they don't progress in the therapy as well they could. BRISH helps with that. The device monitors the child's breathing using sensors on their chest and stomach. It directly gives them feedback to stimulate the correct breathing pattern. They get haptic feedback in the form of vibrations and the garment has lights, which light up as a sort of reward system. The better the children do, the more lights they get. They can use the lights in a mobile game that is connected to the garment. This motivates them to keep using the trainer.' •



# STUDENT HOUSING SHORTAGE PARTIALLY RESOLVED



'LOOK OUTSIDE THE LOCAL AREA OR EVEN CONSIDER CHOOSING A DIFFERENT STUDY PROGRAMME.' THIS PIECE OF ADVICE, GIVEN BY THE UT TO FOREIGN EU STUDENTS IN MID-AUGUST AFTER IT BECAME CLEAR THAT THERE WAS A MAJOR SHORTAGE OF STUDENT HOUSING, WAS AS NECESSARY AS IT WAS HARD TO SWALLOW. AT ITS PEAK, MORE THAN 400 UT STUDENTS WERE LOOKING FOR A PLACE TO STAY.

10

Over the course of the summer, these students learned that finding a room requires more than perseverance. Luck is a major factor as well, because the balance between the number of available rooms and the number of students in search of accommodation was completely lost. Shortly before the start of the new academic year, the UT began to take notice of the issue. That is why more than a quarter of all foreign EU students - hundreds in total - were advised to reconsider their choice — a painful advice that the UT had to send out.

During the height of the housing shortage, more than 400 UT students were looking for a place to stay. By mid-October, that number had dropped by half, although it remains difficult to guess exactly how many students have found a place to stay - wherever that may be. Six lecturers joined forces with the Erasmus Student Network to find accommodations for circa forty students. They were offered a place to stay with teachers, staff and others with room to spare in Enschede and the surrounding area. The plan to build a tent city on campus was briefly considered and then quickly swept aside.

On 23 September, the UT, Twente Board, the municipality and housing corporations presented their solution to this difficult problem. Shipping containers placed on the Witbreuksweg would create room for two hundred students. The containers were to be placed there in

October, but there was no sign of them yet as the month ended. One week before the announcement of this plan, thirty students from the UT and Saxion found temporary housing on the Snuifstraat in the De Bothoven district in Enschede.

In late September, housing corporation De Veste had more good news. The plan is to erect one hundred permanent student accommodations on campus by 2022. Unfortunately, that is no good to the students who need to find a place to stay right now.

The UT received a hefty dose of criticism for the student housing shortage. Why were students only informed about the housing problem at the last minute? The University Council even wondered whether the UT can uphold its image as 'the most welcoming university' after this. The Executive Board had no doubts about that whatsoever. The sudden and substantial increase of the number of foreign EU students who wanted to come to the UT could be explained as being the result of the lifting of the corona measures and Brexit. The fact that the United Kingdom had left the EU made British universities a less popular choice, said the Board. The national housing crisis is also a major contributing factor. On the other hand, Keeping Talent in Twente (KtiT) accused the UT of failing to pressure the municipality of Enschede enough to provide sufficient student housing. •





**NEXT PAGES** ▶

### **STUDENTS' STORIES**

Student Agathe Lizée from France is incredibly relieved to have a roof over her head, while student Kamen Zhelyazkov from Bulgaria finally found accommodation on campus. Four students talk about how the student housing shortage has personally affected them.



**Agathe Lizée**, who is spending six months in Twente as part of her Chemical Engineering master's programme, had a hard time finding student housing. She mostly blames herself for that. Paul van der Kraan, a retired pulmonologist, offered her a helping hand.

Looking back, it is clear to the student - who hails from the French town of Brest - that she began her search for accommodation too late. 'I waited until July. Then I went on vacation for two weeks. I kept putting off the search for a place to stay. I got only negative responses - or none at all - to the hundreds of emails I sent out,' she says. These days, she lives in Lonneker.

The Van der Kraan family offered her a place to stay at their farm. 'I immediately felt very welcome here. The city centre and the UT are about twenty minutes away by bike, but that is fine.' Lizée initially tried to find an apartment together with a few other students, but she realised in early August that that was not going to happen. 'I came to the Netherlands one week before the start of the new academic year and I had not found a place to stay yet. That was quite stressful.'

She has been offered a room in Paul and Patricia's house until the end of January, which she describes as 'a huge relief.' The two parties both live their own lives and the arrangement is working out fine for everyone involved. 'I am away a lot, but sometimes I join them for dinner. The other day, they went away for the weekend and I took care of their goats. How great is that? It feels a bit like living with my grandparents - in a good way. In hindsight, this is much better than a tiny apartment.' •



**Maciek Kosmider** (19) came to Enschede in September, hoping for the best. The Polish student spent weeks searching for a place to stay and was praying for a miracle during the Kick-In. Right in the nick of time, he was offered the chance to move in with UT lecturer Arnold Enklaar.

It is hard to imagine a bigger change. Just this summer, Maciek Kosmider still lived in the Polish capital of Warsaw. Now, he enjoys a peaceful view of the Twente landscape from a balcony of the Het Stroot estate in Tweekelo. Even after a few weeks, it is hard to grasp that he actually lives here. 'This is the most beautiful place I have ever seen,' Kosmider says in the conservatory. Enklaar: 'He is even walking around on slippers. How much more at home can someone feel?'

Although Het Stroot is situated just fifteen minutes away by bike from the UT campus, it is far removed from student life and most night-time entertainment. 'Especially for a new student, this is perfect. I immediately phoned my parents when I learned that I got to stay here. I have everything I need and more. I can study in peace and focus entirely on my studies. I also appreciate everything Arnold has done to help me fit in here,' says the bachelor's student of Advanced Technology.

Enklaar was one of the lecturers who issued the urgent call to UT staff to offer a homeless student a place to stay in their home, if they could. Kosmider was the lucky individual who got to move in with him. After several weeks, the two clearly get along very well. When Kosmider is asked how he likes it here, Enklaar laughingly offers to leave the room for a bit. 'Maciek is a great guest to have around. I would recommend this to everyone. Together, we can help out a lot of people.' •





He is trying to stay positive, but the student life of **Kamen Zhelyazkov** (19) is not off to a good start. Out of desperation, the Bulgarian student is subletting a space in Glanerbrug. Illegally, without stability or paperwork and in the knowledge that he could go back to being homeless at a moment's notice.

He is okay with having to cycle more than twenty kilometres per day to travel to and from the campus. 'What does bother me are the facts that I am paying too much to live in a dirty house illegally, that I receive no support from the university and that I could be evicted at any time,' says the former resident of the Bulgarian capital of Sofia.

The bachelor's student of Technical Computer Science is subletting a space because it is the only option he has to continue his studies. 'I have a roof over my head. I am happy about that, because many students don't even have that, but I do not like living here. Because I live here illegally, I do not have a social security number, I cannot open a bank account and I do not get to make free use of public transport.'

His living situation makes it hard for Zhelyazkov to focus on his studies. 'I am looking for alternatives every single day. I waste so much time riding my bike back and forth to campus and the internet connection in my house is poor. Despite everything, I try to stay positive. The fact that I am making more and more friends since the Kick-In certainly helps.'

Zhelyazkov hopes to find a new solution soon, but for now, this space near the German border is his best and only option. 'My goal is to find a new place to stay closer to campus as soon as possible.'

*Note from the editor: Kamen Zhelyazkov found a new accommodation on campus in mid-October. His picture was taken in front of his new home.* •

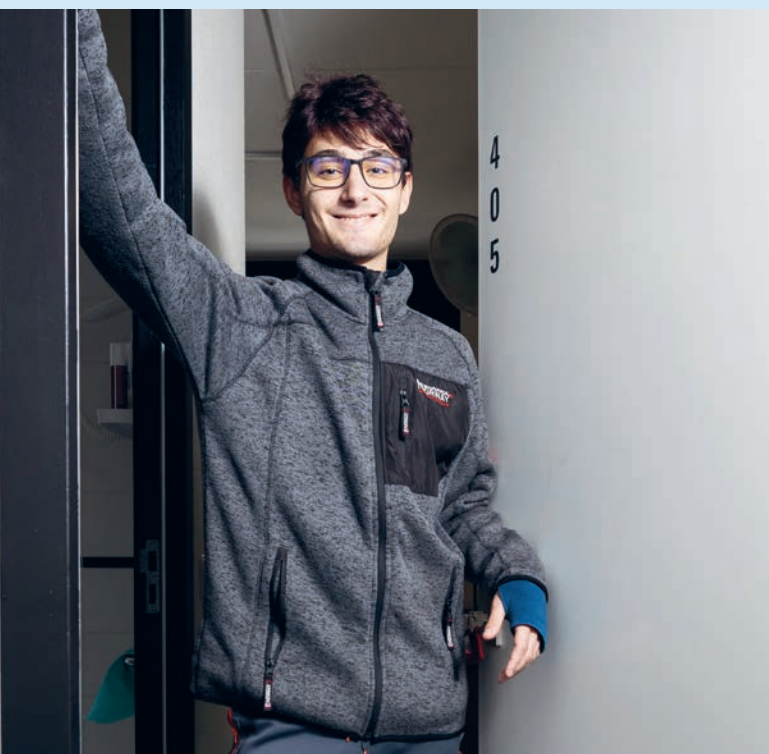


Back in February, the German couple **Marie-Claire Müller** (24) and **Philip Schubert** (26) knew they had to go to Enschede for an exchange in the new academic year. They began searching for a place to stay in March, but for months their efforts did not pay off.

Müller and Schubert are from the area around the German city of Stuttgart. Their list of demands for their new accommodation was short. 'We wanted to live together if we could, but we also searched for single rooms and apartments. All in all, I think we tried about a hundred different places,' Müller estimates. Just like her partner, she is a bachelor's student of International Business Administration.

Not having found a place to stay yet, the two came to Twente in September. They spent two weeks in an Airbnb in De Lutte, a small town near the German border. In terms of both price and distance, it was less than ideal. 'It was the only option we had left at the time. During those two weeks, we filled out a form from the university, hoping that someone would be able to take us in. A place became available on the same day that we had to leave the Airbnb,' Müller says.

The two were given the opportunity to move in with Peter and Petra Scheltinga in Enschede. 'This is wonderful. The house is located a bit outside the city centre, roughly fifteen minutes away by bike from the campus. We both have our own room and we share the house's kitchen and bathroom. We do not necessarily live together with Peter and Petra and we are often out to visit friends, but we are still incredibly happy. This was our very last option. We can stay here until the end of our exchange in February.' •



# FINDING A PLACE TO STAY

**I**s it a university's responsibility to provide accommodation to its students? In the 1980s, when I went to Groningen to study, that was not the case. With some difficulty, I was able to find a room. Truth be told, it was the attic of a tiny house in the Oosterpoort. The only way to get there was via my housemate's room. Climb the stairs next to her bed, open the hatch and voilà. I was quite happy with it, until she got a boyfriend. When I got home late at night, I had a strong feeling that the two were only pretending to be asleep until I had gone up the steps next to their heads. I quickly learned just how well noise carried in that place.

My second room was in the stately Oranjewijk. It was an apartment that I shared with two members of Vindicat. My mother knew the owner of the house from her own student years and he offered me a room. My two housemates saw me as an unwanted intruder, however. I had to fight for every square centimetre of space in the kitchen cabinets and fridge. There was no vacuum cleaner, no cleaning schedule, no toilet paper. Lucky for me, the two boys were disciplined rowers. That also meant all hell would break loose whenever they had a gap in their training schedule. The parties they threw were loud and beer-drenched affairs. I would put plugs in my ears or find another place to spend the night. I came home one morning to find the stairwell blocked by a shopping cart that had been pushed down the stairs. There was orange pulp on every wall: the revellers had had an orange fight. The rooms I stayed in after that one were heavenly by comparison.

When the UT was established sixty years ago, housing was an important requirement. Students had to be able to focus on their studies and on building a community in peace. There were rooms available for everyone and students were even required to live on campus for the first few years of their studies. That was not the worst thing in the world: your bed was changed for you, you did not have to do your own cleaning and you could eat in the Mensa.



However, the influx of new students has resulted in a major shortage of student housing. Those not lucky enough to have rich parents or a place at the bottom of some waiting list have no choice but to visit different houses and hope that the residents like them. I know one student who has gone through that ordeal eleven times now. He is quite shy. Introverted types tend to come last in the race to find a few square metres to call their own. That is a shame, because he would make an excellent housemate. He is always willing to lend a hand when someone needs help with something.

The UT attracts students with wonderful stories about its excellent education and its spacious campus. I believe the UT should also provide accommodation for its students. Shipping containers are being used as a temporary solution. Good idea. Why not fill a parking area with them and stimulate more employees to come to work by bike instead of by car. Two birds, one stone: more housing for students and a concrete step towards more environmentally friendly transportation. The worst thing to do would be to cut down trees to build houses. It is a bad idea to build apartments in the little wood between the Sintelbaan and the boulevard. The green areas among the buildings are what make our campus such a lovely place. We should not give up one to build more of the other. •

**Hiska Bakker**

Historian, journalist and a presenter at Studium Generale





## VICE-PRESIDENT MACHTELD ROOS

ON 1 SEPTEMBER, MACHTELD ROOS BECAME THE NEW VICE-PRESIDENT OF THE UT'S EXECUTIVE BOARD. SHE HAS GOTTEN TO KNOW THE UNIVERSITY, THE CITY AND THE REGION IN NO TIME AT ALL.

### 01

#### WHAT KIND OF WELCOME DID YOU RECEIVE?

'From the first minute I got here, Twente and the UT have been a welcoming community for me. I received a kind, open and genuine welcome. I have been to many places already to talk to people. My main goal is to listen, to understand people's own views on the issues we as the UT are working on together. Everywhere I look, I see evidence of the strong sense of community and connectedness people feel. This is a strong community with an open and innovative attitude towards creating solutions. That is truly unique and highly relevant for the future.'

### 02

#### YOU WERE RECENTLY INTRODUCED TO MINDLAB; A SHOW ABOUT THE ACADEMIC WORK AND LIVING CLIMATE THAT WAS INITIATED BY THE VICE-DEAN OF THE BMS FACULTY. TO WHAT EXTENT IS THAT AN IMPORTANT THEME?

'Creating an open and safe work environment is something that we should all keep working on. MindLab touches upon issues that we have to resolve, precisely because we miss the mark all too often. Everyone who has seen MindLab can recognise one element or another that they have had personal experience with. MindLab makes us think and reminds us of our shared responsibility to make a change. We cannot place the blame solely on 'the system,' because the system is something we foster and maintain together.'

### 03

#### HOW CAN WE MAKE SUCH A CHANGE TOGETHER?

'It is important to make sure that we can discuss problems with each other. It would be even better to address dilemmas at an early stage so we can prevent problems altogether. One aspect of this is talking with each other - at every layer of the organisation - about what constitutes desired and undesired behaviour. That must absolutely remain top of mind for the teams and departments at the UT. It is essential to be able to say - in a kind, clear and above all safe manner - that something is inappropriate. How can we make sure that everyone can and may do this? As members of the Executive Board, this is something we really want to fight for. Everyone must feel supported to speak up and address undesired behaviour. Together, we can create the safe and healthy work and learning environment that our People First University demands.'

### 04

#### WHAT IS YOUR OPINION ABOUT THE UT'S AMBITIONS WITH REGARD TO SUSTAINABILITY?

'I see that the UT is doing myriad wonderful things when it comes to sustainability. At the same time, we want to take bigger steps - and do so faster - to achieve our sustainability targets. Employees and students expect and demand that from us. In addition to the steps we are taking in the form of e.g. building modifications, we also ask staff and students to change their behaviour. Sometimes, a relatively minor change or a bit more awareness can make a relatively major contribution to reducing carbon emissions.'

### 05

#### HAVE YOU ALREADY SPOTTED OPPORTUNITIES TO DO THINGS BETTER OR DIFFERENTLY?

'One area where there is still major room for improvement has to do with stimulating sustainable behaviour. Rather than implementing new rules and conditions, we should rely more on nudging; motivating and stimulating change through subtle interventions that steer us in the right direction. That can help us in myriad ways. Think of our travel behaviour, for example. We are developing a 'train map,' a map that clearly shows what European destinations are easily accessible by train. The goal is to get employees to stop travelling to those places by air and use the train instead.' •

# DESIGNER FURNITURE FOR NEXT TO NOTHING

UT ALUMNUS ANAND CHOWDHARY HAS ALREADY  
RAISED SEVERAL MILLION EUROS IN SEED CAPITAL  
WITH HIS START-UP PABIO. THE IDEA: RENTING  
DESIGNER FURNITURE FOR A FIXED MONTHLY FEE.  
'PEOPLE SEE DESIGNER FURNITURE AS SOMETHING FOR  
THE ELITE, BUT IT DOESN'T HAVE TO BE EXPENSIVE.'

**I**n a coffee house in Groningen, 23-year-old Anand Chowdhary shows off the five different corona-check apps he uses to travel around Europe. You can safely say he is a man of the world. Born in India, graduated in Twente, lives in Groningen and has been co-founder of start-up Pablo in Switzerland for a year now. Renting designer furniture for a fixed fee per month, that's the idea behind Pablo. The customer completes a questionnaire on the website, is paired with an interior designer, receives a 3D model of the future flat, hands in the keys at a suitable time and, upon returning home, the flat is completely redecorated with designer furniture. 'The point is that we want to provide people with a beautiful home,' says Chowdhary. 'If you have to buy everything new, such a thing can easily cost 20K. Because of us, people can now rent their furniture for a small monthly fee and have the option to buy.'

## INTO THE UNKNOWN

Chowdhary studied Creative Technology at the UT. During his studies, he worked on Oswald Labs, a company that makes the internet accessible for people with disabilities. Because of Oswald Labs, Chowdhary landed in the list of the fifty most innovative young entrepreneurs and professionals in the Netherlands in 2018, compiled by the Financieel Dagblad. Not much later, the Forbes 30 under 30 followed for which the well-known American business magazine selects thirty up-and-coming talents each year. Chowdhary had only been in the Netherlands for a few months.

However, there is also 'normal' studying to be done. At the beginning of 2020, the young entrepreneur was nearing the end of his studies in Creative Technology. 'I thought to myself: what's next? Will I start working for a company or will it be something else

entirely? I knew some people at Uber. Perhaps I could work for the American company?' However, fate had something else in store for Chowdhary. 'I came into contact with Carlo Badini via LinkedIn, he was also in the Forbes 30 under 30 list with his company Cleverclip. He was looking for a CTO (Chief Technology Officer, ed.) and I decided to find out whether it was something for me. Working for a start-up seemed like a good idea to me.'

When Chowdhary contacted Badini, the Cleverclip boss came up with a very different proposal. 'His company had grown into a successful business with dozens of employees and a substantial turnover, and he was now looking for a new challenge. Something with living was his idea. He asked me if I wanted to join and I thought that was a great opportunity. We complemented each other well: he knew a lot about sales, I knew a lot about technology.'

## IKEA FURNITURE

To flesh out 'something with living', the new business partners began to visit friends. Just to see how they lived. 'What immediately struck me was that the furnishings of their houses - they were all young starters - didn't look great. It consisted mainly of 'crappy' Ikea stuff. What if our friends could rent designer furniture at a reasonable price? That's what gave us the idea for Pablo.' The two young entrepreneurs also added something else: an interior designer who puts together an interior according to the customer's taste. 'People often see it as something for the elite, but a designer doesn't have to be expensive.'

An idea was born. Now the two companions had to shape it. They decided to organise speed dates to get to know each other better and to work out the business plan. 'When you start a business together, it's like getting married,' Chowdhary says, half-jokingly, half-serious. 'You have to get to know each other. Therefore, for three or four months, we talked to each other almost every day. I saw him more often than my girlfriend and family. And this all happened online, by the way. I only saw Carlo for the first time in real life a few weeks ago and that was quite crazy. You suddenly see each other in HD.'

## FUTURE

By the time the two met in real life, Pablo had existed for over a year already. By then, more than 70 flats had been designed in Switzerland, where the company was founded. More than three million euros in seed capital had also been raised. 'There was an unprecedented interest,' says Chowdhary. 'I had to say no to money for the first time in my life.' The company is still in the race for a sustainability investment by the Swiss government. 'For that, we are currently writing a report on our emissions. Sustainability is an important element for Pablo. After all, renting furniture is a lot less damaging to the environment than constantly buying new, poor quality stuff.'

Pablo wants to enter the German market this quarter. 'Berlin is our big next goal. It is an interesting market because so many expats live there. Paris and London will hopefully follow soon as well. Eventually, we also want to open up in Amsterdam. And after that? 'World domination', Chowdhary says with a smile. ●





21



MEET THE TEACHER

Photo: Rikkert Harink  
Text: Rense Kuipers

# CHALLENGES STRAIGHT FROM SOCIETY





WHAT MAKES A GOOD LECTURER? WHERE DOES SOMEONE GET THE PASSION AND INSPIRATION TO PRESENT THE SOMETIMES DRY MATERIAL IN AN INTERESTING MANNER? IN THE 'MEET THE TEACHER' SERIES, WE WANT TO INTRODUCE YOU TO PEOPLE WHO TRULY LOVE THE WORLD OF EDUCATION. IN THIS EDITION: ROBIN DE GRAAF, LECTURER WITH THE CIVIL ENGINEERING PROGRAMME AND ONE OF THE UT'S SEVEN TEACHING & LEARNING FELLOWS.

**T**he ink on his master's degree had barely had time to dry before Robin de Graaf began teaching his first course as a doctoral candidate. A few short months before, he had been sitting alongside these people as a student. Now, he was the one doing most of the talking. The new relationship between him as a lecturer and his students took some getting used to.

Nevertheless, he soon caught the teaching bug. Over the past twenty years, he has taught numerous students as a university lecturer with the Civil Engineering programme. De Graaf quickly discovered that he loves to try new things. It energises him. He switched from teaching the process management course to systems engineering and then to the value management course. Provide PDEng education on the side? Yes, please! When the Twente Education Model was first introduced, he did not resist the change. Instead, he stood at the head of the crowd, eager to try something new. Above all, he was curious to see the effects of such a radical new approach to education.

Innovation is a means to an end, not the end itself. Whether he's dealing with a major change or a minor one, De Graaf is all about quality: plan, do, check and then do again. The students come first, they have to learn something. That cannot be expressed with just a numerical grade. The process is at least as important as the result.

That is why the Civil Engineering teacher is going all-in on Challenge Based Learning. De Graaf is convinced of its importance and necessity. After all, when a freshly graduated UT alumnus enters the professional field today, they are expected to possess different skills than would have been the case twenty years ago. One of these requisite 21st century skills, De Graaf says, has to do with not being stuck in your own field, but learning to speak other people's language. Another revolves around being adequately equipped to work on issues that cannot be resolved overnight, like the energy transition or the climate crisis.

Challenge Based Learning also gives De Graaf an opportunity to bring such complex societal issues into the classroom. The reverse is also true: a municipality or the world of business can benefit from the fresh perspective that students have on cases taken from real life. That is precisely what sets Challenge Based Learning apart from classical project-based education. Its strength lies in the interaction between the student and society, De Graaf says.

He strives to build that bridge in his own education as well. In collaboration with the Municipality of Enschede and Sportaal, his students focus on the redevelopment of the Diekman area. Freedom of choice is an important concern: whoever has affinity with the optimal layout of the parking spaces is made responsible for that part of the project. Someone else can then focus on the sports facilities or the traffic flows. After all, students learn better when they are excited about what they are doing. If you do not enjoy the process, you will learn very little along the way. However, he is quick to add, every student has to master the basics. A student of civil engineering who cannot design an overpass will look bad.

De Graaf is not just a proponent of Challenge Based Learning. Last spring, he was also made one of the UT's seven Teaching & Learning Fellows. The main goal is to determine how and where Challenge Based Learning can be implemented at the UT. That does not happen overnight; they work evidence-based and look at what has proven itself and build on it. After all, there is a reason why Challenge Based Learning is such an important aspect of the UT's new vision Shaping 2030.

As a Fellow, De Graaf can clear a metaphorical path for others interested. That is not a question of coercion or pressure - on the contrary. Who chooses to walk down that path depends on the individual lecturer and the contents of the course. Like others before it, De Graaf says, this educational innovation is a means to an end, not an end in and of itself. You can choose to follow in his footsteps if doing so will enrich your educational palette and allow students to learn more effectively. That was the essence twenty years ago and it still is today. •



# RED HORIZON

A couple taps each other on the shoulder. What is that coming down the road? Before they get a chance to figure it out, the red streak has already faded away into the distance. RED Horizon, that is what Solar Team Twente has named it's new solar-powered car.





Instead of kangaroos in the Australian outback, the team had to look out for camels in the Sahara this year. The race took them through the streets, mountains and desert of Morocco - and how! After covering a distance of 2,468 kilometres, RED Horizon crossed the finish line as

the victor. The dust has settled again in the small Moroccan village. The couple continues on their way. The merchant did not even bother looking up from his stall. He sells vegetables and fruits. No one has to explain the importance of solar power to him. •

# ARTIFICIAL NOSE

## SMELLING USING POLYMER BRUSHES

22

LEON SMOOK, MSC STUDENT AT THE UT FACULTY OF SCIENCE AND TECHNOLOGY, MADE AN IMPORTANT STEP IN THE DEVELOPMENT OF AN ARTIFICIAL NOSE. BY COMPUTER-SIMULATING THE BINDING OF SCENT MOLECULES TO DIFFERENT POLYMERS, HE CONTRIBUTED TO A POLYMER-BASED RECEPTOR DESIGN THAT COULD EFFICIENTLY CAPTURE SCENT MOLECULES. HIS WORK RESULTED IN NO LESS THAN THREE SCIENTIFIC PUBLICATIONS.

**S**mill in mammals is an important sense that detects trace amounts of gases in the environment. It provides crucial information about the surroundings: the presence of food, a predator or prey, or toxic substances that should be avoided. Mammals can detect thousands of different odors, including complex scent mixtures in sometimes extremely low concentrations. These blends of scent molecules are captured by specialized receptor cells in the nose, which subsequently send a signal to the brain. Some receptors can bind a limited selection or even just one scent molecule only, while others are less specific and bind to almost any chemical. The combination of the different signals sent to the brain results in the detection of a specific smell.

### DETECTION OF DISEASE

An artificial smelling device can have important advantages with many applications. For example, in the food industry, where it can be used to control product freshness or follow a fermentation process. In the chemical industry, an artificial nose could monitor the formation of chemical substances, including toxic gases. There are also numerous applications in medical diagnostics, for example for the detection of volatile disease biomarkers. However, to mimic mammalian smell

in an artificial system is really challenging due to its efficiency and sensitivity. 'Designing a sensitive artificial nose has quite some technological challenges,' Smook says. 'Such a device has to mimic the natural receptor, which is capable of binding many different chemicals at very low concentrations. This binding subsequently has to result in a signal and finally that signal needs to be interpreted.'

### MOLECULAR BRUSH

As a start in dealing with these challenges, Smook focused his research on the first step of smell: the binding of a gaseous odor molecule to a receptor. As an artificial receptor, he designed a so-called polymer brush. This brush consisted of many polymer molecules, attached to a surface. Polymers are long-chained, flexible molecules that can be created in different shapes and sizes. Smook: 'We can adapt their chemical and physical properties in such a way that they bind to odor molecules.' To make the polymers work more effectively, Smook placed them really close together on a surface, so they were forced to stretch out forming some kind of brush hairs. Scent molecules could subsequently be captured by these polymer hairs.

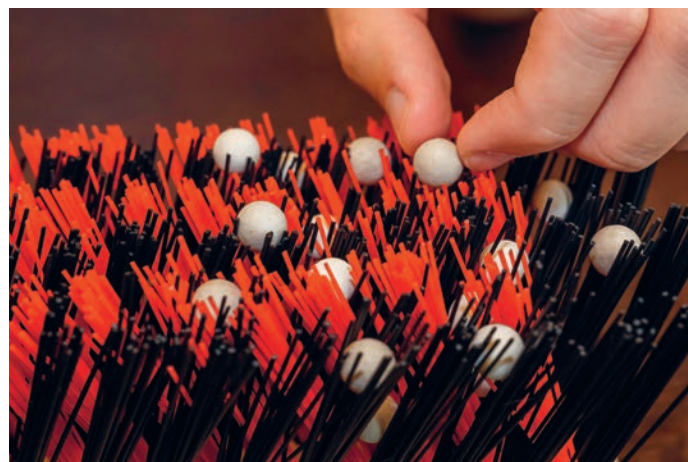




### VIRTUAL SPACE

Surprisingly, Smook's research did not take place in a real laboratory, but instead, his computer functioned as his experimental set-up. In this simulated space, he designed virtual gas (odor) mixtures and virtual polymer brushes with different properties. Then, he modelled their interactions. Did the different (virtual) odor molecules repel or attract each other, and how did the polymer brush bind the different scent molecules present in the gas mixture? By subsequently varying the properties of the polymers and using different molecular odor mixtures, he gained more insight in the factors influencing the scent molecule-brush attachment.

'Using the model, we could simulate how these gas molecules reacted to each other in terms of attraction or rejection and how this influenced their connection to the brush,' Smook explains. 'Where and how are these molecules attached to the brush and how do variations in the gas mixture as well as the brush hair density influence this process?' His simulations showed similar behavior of scent molecules as in a human nose: when one particular gas had a strong attraction to the polymers, other gases could be pushed out. This means that multiple scents can influence each other, making it more difficult to interpret the signal from a single sensor. 'To solve this problem, we need multiple sensors that are all coated with a different brush,' Smook continues. 'This way, each sensor looks at the scent from a slightly different perspective, and together they create something like a fingerprint through which it can be recognized.'

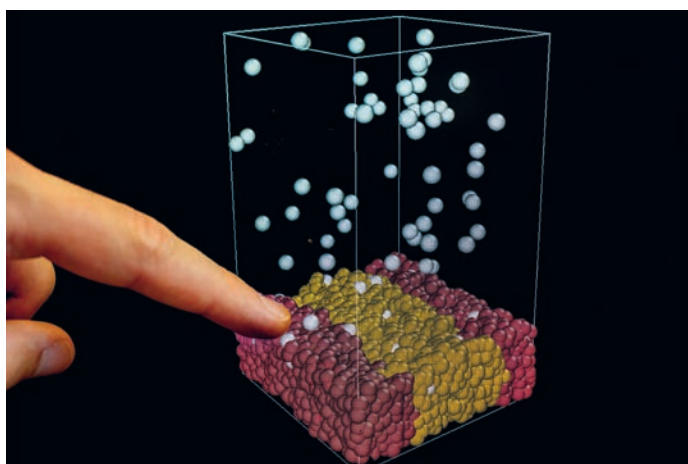


### HIGHER SENSITIVITY

After this first successful step, Smook further developed his artificial nose by trying to increase its sensitivity, so really low scent concentrations could be detected. Therefore, he aimed to increase the amount of scent molecules that are trapped inside the brush: more attached scent molecules would result in a potentially stronger signal. To achieve this, he used two different polymers in the brush: they repelled each other, but had similar affinity for the odor molecules present. By placing these different polymers in alternating rows, the repelling polymer rows bend slightly away from each other, creating more space. 'Because of this space, the odor molecules could now attach to the top of the brush and also in between the polymer rows, so more odor particles are captured,' Smook explains. 'This theoretically results in a stronger signal, and thus a higher sensitivity.' Especially at low scent molecule concentrations, this mixed brush was able to concentrate odor molecules efficiently, resulting in a ten times higher sensitivity, Smook found. This mixed polymer design is very promising for the first step in developing an artificial nose and even applications in separation technologies.

### SOLID GUIDANCE

After finishing his MSc, Smook will continue with a PhD at the same department within the framework of the NWO Program 'Perspective'. There he will apply the principles and concepts of the polymer brushes to this program, to meet the challenges of a more effective waste separation and recycling of waste. 'I am really happy to continue my research with the same supervisor, Sissi de Beer,' Smook says. 'Thanks to her enthusiasm and solid guidance, I managed to publish three papers during my MSc.' •







25

---

*‘Designing a sensitive artificial nose  
has quite some technological challenges’*

---





# HORSE DUSHI DOESN'T LIKE CROWDS

THE UT IS HOME TO COUNTLESS CLUBS, SOCIETIES AND ASSOCIATIONS. IN THIS SERIES, WE SHINE A SPOTLIGHT ON ALL OF THEM. FOR THIS EDITION, WE'RE TAKING A LOOK AT THE HIPPOCAMPUS, A HORSEBACK RIDING ASSOCIATION WITH A LONG WAITING LIST OF STUDENTS EAGER TO JOIN. 'A WONDERFUL SUBSIDY AGREEMENT WITH THE UT KEEPS RIDING HERE AFFORDABLE FOR STUDENTS.'





Van den Brink – a master's student of Sustainable Energy Technology – gives a tour of the riding stable, which consists of three large buildings. Excluding the ponies, around twenty horses are stabled at De Horstlinde. In the back, we find Pino, who hasn't yet reached a height of one metre. 'This is the youngest of our horses. It is not ready to be ridden yet.' Behind the riding stable, there is a paddock and a meadow with jumping and cross equipment. 'During my time at Hippocampus, we have never used that, though. We do go riding in the woods in the summer. We also volunteer during the Military in Boekelo every year.'

## DUSHI

As Van den Brink continues, there is a bit of commotion at the front of the stable. The cause: Dushi. The pony is acting up a bit this evening. Despite several attempts, no one is able to get her to come out of her stable. After things quiet down a bit, a Spanish student is able to mount up nimbly. 'Dushi doesn't like crowds,' Van den Brink explains.

The riding stable certainly has attracted a crowd this evening. Thursday is Hippocampus' standard day at the riding stable. In six stages, riding lessons are given from 18:00 until midnight. Everyone is welcome: from students who are getting on a horse for the first time to experienced riders. 'Don't forget about the staff, either. They also come here to ride.'

## BROKEN BONES

Instructor Daphne Waijers sits in one corner of the paddock. At her signal, students direct their horses to walk, trot or canter. In a clockwise direction, the group of eight rides along the edge of the paddock. As the lesson goes on, they move into the centre to perform some intricate manoeuvres. It all looks quite calm and controlled, but Van den Brink admits that things aren't always this serene. 'A rider does get thrown off their horse every now and then. Last year, someone broke their wrist in this paddock and I myself have broken my foot while riding in the woods. That is part of the course.'

Even though Hippocampus is not actually located on the campus itself, the association is popular among horse lovers - including international students. So popular, in fact, that the club decided not to take part in the Kick-In, Van den Brink says. 'Why would we do that if new students have no choice but to join the back of the queue?' When asked why Hippocampus is so popular, she has a few answers. 'Horse riding can be an expensive sport, but because we have a wonderful subsidy agreement with the UT, students can ride here for an affordable rate.'

After a wonderful tour that ends in the BARRage, a cosy cafeteria that looks out over the paddock, the next lesson is about to begin. Van den Brink wants to add that horse lovers are sometimes accused of being able to talk about nothing else. 'That is rubbish. We have a wonderful time here every Thursday and we talk about all kinds of things, often until the early hours of the morning.' •

**R**iding stable De Horstlinde is located roughly two kilometres away from campus. At one time in the past, Hippocampus was still located on university ground. In 1968 - three years after its foundation - the association gave riding lessons in a small paddock on campus. In 1971, the club - which is only four years younger than the UT itself - returned to De Horstlinde.

## STRICT RULES

Today, the riding stable is gorgeously situated among wide open fields and on the edge of the woods. The building's entrance looks like that of a saloon from a western. Instead of cowboys, however, the place is buzzing with students who have come here for the first time on this crisp autumn evening. Not everything goes smoothly. 'This always happens during the first phase of a new academic year. You work with live animals, so it is important to enforce strict rules,' says Mariëtte van den Brink, treasurer of the club's 56th board. With nearly seventy members, the equestrian association has reached its maximum. It has a waiting list with circa forty names on it.

Several new members who have just gotten a horse out of its stable pass the front of the riding stable on their way to the paddock, even though they are supposed to go around the back. 'We do not want to find horse shit in front of the buildings,' Arnoud Mulder, a representative of the riding stable, says. 'There is also a line of overeager students and their horses, because the door to the paddock hasn't been opened yet. Today's lesson: you should wait to get a horse until the paddock is open.'







HANS HILGENKAMP

# 'I NEVER FELT RETURNING TO RESEARCH WAS A STEP BACK'

PROFESSOR HANS HILGENKAMP FIRST ARRIVED AT THE UNIVERSITY OF TWENTE IN 1985 TO STUDY APPLIED PHYSICS. NOW, A FEW DECADES LATER, THE ALUMNUS IS STILL HERE, AFTER MAKING IT THROUGH ALL THE 'LEVELS' OF AN ACADEMIC CAREER. FROM A PHD RESEARCHER, ALL THE WAY TO FULL PROFESSOR AND DEAN OF FACULTY OF SCIENCE AND TECHNOLOGY, AND BACK TO FULL-TIME SCIENTIST AGAIN. 'THE UNIVERSITY HAS GIVEN ME A LOT OF POSSIBILITIES TO GROW.'

29

**A**s a young student at the THT (future UT) campus, Hans Hilgenkamp certainly didn't imagine he'd become a successful researcher. 'If I had a chance to talk to my younger self, he'd be amazed I think,' says the professor and a former dean. 'When I was assigned my group - 'doe-groep' - at the introduction, I felt that everyone was way smarter than me. Nobody in family studied at a university before, I was the very first. I was a relatively shy boy and I had no exposure to university life before. I certainly didn't plan to be a scientist. I had to work hard, but I managed to pass the first year in one go. That gave me the confidence that I could do it.'

He might have still been searching for self-assurance, but he never doubted the choice of field – and the choice of his alma mater. 'I chose to study physics at the THT at the time for two reasons. First of all, I thought of physics as the mother of all sciences, explaining the basics of how nature and the universe works. It was the most fundamental study, but it also had applied aspects which I really enjoyed,' says Hilgenkamp. 'Secondly, I come from Zutphen, so not far from here. The THT was seen as this magical centre of everything creative and smart. The idea of a campus as this vibrant environment full of young and smart people was exciting for me.'

## CAPTURED BY SCIENCE

Although Hilgenkamp was still planning to find a job in industry after graduation – 'like at Philips, because that was the thing to do back then' -, the love for scientific research was slowly creeping in. 'There were a few highlights during my studies that showed me the joys of science. I went on a study tour organized by the study-

association Arago to scientific labs in the USA. Seeing science at work was just fantastic. I also did an internship at the Polish Academy of Sciences in Warsaw in 1989, during the fall of communism. This broadened my horizons a lot, showed me that there was a lot in the world to see. And during my MSc thesis, I realized how much I enjoyed doing research and that I was actually good at it. I was captured by the idea of really doing science.'

Still at the UT, Hans Hilgenkamp therefore made the first step of every future academic: conducting a PhD research. 'I did my PhD in 1995 on superconducting magnetic sensors. That was a very hot topic at the time. I was still thinking about a career in industry after my PhD, but decided to do doctoral research first because I liked the idea of further investing in myself, to develop myself as a researcher. That is something that comes back as a red line throughout my career. I always try to spend energy on something that helps me and the people I work with grow.'

Then came a post-doc position at the IBM Zurich Research Lab, a couple of years at the University of Augsburg in Germany and, in 2000, a return to Twente. 'I've stayed at the UT ever since, but I always had one foot outside of Twente as well,' says Hilgenkamp. He took a sabbatical in Australia in 2007, got a visiting professorship position in Singapore and was a part-time professor in Leiden. 'I've always wanted to be active in the rest of the world, not just Twente. I co-founded the Global Young Academy, which has developed into an important worldwide organization. Apart from my scientific work, that is one of the things I'm most proud of in my career.'



### AN EXECUTIVE OR A SCIENTIST

When there was an opening for a dean of the Faculty of Science and Technology in 2014, professor Hilgenkamp saw it as a 'good opportunity to develop new skills, while contributing to the faculty and the university'. 'It was a very useful and inspiring job. I was always combining it with scientific research and education. For example, we published two papers in Science in those years and I kept giving all my regular lectures. But after four years as dean, I felt that I had to make a choice – I had to choose if I wanted to be an executive or a scientist.' He chose the latter and, in 2019, returned to research and education full-time. 'If you want to progress in science, you need to be able to devote sufficient time to it, especially in our funding system that requires a lot of time. So I thought it was a good moment to pass the deanship on to someone else.'

'I never felt returning to research was a step back,' adds the professor. 'It opened up possibilities to start new research lines that I find exciting. That is equally high level. Doing science at world-class level is challenging enough.'

### BRAIN-INSPIRED COMPUTING

Hans Hilgenkamp's current research focuses on energy efficient computing. 'When you think of how we want to use computing in the future – smart cars and so on -, you realize that it will start using a big part of our total energy production. It is an urgent technological and societal challenge,' he says. To help solve it, the scientist is exploring brain-inspired computing. 'Processes in computers are very 2D – there is a constant information exchange between parts, but data transfer in the brain is much more efficient, because everything is more connected in its 3D structure and memory and processing are more intertwined. Hardware of the brain is constantly developing. Every time you learn something, you change the hardware. Can we mimic that? It should be possible. This is a very exciting topic to work on as a scientist, because you can get inspiration from many different fields and perspectives.'

'Looking back at my study years... I never imagined I'd be a professor doing this,' says the alumnus. 'The university has given me a lot of possibilities to grow. I feel like I owe a lot to the UT in that sense and I want to contribute back. I enjoy helping students. It is really fun to be in an environment with young energy and working with the new generation. I got offers to work elsewhere, of course, but it was not for me. People at the UT are very collegial and open to good ideas. Those willing can get things done here and make a real difference. Being here in Twente was and is a great choice for me.' •

*'Doing science at world-class level  
is challenging enough'*



# 2041

In this final Campus edition about our university's sixty-year history, I want to look twenty years into the future. What will our university look like by then? And in particular what about our campus, the only real - and therefore by definition the best - campus in the Netherlands? Let me take you on a journey to year 2041. It is close enough to the present day to ignore such fantastic pipe dreams as quantum teleportation, cyborgs and transferring our souls to the cloud after death. Predictions of the future are often clouded by fear or hope. I will stick to hope in this article; I can write the dystopian variant some other day.

In 2041, the Twente Campus will not only include the former university campus and what used to be Kennispark; it will also stretch all the way beyond the Kristalblad and to the Twentekanaal. The water purification plant also forms part of it. It is one giant centre for scientific research, vocational and scientific education, high tech entrepreneurship including production, living, top and amateur sports, healthcare and recreation, sustainable energy production, water purification, water retention and nature development. Cars are banned from campus altogether. The former Kennispark train station has become a lively centre that combines public and private transport with the Twente CampusLink, a system for autonomous passenger transport across the entire campus. The Twente CampusLink runs through the station to make transfers easier. A network of semi-covered footpaths protects pedestrians against extreme precipitation and sunshine. The Hengelosestraat has gone underground, while the space above it has been turned into a verdant oasis. The Twente Campus is a city centre that offers everything you need to live and work there.

The Living Innovation Lab, whose modest beginnings in one corner of the former UT campus date back to 2021, stretches across the entire Twente Campus. Together with businesses, governments and utility companies, the University of Twente and Saxion University of Applied



31

Sciences conduct research into such areas as water purification, water management, waste management, sustainable energy, health technology, photonics, robotics, sports and human behaviour. These are essentially the same themes that people were working on back in 2021, albeit at a higher Technology Readiness Level. Internship positions for various programmes, from the highly practical to the scientific, are there for the taking.

With that, our tour of 2041 comes to an end. It is clear that we have a long road ahead. For now, let us start small and begin by taking further steps towards making the campus greener and merging the UT campus and Kennispark. Why not give one of the superfluous parking areas on campus back to nature or use it as the location for essential new construction projects, instead of sacrificing even more green areas for that purpose. Next, a bridge across the Hengelosestraat for cyclists and pedestrians can mark the first stage of the merger between our campus and Kennispark. I already look forward to cycling across the Twente Campus at the age of 77 and seeing that all my hopes have been realised. •

**Wiendelt Steenbergen**

Professor of Biomedical Photonic Imaging

# GETTING TO THE BOTTOM OF IT

PHD CANDIDATE LIEKE LOKIN DOES NOT HAVE TO WANDER FAR FROM THE OFFICE TO FIND OUT HOW THE SUBJECT OF HER RESEARCH MANIFESTS ITSELF IN THE OUTSIDE WORLD. THEY CAN EVEN BE FOUND IN THE BABBLING BROOKS ON CAMPUS: RIVER DUNES. SHE TRIES TO GET TO THE BOTTOM OF WHAT GOES ON UNDER THE SURFACE OF RIVERS.

**L**okin regularly catches herself in the act of professional deformation. During a walk on the campus, she peeks over the railing of a bridge to see what the bottom of a stream looks like. Or she peers out of the window when her train to Twente crosses the IJssel river. 'Rivers have become an obsession, while I once chose to study civil engineering because I wanted to design skyscrapers. Nowadays, I always keep an eye on the water: how high is the level, is the current stronger, are the flood plains flooded? I can also spend hours looking at timelapses on Google Earth, how rivers have changed course over the years. Somehow, I still find it fascinating, how they meander through the landscape like veins. And rivers are of life importance. There is a reason why a large portion of the world's population lives along the water.'

In her research, the PhD candidate from the ET department Marine and Fluvial Systems focuses on what happens at the bottom of a river. Because where there is a current, sediment moves. And that is also how dunes form - and break down - in a riverbed, explains Lokin. 'The rule of thumb is that river dunes grow and become steeper at high water - when a river flows faster. At low water, they flatten out, but that doesn't mean they disappear completely. How do these dunes move and how can we explain this with the physics we know? That was the starting point of my research.'

How these ripples form in the river bed can have far-reaching consequences, Lokin explains. 'If the water level is low, the dunes are literally hurdles for ships. The highest dune in fact determines the maximum draught for ships - and in the worst case, whether they will run aground. At high water, especially when the water level is extremely high, you want to drain the water as best you can, to prevent flooding. If the water flows faster, then river dunes become higher and the flow is more difficult. After all, a river flows best with a surface that is as flat as possible. If you don't intervene by dredging in the right places, you end up with a vicious circle.'

And then there is the big C-word: climate change. In that light, the height of river dunes is no small matter. 'The expectation is that extremes will increase in size and frequency. We use water levels as an important parameter in the design, construction or raising of dikes to protect us from flooding. The better and more certain we can predict, the better we can make decisions. Not only the societal, but also the economic consequences can be enormous. If you want to raise a dike by just 10 centimetres, it can easily cost multiple millions.'

The best way to predict how rivers will flow (or overflow) in the future is with the help of data, as Lokin knows. In this respect, she has access to a gold mine through the overarching project her research is part of, called Rivers2Morrow. Every fortnight, a boat with measuring equipment sails over the Waal from Lobith to Rotterdam, charting the bottom. 'It is quite unique that we collect so much data so consistently. It even allows me to zoom in on a small section of the river. And this real-life data offers other insights than a laboratory setting. In the lab, you mainly have the problem of scalability. Just try to simulate the behaviour of sand grains on a scale of 1 to 100.'

Still, usable soil data from such a murky waterway is not easy to come by. 'That is mainly because of the abundance of data. I have to make it readable - and at the same time take into account the presence of other morphological phenomena on the river bed,' explains Lokin. And then there are the dynamics of





---

## *‘Rivers are of life importance’*

---

the river dunes, which make the research all the more difficult. ‘They can be as long as a football field and as high as two metres. Depending on the current, they can move up to twenty metres per day. By gaining better and better insight into the behaviour of the dunes, we are trying to optimise an existing model.’

Optimising should work, perfecting will be a bridge too far. The subject is simply too unfathomable for that, Lokin explains. We can process and reproduce reasonably reliable data, while the physics behind it is correct to a certain extent. A theoretical physicist would say that we are making very large assumptions, but we cannot avoid simplifying and making assumptions. We do take that uncertainty into account. I know that this subject is too complex to capture in my four-year PhD project. But I can place my part of the puzzle.’ •



# UT'ERS ON THE MOVE

34



## 2014

**NIEK TAX**  
**TCS'14**

In September of 2021, Niek Tax began his new job as a Research Scientist at Facebook. After graduating from the Computer Science programme in 2014, Tax first obtained a doctoral degree from Eindhoven University of Technology before joining Booking.com. He has now closed the book on his time at Booking.com to embark on a new adventure at Facebook. In addition to starting a new job, he has also relocated from Amsterdam to London. •



## 2013

**MILA LULEVA**  
**PHD'13**

Mila Luleva obtained her doctoral degree from the University of Twente in 2013 with her research into soil spectroscopy. Since then, she has worked as, among other things, a Remote Sensing and Environmental consultant at UNEP in Sudan and as a researcher in the field of Remote Sensing at AgroCares in Wageningen. Per 1 September, Luleva has taken on her next challenge in the field of Remote Sensing; she is now the new head of Remote Sensing at Rabobank. •



## 2000

**STIJN VAN BRUGGEN**  
**PA'00**

Per 1 October, Stijn van Bruggen began his new job at the Ministry of Finance as the head of Recovery Policy. Within the ministry, this programme is designed to lend assistance to the victims of the childcare benefits scandal on their path to recovery. This is not Van Bruggen's first time working for the national government: he has also worked at the Ministry of Foreign Affairs and the Ministry of Social Affairs and Employment, most recently as manager of the Temporary bridging scheme for independent entrepreneurs (Tozo). Van Bruggen graduated from the Public Administration programme in 2000. •



## 1999

**ANNEMARIE MULDER**  
**BSK'99**

On 1 September, Annemarie Mulder started her new job as project leader at Eurovia Deutschland, a Berlin-based company in the transport infrastructure sector. Mulder brings a wealth of experience as a project leader in the construction sector to the table, which she acquired during her time at Airbus and Inros Lackner SE. Mulder studied Public Administration at the UT and obtained her Master's degree in 1999. •



## 1989

**FRANK RICHTERS**  
**CE'89**

As of September 1, Frank Richters will be working as Associate Director Global Logistics at MSD, a production and distribution center for medicines and vaccines in Haarlem. This new position concludes a period of no less than 30 years at Shell, during which he worked not only in the Netherlands, but also in the United Kingdom and Oman. Richters graduated in 1989 from Chemical Engineering. •



## 1987

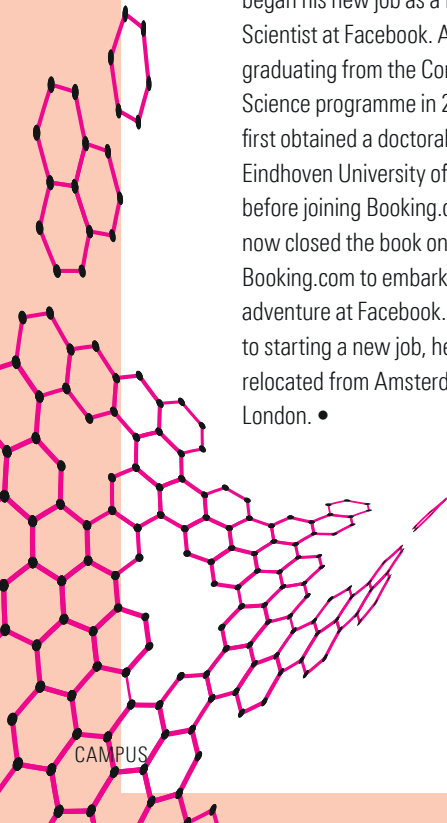
**ED JONKER**  
**AM'87**

Ed Jonker, who graduated from the Applied Mathematics programme in 1987, started his new job as Product Owner at Van Lanschot Kempen in Amsterdam in August of 2021. This change marked the end of his 15.5-year tenure at FactSet, where he held various Senior Director positions and for which he has lived in Connecticut and New York, among other places. •



**DAVE BLANK**

For his services in the field of materials science, alumnus and professor emeritus Dave Blank has been made a fellow of the American Physical Society. Blank first came to the UT in 1987 and became the new scientific director of the MESA+ Institute in 2007. Although he has since retired, he continues to be active for MESA+ •







## ALUMNI TALKS

After a year of absence - for obvious reasons - Alumni Talks returned to the Vrijhof's Amphitheatre last October. The event, during which well-known alumni take the stage to tell their peers about their career and their vision of the future, attracted a large crowd of enthusiastic and interested alumni. The first speaker was Rutger Rienks, a proponent of data-driven thinking. He was there to talk about his book 'Predictive Policing' and reflect on his time at the UT with the help of some recognisable pictures. LEGO Brickmaster Jonathan Bennink was up next. He was able to captivate his audience with his story of how Nintendo and LEGO were able to develop a unique toy together. Last but not least, there was artist Peter Riezebos. Time flew by and the questions from the audience just kept coming. Fortunately, people had plenty of opportunities to talk to each other after the presentations while enjoying a few drinks in de Vestingbar. •

Do you have a suggestion for an interesting speaker for next year's event? Let us know via [alumni@utwente.nl](mailto:alumni@utwente.nl)

## UT CAREER CAFÉ

How can you find a suitable job? What are the things you should - and should not - say during a job interview? How can you grow to attain the position you aspire to? These are all questions that may keep you up at night as a student. Fortunately, there are countless experts who know the answers to these questions from experience: alumni! Together with Career Services, the Alumni Office therefore organised the UT Career Café, which gave students the chance to present their burning questions to UT alumni from the field.

The first session of the Career Café was held on 5 October. During this session, students were welcomed into DesignLab to meet with alumni who work at local companies from Twente, including Demcon, Thales and X-Sens. The second session was held a few days later on 7 October. This session took place entirely online, so students could talk to alumni working at different companies around the world, including PlayStation in California, Audi in Germany and Schneider Electric in Singapore.

Afterwards, the students were very positive about the event. One student said: 'There was an incredibly informative, open and relaxed atmosphere. I felt like I could ask anything I wanted and I got a lot more out of it than I had expected beforehand.' The alumni shared the students' enthusiasm: 'It was great to be back at the UT. With all your experience, you can truly give the students tips and advice that will help them.' We are already eagerly looking forward to the next edition of the UT Career Café in March of 2022! •

## SAVE THE DATE!

To celebrate the University of Twente's sixtieth anniversary, another Alumni Day will be held in 2022. During this informative and above all fun day, you can catch up with your former fellow students on campus. Mark the date of 21 May 2022 on your calendar and keep an eye on [www.utwente.nl/alumniday](http://www.utwente.nl/alumniday) for the latest updates!

# TEAM UP FOR TALENT!

SUPPORT OUR ANNUAL CAMPAIGN 2022!  
YOUR DONATION COUNTS EVERY YEAR!



## WATER LAB

Support clean water without drug residues  
*Professor Wiebe de Vos*



## FUTURE FACTORY

Support our innovative workshop and help us to buy the best tools!  
*Future Factory Student Teams*



## KIPAJI SCHOLARSHIP

Support talent from developing countries  
*Alonso Martinez from Mexico, master student Chemical Engineering*



## FIRST GENERATION FUND

Support student activism and equal opportunities for all students  
*Dr. Mirjam Bult, member of the Council of State*

36

## POWERED BY UNIVERSITY FUND TWENTE

'From Batavierenrace to theatre, from intimate lecture and banging party to conventions and symposiums.' Here are some examples of recent events that were made possible with support from the Fund. •



The annual Big Tournament organised by D.B.V. Arriba. No external teams this time, because of the pandemic.



Tijs van den Brink interviews Gert-Jan Segers about over justice at Veritas Forum Enschede.



S.D.V. Chassé – Film Final Performance Chassé; Jazzdance with a show full of surprises.

## INCLUDE THE UNIVERSITY OF TWENTE IN YOUR WILL

If you would like to support our university, you might like to consider making a bequest. By including the University of Twente in your will, you will contribute to the university's future. 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. •

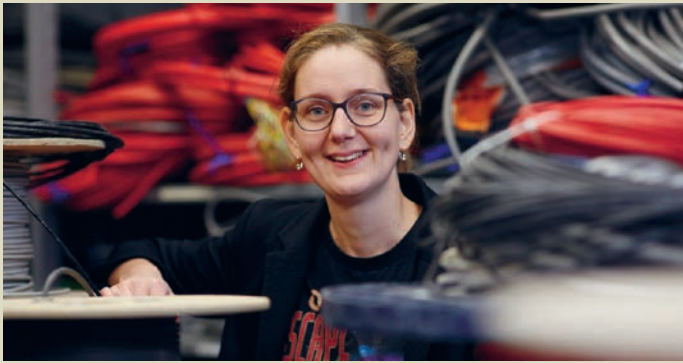
For more information: [www.utwente.nl/leaveagiftinyourwill](http://www.utwente.nl/leaveagiftinyourwill)

## DONATING WITH TAX BENEFITS

Do you already donate to the campaign every year or are you thinking about doing so? You can easily enjoy a tax benefit by turning your donation into a periodical gift! Doing so will allow you to raise your contribution without spending any extra money. •

For more information: [www.utwente.nl/periodic-donations](http://www.utwente.nl/periodic-donations)





## HENRIEKE VEGER- VAN DEN BERG WINS MARINA VAN DAMME SCHOLARSHIP

The Marina van Damme Scholarship 2021 was given to alumna Henrieke Veger - Van den Berg (Business Administration'11). The judges chose her from among seventeen candidates.

Veger has been working as a business administrator in the engineering sector for more than a decade now. She began her professional career as a sales analyst and now works in a versatile HR position at an SME in the electrical engineering sector. Veger: 'This scholarship will help me do great things. I want to use it to become a driving force in this sector and contribute to the further realisation of the transition to sustainable entrepreneurship.' She sees myriad unexplored opportunities in the field of engineering. As good and important as it is to innovate in a technical sense, essential changes in other areas are often overlooked in practice, she says. Think of such issues as maintaining a good work-life balance, developing soft skills, circular entrepreneurship, inclusiveness and diversity. Veger wants to drive the necessary changes from within through more intensive collaboration with the trade association, by expanding her network and by actively sharing knowledge about best and worst cases with colleagues and competitors alike in order to strengthen the sector as a whole.

The judges expect that the scholarship will help her make a real impact in the engineering sector, by contributing to more sustainable deployability for people and sustainable professional practices, organisational forms and business models.

This year marked the nineteenth time that the Marina van Damme Scholarship was given out by the Twente University Fund. It is made possible by a donation from Mrs. M.A. Van Damme-Van Weele. In 1965, she was the first PhD candidate of the former Twente Technical University of Applied Sciences. •



## ANOUK BOMERS WINS PROFESSOR DE WINTER PRIZE 2021

Alumna Anouk Bomers (Civil Engineering & Management '05) works as a lecturer in the Water Engineering and Management group of the Engineering & Technology faculty. She received the prize for her publication in the journal Hydrology: 'Predicting Outflow Hydrographs of Potential Dike Breaches in a Bifurcating River System Using NARX Neural Networks.'

In times of climate change, the field of water management is exceptionally relevant to our society. Flooding is expected to affect 1.3 billion people around the world by the year 2050. This means we will become dependent upon effective evacuation plans to mitigate the damage and the number of affected people. Due to the lengthy computing time involved, current models cannot be used when the water level of a river rises to predict in real time whether a section of dyke will collapse, where and when this will happen and where the water will flow next. As a result, governments are not always able to take the necessary measures in a timely manner. Bomers developed a new prediction method, which utilises neural networks and advanced machine-learning techniques, to make accurate predictions in far less time. The lecturer conducted the research and wrote the article in her own name. In the year after she obtained her doctoral degree, she published ten journal articles. Furthermore, she won national awards with both her master's thesis and her doctoral thesis.

The Professor De Winter Prize is intended as a recognition of excellent scientific talent and to stimulate the winner to further develop their scientific career. The prize is awarded every year with support from the Professor De Winter Fund, which forms part of the Twente University Fund and was set up by the late Mrs De Winter. After her passing in 2013, her heirs, UT alumnus Henk Hoving and his partner Thijs van Reijn, decided to continue giving out the annual prize. This year marks the fifteenth time that the prize was given out. •



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:  
053 489 3993 or  
[m.l.g.essers@utwente.nl](mailto:m.l.g.essers@utwente.nl)





# 'WE WANT TO GIVE THE PEOPLE WHO WORK HERE A WELCOMING ENVIRONMENT'

WHAT DOES 'SHAPING 2030' MEAN FOR THE STAFF OF THE UNIVERSITY OF TWENTE? IN A SERIES OF DOUBLE INTERVIEWS, TWO PROFESSIONALS SIT DOWN TO TALK TO EACH OTHER ABOUT THAT. WHERE DO THEIR ACTIVITIES OVERLAP? HOW DO THEY DIFFER? WHAT CAN ONE LEARN FROM THE OTHER AND VICE VERSA? TWO EXPERTS DISCUSS THE RELEVANCE OF THEIR FIELD FOR THE WORLD - TODAY AND TOMORROW. IN THIS THIRD EDITION: NETTY KOLLEN AND EDWIN DERTIEN.

**Netty:** 'It's so nice to meet you, Edwin. I noticed that you have a lot going on in your life.'

**Edwin:** 'Yes, I am also curious to know more about you. Ladies first.'

**Netty:** 'I don't care about that, you go first.'

**Edwin:** 'Haha, is that how we're doing this? This should be interesting! Simply put, I build robots and make music. I first came to the UT as a student in 1997 and I never left. I live in Enschede with my wife and son and I have built an amazing network in the art and healthcare sectors. What about you?'

**Netty:** 'I got a job as an HR assistant in the Public Administration faculty in 1996 and have since worked for various other faculties and departments. At the moment, I lead a team of eight people. Together, we are responsible for influx, mobility and outflow for the support services, in addition to several UT-wide projects such as wellbeing, talent and employee journey. I currently live in Hengelo, but I will be moving to Enschede in a little while. We are building a sustainable home with solar panels, a heat pump and as much green energy as possible. It is a lot of fun.'

**Edwin:** 'That's great. My house dates back to 1925, but all the renovations we have done ourselves are as energy efficient as possible. The roof of the workspace at the back of the house is covered in solar panels.'

## AN EYE FOR TALENT

**Netty:** 'As HR manager, I spent some time working on a plan to help more people with an occupational disability find a job with a 'regular' employer. I believe we also paid a visit to your institution as part of that project, didn't we?'

**Edwin:** 'Yes, you did! Together with someone from the healthcare sector, I run a social workshop for people with an autism spectrum disorder. We mainly focus on people with a technical background who end up being unemployed because their job is too demanding from a social perspective. The world of work has changed a lot over the years and some people cannot make it. What sets us apart from other social workshops is that we truly focus on people's talents and offer them amazing technical projects to work on, albeit without the pressure of production.'

### ESCAPE ROOM

**Netty:** 'What kind of projects do you work on?'

**Edwin:** 'Here's a good example: in the Palthehuis in Oldenzaal, a historical museum, we built an escape room that is entirely decked out in the style of the Cold War. We came up with the puzzles for the room in our workshop.'

**Netty:** 'Besides your work at the institution, you are also a lecturer at the UT. How do you combine these two jobs?'

**Edwin:** 'It is about striking the right balance and making smart combinations. Just look at that escape room; I brought in three UT students to come up with the scenario for it. It was their final thesis project.'

**Netty:** 'That is a good way to introduce students to what it is like to work in the healthcare institution. I like that society-oriented approach. That is truly who we aspire to be. How is that reflected in your research?'

**Edwin:** 'I obtained my doctoral degree by developing a gas pipe inspection robot and my work today still revolves around industrial inspection robots for water and gas pipes. I am also involved in DesignLab, where we are working on wearable technology that can be worn on a person's body, such as sensors in clothing. That is all about the interaction between people and technology.'

### A HARRIE FOR EVERYONE

**Netty:** 'You know, I would love to be able to offer students, whose autism sometimes makes it difficult for them to do well in a regular workplace, their first job here at the UT. They are familiar with this place. From here, you can introduce them to the world of work and help them with their transition from student to employee. Everyone who has a say in that thinks it's a good idea, but things quickly become more complicated as soon as you start talking about commitment and money. The project is no longer in my hands, but in those of UT colleague Michael Neys.'

**Edwin:** 'It is incredibly helpful to have a colleague or friend who can watch over you. That has proven to be one of the most decisive factors of success: having someone who is always there for you. Someone who can remind you from time to time that you shouldn't let things get to you. Former students in our workshop often tell us that they had a friend who pulled them through. Such people are desperately needed, but also hard to find.'

**Netty:** 'Did you know there are training sessions for that? It is called the Harrie Helpt training, for people who watch over someone with an occupational disability.'

### A WELCOMING ENVIRONMENT

**Edwin:** 'That is interesting. I will have to look into that. How do you manage to maintain your personal approach in your work? As HR manager, you work with a lot of people.'

**Netty:** 'People are not numbers for us. We want to get to know everyone who comes to us. For me, people first means offering the





people who work here a welcoming environment. The university is an amazing work environment and we want to convey that. We have been connecting new people to buddies whom they can reach out to if they have a question or concern. New employees or students sometimes struggle to find their way around here. We have to keep a close eye on that.'

**Edwin:** 'Let's go back to people first: initially, my attitude as a technical engineer was one of indifference. When I look back on my own studies, however, I can see that the concept was embedded in everything. We were taught about the philosophy of science, ethics...'

## WE ALL HAVE DREAMS

**Netty:** 'In collaboration with faculties and services - and the VU - we have developed a trainee programme for policy trainees. Various units supplied some incredibly interesting projects. The trainees also receive an intensive two-year training to expedite their development. We also introduced a trainee programme for financial trainees last year. We are now exploring ways for us to work together.'

**Edwin:** 'That sounds like a wonderful idea. To be honest, I never really knew what kind of career I wanted for myself. Do you ever meet people who are absolutely certain about what they want to do with their lives?'

**Netty:** 'Not really. Many graduates are still not sure what their learning goals are. They are fresh out of university, the world lies at their feet and they have no clue what they want to do next. We all have dreams, though. You could talk to our career adviser yourself and tell them: this is what I'm doing now, can you help me explore possible options for the future? They can help you find your way by asking the right questions.'

**Edwin:** 'Is your job fulfilling, or do you mostly get that from your hobbies? I saw you also love to travel?'

**Netty:** 'Yes, I love discovering new cultures. My partner and I visited South Africa and the western United States. We still have Australia on our bucket list. I also love my job, though. I enjoy the direct interaction with people. Working from home all the time during the pandemic was very difficult for me.'

I did volunteer work with elderly people suffering from dementia, but the coronavirus made that difficult. I also love to read, cycle and go on walks. My job keeps me quite busy, though. I don't always have as much time for my hobbies as I would like. My parents are in their eighties and they require care as well. I have a lot going on in my life. Then again, I always think to myself that my time is coming.' •



**Netty Kollen (57)**

Head HR-Advice services



**Edwin Dertien (42)**

Assistant Professor of Creative Technology and Social Robotics and Technical Director of ASSortiMENS, a social workshop for people with autism

## LIFELONG LEARNING IN HEALTHCARE

# WORKING SAFELY AND RESPONSIBLY WITH MODERN TECHNOLOGY

MEDICAL SPECIALISTS SEE THE HEALTHCARE SECTOR CHANGING RAPIDLY. AT THE SAME TIME, TECHNOLOGICAL DEVELOPMENTS PLAY AN INCREASINGLY IMPORTANT PART IN THEIR DAY-TO-DAY ACTIVITIES. HOW CAN HEALTHCARE PROFESSIONALS MAKE SURE TO USE MEDICAL TECHNOLOGY SAFELY AND RESPONSIBLY? HOW CAN THEY KEEP THEIR KNOWLEDGE UP TO DATE? THAT'S WHERE THE TECHMED CENTRE'S LIFE LONG LEARNING PROGRAMME COMES IN.

Marije Hahnen, programme manager of the Life Long Learning programme: 'We strive to play a key role in the education and development of (technical) medical professionals. Our Technical Medical Centre offers a unique environment in which we can realize that ambition. We have all requisite knowledge and facilities to educate and train healthcare professionals. For example, the building houses two Intensive Care Units and two operating theatres where participants can receive in-depth training in a calm and safe environment.'

## Personalized

During a personalized programme, participants are familiarized with the technological principles and learn to predict their consequences for specific patients, Heleen Miedema, Director of the educational division, explains. 'This means that medical professionals learn to utilize the technology in both familiar and unfamiliar contexts. We offer tailor-made programmes in which the added value of technology is used for the diagnostics and treatment of individual patients.'



## Simulators

'If a medical professional wants to practice the use of the latest respiratory equipment, for example, it is naturally safer to use simulators than real patients,' Hahnen continues. 'With the help of simulators, participants train in various scenarios. They can immediately experience the consequences of their own actions and learn how to overcome the issues that may arise. A simulator provides independent and very direct feedback to participants, which makes it a truly powerful learning tool.'

For some years, the TechMed Centre has been running the SBMS training course for young doctors who are starting to work in emergency departments for the first time. In addition, the CASH-3V, a training and assessment course for vascular surgeons in training, has been part of the Life Long Learning Programme for 10 years.

## Adaptive expert

The course selection will be expanded and deepened in the near future in collaboration with professional associations. 'Such as a workshop series for surgery residents, and a carousel evening for rheumatologists. By means of co-creation we design a program that fits well with the level and learning needs of the intended target group. Everything we do is driven by the question of what healthcare professionals need to do their jobs adequately and safely. The people who come to us are motivated to improve their knowledge of and expertise in their field and become adaptive experts,' Hahnen says. •

## More information

Full course offerings can be found at TechMed Academy. Would you like to stay informed about the Technical Medical Centre?

Check: [www.utwente.nl/techmed](http://www.utwente.nl/techmed) and subscribe to our mailing list!



# INTERESTED IN A JOB THAT MATTERS?

JOIN OUR UNIVERSITY OF TECHNOLOGY THAT PUTS PEOPLE FIRST AND CREATE NEW OPPORTUNITIES FOR YOURSELF, YOUR COLLEAGUES AND OUR SOCIETY. WHETHER YOU ARE A SCIENTIST OR EDUCATOR, ADMINISTRATOR OR FACILITATOR, THINKER OR DOER, ENERGETIC LEADER OR QUIET SUPPORTER – YOUR TALENTS MATTER AT UT. AND SO DO YOU. •

//

*When I have designed and made something that actually works, I get a lot of satisfaction from it. For example, I worked on hydraulic cylinders that can handle 10 times more pressure than the usual alternatives. You're working on really relevant developments at the cutting edge.'*

**Quint Meinders**

Labmanager Rapid Prototyping Lab (RPLab) & Research Engineer



**JOB ALERT**

**Follow us on Twitter or visit  
[utwente.nl/vacancies](https://utwente.nl/vacancies)**

UNIVERSITY OF TWENTE.



Campus