

# Bright minds, better future

HIGHLIGHTS

SPRING / SUMMER

2018

“Regenerative  
Medicine Utrecht  
has all disciplines  
under one roof.”

Paul Coffier  
Professor of Stem Cell Biology



Utrecht University

## ABOUT THE HIGHLIGHTS

The Highlights is published twice a year to give Utrecht University's Dutch and international contacts an impression of what has been achieved over the past six months.

Utrecht University is a leading, international research university that boasts innovative academic teaching programmes. A ground-breaking, interdisciplinary approach is characteristic of education and research at Utrecht.

This publication provides information about the University's four strategic research themes: Dynamics of Youth, Life Sciences, Pathways to Sustainability and Institutions for Open Societies. In cooperation with these strategic research themes the university has created fourteen focal points of research ('hubs') where science meets society to solve pressing social issues.

Thanks to this interdisciplinary approach and culture of collaboration, Utrecht University is able to achieve innovation, new insights and social impact.



## ON THE COVER

More information about 'Regenerative Medicine' can be found later in this issue of the Highlights.



Utrecht University has a long tradition of interdisciplinary teaching and research. We are firmly convinced that this is indispensable in solving the major issues in society, such as how to produce more sustainable energy and food and what kind of laws and regulations are needed for this.

Nowadays this not only requires collaboration between scientists from different disciplines, but also increasingly between all manner of other partners: government, the business sector or interest groups, for example.

In recent months fourteen 'hubs' have been identified within our four strategic themes, within which Utrecht University is working together with its social partners to solve 'key issues'. These Highlights present a number of examples of such hubs.

To show our serious commitment to these hubs, in the coming four years the university will be investing 26 million euros, on top of the planned investments in facilities and large equipment. Hubs are an excellent example of a new way of thinking which is not based on the practical use or transfer of previously gained academic knowledge, but on getting together with others to think about and carry out research questions. We are convinced that this approach will guarantee impact and visibility, as well as creating opportunities for attracting new funding. The university as a catalyst for change: this is the contribution we want to make to society and to impart to the leaders of tomorrow that we are educating today.

### The Executive Board

*Anton Pijpers, Annetje Ottow and Henk Kummeling*



**“We will be preparing plants for the next green revolution.”**



**George Kowalchuk**

Professor of Ecology and Biodiversity

In April The Netherlands Organisation for Scientific Research (NWO) announced how it will be distributing 138 million euros across the country's top research facilities with international impact. Five projects from Utrecht University are involved in this National Roadmap. President of the Executive Board Anton Pijpers: “This investment in the creation and development of our research facilities shows once again how Utrecht University plays a leading role in the development of innovative research facilities.” One of the projects to receive this funding is related to plant research. Researchers from the universities of Utrecht and Wageningen have received 11.3 million euros to build a new type of controlled experimental garden. This grant will help them study how plants respond to their environment, to other plants and to fungi and bacteria they interact with. This key knowledge is the essential next step to help make global agriculture more sustainable and, at the same time, to feed the growing world population, according to Utrecht University's research leader Prof. George Kowalchuk. “With this, we are positioning the Netherlands to become a world leader in research on the necessary transition in agriculture – the next green revolution.”



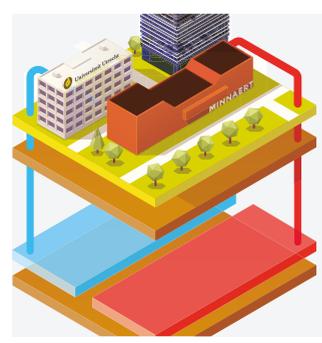
“The degree programme gave me an open mind.”

Cathelijne Broers  
Alumna of the Year

The Alumna Office has declared art historian Cathelijne Broers, director of De Nieuwe Kerk and the Hermitage Amsterdam, Alumna of the Year. She received the title during the university's anniversary celebrations in March. In 2017 her talent for lobbying meant she succeeded in bringing the 'Dutch Masters' from Saint

Petersburg to Amsterdam. “My studies and my time as a student were characterised by a feeling of freedom. Utrecht University gave me the opportunity to learn, investigate and analyse. I continue to reap the benefits of this every single day.”

[uu.nl/cathelijnebroers](http://uu.nl/cathelijnebroers)



### TRANSITION TO RENEWABLE ENERGY

Utrecht University has taken an important step in its ambition to become a 100% carbon-neutral organisation by 2030. In the spring of 2018, the university decided to use seasonal thermal energy storage in all new buildings and in all renovation projects. This is a technology in which heat and cold from buildings above ground are stored underground for use as heating and cooling when required. The university will also be reducing its energy consumption and expanding its on-site sustainable energy generation with additional solar panels and geothermal heating.

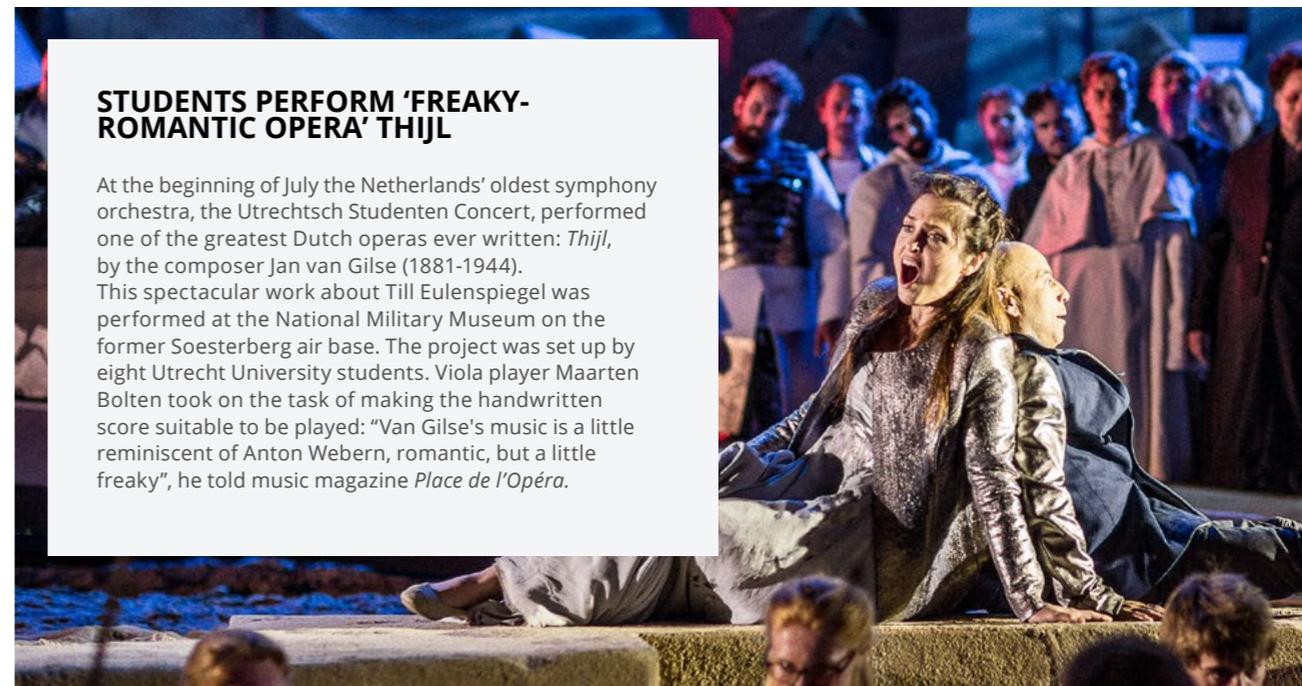


“The university wants to contribute to the health and well-being of the citizens of Utrecht.”



Dick Ettema  
Professor of Urban Accessibility and Social Inclusion

Last spring saw the publication of the 'Knowledge Agenda for Healthy Urban Living'. This agenda originated from a collaboration between the City of Utrecht, the Province of Utrecht, Utrecht University and Utrecht University of Applied Sciences. The agenda is focused on five themes: health differences and inequalities, living environment, food, mobility and work. To flesh out these themes, the knowledge alliance worked together with relevant regional partners such as businesses, social organisations, municipalities and end users. Utrecht University professor Dick Ettema was involved in the project: “We are carrying out a great deal of research into sport and exercise, food environments, inclusion, transport and urban designs that can contribute to the well-being of the citizens of Utrecht. This research, which also takes the form of living labs, enables us to make an immediate contribution to creating a healthy living environment.”



### STUDENTS PERFORM 'FREAKY-ROMANTIC OPERA' THIJL

At the beginning of July the Netherlands' oldest symphony orchestra, the Utrechtsch Studenten Concert, performed one of the greatest Dutch operas ever written: *Thijl*, by the composer Jan van Gilse (1881-1944). This spectacular work about Till Eulenspiegel was performed at the National Military Museum on the former Soesterberg air base. The project was set up by eight Utrecht University students. Viola player Maarten Bolten took on the task of making the handwritten score suitable to be played: “Van Gilse's music is a little reminiscent of Anton Webern, romantic, but a little freaky”, he told music magazine *Place de l'Opéra*.

## TOP UTRECHT RESEARCHERS AWARDED EUROPEAN GRANTS WORTH MILLIONS OF EUROS

Three Utrecht University professors – Frank Biermann (Geosciences), Ann Rigney (Humanities) and Piet Gros (Science) – have each been awarded an ERC Advanced Grant worth 2.5 million euros. This money means they can spend the next five years carrying out research in their field. This is the second ERC Advanced Grant for Piet Gros, who is researching how the body recognises and disposes of sick cells.

Frank Biermann is carrying out research on the Sustainable Development Goals drawn up by the United Nations in 2015. “We intend to conduct extensive research on whether the system is in any way effective. For example, it is proposed that all countries will be involved in this agenda. But is this actually happening in practice? Will poorer countries gain greater influence over the course of time as a result of this process or will the rich countries continue to make all the decisions?” Finally, Ann Rigney will be using the funding for her research into civil demonstrations. How are these protests remembered once they are no longer newsworthy? Her hypothesis is that protest movements continue to influence the collective memory. “We are studying the extent to which the memory of earlier activists acts as a model for new generations.”



[uu.nl/ercgrants2018](http://uu.nl/ercgrants2018)

▲ Ann Rigney will use her ERC Advanced Grant to focus on civilian protests.

## FLAVOURS OF THE FUTURE

In May 2018, Green Office Utrecht and catering company Sodexo jointly organised the Flavours of the Future event in the cafeteria of the Educatorium. For one week visitors were welcome to sample the flavours of the future in various tasting sessions. In addition to this, beef, pork, poultry, eggs, cheese and other dairy products in the cafeteria were replaced with plant-based products, so that by the end of the Flavours of the Future event, the menu was fully vegan.

## “Summer School in the context of lifelong learning.”



**Jeroen Torenbeek**  
Director Utrecht Summer School

Around 4000 students from more than 100 different countries visited the Utrecht Summer School last summer. In cooperation with UMC Utrecht, Utrecht University of Applied Sciences and HKU University of the Arts Utrecht, Utrecht University offered more than 125 courses, ranging from Bachelor to PhD level, and from Culture, Art & Music to Law & Economics and Life Sciences. Some courses were organised in cooperation with international partners, such as the Dutch Interuniversity Institutes in Florence and Rome and the Freie Universität in Berlin. Director Jeroen Torenbeek: “We are happy to receive more students in the context of lifelong learning every year, more than 25% of whom are over 30 years old.”



“Now it is time  
for the next step.”



**Manon Benders**  
Neonatologist

Infants who are born prematurely suffer more often from cognitive problems later in life than children who are born around their expected due date. It is difficult to study abnormal brain development when you can't compare these infants with the normal population. Now it is time for the next step: visualisation of the brains of healthy unborn and newborn children using MRI to compare them with the brains of premature children in order to obtain a better understanding of normal and abnormal brain development processes.

“Participants in the YOUth-cohort are being asked to help with our research. This joint effort with obstetricians and other youth workers provides a great opportunity to compare the development of premature babies with that of a healthy group.”



“If there is any bullying  
going on, it is the children  
who know about it.”



**Bram Orobio de Castro**  
Professor of Developmental  
Psychology

Bram Orobio de Castro studies the effectiveness of anti-bullying programmes. He advises the Ministry of Education, Culture and Science against making anti-bullying programmes compulsory for all schools. “At some schools there is no need for such a programme, simply because there is no bullying. This also does away with the idea that bullying at

school ‘is only to be expected’.” The Utrecht professor does feel that it should be compulsory to ask school pupils about bullying. “Because if there is any bullying going on, it is the children who know about it.” In this case, Orobio de Castro advises schools to use one of the universal anti-bullying programmes that have proven effective.

## “A games app for chronically ill children.”



**Heidi Lesscher**  
Neurobiologist



▲ The team. 'Everyone was eager to do something to help sick children.'

Heidi Lesscher, who is involved in the project Healthy Play Better Coping, participated in the Hacking Health Weekend at UMC Utrecht: “We wanted to create a game that would make it easier for chronically ill children to play with others. I could never have imagined that we would have such a tangible product after just

one weekend!” The app, Hip&Co, is intended for children aged eight to twelve. “We focus on children who live with a chronic disease. It is important for these children to just be a kid and to do things together with their friends. I hope that the game can help them think in terms of solutions when it comes to play.”

[uu.nl/doyapp](http://uu.nl/doyapp)

### COLLABORATING ON CHILDREN'S HAPPINESS

“Please work together and work well, because it's about our children”, said Mayor of Utrecht Jan van Zanen during the symposium on the Happiness of Children. Utrecht University, the Wilhelmina Children's Hospital, the City of Utrecht and the Trimbos Institute (the Netherlands Institute of Mental Health and Addiction) responded to this call on 1 June 2018 by bringing practice, policy and research together. The YOUth research by Professor Chantal Kemner offers a fine example of collaboration in multiple areas: “Child development is extremely complex. To complete the puzzle, I cannot do without my colleagues from all disciplines and my partners in the field.”



## “We agreed in Paris that CO<sub>2</sub> production must be reduced drastically.”



**Robert Harmsen**  
Energy researcher

Utrecht University is collaborating with W/E Adviseurs and the Dutch Renewable Energy Foundation (*Nederlandse Vereniging Duurzame Energie, NVDE*) to help municipalities develop smart road maps to find alternatives to using natural gas in neighbourhoods. Energy researcher Robert Harmsen is involved in the study: “We agreed in Paris that CO<sub>2</sub> production must be reduced drastically, especially in the built environment. Our SmartTrans Energy Top Sector project fits well into reaching these goals.”

The project will last two years and will focus on three neighbourhoods in three municipalities (Breda, Nijmegen and Utrecht). Robert hopes to provide suggestions for what would be the best way to tackle the transition from natural gas.

[uu.nl/smarttrans](http://uu.nl/smarttrans)

# “Ice loss on Antarctica has tripled in 10 years.”



**Michiel van den Broeke**  
Professor of Polar Meteorology

Antarctica is losing more ice at an accelerating rate. Over the past 10 years, the rate of ice melt has tripled, from 73 billion tonnes, to 219 billion tonnes per year. As a result, sea levels are also rising faster, as shown by a combination of measurements conducted by 24 international research groups over the past 25 years.

During this time the ice loss has caused sea levels to rise by an average of 7.6 mm worldwide. Forty percent of that, or 3 mm, occurred over the past five years alone. “This increase occurred in just a single generation. That’s a big deal”, says Michiel van den Broeke, Professor of Polar Meteorology and one of five research leaders of the study.

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[uu.nl/icelossantarctica](http://uu.nl/icelossantarctica)





“Technology does not determine our destiny, our policy response helps to shape labour market outcomes.”



**Anna Salomons**  
Professor of Employment and Inequality

“We have found that the automation that has taken place in recent decades has not led to net job destruction. However, it has reduced labour’s share in the total national income, which tends to increase inequality. The aim of science isn’t to hope we can squint hard enough to see the future – rather, we should aim to understand the past and present to help shape that future. Technology does not determine our destiny, and our policy response is crucial for labour market outcomes,” explains Anna Salomons, who was appointed Professor of Employment and Inequality at the beginning of this year. Her publications include articles on the labour market impacts of automation and she is affiliated with the IOS-Hub Future of Work.



“Knowledge offers comfort and support, provided of course that it is embedded in effective frameworks.”

**Beatrice de Graaf**  
Stevin Laureate

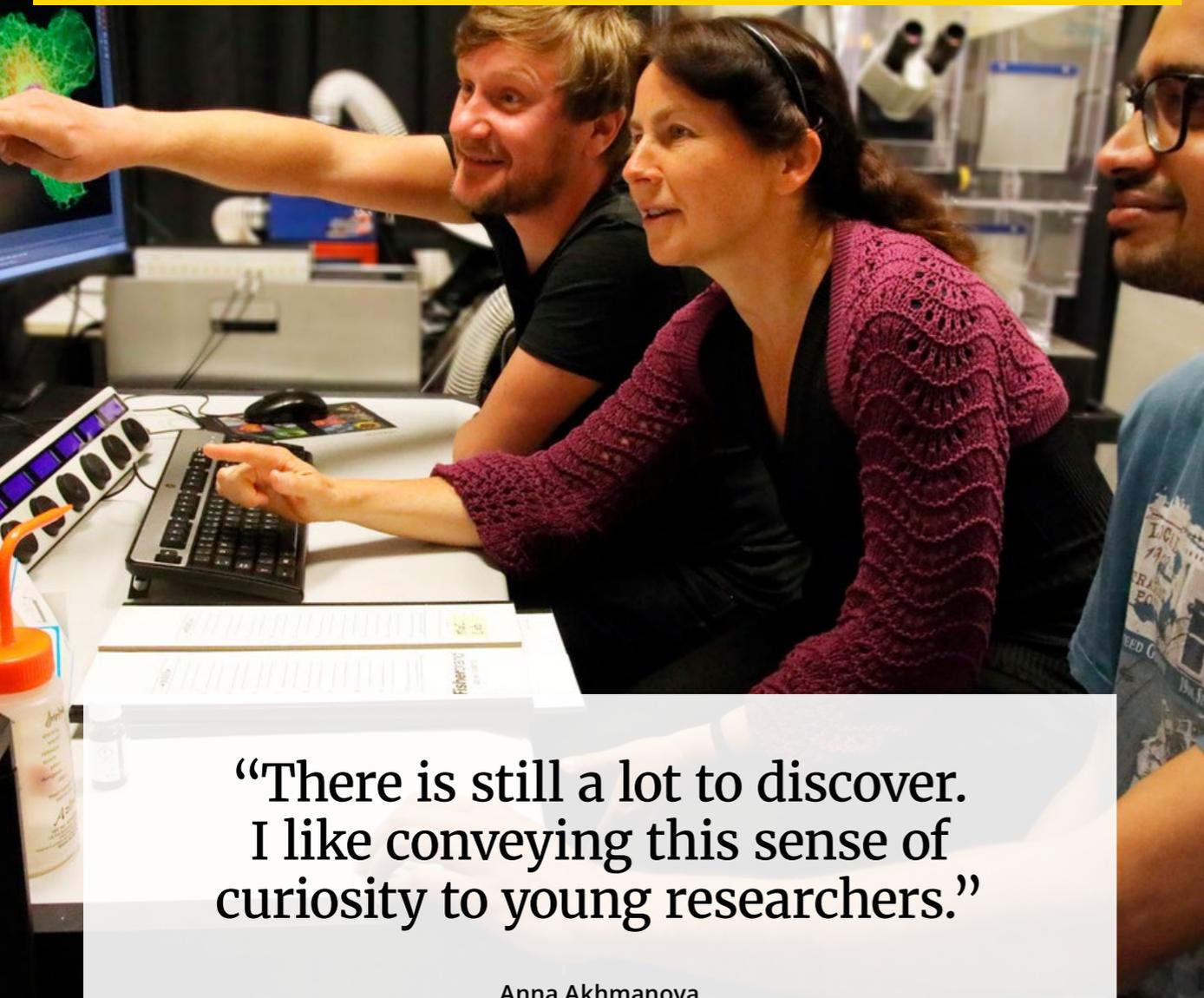
Prof. Beatrice de Graaf has been awarded the prestigious Stevin Prize from the Netherlands Organisation for Scientific Research (NWO). The prize of 2.5 million euros underlines De Graaf’s exceptional performance in terms of academic knowledge transfer and encourages her to continue taking her work in this direction.

Beatrice de Graaf is Professor of the History of International Relations and affiliated with the IOS-Hub Security in Open Societies. Right from the start of her career, De Graaf has endeavoured to translate theoretical notions on terrorism and security into tangible material for governments and for the wider public, also through the media.

[uu.nl/stevindegraaf](http://uu.nl/stevindegraaf)

### TACKLING ISSUES SUCH AS DIGITISATION AND SOCIAL INEQUALITY

The IOS-Hubs ‘Future of Work’ and ‘Gender and Diversity’ are to share their expertise in so-called ‘engagement groups’ of the worldwide Organisation for Economic Co-operation and Development (OECD). These engagement groups have been initiated to tackle societal issues as digitisation and social inequality. To do so, they work closely with leaders from the business world, academics and policy makers. In the engagement group ‘Girls in STEM’, (Science, Technology, Engineering and Maths) the Gender & Diversity-Hub will focus on the study and career choices of women. The Future of Work-Hub will concentrate on issues such as robotisation, big data, aging, and the labour market.



“There is still a lot to discover. I like conveying this sense of curiosity to young researchers.”

Anna Akhmanova  
Spinoza Laureate

Anna Akhmanova, Professor of Cell Biology, has been awarded a Spinoza Prize – the highest award in Dutch science and worth 2.5 million euros – for her research into the way the building blocks in living cells join together. ‘What I love about my research on the cytoskeleton – the skeleton of a cell – is that, once you know how

a cell builds up or breaks down structures, you can try to steer that process. Sometimes you may want to slow that process down, for example in cancer cells that are dividing too quickly. So you might be able to develop cancer therapies that only affect tumour cells.’

“It is very special to have all these disciplines within Regenerative Medicine under one roof.”



Paul Coffer  
Professor of Stem Cell Biology

Utrecht University and UMC Utrecht are jointly launching the large-scale COFUND programme ‘RESCUE’. In February 2019, 29 young researchers will be embarking upon a four-year research project at the Utrecht Regenerative Medicine Centre. This EU project which has been made possible by a Horizon 2020 Marie S. Curie COFUND grant, is intended to encourage international mobility among scientists. “The long-term

objective is to permanently strengthen the international Regenerative Medicine network”, says Paul Coffer. “We are one of the top European centres in the field of Regenerative Medicine, and through these young researchers we will be able to show this to many new international contacts. All the PhD candidates will be working together in a single environment in which Science, Veterinary Science and Medicine will all be represented.”

“We will be using Google Air View to measure air quality.”



Roel Vermeulen  
Professor of Environmental Epidemiology

Google Air View is a variant of Google Street View which is intended to measure air quality, initially in Copenhagen. Utrecht University is responsible for the technical and scientific support of the project. “We are carrying out a great deal of research into the relationship between air quality and public health”, explains Roel Vermeulen, Professor of Environmental Epidemiology. “This project is unique because we can use actual measurements at street level to chart air pollution in an entire city, rather than making calculations based on a limited number of measurements.” The two cars containing measuring equipment are fitted with the necessary sensors in Utrecht. The measurements taken in Copenhagen are converted to average annual concentrations by researchers in Utrecht. Other European cities will follow later. “This will provide a wealth of research data”, says Vermeulen. This project is part of the Life Sciences-Hub Exposome, which researches the total package of external influences on public health.

“Showing children the opportunities offered by the university from an early age.”

Fadoua Ajjaji  
Economics student



Utrecht University has launched DEBUUT, a buddy programme for talented children in the top year of primary school who would otherwise find it difficult to make contact with the university. The ‘buddies’ are all students at Utrecht University, who talk about studying or give guided tours of the university. The primary school pupils can take part in the Summer School Junior free of charge. It all started with Princess, a pupil with a high recommendation concerning the choice of

secondary school, who came into contact with the university through Meet the Professor. As a result of this, Princess was assigned to economics student Fadoua Ajjaji, who herself was the first person in her family to study at university. “My mother completed pre-university education in Morocco, but never went on to university. She encouraged me to do so.” Fadoua is now helping as a coordinator to set up DEBUUT.

“This platform makes it a little easier for me to study.”



Lina Schermer  
Bachelor of  
Educational Sciences

Lina is hard of hearing and suffers from dyslexia. She is one of the members of the *Platform Onbeperkt Studeren* (Studying Without Limits). The Platform helps students with disabilities (such as dyslexia, ADHD, depression or a physical limitation) by sharing tips and experiences, providing information and brainstorming on policy. Medicine Master's student Richard Horenberg set up the Platform: “I came across the policy regarding studying with a disability through a study I was carrying out with a fellow student. Among other things it turned out that there was a need for a buddy programme that links new students with a disability to an older student, preferably one with a similar disability.” The Platform came second in the City of Utrecht's *Toegankelijkheidsprijs* (Accessibility Prize) competition in 2018. In its report, the jury wrote: “The initiative is still in its early stages, but the jury sees the enormous results that have already been achieved in a short time.”

## “OUTSTANDING TECHNIQUES FOR CREATING A SAFE LEARNING ENVIRONMENT”

The University Executive Board annually rewards two teachers for excellence in teaching: this year Margot Koster, lecturer in Microbiology and director for the Biology Bachelor's programme, won the Excellent Teaching Award. Sophie Reinders, lecturer in Early Modern Literature, received the 2018 Teachertalent Award. The jury chose these multifaceted winners specially for their techniques for creating a safe environment. The lecturers were nominated by their own students through the study associations.



[uu.nl/lectureraward2018](https://uu.nl/lectureraward2018)

## COMENIUS FELLOWSHIPS GRANTED TO UTRECHT UNIVERSITY LECTURERS

Four teachers given opportunity to achieve their educational dream

After reviewing their proposal on innovating their teaching, the Netherlands Initiative for Educational Research (NRO) awarded four teachers a Comenius Fellowship in May this year. Sabine Uijl, lecturer at University College Utrecht, became a Senior Fellowship and with the € 100.000,- grant she will stimulate student ownership by redesigning a personalized curriculum. The other three, Tom Damen (Psychology), Hanna Mulder (Pedagogical Sciences) and Ghislaine van Thiel (Medicine) received the so-called Teaching Fellowship of € 50.000,- for their innovation.



[uu.nl/comeniusprogramme](https://uu.nl/comeniusprogramme)

## FOUR NEW UTRECHT TEACHING FELLOWS APPOINTED

Four new Teaching Fellows have been selected by an international committee and appointed to our Centre for Academic Teaching. The fellows - Leoniek Wijngaards-de Meij (Social and Behavioral Sciences), Irma Meijerman (Science), Vincent Crone (Humanities) and Veronique Schutjens (Geosciences) - will spend at least three years on their project which involves leadership in strategic institutional curriculum or policy development.

The Utrecht University Teaching Fellow Programme is a selective programme which aims to strengthen educational leadership within the university and to increase the number of professors with a special focus on education. After their terms, successful Teaching Fellows can look forward to a teaching professorship. At this moment seven Teaching Fellows follow the programme.



[uu.nl/teachingfellowprogramme](https://uu.nl/teachingfellowprogramme)

Institutional Quality Assurance Audit

## “WE ENCOUNTERED AN UNMISTAKEABLE QUALITY CULTURE”

“Utrecht University has a vision on academic teaching that appeals to students as well as lecturers,” says the Accreditation Organisation of the Netherlands and Flanders (NVAO) which recently carried out an Institutional Quality Assurance Audit at Utrecht University.

“The committee was enthusiastic about the opportunities the university offers for lecturer and leadership professionalisation via the Centre for Academic Teaching. The panel has every confidence the university will continue on this path and successfully achieve the promised developments.” Based on this audit, the NVAO has awarded accreditation to the university for a period of six years at institutional level.

## AGENDA

### Betweter Festival

The one and only true art and science festival in Utrecht. This third edition of the festival is all about extremes. With mini-lectures, talk shows, music, art installations and live experiments.

📅 Friday 5 October  
📍 TivoliVredenburg

[betweterfestival.nl](http://betweterfestival.nl)

### Science Weekend

Go backstage at businesses, research institutes, universities, museums, observatories and hospitals for a live experience of science and technology. Contributors from Utrecht University include the Studium Generale and the University Museum.

📅 Saturday 6 and Sunday 7 October  
📍 Throughout Utrecht

[hetweekendvandewetenschap.nl](http://hetweekendvandewetenschap.nl)

### Pathways to Sustainability Conference

An interactive and inspiring event, with external keynote speakers and a meeting place for a transdisciplinary community of sustainability experts. This event will inspire nearly 500 scientists, policymakers, consultants, directors, students and practitioners working in various disciplines.

📅 Thursday 24 January 2019  
📍 TivoliVredenburg

[uu.nl/en/research/sustainability](http://uu.nl/en/research/sustainability)

### Science for Life conference

The conference shows high-level interdisciplinary research in fundamental Life Sciences. Almost 500 scientists, students, policy makers, consultants and entrepreneurs in the fields of molecular, cellular and pharmaceutical sciences as well as plant biology will interact during this event.

📅 Monday 19 November 2018  
📍 Supernova, Jaarbeurs Utrecht

[scienceforlife.sites.uu.nl](http://scienceforlife.sites.uu.nl)

## Science for Life conference



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