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The journalism platform for all at Wageningen University & Research

Student registrations have fallen

More efficient photosynthesis with more CO₂ **Community service** for assault

WUR joins rotating strikes **Students think up** animal trial alternatives

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Aftertaste

Willem Andrée

Editor-in-chief

Birthday celebrations are usually sociable and entertaining, and sometimes lengthy and boring. This year's Dies Natalis was a bit in between and left a feeling of unease. Not because of the well-intentioned talks and the impressive intermezzo with dancers and an amazing light show that made you think of Artificial Intelligence (AI). Not without reason because AI was the main topic this year. The Swiss scientist specially flown in for the occasion did not do more than give a history lesson and make some predictable statements on the uncertain future. The audience were no fools and deserved more demanding fare. There would undoubtedly have been a WUR expert who could have kept the audience more enthralled. Like the WUR scientists and student who showed how they use AI and what they think of it. The question remains whether that is enough. The aftertaste from the Dies Natalis came from the feeling that we are sleeping through the AI alarm. Not everyone though; see page 22. 'Many teachers assume AI is a parrot that can't generate anything new; they need to change their views,' says one interviewee. It is also striking that the new strategic plan presented by Executive Board President Sjoukje Heimovaara merely notes briefly that AI offers opportunities (page 28). Let's hope we wake up and seize those opportunities.

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WUR PROTESTS

The red squares were much in evidence during the procession to mark the Dies Natalis last Friday. The square symbolizes protest in higher education and has become increasingly common in recent months. People in the procession wearing the red square included not only President of the Executive Board Sjoukje Heimovaara, rector Carolien Kroeze (behind the middle beadle in this photo) and board member Rens Buchwaldt but also Wageningen mayor Floor Vermeulen and keynote speaker Andrea E. Rizzoli (on the right next to Kroeze).

Over the next few weeks, Dutch universities will be holding rotating strikes to express their anger at the cuts. It will be WUR's turn on 14 April. DV



Crisis plan is needed

UR's new strategic plan is a break with tradition. Previous editions were bursting with self-confidence and optimism. 'We have an excellent starting position', wrote the policymakers in 2015, and the board at the time concluded 'there is a great deal of enthusiasm about the direction we have chosen'.

In 2019, WUR cautiously looked more at the wider world: 'We are exhausting the planet's resources'. But education and research were still 'of the highest standard'. While that was (and is) true, there was no need either back then to reject the language of pride and optimism. But times have changed. The cuts are a serious blow to education and research. Competition in the WUR domains is increasing, both in the Netherlands and internationally. Take Utrecht University. Or China, where the universities are growing and increasing their research production, and attracting students from Africa, for instance. At the same time, in the US science is shaking in its foundations. There are also concerns about falling student preliminary registrations at Wageningen. The new plan reflects these uncertain times. There are no investment themes, because there is no money to invest. WUR is in a fighting mood with words such as 'radical change', 'battle' and 'we must act and be courageous'. But concrete decisions are lacking, as if we still have to get used to the new circumstances. Wageningen does not seem to have lost its confidence in its leading position on the world stage, but there is inevitably a need to galvanize one another to reconsider WUR's role, including on the world stage. That raises the question of whether a strategic plan for the next five years makes sense. When the world is in flames, what we need more is a crisis plan.

This Comment presents the views and analyses of the editorial board, formulated following a discussion with the editors.

WUR pulls plug on solar farm

After nearly seven years of wrangling, the plan to build the eight-hectare Nergena Solar Farm is being ditched. A few months after the permit was declared final at the end of last year, WUR is pulling the plug on the plan. The Nergena Solar Farm plan was launched in 2018 by WUR and the Wageningen company LC Energy.

The idea was to build the solar farm on land WUR had acquired a year earlier when it bought the Nergena farm on Langesteeg. Local residents opposed the plan from the start, which also met with a lot of resistance among local politicians in Ede. The wrangling to get a permit led to various court hearings.

Now the permit has been obtained, WUR is no longer interested. 'Times have changed,' says spokesperson Martijn van den Heuvel (Facilities & Services). 'The design for which we have the permit no longer fits with WUR's views on the development of solar farms and the use of its land.' RK



Protest at Nergena in 2020. • Photo Resource

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The utility value of ecosystem services was recently estimated at 15 billion euros, based on Natural Capital Calculations. This method, developed by Statistics Netherlands and WUR, shows what benefit, expressed as money, the Dutch economy and society get from using nature. Examples are food and timber production, tourism or ecosystem services such as carbon storage and cooling in cities. In the reference year 2022, the utility value was six times higher than overall expenditure on nature and landscape management. ME

Another Forum break-in

It happened again in mid-February: a burglar forced open a door to a practicals classroom in Forum and stole dozens of computers. Not for the first time. 'Over the past year, we've had four serious attempted break-ins or thefts in our education buildings,' says Martijn van den Heuvel, head of Integrated Facility Management. 'The burglar was caught in the act on one occasion and arrested by the police. But dozens of computers were stolen on the other three occasions.'

After the last of those four break-ins, the decision was taken to secure the computers to the desks in metal cages. This should make it harder for thieves to make off with the equipment. Van den Heuvel: 'Believe it or not, the cages were delivered in the week *after* this latest theft.' LZ

Big drop in pre-registrations

The preliminary registrations for the Dutch Bachelor's intake at WUR are down 18.3 per cent compared with the same time last year.

Although preliminary registration numbers can vary a lot from year to year, some at Wageningen are voicing their concerns. 'Minus 18.3 per cent sounds a lot,' says Dean of Education Arnold Bregt. 'But these numbers should be seen in a broader perspective.' Last year was unusual, he points out. 'If you look at the difference between now and two years ago, that's a drop of about 7 per cent. It's still a decrease, but not by nearly so much. A small decrease in student numbers would fit with WUR's aims for the coming years, says Bregt. 'We would ideally like to keep numbers roughly constant, but with the number of school leavers declining and a political climate that is sceptical of

internationalization, a slight decrease is more realistic.' But the decline mustn't get out of hand, he adds. 'We need to keep a close watch on developments.'

Causes

Bregt sees a number of possible factors causing the decline. 'While other universities are doing more and more to actively recruit students – Twente University

'As a location, Wageningen still has the image of being a village'

has radio ads, for example – Wageningen has not really changed its approach in recent years.' He also points to the fact that other universities are offering more degrees on the environment, biology, nutrition and plant sciences. 'So there is more competition. Also, as a location Wageningen still has the image of being a village with a university but without its own train station.

So WUR needs to be more active in recruiting students, argues Bregt. 'Perhaps we should hold an open day on the Friday as well as the Saturday. This year, we will be organizing an extra open day anyway on Thursday 5 June for late deciders. We could also do more to sell Wageningen as a place, for example by highlighting the fact that, unlike in some university towns, here you can get an affordable room in your first year'. Lz

Housebuilding can start at De Dreijen

Housebuilding can finally start on the site of the former WUR campus De Dreijen. The Council of State has dismissed objections to the construction by local residents. That means the construction can go ahead of 80 homes on the northwest section of the site. That land has remained unused for years.

The 80 new houses are the first phase in plans to build up the entire campus site. The second phase will involve the construction of 550 new homes. Those plans have not yet been finalized. The development that has now been given the go-ahead will be a mix of owner-occupied homes, public sector rented accommodation and a courtyard. The site is rich in WUR history as it is where the Ritzema Boshuis (Tropical Agricultural Plant Breeding) and Dreijenborch (Rural Home Economics) once stood. Those buildings were demolished in 2008 and 2009, since when the land has remained undeveloped. Previous housebuilding plans failed for various reasons.

The 80 new homes won't have consequences for the students living in the remaining buildings on the campus site. Those buildings will be part of phase two of the construction. BK



Not everyone with their arm in plaster has broken a bone. They might just be a test subject in the research of PhD candidate Gül Turan (Human and Animal Physiology). She is studying what being immobile does to our metabolism. This is the first study on campus putting people in plaster. Turan is investigating how the metabolism of amino acids and glucose changes after a short period of inactivity. She is looking at both healthy people and people with Type 2 diabetes. The plaster stops the test subject from moving their arm. DV • Photo Ruben Eshuis

In brief

New Dean of Research

Professor of Global Nutrition Edith Feskens is to be the new Dean of Research. She will take over from Wouter Hendriks on 1 April, when his term of office ends. Feskens sees opportunities for better aligning the research in WU and WR and thereby improving the quality. 'That will help us prevent internal competition,' she writes on the WUR website, 'and get a much better fit between fundamental and applied research. That is important, especially now research funding is under increasing scrutiny in the Netherlands.

Rotating strikes: 14 April

WUR will be joining in with the nationwide rotating strikes, with action planned for Monday 14 April. A decision still has to be made on the form. 'Protests can take all kinds of forms, and we are looking for something that suits WUR people,' says Roos Scheermeijer (Physics and Physical Chemistry of Foods), who led the protest brainstorm session at the start of March. 'As long as the message is: Show some guts, stop the cuts! Imagine students having to print their own degree certificates or collect their own materials for their practicals due to a lack of money.'

Community service

In April 2024, a Chinese PhD candidate was pelted with stones, kicked and beaten

by a group of youths on campus. The incident sparked fear and anger among the international community. One of the perpetrators, a 19-yearold man, has now received a community sentence. He must also pay damages to the victim. Another suspect (a minor) was acquitted by the juvenile court on 14 February. The trial of a third suspect, who was 18 at the time of the assault, is scheduled for 8 April in Arnhem.

More CO₂ makes photosynthesis more efficient

The climate is changing as emissions of CO_2 continue to increase. Plants are changing too, shows research by PhD candidate Sophie Zwartsenberg. Higher levels of carbon dioxide in the atmosphere are making their photosynthesis more efficient. Text Roelof Kleis

his improved efficiency is thanks to rubisco, the key enzyme in photosynthesis. Rubisco takes CO_2 and turns it into glucose. But it can also capture oxygen instead of CO_2 , starting a process called photorespiration. The difference between the two processes is evident in the glucose that is formed. To see that, you need to zoom in on the small proportion of glucose molecules that a heavy hydrogen atom (deuterium) has been incorporated into naturally. Deuterium is a hydrogen isotope with an extra proton in the nucleus. NMR equipment

'This is not proof of increased growth thanks to CO₂ fertilization, as some media reported

can distinguish between photosynthesis and photorespiration by detecting this 'heavy glucose'. Zwartsenberg has made use of this gift of nature. She studied the glucose in the annual rings of the Australian red cedar, Toona ciliata. She used trees from Australia, Thailand and Bangladesh covering more than a century. The results left no doubt: over the past century, photosynthesis by the trees has increased due to the higher concentration of CO₂ in the atmosphere. 'The trees' physiology has changed,' explains Zwartsenberg. 'With the increase in the amount of CO₂ in the atmosphere, the ratio of carbon dioxide uptake (photosynthesis) to oxygen uptake (photorespiration) has shifted in favour of photosynthesis.' In other words, photosynthesis has become more efficient. It seems logical to see the higher efficiency as proof of CO_2 fertilization', the assumed positive effect of climate change on plant growth.

No proof

However, Zwartsenberg cannot and will not draw that conclusion. 'The change we are measuring says nothing about growth. So it's not proof of increased growth thanks to CO₂fertilization, as some media reported. I did my best to avoid implying that, but it's difficult to get a nuanced message across on this topic. I don't even know whether the increased efficiency leads to more sugar being formed. That's probably the case, but I don't know. A tree can be efficient but still not produce much sugar, explains Zwartsenberg. 'I think that's the reason why the smaller trees were more efficient than the larger ones in this study. Smaller trees get less light. That restricts the amount of photosynthesis, so they use up less CO₂. The concentration of CO₂ in the leaves increases, rubisco captures more CO₂ and so what photosynthesis there is, is more efficient.

Zwartsenberg discovered the change in the physiology after studying just nine trees. 'Three per location and only three to five samples per tree, spread across the annual rings. That's a very small dataset, and yet the results are so clear.' The limited size is for practical reasons. 'It takes two weeks to process four samples. And that's just the lab work, extracting the glucose from the wood.'



Researcher Sophie Zwartsenberg doing fieldwork in Australia. • photo Iftakharul Alam

[Live&Learn]

A botched experiment, a rejected paper: such things are soon labelled as failures in academia. As for talking about them — not the done thing! But that is just what WUR scientists do in this column. Because failure has its uses. This time, we hear from Hendrik du Toit, a PhD researcher in Experimental Zoology.

Text Nicole van 't Wout Hofland • Illustration Stijn Schreven

'For my PhD research, I study the swimming performance of flatfish like sole and plaice, among other things. There is standard equipment for this: the swim tunnel. You place a fish in a small chamber through which water flows. The stronger the flow, the harder it has to swim. I had already worked with such equipment during my Master's thesis, so I was full of confidence. 'I filled the swim tunnel with water at 10 degrees Celsius (like the North Sea), carefully lowered a fish into the water, attached the lid and camera, and switched on the flow. Instead of swimming, the fish sank passively to the bottom, drifted with the current, flipped over, and landed with its back against the mesh of the chamber. Strange, I thought. When I repeated the experiment with other flatfish, the exact same thing happened. That's when I started to get frustrated. I thought: why aren't my fish swimming? In hindsight, I should have seen it coming. In nature, flatfish bury themselves in sand

and prefer to stay still. They only swim when they have to. 'One of the great things about the Experimental Zoology group is that many colleagues have a technical background and are bursting with creative ideas for

'I am now in the third year of my research and I finally have a working version'

equipment and methods. That helped me not get too attached to a single design. I delved into the literature and built at least five adjustments to the tunnel myself, each with modifications to encourage the fish to swim. I am now in the third year of my research and I finally have a working version: one with an inclined plane with a special grid that prevents turbulence and creates an upward flow that encourages the fish to swim. I will analyse the results soon.'



More successful pregnancy with poorer diet?

The poorer the quality of the mother's diet, the greater the chance of a viable baby that is carried to term after in-vitro fertilization. That is the conclusion of a study by Janine Faessen, a PhD candidate in Human Nutrition & Health. 'We were amazed when we saw the results of our analyses.'

Faessen looked at whether women who had in-vitro fertilization (IVF) had a greater chance of a successful pregnancy if their diet was of a higher quality — expressed as percentage compliance with the 2015 Good Diet Guidelines published by the Dutch Health Council. The expectation was that the answer would be yes because individual product groups such as wholemeal grains, polyunsaturated fatty acids, proteins and iron and folic acid supplements all increase female fertility. But the conclusion from Faessen's study is the exact opposite. 'This confirms how complex nutritional research is. Your diet is part of your lifestyle and there are a lot of interdependencies; take exercise and stress or relaxation for example, as well as things like sleep and even a sense of purpose. Also, a lot of nutritional studies are observational, with the researchers following a group of people for a set period. They then try to find statistical associations in the data they have collected. That doesn't give you the same level of proof that you get from trials of medicines versus a placebo, for instance. In nutritional science you always need more research to confirm what you suspect.'

New ideas

Although the results are not in line with what the researchers expected, it was still a valuable study. 'These results have given me a lot of new ideas,' concludes the PhD candidate, who is working on an app with dietary advice for pregnant women and new mothers. 'During pregnancy, a lot of emphasis is put on food safety and all the things you aren't allowed to eat. We want to put more emphasis on a healthy diet and the things that *are* allowed, including in the period before getting pregnant.' DV

Food revolution is a **piece of cake**

A sugar-free chocolate bar or low-fat biscuit can taste pretty disappointing compared with the less healthy original. But that can change with a different approach. Text Dominique Vrouwenvelder

radically different approach,' says food technology scientist Stefano Renzetti of Wageningen Food and Biobased Research (WFBR). He and his team baked over 150 cakes to prove you can make low-sugar and low-fat products that still taste great. The test subjects even thought some of his cakes tasted better than the original. That is good news, because a lot of lifestyle diseases such as obesity are due to the excess consumption of products with a lot of fat and sugar.

In what he terms his 'food revolution', Renzetti brings baking back to its essence: the interplay between the physical and chemical properties of the ingredients. He likes to call this holistic baking. 'When we know the functions of all the individual ingredients and know how they behave in relation to other substances in terms of the structure and texture, we can make predictions about the final product. Then you can start playing with the ingredients.'

Dry cake

Playing with the ingredients works something like this. You make a simple cake mixture by blending butter, flour, sugar and eggs in certain proportions. In the oven, the heat causes the structure of the starch and protein to change. Renzetti: 'If you add less sugar to the mix, the temperature at which those transformation processes take place falls. The cake is then ready sooner. Every change you make affects the end result. Producers often replace high-fat ingredients with fibres or starch without making any other changes to the recipe. But fats are hydrophobic whereas fibres attract water. If you change those ingredients but don't change the preparation method, you get a dry cake.' Renzetti says product reformulation could be tackled more scientifically. 'Instead of thinking "How can I replace the fat I've always used", you can try fitting together a new puzzle with different ingredients and proportions that still give you a similar end product. This makes it a scientifically driven process rather than a question of hit and miss.'

Sweeter

The researchers tested their theory by baking various cakes, all with differing proportions of butter, sugar, flour and water and with different kinds of fibre. All the cakes had 30 per cent less fat and ten of them were low in both fat and sugar. Then the researchers gave test subjects six cakes to taste. Renzetti: 'The testers found three of the cakes similar to the original in terms of texture and moistness, one was softer and more moist, and one harder and drier, which was exactly what we'd expected. Three cakes tasted just as sweet and two actually tasted sweeter than the original, even though they contained 30 per cent less sugar.' According to Renzetti, the key message is that you can optimize texture and nutri-

'Two cakes tasted sweeter than the original, even though they contained less sugar'

tional value separately from one another. Any ingredient can be used as a substitute in theory as long as enough is known about the interactions in the food product in question. Even waste streams can be used in new products in this way, which would be good for the environment. 'We are now using this knowledge in a patent for the use of waste streams as high-fibre sugar substitutes.'



PhD theses in a nutshell

Smart spraying

Spray drying is a method much used in the food industry to turn a solution into a powder. A mist of droplets is heated until the liquid evaporates, leaving a powder. But not all powders are the same. The powder form varies depending on the temperature and additions to the solution, for instance. Anneloes van Boven revealed how these variables affect the powder and drew up guidelines for getting a powder in the required form. Complex material. RK *From mist to matter* **Anneloes P. van Boven. Supervisors Maarten Schutyser and Reinhard Kohlus (University of Hohenheim, Germany)**

Super-yeasts

Yeasts can offer a sustainable alternative to producing oils and fatty acids from palm oil. That helps save tropical forests. Zeynep Efsun Duman-Özdamar from Turkey investigated how to get *Cutaneotrichosporon oleaginosus* to maximize its production of the required oil. The yeast naturally makes oil that is similar to palm oil. With the right food, optimum temperatures and some genetic manipulation, she was able to push up the production to levels high enough for the microbial cell factory to put the palm tree to shame. Which is good news. RK

Vaccine wonderland

The vaccine development scene has become more diverse than ever since Covid. Jorge Armero Giménez (from Spain) is adding a new method to that wonderland. He developed a new way of creating virus-like particles that can be administered as a vaccine to trigger an immune response. He uses cells from the tobacco plant as mini-factories to make the virus-like particles. Not the whole cell, just the protein-producing machinery. The method is called ALiCE (Almost Living Cell-free Expression) in a nod to Lewis Carroll's book. Some ingenious chemistry allows antigens from any given pathogen to be attached to the virus-like particle. According to Giménez, that makes ALiCE a promising platform for taking rapid action when the next pandemic comes along. RK AliCE's adventures in Vaccinialand Jorge Armero Giménez ◀ Supervisor Geert Smant

THE PROPOSITION

PhD candidates explain the most thought-provoking thesis proposition. This time it's Alejandro Berlinches de Gea, who received his PhD on 10 January. His thesis was about how soil microbe diversity affects plant performance under various global changes. Text Ning Fan



'Excessive focus on mental health issues exacerbates mental challenges during the PhD process'

'When I started my PhD, I went to a mental health retreat workshop, hoping it would be helpful. But the entire day was spent listening to everyone talk about how stressful and miserable their PhD journey was. As I sat there, I began to wonder: am I doing something wrong if I don't feel stressed? Should I be struggling more? I ended up feeling drained and discouraged, and that thought stayed with me throughout my PhD journey.

'The problem isn't acknowledging mental health struggles — they are real and very important — but that we often focus so much on the difficulties that we forget the good parts. The excitement of a successful experiment, the friendships we make and the chance to work with brilliant minds... These moments are rarely shared among PhD students. Sometimes the discussions in these mental retreat workshops even make you think that if you're not suffering you're not doing it right.

'I think that instead of excessive talk about mental health issues, universities should strive for a more balanced approach, one that encourages positive thinking, celebrates small wins and helps PhD students build resilience. Doing a PhD is tough, which is exactly why we should focus more on recognizing progress, however small, rather than just adding to the stress.'

COLUMN

MWGA

We're living in tough times. Our newspapers are full of the massive shocks threatening world order. The consequences for Europe, including the Netherlands, are immense. Our Cabinet is introducing radical changes as well. Universities are getting less funding and have to focus more on the Netherlands.

WUR too has to make cuts, but our Executive Board has decided against any panic measures. So we'll be getting less fruit, and then we'll see how it goes. But I think a wait-and-see approach is a bad idea. We should take big steps straight away while we've got the momentum. Let me make some suggestions. After all, our world leaders offer plenty of examples.

We should start with some geostrategic

A wait-and-see approach is a bad idea. The time to take big steps is now

changes to increase the traction for Wageningen. From now on, we should refer to 'Wageningen train station', 'the Wageningen

Rhine' and 'Wageningen Zoo Rhenen'. We'll move the elite Papendal sports centre to the Bongerd, and rename the swimming pool the Gulf of Wageningen. WUR names need a rethink too. 'Leeuwenborch' (literally 'lion castle') is way too exotic. What is wrong with 'Sheep Pen', 'Chicken Run' or 'Pig Sty'? Or, given that it's the home of the *Social* Sciences, how about 'the Bee Hive'? That should give the place a buzz. Also, the Latin names on campus are too elitist. We should replace Orion, Radix and Omnia with everyday alternatives like Adrian, Radish and Ominous. We need to cut our workforce, so let's send



Sjoukje Osinga

every member of staff an email asking 'what did you do last week?' If you don't reply within a week, we don't need you. (Though we should be careful not to send all the students home too as they never read their WUR email.) And if you answer in English rather than Dutch, you might as well clear your desk immediately. Anyone presenting themselves as a scientist will get a cut in salary because ChatGPT is just as good at writing articles. A three-person Executive Board is wasteful: one person who knows the art of the deal is all we need. Giving people a say only slows things down, so we will do away with staff and student councils and programme committees.

We promise to solve the student housing problem in one day. We will remain green and socially aware but for efficiency reasons from now on we will call it biodiversity & inclusion. Anyway, there is no reason to despair: a bit of global warming will turn our floodplains into the Riviera of the North.

Make Wageningen Great Again.

Sjoukje Osinga (57) is an assistant professor of Information Technology. She sings alto in the Wageningen chamber choir Musica Vocale, has three sons who are students and enjoys birdwatching with her husband in the Binnenveldse Hooilanden.

More people off sick at WUR

THE ABSENCE ISSUE

WUR has the highest sickness absence rate of the four technical universities. Wageningen does not compare well with other universities either. A quest to find the causes reveals mental complaints as a key factor.



e calls it a 'complicated issue', one that puzzles him. Sickness absence at WUR is complex, says Human Resources director Martijn Scheen. The first thing you need to do when analysing it is to separate Wageningen University (WU) from Wageningen Research (WR). While they jointly make up WUR, their absence figures differ considerably (see inset). Strikingly, since the Covid pandemic, sickness absence has risen a lot at WR in particular. Other notable features, says Scheen - with Vitality & Health advisor Sander van der Nat and Vitality & Health team leader Dennis Kaldenberg at his side - are that 'across WUR the health problems are often mental, and there are differences depending on age and sex.'

According to Kaldenberg, one reason for the increase in sick leave at WUR since the Covid pandemic is that sickness absence during the pandemic was unexpectedly low. 'You might expect sick leave to increase during a pandemic but in fact it fell. That was probably because people were less likely to report sick. If you had

More on that later.

a migraine during lockdown, you would still attend the online meetings and then you would have a lie down. Afterwards, you would carry on to make up the hours; you didn't need to report sick. After the return to normal, we thought sickness absence would be back to about 4.5 per cent but it climbed higher and is now about 5 per cent for WUR and 5.6 per cent for WR, with a strikingly high figure for CS+ of nearly 7 per cent.'

Nuances

Kaldenberg says caution is needed in comparing the WUR figures against data for other universities (see inset) or the education sector in general. 'WU has low sickness absence compared with other universities.' According to Van der Nat, that is because the university has what he calls a lot of 'room to make their own arrangements'. 'Researchers have autonomy, which works well for enthusiastic staff. People in teams where they can make their own arrangements are less likely to report sick.' Incidentally, the WU sick leave figures are not hard and fast, notes Kaldenberg: 'We know there are science groups that don't keep particularly accurate records. If someone reports sick

Sickness absence rate per science group





with the flu after working 60 hours the previous week, they don't record that day off sick with flu.' So he's saying that's fine for the sickness absence rate, but it doesn't give you realistic numbers. 'That doesn't mean the absence rate will be more; it could equally be less.' Kaldenberg mentions another point to take into account. 'If you look at the national figures, WUR is about average; sickness absence in the third quarter of 2024 was 4.9 per cent. When you look at the national data for the education sector, WUR does very well, but that includes driving schools, which have extremely high absence rates.' Those are the nuances. But without a doubt, the data contains some striking and concerning figures, concludes Scheen. One notable trend is the increasing absence due to mental health issues. 'That has risen steeply in the past decade. It used to be a third of the total sickness absence, but now it has increased to 50 per cent. That's a lot. Absence due to an unhealthy work-life balance has risen significantly, accounting for 36 per cent in 2024, the Occupational Social Work staff tell us. That's up from 29 per cent in 2023.' While sickness absence due to work stress has fallen (from 36 per

cent in 2023 to 18 per cent in 2024), Scheen says the two causes have to be seen in combination. 'If you have problems at home, that affects your work. If a member of staff is pushing themselves hard at work and just about coping, an issue at home can be the final straw that leads to them reporting sick.'

PhD candidates

Another 'very complicated issue' (according to Scheen) that requires answers concerns the 25 to 35 age group, and particularly the women. 'We're seeing significantly higher sickness absence rates for that group across WUR.' Van der Nat: 'These are often young women with a family. Perhaps they have just bought a house with their partner, they have young children, they use up a lot of energy at home... but they also want to perform well at work. If the workload then increases, there is a big risk of sickness absence.' PhD candidates are a specific risk group as well, explains Scheen. 'They go straight from being a student to a four-year PhD position. They aren't used to the rhythm of work yet. Their job requires a lot of

self-discipline and the ability to deliver directly. If a PhD candidate becomes sick, that is a problem because they usually only have a contract for four years. That is a recipe for stress. Internationals often have a particularly difficult time. The Occupational Social Work people are often telling us we need to do more for them, such the young PhD candidates from Asia who might have had to leave young families behind to do their PhD here. We should also distinguish between the PhD candidates who are employed and the ones on a grant. WUR has a duty to be a "good employer" for the people in the first category, meaning they should get decent employee benefits and WUR should invest in their development, but we don't have the same defined relationship with the people on a grant. We aren't even allowed to give them any extras because



'The sickness absence figure for women aged 25 to 35 is significantly higher'

that would break the tax rules, although we still do so sometimes. Last year, for example, we decided to give international PhD candidates on a scholarship with an income below the minimum some extra salary, even though the Dutch Tax Administration doesn't officially allow this.'

Leadership

Another factor contributing to sickness absence is leadership, says Kaldenberg. 'A lot of scientists at WUR have been promoted to managerial positions.

A scientist is not necessarily a good manager. You get new responsibilities such as conducting sickness absence interviews. That requires very different skills. It's a situation where poor leadership can lead to staff reporting sick or leaving. But the managers often stay in position because they are good scientists who can secure big projects. We've started helping managers with tasks like

Sickness absence rate: WUR, WR, WU per 12-2024



Sickness absence rate for WU, technical universities and all universities Data source: UNL

All universities Tech. universities WU Total WUR Total



the sickness absence interviews.' Finally, an increase in long-term sickness absence can be seen in the group aged over 55, says Van der Nat. 'Older employees may have family care responsibilities, and the menopause can play a role with women. If something then happens at work, that may result in them taking sick leave. There is a task here for managers. You can't simply "switch off" the family care tasks or menopause complaints, but measures can be taken at work to reduce the stress. For example, if people are already at the end of their tether, you can go easy on them in the stressful end-of-year rush.' The planned cuts of 80 million euros appear to be putting more pressure on the issue. After all, long-term sickness absence costs a lot of money. WUR is required to continue paying the salary; an employee who is off sick for two years can easily cost the organization 300,000 euros. Even so, Scheen says WUR has no intention of getting tough on sickness absence because of the cutbacks. 'We are kind-hearted here in Wageningen. We would never put pressure on sick employees because of the cutbacks. And I'm proud of that. The Executive Board has however given me the go-ahead to take more action on combating longterm absence - an example being the appointment of Vitality & Health advisors like Sander. You should never use cuts or reorganizations as an excuse to sack someone who isn't functioning properly or is on long-term sick leave. That is an important message, because cuts are generally not a good context for reducing sickness absence.'

'MORE INFLUENCE BY PROFESSORS ON POLICY'

After two periods of three years, Dean of Research Wouter Hendriks will be handing over to Edith Feskens. And so a new person will be responsible for the PhD programme at WUR and chair the Wageningen Graduate Schools meetings. Text Roelof Kleis

> Hendriks, the professor of Animal Nutrition, saw many things change under his leadership. The Doctoral Service Centre, for example, started out with little support and budget but now has its own staff and premises in Atlas. A new registration system for PhD candidates (Hora Finita) has been implemented, as has the EngD programme.

What did you envisage changing six years ago?

'My goal was and is to improve the quality and efficiency of research. In my view, this starts with our PhD program. Lecturers are constantly assessed on their teaching qualities, but this doesn't happen for PhD supervision. However, that's in the pipeline. I would also like to implement an exit questionnaire, similar to the teacher assessments for Master's courses. Not to judge PhD supervisors but to safeguard the quality of the supervision.'

Hendriks includes the coordination of research by the university and the institutes among things that still need work. 'The organization is not yet managing that alignment. There's still a lot of potential there.'

But surely people are cooperating within the science groups?

'The director of a science group is in charge of both the WU and WR sides. The director has a lot of decision-making power in the institutes, but much less control over the chair groups and the education. The professors are responsible for their own budgets. Decisions about research are often made in splendid isolation. That costs WUR money. My proposal is to use PhD candidates and EngD candidates — where possible — for WR projects. This would result in a smaller permanent workforce at WR, with a flexible shell of PhD and EngD candidates. Plus they would get a bonus at the end of these programmes. Ten PhD candidates per year should be possible.'



Wouter Hendriks Dean of Research

According to Hendriks, it would also boost cooperation if professors had more influence over WUR's strategic decisions regarding research. 'The graduate schools, which consist of the professors and their staff, don't have an official direct line to the Executive Board and the rector. These schools cover the entire university, but they don't have a seat at the table during the senior executive meetings in the ABCDE group.'

What is the ABCDE group?

'They are the Executive Board, the science group and business operations directors, corporate staff and the Deans of Research and Education. About 24 people in total, of which only three are professors: the two deans and the rector. The other 21 have less direct knowledge of research or education. There's an imbalance there. The science group directors are formally also representing the chair groups, but do they know enough about them? We should include the graduate schools, as they have experience with the day-to-day education and research. There are a lot of layers in the Wageningen organization. We should consider whether this setup is future-proof, especially now we are facing budget cuts.' ■

Scan the QR code for the second part of the interview, on predecessor Richard Visser, Hora Finita and cat piss, among other things.



GROWING PLANTLESS TOMATOES

It sounds a bit weird: growing tomatoes without a plant being involved. Like lab-grown meat without animals. But PhD candidate Lucas van der Zee shows it is possible.

n a climate-controlled chamber in the Radix catacombs, Lucas van der Zee is growing tomatoes. Dozens of small plants can be seen in various stages of development in the artificial light. Which is not so unusual. The surprising aspect is what happens next. Van der Zee is using the flowers to grow tomatoes without the plant being involved. He just puts them in sugared water. But what is even more amazing is that you don't need to start off with a plant for the flowers to grow from, as research by Utrecht PhD candidate Niels Peeters shows. He grows flowers directly from plant cells. Van der Zee and Peeters are

working jointly on the Fruit of Knowledge project, which aims to grow fruit from parts of the plant. The activities of the two researchers complement one another perfectly.

On a Monday in late January, Peeters handed Van der Zee his first cultivated flower buds. The green buds, barely bigger than pinheads, are in neat rows in a plastic tray with a culture medium. What Van der Zee has already achieved with flowers he grew himself, he can now try with fellow researcher Peeters' flowers. If that works, they will have a proof of principle.

Sugar

Van der Zee graduated in Biosystems Engineering. During his degree, he took a course given by the professor of Hor-

'They tasted like tomatoes, only they were rather dry and small'

'The overall sustainability still needs to be determined'



ticulture and Product Physiology Leo Marcelis, who is now his PhD supervisor. 'I didn't know so much about plants in those days. I learned then that you can control each individual cultivation process separately. We are part of a movement where we want to make production better and healthier while using fewer raw materials. I find that fascinating. I wondered whether it would be possible to grow a fruit based purely on the genetic information.' That sent him on a path towards the ultimate reduction in raw materials: plantless production. Van der Zee: 'Can you grow a fruit fed with sugar rather than using light? And is that more sustainable?' He put that idea to Marcelis back when he was doing his Master's. That led to the first tentative experiments and eventually to a PhD project. 'I envisaged all kinds of problems,' says the professor, looking back. 'But he was enthusiastic, he had thought hard about it and he made a good case. I felt it had

potential. If this works — if we can do something to set this development in motion — that would be great. I've done a lot of research on greenhouse cultivation and in the past decade on vertical farming. This takes it to the next level: from the greenhouse to vertical farming to plantless cultivation.'

Sustainable

The advantages of plantless growth are obvious. This method saves space. Cultivation does not need much energy, fertilizer (nitrogen) or pesticides and only a fraction of the water that plants require. Rather than light, the tomatoes use sugared water to grow. However that sugar does come from raw materials. The overall sustainability of the system still needs to be determined, stresses Van der Zee. 'The technology hasn't yet reached a stage where we can measure that. We don't yet have an established method.' But they do now know it's possible. Van der Zee has already harvested and tasted his first tomatoes. 'They tasted like tomatoes,' he says, 'only they were rather dry and small. I don't yet know why that is. It also depends on whether there was a bit of stalk attached to the flower or not. The tomatoes are bigger with the stalk. I want to figure out what factors drive in vitro growth.' The same applies to his Utrecht colleague Peeters. He wants to know what can trigger a random plant cell to become a flower. 'We know from the

literature that cells you put in a culture medium reset themselves. If I use a piece of stalk, it carries on growing and turns into a flower, as if it recalls that was what it was doing. How it remembers is a mystery. That intrigues me.' ■

PREDECESSOR

Lucas van der Zee is not the first Wageningen scientist to grow tomatoes without a plant. In the 1980s, plant physiologist Antal Varga and his assistant Threes Geelen did similar experiments. 'I was reminded of that immediately when Lucas came to me with his ideas,' says Professor Leo Marcelis. 'I did a course with the Plant Physiology chair group when I was a student in 1986.' The underlying aim was very different, though. Varga was using *in vitro* cultivation to see whether regulating substances or signals from the rest of the plant were needed for the tomato's growth and ripening process. His conclusion at the time was that the tomatoes could manage without the plant as long as they absorbed sufficient nutrients (sugars). Van der Zee wants to turn that method into a new production system.



Lucas van der Zee with an 'old-fashioned' tomato plant on the left and tomatoes grown without a plant on the right. • Photo Guy Ackermans



SINGING AND SWEATING

I'm walking on sunshine, whoa And don't it feel good

This song and others were belted out on Monday evening during a karaoke indoor biking session. This was one of the first activities to celebrate the 70th anniversary of student sports club Thymos. Thirty people mounted the exercise bikes for one hour of singing and sweating. Instructor Ingi Alofs played music that was in keeping with the anniversary theme of 'Forever Young'. In addition to the karaoke biking, this month there will be a roller-skating disco and a knife-throwing workshop. DV

Photo Guy Ackermans

Trump in Wageningen

Trump is tearing through America's science institutions like an orange bull in a china shop. Climate change can no longer be mentioned and various decrees block research on sex, gender, diversity and inclusivity. Issues that are the subject of research in Wageningen too. Is Trump's influence stretching as far as our campus? Text Marieke Enter and Dominique Vrouwenvelder

Exit expert

Cathelijne Stoof, Pyrogeographer: 'Yes, I've already felts the effects of Trump's policies. In my PyroLife project, we have a working group on diversity, equity and inclusivity in relation to wildfires. It's an international working group, supported by the WIMEK graduate school, that includes students, PhD candidates and junior and senior researchers from a range of disciplines. Wildfire research is traditionally a field in which women are underrepresented. We analyse such things as the diversity of researchers in the field and we're developing a vision of what a diverse and inclusive "wildfire research and education world" should look like. But the new policies in the US have forced one of our American members, an expert on the topic, to withdraw.'

BAN ON UNIVERSITY PROTESTS

Trump has previously threatened to deport non-American student protesters. Last week, he said on social media that educational institutions would be putting their government funding at risk if they allow illegal protests, and American students would be expelled from university or arrested.

Joost Jongerden, associate professor of Rural Sociology and closely involved with WUR's Palestine pressure group, says in response: 'What we are seeing is higher education and research being made subservient to politics. This underlines the importance of academic freedom: you need to be able to study and discuss issues in academic fields and teach and publish findings without external interference, including from politicians or institution administrators. But what did we see here last year? The Royal Netherlands Academy of Arts and Sciences calling a parliamentary motion for more political interference "encouraging" (the Eerdmans motion, ed.) and rectors stating they would only be prepared to end their institutions' relationships if told to by a minister or the Cabinet. Flagrant violations of academic freedom. If we are worried about what is happening in the US, we should also question the subservience of academia to politics here in the Netherlands.

Dismay

Robbert Biesbroek, professor of Public Governance & Climate Change Adaptation and a coordinating lead author of the previous IPCC report: 'The US always played an important role in climate research. I am not currently affected much by Trump's decrees but I expect that to change soon. For example, I work a lot with American researchers on projects and research proposals and the funding for this is drying up incredibly rapidly — to their dismay. The same applies to data collection. A lot of climate data has already been taken offline, for example at the National Oceanic and Atmospheric Administration (NOAA). It is also unclear whether new data can be collected. To give another example, the Hurricane Center is only collecting limited data now. That is a problem for the short term but what is worse is that there will be a gap in the long-term data collection, or we will lose historical data series. Perhaps the only bright spot is that at the IPCC meeting in China last week, it was clear the climate remains a key issue for political leaders - despite the absence of the American delegation.'



Illustration Valerie Geelen

Goodbye, data

Alek Gerard-Ursin, Biosystems Engineering Master's student: 'In the last few weeks, I couldn't always access the data I needed for my Master's thesis. One moment the sites were up, and a few hours later they were down again. My thesis is on geoinformatics. I'm analysing the urban layout of Los Angeles – how the city's shape relates to environmental and social issues. Recently, when I was close to a deadline, I wanted to look at the Normalized Difference Vegetation Index. This data is collected by the National Agricultural Imagery Program, a federally funded program. But their sites were down so I couldn't continue.

'I had to make do with open source databases like OpenStreetMap. But they are scientifically less reliable as anyone can contribute to them. The quality of the data I have now is not as high as I wanted. It's okay as it is "only" for my Master's thesis, but I still want things to be correct.'

Terrifying

Inga Winkler, associate professor of Human Rights in the Law Group: 'For my research project (see page 30, ed.), I intend to do interviews with trans and non-binary activists in the US. But obviously there are huge concerns now about how openly they can speak, about confidentiality and about their safety. It is such a backlash. I don't have answers yet to questions about how to respond to this political shift, or how we can show solidarity and support for the people who are most affected by these policy decisions. The situation is really terrifying.'

Great loss

Margreet van der Burg, professor of gender studies and the lead for WUR's Gender+ Equality Plan: 'Gender equality was a key priority for USAID for years. They had a lot of innovative projects around the world, including ones in agriculture and food security. You could always find loads of information and data on this on their website. Shortly after Trump terminated this federal agency for foreign development aid, all the information was taken offline. You got the message "not available" with an explanation of Trump's decree. It's not an immediate problem for me right now, but it's a great loss for gender studies to no longer have this important source of information - for now at any rate.'

Al revolution requires new teaching plan

From literature studies to Bachelor's theses, generative AI tools like ChatGPT are becoming capable of performing increasingly complex tasks. Many students and staff are unclear about how and when they are allowed to make use of AI tools. The Education & Student Affairs department is now working on a plan to clarify things.



Text Luuk Zegers

here is a new AI tool from OpenAI called Deep Research. You give it an instruction such as "Write a Bachelor's thesis on this topic". The tool then asks you a couple of questions, after which it writes a thesis for you in no time. An amazingly good one in some fields of research.

Tijmen Kerstens, a member of the 'AI in Education' working group in the Teaching & Learning Centre, advises teachers on AI in education. 'Deep Research doesn't yet function perfectly, but students can still outsource a lot of the writing and thinking. The increasing diversity of AI tools is making it ever harder to determine whether a text was written by a human being. That is putting pressure on assessment methods like essays, literature studies and Bachelor's theses.' Kerstens advises teachers to change their assignments in such a way that using AI is either pointless or of educational benefit in its own right. Learning objectives should also be revised. 'If a learning objective is based on a skill that AI could replace in its entirety, you need to consider whether that is still relevant.' Is being able to write an essay still an important skill in a world with generative AI? Nelleke Lafeber, education policy advisor at Education & Student Affairs (ESA), has her doubts. Within ESA, she is working on a plan for AI and education.

That plan, with the working title AI in Education: Towards an Integrated Approach, is partly about the learning objectives and assessments mentioned by Kerstens. But it is also about clear guidelines, support and training for teachers, as well as deciding which AI applications are needed, such as tools that give students feedback or help them search for scientific literature. 'The plan has two aims,' says Lafeber. 'We want to educate students so they have the right knowledge and skills for their future field of work. And we want to set up the teaching in such a way that AI has added value and actually improves the education.'

Not a parrot

A recent survey study by Omid Noroozi (Education and Learning Sciences) on

'Many teachers assume AI is a mere parrot; they need to change their views'

the use and perception of generative AI within WUR showed that many students and staff don't know what is allowed and what is not when it comes to AI in education. Noroozi was surprised by the results. 'As far as I'm concerned, the institutional policy is clear: the teacher decides. I always hand out instructions about the use of generative AI at the start of any course I give. In those instructions, I explain how students can use AI to maximize the educational value.' Not all teachers give that clarity though: they aren't aware they are supposed to do that or they simply don't have the expertise or time for it. Kerstens: 'There are still a lot of teachers who think:



The rise of generative AI tools in education is raising questions such as whether being able to write an essay is still an important skill worth teaching. Photo Sven Menschel

hmm, we'll see. Or who assume AI is a kind of parrot that can't generate anything new. They really need to change their views. This technology is hugely disruptive. You can compare it to the introduction of the internet and all the innovations that brought.' Noroozi thinks it would be a good idea to offer teachers standardized workshops on AI. 'We also need a platform where teachers can learn from one another what works and what doesn't. Generative AI is constantly being developed further, so we need ongoing discussions with one another on how to use it in education.' As of January, the Teaching & Learning Centre has been giving weekly generative AI workshops for thesis students. Kerstens: 'This isn't really our responsibility as we are supposed to focus on supporting the teachers. But teachers often don't get round to tackling this properly, so for now we are doing it. So far, 263 students have taken part

in these optional workshops. Once AI skills are better integrated into the regular courses, we'll phase out the workshops.'

Grey area

One year ago, Kerstens chaired a conference on the question of how higher education should deal with generative AI. Twelve months later, students and teachers are still not clear about many things, but in fact distinct progress has been made, he says. 'We now have a policy: the teacher decides.' But the communication obviously needs to be improved to make sure students and teachers are aware of the policy. Further details are needed too, for example by answering questions such as 'Should using AI for spelling and grammar be documented?' and 'Should WUR keep a list of permitted AI tools?' Lafeber also wants to get on with fleshing out the AI policy. 'But we also need to be able to respond flexibly to developments.

The policy shouldn't be cast in stone.' Kerstens and Lafeber also urge the university Board to come up with a clear vision on the role of AI more broadly within WUR. 'We see great initiatives from teachers and students who are experimenting with AI,' says Lafeber. 'Now is the time to state clearly how WUR as an institution views this development. What counts as responsible use of AI? How can we seize the opportunities offered by AI? There is a big grey area where we need more clarity. If you do that, you create room to make proper use of the capabilities of AI.'■

The plan *AI in Education: Towards an Integrated Approach* being drawn up by ESA will be ready in the spring. Meanwhile, students and teachers can consult AI support pages for information on reliable tools, manuals and security aspects.

See this article on resource-online.nl

Botanical drawings exhibition

OH, WHAT A BEAUTIFUL PLANT

Botanical drawings are often even more attractive than the real thing. To demonstrate that, the Forum Library Special Collections department has put some wonderful works on show, including drawings by former WUR employee Wil Wessel. Text Roelof Kleis • Illustration Wil Wessel/Special Collections

he Forum exhibition is titled Beautiful Botany, Illustrations by Berthe Hoola van Nooten and Others. The drawings of Hoola van Nooten take centre stage. She was a nineteenth-century botanist and illustrator with Wageningen roots, and the subject of a recent biography. The library has a lot of her illustrations in its collection. However, this article is not about Hoola van Nooten; it is about Wil Wessel, one of the 'others' in the exhibition title. Rather a special 'other' in fact, as she was the last botanical artist to be employed by WUR. Wessel is now 78 but still working in her field. She spent more than 25 years employed in the Plant Taxonomy group, spread over a period of four decades. She joined the group at the age of 20 and took early retirement 40 years later. There was a reason why her 25 years were

There was a reason why her 25 years were spread over four decades. 'I got married and back then if you were a woman you had to give up your job,' she explains. 'I was allowed to stay on for a while as an exception. Until I got pregnant. I had to go then, because mothers were definitely not allowed to keep working. Young women now find that hard to imagine, but that was the way it was then.' We are talking about 1970. Wessel was in her early twenties and had spent two years working as a botanical artist at the Agricultural University. She returned to work in the same profession ten years later. In Wageningen again.

No training programme

It was more or less by accident that she ended up as a botanical artist. She enjoyed drawing but there wasn't a training programme for botanical illustrators. There still isn't. Anyway, she had to work to earn a living. She got a qualification in drawing through part-time courses at the art academy and local training college. 'Then I saw an ad for the Plant Taxonomy group. They were looking for an artist. So I quickly did some drawings of flowers, because of course I would have to show what I could do, and I applied for the job.'

There were four other botanical artists working in the group. She learned the ropes from fellow illustrator and mentor Gerrit Langendijk. The work consisted largely of producing illustrations for

'I HAD TO GO WHEN I GOT PREGNANT, BECAUSE MOTHERS WEREN'T ALLOWED TO WORK'

'IN A DRAWING, YOU CAN SHOW ALL THE STAGES OF A PLANT SIMULTANEOUSLY'

doctoral theses and teaching materials. She still has piles of theses with her illustrations. She knew nothing about plants to start with, but that was not a problem. 'It's not a prerequisite,' she says. 'If you're a good artist, the subject doesn't matter much. The scientist gives a detailed description of the plant, including the dimensions and the various parts. Then you get drawing.'

She doesn't see her work as art. 'It's a craft. The challenge for me was getting the image down on paper looking as attractive and clear as possible. The composition is really the only aspect where you can get creative. That's the little bit of freedom you have.' The composition is what sets the work apart from a photograph. 'In a drawing you can show all the stages of a plant. A stem with a flower, a leaf, the female and male flowers, the fruit. You can highlight the important details, magnify certain parts and show cross-sections. And you can do all that in a single illustration. That's not possible with a photo.'

Coloured in

The illustrations Wessel made for WUR were done in ink and not coloured in. 'First I would make a sketch in pencil.



Then I got it checked by the scientist, after which I inked it in.' These days, she does colour in parts of her work. 'For exhibitions, for example. People always prefer colour.' Because she is still drawing, and teaching others to draw. Since retiring nearly 20 years ago, she has been busy as a teacher for the Society of Dutch Botanical Artists.

The society was founded by fellow artist Anita Walsmit from Naturalis, around the time Wessel left Wageningen. 'The society really hit the spot,' she says. 'We were just a small club to start with but now we have 300 members.' The society makes sure botanical illustration is kept alive as a craft, even if mainly as a hobby. It is almost impossible these days to have a career as a botanical artist, for example at a university. Wessel: 'It is very labour-intensive and therefore expensive. One PhD thesis might have up to 20 illustrations. For just one thesis! That's unthinkable these days.'■

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BERTHE HOOLA VAN NOOTEN

Berthe Hoola van Nooten (1817-1892), née Den Dolder, was born and brought up in Wageningen. She was a teacher, amateur botanist and illustrator. She lived in Bassecour, which later became the headquarters of the Agricultural University, in the centre of Wageningen. She married the lawyer Dirk Hoola van Nooten. She lived for a long time in the Dutch East Indies. A biography of her life and work by David Apollonius Coppoolse was published at the end of last year. The book was presented in the Forum.

Students investigate alternatives to animal trials in education

LESS IS MORE

Like politicians (see inset), WUR is also aiming for a future with as few animal trials as possible. As an ACT assignment, five students started looking for animal-free alternatives for the animal practicals in Wageningen's education. 'Being able to change direction requires you to look at it from a different perspective.'

nimal trials for educational purposes do not account for much in the total for Wageningen: about 1 per cent. However, every animal experiment where the learning objectives can also be achieved without using animals is one too many. Technological alternatives to animal trials have been growing fast in recent years. The students' mission was to find out whether there are suitable alternatives to using animals and animal derivatives in Wageningen practicals, and if so, where and how.

Five students started investigating these questions as part of the Academic Consultancy Training (ACT) Master's course. They delved into the literature and interviewed animal practical teachers and the former director of the lab animal facility Carus. Using the study guide, they assessed the extent of the practice. Zwaan Pijnenburg, Master's student in Biology: 'The number of official animal trials for educational purposes isn't very high in Wageningen, but if you look more broadly and include practicals involving other animals or animal material, you're soon talking about at least 40 to 60 courses.' Teachers do not take the use of animals lightly, the students emphasize. Sabine Bastiaans, Nutrition and Health Master's student: 'Teachers consider very carefully how they can design their courses and practicals to minimize the impact on lab animals. Some teachers have switched to abattoir material, for example when teaching pig reproduction. Another teacher replaced fin clipping in zebrafish with a less invasive skin swab to collect DNA and learn how to do sequencing. And there are many more examples like this.'

Four students, one chicken

Nowadays, alternatives for animal trials are likely to involve hi-tech solutions, such as 3D bioprinting, an organ-on-achip or digital twins. Not much benefit can be expected from this in the short term as regards teaching practicals, the ACT students think, because these solutions are still too expensive and complex. But WUR could teach students more about them. Pijnenburg: 'Understanding how you can apply that technology, what data and models tell you about the "real" animal, is important knowledge for the



new generation that will need to create a future without lab animals.' They emphasize that a lot can be gained with relatively simple approaches. Pijnenburg: 'For example, let the teacher demonstrate the "real" dissection, while the students follow that process using a

ABOUT ANIMAL TRIALS AND LAB ANIMALS

The Experiments on Animals Act regulates research with vertebrate animals (except some primates; experiments with the apes* are prohibited) and squid and octopuses. Trials with insects are legally not animal trials. Animal experiments are defined as when the research involves some degree of harm to the animal. Research on tissues or organs from animals that are specifically killed for the purpose also counts as an animal experiment. The same research with material from animals that die from different causes, such as slaughter, is legally not an animal trial.

*Chimpanzees, bonobos, orang-utans and gorillas.

plastinate. These come in all shapes and sizes. In some, you can even take something out or put something in, just like with a real animal. It's very suitable for many learning purposes.'

Or have multiple students work on one animal, Bastiaans suggests. 'In Ghent, where I studied veterinary science for two years, for dissections we had four students working on the same chicken – that was fine. WUR has quite a lot of animal practicals with piglets*, where one piglet is often used for every two students. Make that one for every four students and you've already halved the number of animals you need,' she suggests.

Video

While the teachers interviewed might view the switch to alternatives positively, they don't yet consider it feasible to end the use of animals entirely, Bastiaans says. 'They say that it would make education less effective or less interesting.' The students themselves are more optimistic about the feasibility of animal-free education. Bastiaans: 'The current setups of many practicals were developed over the years. To be able to change direction, you have to look at it from a different perspective. Take the learning objective as the starting point: how can we achieve it without needing animals?'

They believe you don't always need to enter the lab for the learning objectives in question. Sometimes a video clip is enough. 'Teachers are reluctant to use videos because after Covid they got a reputation for being boring. But that was during lockdowns when everyone was at home staring at a screen all day. If you show a video in the lecture room and link a fun knowledge quiz to it, everyone is sure to pay attention,' Pijnenburg



Plastinate of a piglet's head • Photo Utrecht University

POLITICIANS WANT FEWER TRIALS WITH LAB ANIMALS

The Dutch Parliament wants the Netherlands to be a leader in reducing animal trials and developing alternatives that do not require lab animals. Almost all parties supported a motion to this effect by the Party for the Animals last week. For some years, WUR has been investigating solutions for a future where lab animals are not needed; it is one of the pillars of the prestigious Next Level Animal Sciences research programme. The most recent figures on animal trials at Wageningen are for 2023; the annual report for 2024 has not yet been published. In 2023, WUR did 56,363 tests on animals, 20 per cent least than the previous year.

less than the previous year. The majority (73 per cent) were trials with fish, with the goal of monitoring stocks and studying migration. The lab animal dossier at WUR.nl has more figures and background information about animal trials and laboratory animals.

thinks. Another good idea, according to Bastiaans, is to let students make a video themselves. 'For the Molecular Regulation of Health and Disease course, I once had to make a stop-motion video about an enzyme pathway in the liver. Beforehand, I wondered what that was going to teach me, but I've never learned to understand something as well and as quickly as I did then.'■ * These are stillborn piglets that WUR obtains from a pig farmer; they are not killed for the practicals (and are therefore not legally lab animals).

Board presents new strategic plan

More like a compass than a roadmap

The bar has been set high for WUR's new strategic plan. Radical developments are coming thick and fast in the Netherlands and the wider world — and will affect WUR. Which raises the question of whether a multi-year plan is appropriate right now. President of the Executive Board Sjoukje Heimovaara thinks it is, but adds caveats. Text Willem Andrée

he first thing that strikes you when reading the plan presented last week during the Dies Natalis is the language. You could call it militant. 'The urgency to act is clear', it says, and 'we must be courageous'. Or take this statement: 'There is a global battle for talent'. Another striking aspect is what is missing. The investment themes are no longer mentioned and there is nothing this time on managing student numbers. Nor are there specific targets. They are still to come, says Heimovaara, explaining this plan is more of a compass than a roadmap: 'The world is continually changing. By the time this interview is published, there might have been another major change. That's why we haven't made a plan cast in concrete but instead produced a guide document with themes we identify with and can use to steer the science groups flexibly.' New features are the six themes and WUR's 'narrative' (see inset). And the fact that the science groups all worked on their strategic agendas at the same time. 'Those agendas flesh out the course set in this strategic plan.'

The language is striking; was it deliberate? 'T'm aware it reads like fighting language. We discussed our values with a large group of people (see inset) and "taking responsibility" and "courage" were recurring terms. Collaboration was also mentioned a lot. So it's not just about taking our knowledge to where it's needed but also about collaborating with NGOs or other science institutes, for example, to see how to make further progress.' **That doesn't sound very distinctive.** 'The document wasn't written to make us stand out. Although we do want to give the wider world a better picture of what Wageningen is. WUR is food, nature and people – to reduce it to its core. But at present, the wider world often only sees us as that one aspect they happen to know about. So we are either intensive livestock farmers or ecological tree huggers or economic calculators. But we're all of those things. That commonality above all is crucial in making the difference. We need to show that together we help ensure plant and animal production for all of humanity: sustainable, within the planetary boundaries and while retaining biodiversity. And using a range of academic fields, for example in economics or ecology.'

The values, such as trust, are difficult to measure and therefore somewhat vague. 'Trust has to do with the organization's culture and it is indeed difficult to measure. To give an example: in view of the cuts, we are seeing whether we can reduce the bureaucracy because it's time-consuming and expensive. Trust means we don't check up on everyone all the time; we assume people are doing what they should be doing. Incidentally, that also means you should be able to hold one another to account for your respective responsibilities — it's not about being lax. That's one of my top priorities.'



Executive Board President Sjoukje Heimovaara presents the new strategic plan during the Dies Natalis in Orion. • Photo Guy Ackermans

Previous plans discussed the growth in student numbers, but not this one. 'We need to allow for the possibility of numbers stabilizing or falling. That is inevitable. We know the demographic profile of the Netherlands is changing, and the number of students choosing the sciences is falling as well. There is more competition too as more universities here and abroad are covering our domains. Research shows students are very interested in our subjects but they don't know about us or don't find Wageningen appealing. We need to work on that. It has the Student Recruitment department's full attention.'

Does the plan also allow for the termination of degree programmes?

'We want a more flexible degree portfolio. Every year, students say we are the best, but there's nothing more dangerous than being the best every year. You become complacent when you should be bold and innovating. Take the use of AI, or refreshing our portfolio. So that also means being prepared to terminate certain courses.'

Does the plan pay enough attention to WUR in the world?

"The competition is fierce: think of the enormous sums being invested in science in China. International aid programmes are also being hit (the Trump administration has put a stop to USAID, ed.) and climate change "no longer exists" now Trump is in power. We can't influence all that, although we can draw attention to it. That's why we are talking a lot to the World Bank and other development banks to reinforce our contacts there. We need to cherish and protect our international profile.'

The plan states that curiosity-driven science deserves support. Will there be more focus on fundamental science? 'Fundamental science is under pressure. For example, the government has substantially reduced the Dutch Research Council's budget. Our fundamental scientists need protecting. They are slower to deliver — logically, given the nature of their work — but in the end they produce brilliant stuff, for example for food security. The plan doesn't say we will be able to invest in this ourselves, but I spend part of my time lobbying for WUR to prevent cuts that would affect research.' ■

Read more on resource-online.nl about the topics of AI, the missing investment themes and support for bottom-up initiatives



'OUR STORY'

A new feature of the strategic plan is the six themes that summarize what WUR is about: sustainable food systems, biodiversity and resilient ecosystems, global health, climate-proof futures, a biobased and circular society, and sustainable water and land use. Another new aspect is the WUR narrative, which Heimovaara calls 'our story'. In brief, that story is that the demands made on nature, water and land by humans must be kept within the planet's capacity to cope. The values — another new aspect and seen by Heimovaara as crucial for the compass — are sustainability, responsibility, trust, courage, curiosity and collaboration. To read the plan, go to wur.eu and search for 'strategy'.

Research on menstruation stigma

BLOODY UNFAIR

Menstruation carries a stigma in almost every part of the world, sometimes to such an extent that basic human rights are at risk. With an ERC Consolidator Grant of two million euros, Inga Winkler is investigating what changes are needed to improve the situation and ensure justice. Text Marieke Enter • Photo Guy Ackermans

inkler's research focuses on menstruation, but ultimately it is about gender relations, gender norms, and whether and how human rights can transform these, she explains. Her work largely concerns cis women – 'cis' means a person's gender identity matches their sex at birth – however, the word 'woman' is mentioned only sparingly. 'We have to acknowledge that not all women menstruate, and not only cis women menstruate. That acknowledgement starts with using inclusive language.'

What does your project entail?

'Obviously, menstruation is nothing new. But the fact that we are publicly paying attention to it is something that started in the last 10 to 15 years. The media are talking about menstruation now, a lot is going on in femtech (e.g. apps to keep track of your menstrual cycle, ed.) and in some countries menstruation is addressed in public policy. But many of these efforts relate only to the management of the bleeding. The socio-cultural meaning, the menstrual stigma and gender injustices remain unaddressed. In my project, I will study whether and how social movements address these invisible and intangible impacts.'

Forget the pads, cups and tampons?

'No, certainly not, but focusing on menstrual products is not sufficient to address menstrual stigma and gender injustices. Much of the messaging around menstrual products is hugely problematic. They supposedly help people to "keep their dignity" or "avoid embarrassment". I want to challenge that message. People's dignity is not dependent on a menstrual pad, and a leak or stain should not be a source of embarrassment. We should be thinking much more holistically about what menstruation means, and how we accommodate menstrual needs.'

The stigma around menstruation might even affect human rights, you state. How?

'The stigma around menstruation is quite difficult to capture because it's so invisible. But the impact can be huge. For instance, on the right to health: menstrual pain is normalized, which leads to not going to the doctor and not trying to figure out what's actually going on when people experience heavy cramps. But severe pain is not part of a normal cycle. Another example is how people who menstruate are being perceived at work. All too often they are labelled as too emotional, bad tempered, irrational and hysterical, questioning their ability to deliver and take decisions.'

So your research is about changing perceptions in society?

'Mostly, yes. It is about looking at the bigger picture and thinking about what changes we need to create a society where no one is disadvantaged simply because they menstruate. State institutions play a role, in terms of creating an enabling environment for people to ensure that their menstrual needs are met. But it is also about societal life and cultural ideas. Human rights are ultimately about agency, about the autonomy to make your own decisions. Do you need to take a day off, or do you have enough energy to power through? Do you want to take part in sports, social life or religious activities, or would you rather have some time to yourself? No one should be judged for any of these decisions.'

Your project is transnational and participatory. What does that mean on a practical level?

'The menstrual movement is emerging in different parts of the world and started in the Global South. Kenya eliminated taxes on menstrual products in 2004. That was much earlier than the introduction of Spain's menstrual leave in 2023. Even today, the most exciting work is happening among movements in the Global South.

'My research is a mix of a global component – so far, I have done fascinating interviews with activists from Turkey, Taiwan, Fiji, Mexico, Colombia and Brazil, who are all connected – and certain country case studies, where PhD researchers will be based. One is definitely going to be in India. I have been working for a long time with Dalit feminists (Dalit is the name for the group previously called the untouchables, ed.), who are part of the manual scavenging movement (the people who clean toilets and do sanitation work). For them, menstruation is an entry point for other gender-related conversations in their community. This is the basic idea for the project: to understand people's lived experiences with menstruation, how they experience discrimination and stigma, and how they get together and seek change, using what kind of strategies. We'll do that in India and in South Africa, and I want to look at the US as well.'

That might be challenging now...

'Yes, we will have to see how that goes. I have structured the project to look at four different forms of marginalization and how they intersect with menstrual stigma: caste, ethnicity, informality and the fourth would be the menstrual experiences of trans and non-binary people, i.e. the intersections with gender identity – which is heavily politicized now in the US, but not only there. Overall, I'm interested in how people rely on concepts of human rights and justice to work towards a society where menstruation is no longer a constraint in people's lives.' ■

Inga Winkler is an associate professor of Human Rights in the Law Group. Prior to joining WUR last September, she worked at the Central European University (Vienna) and Columbia University (New York). Earlier in her career, she was a Legal Advisor to the UN Special Rapporteur on the Human Rights to Water and Sanitation. Winkler holds a German law degree and a doctorate in international human rights law.



Limelight



April 12, 13 (matinee), 16, 17, 22 and 24

Cultuurwerkplaats, Wageningen Tickets 11.50 or 15 euros via wdttoneel.nl

'Nothing is what it seems, nothing is real, and nothing will ever be as it was. Everything is suspicious.' This is how Wageningen theatre society WDT announced the thriller *Sick Brother* that they will be performing in April in the Cultuurwerkplaats. Text Dominique Vrouwenvelder

Sick Brother

Students Denisse Román Clemente (Forest & Nature Conservation MSc), Indira Louissen (Forest & Nature Conservation BSc) and Renske Timmermans (Biobased Sciences MSc) are members of the theatre society WDT and actors in *Sick Brother*. Louissen: 'The play is a nod to the reality show *Big Brother*.' The participants in that programme are locked up in a house with cameras everywhere that record them day and night. While people round the world are watching them on TV, the residents have to perform various tasks. What ups the pressure is the fact that the person who holds out to the end wins a lot of money.

<text>

'The aim of Sick Brother is to make all the candidates so afraid that they actually want to leave the show,' explains Timmermans. 'The organization comes up with actions to chase off the participants. But,' she says mysteriously, 'are they the ones thinking this up? Or is something else going on?' Louissen adds, 'I don't want to give the plot away, but things happen that the presenters don't know about either. The audience will wonder who to believe, what is part of the show and what is not. Gradually, you find out what is really going on.' 'We started rehearsing at the end of October,' says Román Clemente. 'We began by getting to know one another, doing exercises and learning to respond to one another. The play is taking shape now. Everyone is more comfortable in their roles and the set and nearly all the props are finished. It promises to be great.' Louissen: 'We will be performing in the Cultuurwerkplaats. The audience will be on the stage and we'll be in the room. So they will be higher, looking down on the Sick Brother house.'

TIPS

FRI 21 March Queer open stage Shout, De Wilde Wereld

FRI 28 – SUN 30 March Reclaim the Seeds Festival at various venues in Wageningen

April Woeste Hoeve anniversary parties

Opening party 2/4, Western party 3/4, techno party 4/4, post-beer songs party 8/4, closing party 9/4. See Insta @woestehoeve



Bureaucracy won't save us

The budget cuts in science and education have startled universities into confronting the reality of financial scarcity. However, the creativity and innovative ideas readily available from WUR folk seem to be ignored when dealing with the 'financial crisis'.

Under the guise of energy savings, the WUR Executive Board have seemingly unilaterally decided to change the opening hours for the entire organization. From 1 March, Radix is open from 07:00 to 20:00 on weekdays, and only 10:00 to 14:00 during weekends. Furthermore, students will only have access until 17:00 during weekdays. Naturally, there is the option to request access outside of these hours, but the process is very intricate. You begin with asking permission from your supervisor, then you ask for a form at the reception desk and wait to get permission from the security staff who arrange your access. And then on the day itself you sign in with reception. In addition, you have to use the 'X-Guard' app, which works exclusively on android smartphones, so security staff can check your activity in the building. Despite the detailed chain of contact, you are also responsible for calling security when you leave.

These new guidelines have not been thoroughly discussed with the chair groups, bypassing important steps in decision-making about something that will seriously impact science

and education at WUR. If science has inexorably saved us from multiple crises worldwide, then why is WUR stubbornly relying on bureaucracy?



Willy Contreras-Avilés (34) is a second-year PhD candidate in Horticulture and Biochemistry of medicinal cannabis, from Panama. He likes to dance (*perrear*), cook Italian food and swim.

You encounter all the flavours of the world in Wageningen. Axel Hernandez (25), a Master's student in Resilient Food & Farming Systems from France, shares a recipe full of locally produced winter vegetables.



Flavours of WUR

Quinoa with roasted winter vegetables

'This Mediterranean-inspired recipe is perfect for vegetables grown in the Netherlands. It is easy to prepare and full of vitamins. The dish can be adapted based on what you have left in the fridge and your personal preferences. You can also personalize it with your signature vinaigrette. Enjoy some fresh, seasonal vegetables and embrace the winter flavours!'

- **1** Preheat the oven to 200°C.
- 2 Wash the vegetables and cut them into squares, rectangles and triangles. Mix with the olive oil, salt and pepper. Put the vegetables on a baking tray. Cover with a sheet of baking paper and cook in the oven for 30 minutes. Tip for garlic lovers: add a whole garlic to the baking tray for roasted, melting garlic cloves.
- **3** Rinse the quinoa in cold water. Put the quinoa in a pan with 1.7 cups of water. Cook the quinoa at medium heat for 12-15 minutes. Then turn off the heat and leave covered for 5 minutes.
- **4** Whisk together the ingredients for your vinaigrette.
- **5** Serve the quinoa with the roasted vegetables. Sprinkle with crumbled walnuts and chopped parsley, and drizzle with the vinaigrette.

Ingredients (for 4 people):

- 1 cup of quinoa
- 3 carrots
- 3 sweet potatoes
- 3 parsnips
- 1/2 pumpkin
- 2 tsp of olive oil
- walnuts, crumbled
- fresh parsley, chopped
 - salt and pepper

Vinaigrette

- 9 tsp of olive oil
- 3 tsp of apple cider
- vinegar
- 2 tbsp of maple syrup 1 tbsp of cinnamon
- 1 CDSP OF CITIIdiiion

Preparation time:

🕓 ~40 minutes



Axel Hernandez Master's student in Resilient Food & Farming Systems



WUR is incredibly diverse, with hundreds of internationals working and studying here. In the Meanwhile In column, we ask one of them to comment on events in their home country. This time, Food Safety MSc student Athanasios Liampas (25) shares his thoughts about the Greek train crash and the student protests on 28 February. Text Machteld van Kempen

'This protest, which took place in Greece and other countries, was an initiative organized by a group of Greek students and non-students. It marks the anniversary of a train crash that happened in Greece two years ago on 28 February. The crash, a head-on collision between two trains, resulted in 57 deaths and 85 injured among nearly 350 passengers. Twenty-seven people died from the impact and 30 others from an explosion, probably caused by smuggled illegal substances transported via the Greek railways.

'More than a decade ago, Greece co-signed a European agreement that allocated funds to install railway safety measures. However, these safety systems were never implemented. Just eight days before the crash, the Minister of Transportation falsely assured Parliament that the railways were safe and shamed those who expressed concerns. The former CEO of Hellenic Railways, the Greek railway company, later admitted that if these safety protocols had been in place, the crash would not have happened. After the accident, some suspicious events occurred: the crash site was disturbed and two key witnesses later died in traffic accidents. These incidents likely point to a government cover-up.

'For the past two years, the families of the victims, especially the mothers, have fought for justice. Everybody sees these



On 28 February, Greek students protested in front of Forum against their government: 'Two years after the train crash, we demand justice and the truth.' Photo Machteld van Kempen

mothers as like their own family and feels their grief. Nobody has been held responsible for the death of their children. There has been no proper investigation and no person of importance has been blamed or prosecuted. It shows the systemic corruption in Greece. We need to raise

awareness and we need to gain international support, because without it, nothing will change. People visiting Greece should understand the reality: you could board a train and never reach your destination. Our government is complicit in the murder of 57 people.





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MOVIE NIGHT WITH ENGLISH SUBTITLES



16.03.2025 • 20.00 • moview.nl

Impressive must-see documentary about the residents of the West Bank, filmed by a young Palestinian and his Israeli friend.

NL subtitles: 13.03.2025 & 19.03.2025



Colophon

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[SERIOUSLY?] Kooky news



Photo Shutterstock



FYI: NEW UNI EN TEST

CEO Houkje Sjeimovaara has announced on the WUR intranet that WU and WR will have to take a new EN test to get them up to speed asap on modern abbrev (ab)use. Not only will this save on time and paper, both KPIs for budget cuts, it will also improve comms with the students and keep WUR GOAT.

The WUR Board had the brainwave during an ESG mtg. CEO Houkje Sjeimovaara: 'It was VP Caro Cruise's idea. She said if we want 2 take DEI seriously, we need to upskill our Engl. + use more abbrevs to engage with Gen Z. TBH, CFO Rens BW was a bit -ve at 1st. So we explained this will make lectures 30pc shorter and use 50pc less paper, both important KPIs for the Min of Ed. Then he was like OMG let's go 4 it.'

The new EN tests and accompanying info pack will be created using Gen-AI. HR will be rolling them out after the COR, SSC and SC give their consent. 'AFAIK, that won't be a prob,' says Sjeimovaara. 'We may need some FAT-sessions for staff. BSc, MSc, PhD and EngD students will be exempt if they can prove they are Gen Z and not Gen Y.'

Resource asked some students and staff for their reactions to the WUR news. GIS prof 'and proud boomer' Pete is enthusiastic. 'My students send me emails so full of abbreviations that I have to use ChatGPT to translate them. I have this constant FOMO. Did you

'IMHO boomers don't get what UR saying. IJBOL' know that means Fear Of Missing Out?' Student Marie Claire is keen too. 'Me and my BFF were scrolling thru Insta, refreshing my FYP + talking abt

hols when I got a txt msg from my prof and it was like pls, IRL no one writes like this. IMHO boomers don't get what UR saying. IJBOL.' F&S officer Mark is less impressed by the WUR announcement: 'TL;DR'.