WUR from within: straight, sharp, transparent

No 04

Resource

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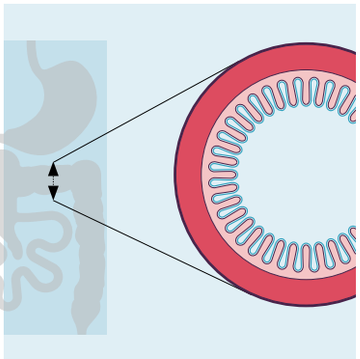

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FOREWORD

At home

A number of students called for a photo exhibition about the waste industry in Ghana to be taken down and destroyed. For various reasons, they felt the exhibition was 'problematic' and 'did not meet the standards for scientific research'. To lower tensions for talks between these students, WUR and the photographer, the exhibition was removed on 1 October (page 4) with the promise that the entire exhibition will return, but this time with more context from WUR.
To protect the feelings of a small group of students, all students and staff are now being deprived of the opportunity to form their own opinion about the exhibition. How inclusive are talks if almost no one is allowed to take part? How open can you be in such a dialogue if you start with a demand? How free is a debate if the subject of the debate has been removed before people were able to arrive at their own opinion?
It is laudable that WUR wants everyone to feel safe and at home on campus. But one person's safety is at the expense of another person's freedom. I feel less free and therefore less at home on a campus where art first has to be removed before it can be discussed.

Luuk Zegers
Editor

ART WAVE

This artwork for Aurora is a gift from the builders. The sculptor Bart Lebesque says that the rusty steel, some of which was found behind the site cabin for the new education building, symbolizes the primeval power of science. The stainless steel refers to agriculture and the food industry. It comes from a production line for processing spinach. 'The worlds of science and the food industry spill into one another like a turbulent wave,' explains Lebesque. 'And a wave is a pleasing shape anyway.' RK

Photo Guy Ackermans

WUR is looking for a new president

WUR's Supervisory Board is looking for a successor for Louise Fresco, who will have to step down in June 2022 after two terms as chair of the Executive Board.

The Supervisory Board sought advice from parties including the WUR Council as they drew up a profile for the new board chair. The profile is now ready. Fresco's successor will ideally be a woman again. She should have a research background in the domain of food, nature and environment, and be a diplomatic representative of WUR at ministries in the Hague, the EU in Brussels and in international forums. She should also promote an open governance culture, says the WUR Council. Interestingly, though, she does not have to be Dutch.

'Fresco's successor will ideally be a woman again'

Names

Names of possible candidates are already circulating on the grapevine. Like Carola Schouten, the outgoing minister of Agriculture. And Edith Schippers, former minister of Public Health, Welfare and Sport and currently president of DSM Netherlands. And Margrethe Jonkman, director of Research & Development at the dairy firm FrieslandCampina. Foreign candidates to lead WUR seem to be harder to find. The only name that has come up so far is that of Agnes Kalibata, a former agriculture minister in Rwanda and currently president of the Alliance for the Green Revolution in Africa (AGRA). AS

You can find more names and further information on our website. If we have forgotten a candidate, let us know online:

The exhibition *Power of the Wasted* was taken down on 1 October. Photo Sven Menschel

Photo exhibition removed temporarily

The *Power of the Wasted* photo exhibition has been removed temporarily from campus after criticism from the United Community of African Students (UCAS). The exhibition will return in its entirety, but this time with more context.

The photos, which were on display in the outdoor gallery next to Impulse, were taken by International Development Studies alumnus Jurrian Veldhuizen. 'When I stood on one of the largest rubbish dumps in West Africa, I thought: other people need to see this too.' In this exhibition on the informal waste industry in Ghana, Veldhuizen shows the waste and the people who work with it every day.
UCAS gave various reasons for its demand that the exhibition should be taken down. It saw a photo of a young man smoking a joint as 'cultural misrepresentation' of Africa and called the use of the word 'scavenger' denigrating. UCAS also says the exhibition does not satisfy the ethical guidelines for scientific research.

Art

After talks between the university, UCAS and the photographer, the exhibition was removed temporarily on 1 October to 'create space for a broader discussion about the sensitive aspects'. Sebastiaan Berendse, the director of Corporate Value Creation, which is responsible for Impulse and the photo exhibition, says that 'some in the African community see something different to the story the photographer is trying to tell.'
At the same time, it was announced that the exhibition would return in its entirety with additional context provided by Impulse. Berendse: 'One of the reasons for the confusion is that the photos are intended not as a scientific presentation but as an art exhibition, albeit inspired by a graduation project. WUR could have done better in explaining the context.'

'We want to create space for a broader discussion about the sensitive aspects'

There have now been two 'good, constructive sessions' with WUR, UCAS representatives and the photographer, says Berendse, and more will follow. 'There is room for sensitivities but we will also look at what additional context is needed to allow the exhibition to return to campus.' It is not yet known when that will be. LZ

264

Student housing provider Idealis is having a new student residence built on the Costerweg. There will be 264 student rooms, with 144 self-contained units and 12 flats for 10 students each. Construction started last week. There will be solar panels on the roof of the building. And a butterfly garden – to be created in collaboration with the Butterfly Association. The complex will be completed next year. AS

Teacher training college in Kabul open again

The teacher training college in Kabul supported by WUR opened again this week. The National Agriculture Education College (NAEC), which trains agriculture teachers, has a new Afghan management. The previous management was evacuated by the Netherlands.

The two-year teacher training programme has not admitted any new students this year, due to the takeover by the Taliban and the lack of clarity as to whether the school would be able to reopen. The students who started last year are trickling back, says Hans van Otterloo, the NAEC project manager for WUR.

The training of women has not been resumed. The Taliban have not forbidden the education of women, but have not made their conditions for it clear, says Van Otterloo. He is considering setting up a distance education course for Afghan women. AS

Accommodation plan decision postponed

The WUR Council has not yet given its approval on the Executive Board's strategic accommodation plan. The decision on this plan has been postponed by six weeks.

The plan makes arrangements for working from home and sharing workspaces on campus. The WUR Council wants guarantees that staff will still have a decent place to work on campus.

WUR needs another 10,000 square metres of office space to accommodate the growing workforce. The Executive Board wants to make more efficient use of the existing space rather than building more offices. The reasoning is that working from home and sharing desks will be enough to fit the larger workforce into the existing office space. The board wants the science groups to make their own arrangements as they can take the specific wishes of their group into account.

Pressure

The WUR Council wants to set conditions for those science-group plans. Chair Jelle Behagel: 'The accommodation plan states that working from home is an option, not an obligation. But the board's current approach assumes staff will be sharing workspaces. So pressure is being put on people to work from home. Anyway, you can't have everyone working from home on the same day, so the accommodation plan may affect crèche timetables and employees' childcare arrangements. We think that is an undesirable state of affairs.'

Photo Shutterstock

'This accommodation plan may affect childcare arrangements'

The Executive Board argues that such issues can only be resolved in consultation with staff. The WUR Council says that means provisions are needed to ensure employees have a say at the decentral level. It therefore wants the decentral consultative bodies to be able to advise on the plans. AS

New course on research impact

How can research have an impact on society and the environment such that it leads to real change? This is the key question in the new PhD course *Transformative Research for Global Social-Environmental Challenges*, which was given for the first time last month.

Josephine Chambers, a postdoc in the Forest and Nature Conservation Policy group, coordinated the course.

There is a global call for social-environmental transformation

'There is a global call for social-environmental transformative change,' says Chambers. 'Traditional scientists, isolated in their offices publishing paper after paper, often produce knowledge with limited societal relevance and impact. Our new course looks at how we can redesign the role of the scientist such that our research has a transformative impact on society and the environment. Given the scope of the challenges, we need to move beyond incremental solutions and towards systemic solutions capable of addressing the big interlinked problems of our time like climate change, biodiversity loss, unsustainable growth and social inequality.'

Lecturers from across WUR are involved in the module. The course has its roots in the *71 Visions Report*, in which 71 WUR scientists share their views on how research can spur transformative change. LZ

Photo Shutterstock

Campaigners: ABP wants to prevent deforestation

The ABP pension fund will revise its investments in companies that cause deforestation and loss of biodiversity.

This news comes from a group of critical WUR employees who have discussed the matter with ABP. The employees, whose group is called 'Grey Hair, Green Forests', are campaigning against ABP's investments in livestock farming and mining companies in Brazil. The employees say ABP has failed to formulate clear criteria in its investment policy for preventing deforestation, CO_2 emissions and loss of biodiversity.

ABP will take scientists' criticisms on board when revising its investment policy in November

In a meeting on 9 September, the WUR employees advised the pension fund on how it can improve its monitoring of the impact of its investments and how it can proactively demand information as a shareholder on whether a company's production is indeed sustainable. In the meeting, ABP promised to take the criticisms on board in the revision of its Sustainable & Responsible Investment Policy in November. Implementation is scheduled for mid-2022.

Contact

The meeting between the WUR employees and ABP was constructive, say the campaigners. ABP wants to stay in contact with the WUR staff to discuss how to prevent deforestation. In a separate development, staff at various universities have announced legal action against ABP. They want a moratorium on ABP's investments in fossil fuels. AS

Hotline for intimidation of researchers

In the battle against the threatening and intimidation of researchers, the Dutch universities have joined forces to set up a hotline and helpdesk: WetenschapVeilig. They are going to press charges more often as well.

This is stated in the guide on tackling the threatening and intimidation of scientists published by the universities last Monday. The rectors of the universities have been working on the guide since the spring.

All the universities have members of staff who have been threatened, the guide says. Some have needed security protection for years, while others receive hundreds of hate messages online as soon as their name is mentioned.

From now on, the universities are adopting one line: zero tolerance. They are going to make a rule of pressing charges in response to threats, violence, sexual violence, stalking, breaking and entering, and theft. The advantage of their united stance is that it makes the norm clear and the scientists concerned do not have to decide for themselves whether there is any point in pressing charges. HOP

The best Indian farmers practise mixed farming

The most successful farmers grow less rice, have more cattle, and grow beans, yams or sorghum in summer.

Farmers in the north-eastern region of India mainly grow rice and wheat for the country's growing urban population. The introduction of artificial fertilizers, pesticides and irrigation has helped boost production over the past 50 years. But inefficient use of such inputs causes water pollution, decreasing soil fertility and falling groundwater levels. The question is: how could these farmers produce sustainably? PhD candidate Roos de Adelhart Toorop selected the best farmers, the 'positive deviants'. To identify them, she assessed 43 farms on four aspects: profit, (low) water usage, soil quality and the nutrient value (in calories) of their produce. Six farmers stood out.

The best farmers grew crops in the summer as well

Summer

De Adelhart Toorop went on to analyse what these sustainable farmers had in common. She found that these farmers grew little rice, had many cows and buffalo, and grew crops year-round. It is this combination that was crucial. 'The cultivation of rice requires a lot of water', she explains. 'Dairy cattle provide a lot of nutrients and fertilizer with relatively little water. Most farmers grow wheat in the spring and rice in the autumn, letting their fields lie fallow in the summer. The best farmers also grew crops in the summer, such as vegetables, sorghum and yams.'

The 43 farmers in her region had between 0.3 and 2 hectares of land each. The best farmers used far fewer inputs (artificial fertilizers, pesticides and water) than the farmers who grew a lot of wheat and rice. AS

Bacterium makes the male parasitic wasp redundant

A bacterium in the reproductive organs of female parasitic wasps manipulates the process of cell formation so that unfertilized eggs hatch into daughters.

American parasitic wasps of the *Muscidifurax uniraptor* species are almost all females. A symbiotic bacterium in the wasp's reproductive organs causes unfertilized eggs to hatch into females without the aid of a male or its sperm. The underlying mechanism is less complex than hitherto believed, concluded entomologist Yidong Wang during his PhD research.

The sex of the miniscule parasitic wasp is not determined by sex chromosomes as it is in humans, but by the number of chromosomes in a cell. The males have a single set of chromosomes in every cell, while the females carry a double set. Scientists used to believe that the bacterium in the parasitic wasp, *Wolbachia*, used a range of signals to cause unfertilized eggs to hatch into females, as happens in other parasitic wasps. But in this particular species it uses just one trick: doubling the genetic material in the egg.

Chromosomes

Wang demonstrated this with a female parasitic wasp bred in the lab, which carried not two but three copies of every chromosome. 'Some of her unfertilized eggs contain a single set of chromosomes, and others two,' explains Wang. Those eggs hatched into males and females respectively. The entomologist concluded that the number of chromosome pairs was the only determining factor. So the bacterium only needs to double the genetic material and no further signals from the bacterium are required.

The bacterium intervenes just after meiosis takes place, the division of chromosome pairs to create egg cells. Through a mechanism yet to be identified, the bacterium causes two chromosome sets to fuse, and the egg subsequently hatches into a female wasp. The bacterium has good reason for this, says Wang. 'Unlike the females, the males don't pass the bacterium on to their offspring.' So, the bacterium's chances of survival are greater if the females outnumber the males. NVTWH

The sex is determined by the number of chromosomes in a cell

A parasitic wasp laying eggs in a fly larva. Photo Wikimedia Creative Commons

A Little Wiser

Why do herb plants from the supermarket waste away so quickly?

Your herb plant is standing on the kitchen counter looking droopy and withered. It looked so tempting again in the supermarket, where they are all so fresh, green and full of life. Only to wither into a brown mess in no time when you get them home. Why is it so hard to keep these plants alive?

'The supermarket plants are grown in greenhouses,' says Monique Bijlaard, a researcher at Wageningen Plant Research. The conditions for growth are optimal there, with warmth and plenty of light. Bijlaard: 'It's usually around 20 degrees in a greenhouse. After that, the plants go to the supermarket, where the conditions are different, and then you take them home, where the climate is different again. What is more, they are all stored close together in the greenhouse, which creates a microclimate around the plant that is different to when it's on its own on the kitchen counter.'

All those sudden transitions are too much for the plants. But they are not intended to last long anyway, are they? Bijlaard: 'These plants are intended to last a bit longer, but of course the grower benefits more if you buy a new one before too long.'

Bijlaard has a few tips for extending the life of your herb plants. 'The plants are used to absorbing water from below, so put them on a dish containing water and don't pour water over them.' The plastic around the plant may not be very attractive, but Bijlaard advises leaving it in place. 'It protects the plant and provides it with its own microclimate.' And then: when you cut leaves off the plant, leave the lowest pair of leaves on the stem. Then the plant stays the same size. And the leaves contain chloroplasts, which convert sunlight into energy for the plant so it can grow. The plant can't do anything with stems alone. 'If you let some leaves grow bigger, the plant will be more fragrant,' explains Bijlaart. 'And these leaves have more flavour too.' And last but not least: put your plant in a warm place, at about 20 degrees, and make sure there is enough light. Direct sunlight is not good for the plant, because it burns the leaves. If you want to put the plant out of doors, you can do so in the summer, but don't put it in full sun. For this purpose, you are better off buying plants grown outside, because they are already 'hardened'. TL

'There's a different microclimate in a greenhouse than at home on the kitchen counter'

Monique Bijlaard, researcher at Wageningen Plant Research.

Every day we are bombarded with sometimes contradictory information. So what are the facts of the matter? In this feature, a scientist answers your burning questions. Email us at redactie@resource.nl

Illustration Marly Hendricks

Photo F. Kohl

Is this beetle the oldest fungi cultivator in the world?

Lennart van de Peppel, who works in the Laboratory of Genetics, has received a Rubicon grant for a postdoc at the University of Freiburg. He will use DNA analyses to find out whether the ship-timber beetle is the oldest fungi cultivator on Earth.

Ambrosia beetles cultivate fungi as a source of food. The beetles mainly live in dead wood. They envelop their eggs in fungi so the fungi grow in the wood; then the beetle larvae can eat the fungi. In return, the beetles keep competing fungi at bay. Van de Peppel will be working on one beetle family that includes both fungi eaters and wood eaters: the ship-timber beetles. Not much research has been done to date on this family.
Van de Peppel has spent the past few years studying termites that cultivate fungi. The termites learned how to do this 30 million years ago. Previous research already showed that various beetle species have been cultivating fungi for 90 million years. The symbiosis between the beetle and the fungus developed independently in 12 different locations. Van de Peppel wants to find out whether the ship-timber beetle was the first to cultivate fungi.
The beetle got its name from its habit of burrowing into the wood of ships' hulls. It is found all over the world, including in the Netherlands. Van de Peppel recently caught one in Wageningen. But he is also looking for specimens in museum beetle collections. Specimens millions of years old can also be found trapped in amber; the oldest such amber beetle is 125 million years old.

'DNA from dried ship-timber beetles lets you make a family tree to show the relationships'

Organ

Van de Peppel wants to know when this beetle started cultivating fungi. To figure this out, he will map the DNA of beetles and fungi, determine the degree of kinship and draw up a DNA family tree.
He also wants to scan the ancient beetle specimens in amber to see whether they have the special organ that is used to store and transport the fungus. The female beetle uses this organ to graft the fungus onto her offspring. Beetles with this organ were probably fungi cultivators, beetles without it probably not.
Using DNA research, Van de Peppel will be able to conclude that if two sisters had a specific trait, the mother did too. 'DNA from dried ship-timber beetles in museum collections lets you make a proper family tree to show the relationships.'
But the family tree can't tell you how long ago particular branches emerged. That is where the beetles in amber come in. 'If you can place a fossil specimen in the family tree, it lets you calibrate it. The more fossils you have, the better the calibration.' AS

Wageningen Covid vaccine useful as an annual shot

Just when most people have been vaccinated, the coronavirus vaccine developed in Wageningen is nearly ready. Too late? No, says virologist Gorben Pijlman. 'Our vaccine could serve as an annual booster shot to keep up resistance to Covid-19.'

The Wageningen research groups Virology, Bioprocess Technology and Biochemistry have been working hard for the past year on a 'back-up' Covid-19 vaccine called S1-VLP. The tests with this vaccine have been successful, says Pijlman, who published the results this week in the scientific journal *mBio*.

Gorben Pijlman in the lab. Photo Eric Scholten

The 'back-up' vaccine was developed in collaboration with Danish partners in the European Prevent-nCoV consortium. The Danes have developed a comparable vaccine, ABNCoV2, which was tested in a clinical study at Radboud University Medical Centre in Nijmegen earlier this year. Pijlman and a few of his colleagues received two shots of this vaccine. 'The immune response was excellent and the production of antibodies in the test subjects was even higher than after two Pfizer shots.' This vaccine is now in the final testing phase. If that is successful, the pharmaceutical company Bavarian Nordic will produce it for the market.

The Wageningen and Danish vaccines are protein vaccines, just like the familiar flu jab. They have fewer side effects than the mRNA and vector vaccines made by Pfizer and AstraZeneca.

'The immune response was excellent and the production of antibodies was higher than after two Pfizer shots'

Pijlman: 'In a pandemic it's acceptable for there to be more side effects, but a lot of people were quite unwell for several days after a Covid jab. If we're going to have to get a booster shot every six months, this kind of protein vaccine without many side effects could be the answer.' That is why work will continue on these protein vaccines. S1-VLP is manufactured in moth cells. A big advantage of that is that the vaccine can be produced on a very large scale: a single bioreactor containing the insect cells can product a million doses. And tests on mice have shown that this vaccine produces a good immune response at a low dose. AS

Desalinating water without chemicals

Jouke Dykstra, assistant professor of Environmental Technology, is developing a new process to remove toxic ions during the desalination of water.

The production of fresh water from seawater is becoming increasingly important because of the growing water shortage. Often, membranes are used for the desalination. But seawater also contains contaminants such as boron ions. These ions are toxic in high concentrations.

Boron and some other ions are difficult to extract from the water due to their chemical properties. They are amphoteric, meaning their properties vary depending on the acidity. 'It is hard to remove these particles from the water with standard membrane technology,' says Dykstra. 'You have to add certain chemicals to alter the pH value, but we want to avoid this.'

Model

Dykstra has developed a new theoretical model in collaboration with scientists at the research institutes of Technion in Israel and Wetsus in Leeuwarden. It lets the researchers predict the properties and behaviour of boron ions during the water treatment. Based on this, they have designed a process to remove the boron during desalination. They use capacitive deionization for this, a new technique that does not use a membrane. The water flows through microporous carbon electrodes, and an electrical current causes the ions to adsorb to the electrodes, removing them from the water. The research was published in PNAS.

Dykstra: 'We are the first to develop a model that lets us predict the behaviour.

'This model will give us more control over complex chemical processes'

This will give us more control over complex chemical processes.' He says the model can also be used to tackle other water-related problems, such as the removal of arsenic, medicine residues and herbicides. AS

Successor

Guido Camps

The search has started for a new chair of the WUR board. We can read on the intranet that the recruiter has been given input for the profile of this new director. If you ask me, the criteria are solid and in line with WUR's ambitions:

- a research background in the field of food, nature and environment
- a diplomatic representative of WUR in ministries in The Hague, the EU in Brussels, and international forums
- an open management style
- not necessarily Dutch

I can endorse this list, although reading it your first thought is that it will be difficult to find someone like this. They would have to be an incredibly special international highflyer to tick all these boxes. What's more, the wish is expressed for someone who makes up a balanced team together with Rens Buchwaldt and Arthur Mol. That bothered me a bit. Not because I disagree, but precisely because it goes without saying, and therefore needn't be said, if you ask me. Instead, the text explicitly states 'Fresco's successor should preferably once again be a woman' in two places: at the end of the document and as the very first criterion.

'Any man you appoint starts on the back foot and any woman has the "positive discrimination" stigma'

I would say it's totally obvious that when looking to complete the current team, the need for balance leads you to seek more diversity. And there's more to diversity than gender. But by explicitly putting gender at the top of the list, isn't WUR undermining itself? It means you put any man you appoint on the back foot from the start, as a second choice. And any woman you appoint is subjected to the stigma of 'positive discrimination'.

Every time I read the sentence, I object to it more, because it tarnishes not just the new appointment but also the achievements of Louise Fresco. 'Preferably a woman again' – what better way to belittle her work during her years in the job! Change the profile into 'Fresco's successor should once again be someone who works tirelessly and successfully in WUR's interests.'

Guido Camps (37) is a vet and a postdoc in Human Nutrition. He enjoys baking, beekeeping and unusual animals.

Science in politics, and vice versa

How ‘reliable’ disappeared from a nitrogen report

Scientists should be able to work independently: that is a golden rule. But sometimes there are various interests at play and the reality is flawed. A glimpse behind the scenes in the production of a nitrogen report.

Text Roelof Kleis

It was the end of May when ecologist Wieger Wamelink got in touch with *Resource*. His long-awaited nitrogen study was about to be sent to the Lower House of Parliament by the ministry of Agriculture, Nature and Food Quality (LNV). He could run us through the study – which was still under embargo, of course. In preparation for that, he sent us the print proofs of the report: *Relations between levels of nitrogen deposition and the quality of habitat types*.

In this report, Wamelink and his team introduce a new method of assessing the effect of nitrogen deposition on plants. The method calculated dose-effect relations for various species and types of natural habitat.

‘Critical deposition values’ are an important concept in the nitrogen policy. They denote the deposition load above which serious damage is done to nature. Wamelink’s calculations show the effect on biodiversity across a broad spectrum.

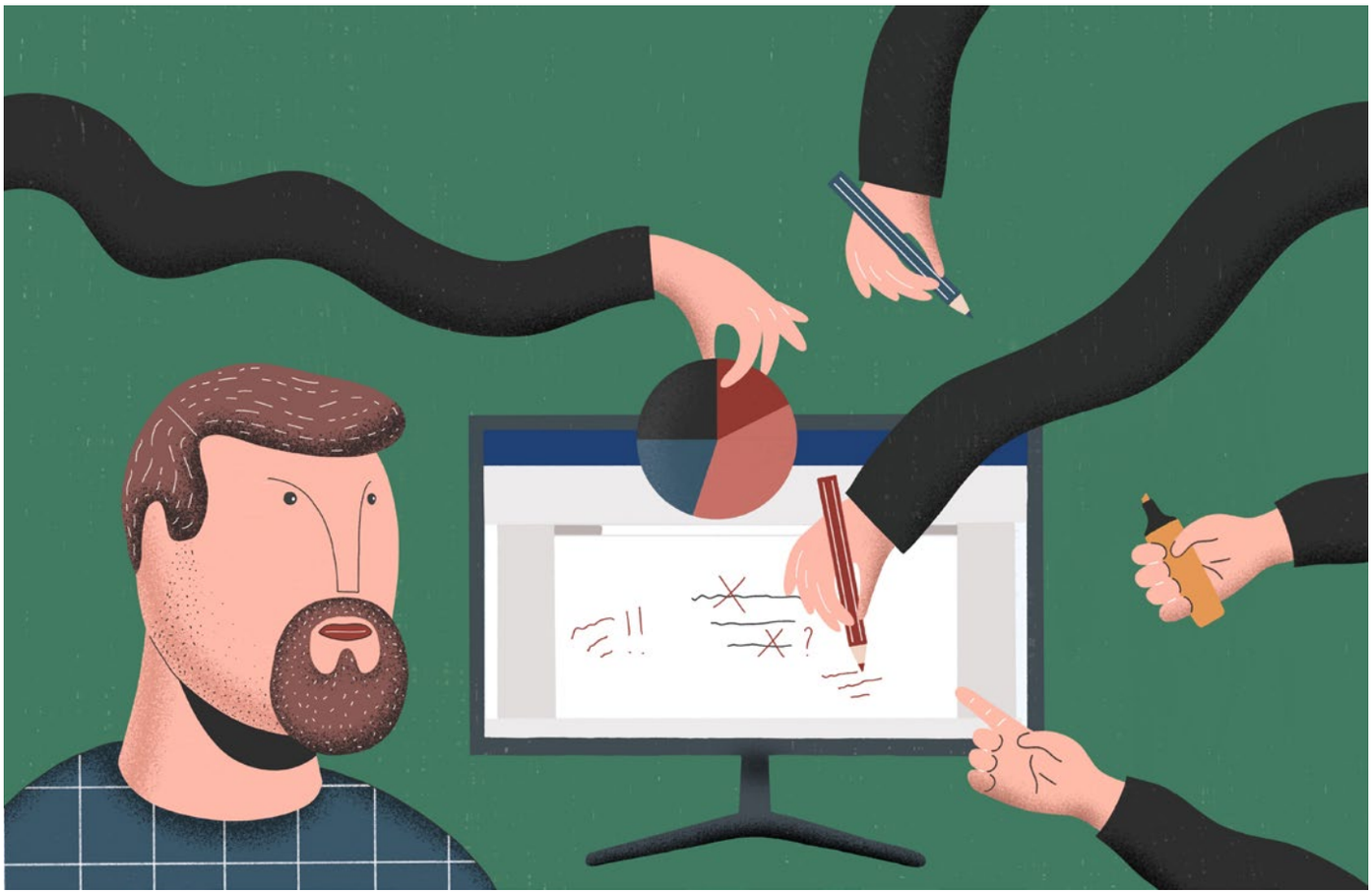
The conversation with Wamelink led to an article entitled *Nitrogen limits under discussion*. But the piece stayed in the pipeline at *Resource* for a while, as the ministry only forwarded the report to the Lower House mid-June. Nitrogen is a hot topic, but the media took no notice of the report. Only MPs from the Green party GroenLinks and the Labour party PvdA asked questions – a week later. And not about the report itself, but about the article on the *Resource* website.

Why is it, they wanted to know, that *Resource* draws firmer conclusions than those in the report itself? In the article, the report’s lead author Wamelink states that his new method had produced reliable results for 37 out of 61 habitats. And in 26 of those 37 habitats, the quality of nature deteriorated even before the critical deposition value was reached. Why wasn’t the minister adjusting the nitrogen policy?

Scrapped

It is true that the report does not contain the conclusion that nature in many habitats incurs damage even before the critical deposition level is reached.

‘But plausible doesn’t mean no one has confidence in our method’



Numerous people got involved in the report on the nitrogen study that ecologist Wieger Wamelink did for LNV. Illustration Studio Geniek

Wamelink concluded that himself during the discussion with *Resource*. But surely the report does mention that the method is reliable for two thirds of habitats? Hadn't the politicians read that? It's in the summary, after all. But no, a careful comparison between the proofs and the version sent to Parliament revealed that the relevant passage from the proofs had been scrapped.

How could that happen? Did LNV tinker with the report? It gets even weirder. When LNV found out that *Resource* wanted to write about the questions in Parliament, the chair of the Ecological Support Taskforce (TEO), a group of civil servants, nature conservationists and scientists that advise the minister on nitrogen measures, went into action. The taskforce supervised Wamelink's study. The chairman had just replied to the questions in Parliament and he thought it was a good idea to share the gist of his answers with *Resource*, even before the minister has seen them. So we could bear them in mind in our article.

He explained painstakingly that Wamelink's method produced results that were only plausible and not reliable. That assessment of the results was central to the answers to the questions in Parliament, sent two weeks later. According to the minister, the word 'plausible' was chosen 'by the authors after an intensive consultation with the supervisory committee.'

That was true, first author Wamelink confirmed. After his conversation with *Resource*, a heated discussion with the supervisory committee took place. The controversial issue was the reliability of the method. The committee cannot find fault with the method, but is nevertheless not convinced that 'the results can be said with confidence to reflect reality'.

Own decision

And that's how reliable became plausible, Wamelink acknowledges. But he stresses that it was the researchers who took the final decision, and not the TEO. And the passage with figures was removed from the the summary to make it more 'general reader-friendly'. 'They are still there elsewhere in the report, though,' says Wamelink. 'The method is reliable for two thirds of the habitats, but not yet overall. In the end, a lot of people were in favour of looking at the overall picture. And that's why

‘More distinction should have been made between policy support and scientific content’

‘Anything to do with nitrogen is sensitive; you are under a magnifying glass’

plausible was chosen.’
The impression remains, however, that the TEO supervisory committee put a lot of pressure on the conclusion of the study. All the more so given the fact that the Environmental Science Group (ESG) – including nitrogen professor Wim de Vries – had already approved the report (including the summary) before the discussion with the TEO. So did the TEO go beyond its remit?
‘It’s a reflection of the nature of the study that a discussion arose,’ explains ESG director De Vos. ‘What started as policy support research led in the end to what we call scientific knowledge base research in which a new method is developed. The TEO advises the minister on policy matters and extrapolates policy from research, but it is not a scientific supervisory committee. More of a distinction should be made between policy support and scientific content. There was an overlap there. I have therefore made sure an extra-thorough internal scientific review of the report has been conducted.’

Pressure

‘The role and mandate of the TEO should have been described more clearly right from the start,’ says Wamelink with hindsight. ‘That didn’t happen and that’s why we’ve ended up on such dodgy ground. We’ve learned from it. I’ve never had a project like this one. Anything to do with nitrogen is sensitive, and all eyes are on you. The science involved was complex, but so was the whole context. That’s why I alerted management to the situation at an early stage. I would have preferred to be under less pressure from all sides.’
For Wamelink, the change from reliable to plausible is a question of semantics. ‘There is a subtle difference. Reliable lends results more authority than plausible. But plausible doesn’t mean no one has confidence in our method. And that’s clear from the fact that we’re getting 200,000 euros from LNV to continue our research. You don’t do that if you have no faith in it.’
The TEO will not be involved in the follow-up research. Wamelink: ‘A new committee will be set up, which can follow the science of what we are doing and provide scientific supervision. The TEO can then advise the minister about the result. So roles are differentiated.’ ■

THE DICTIONARY
According to the Van Dale dictionary, plausible means conceivable and credible. And that is reliable enough for day-to-day purposes. But nuances play a big role in politics. The motive behind the questions in Parliament from the nitrogen experts in GroenLinks and the PvdA was clear. The new method used by Wamelink and his team shows that quite a lot of nature is already damaged before the established critical deposition value has been reached. In other words: that limit needs to be lowered to protect nature. Why then, wondered the politicians, is the ministry doing nothing, if the new method is so reliable? Shouldn’t the critical deposition value be lowered, and shouldn’t nitrogen measures be tightened up? No, replied the minister. The method may be promising but it is not yet reliable across the board. It is plausible.

UNIque houses

There are student houses and then there are weird and wonderful student houses. In this feature we visit those UNIque houses.

Daan: 'This house consists of what used to be a lawyers' office, a garage and a antique dealer. They were merged in 2015 and various new walls were built. Right now we're sitting in the kitchen-diner, which used to be the inner courtyard of the lawyers' office. The old garage is now called the Fun Room. When De Rechtbank ('court house') had just become a student house, there were still old motorbikes in the garage. New housemates had to sleep between them. At the moment, there's a first-year staying there who hasn't got a room yet.'
Leonne: 'The part of the house at the back is called the Sluts House. The name came from the fact that the first two people to live in that part of the house were going through a wild phase.'
Jet: 'You can see the lawcourt theme all around the house. There are murals of Lady Justice and we've got a pair of weighing scales hanging up.'

Daan: 'We've got a wall on which we write each other's 'Sjaars' moments. 'Sjaars' is short for first-years in Dutch. All our housemates' naive moments when they did something silly or ignorant are written there.'
Masha: 'There's a house hammer too. Rather than announcing a verdict with it, people who are moving out of the house can use it to leave their mark behind, with paint. All ex-'Rechters' do that. But right now the hammer has been nicked by another student house. We can get it back if we organize a drinks party for them.' LZ

House:
De Rechtbank

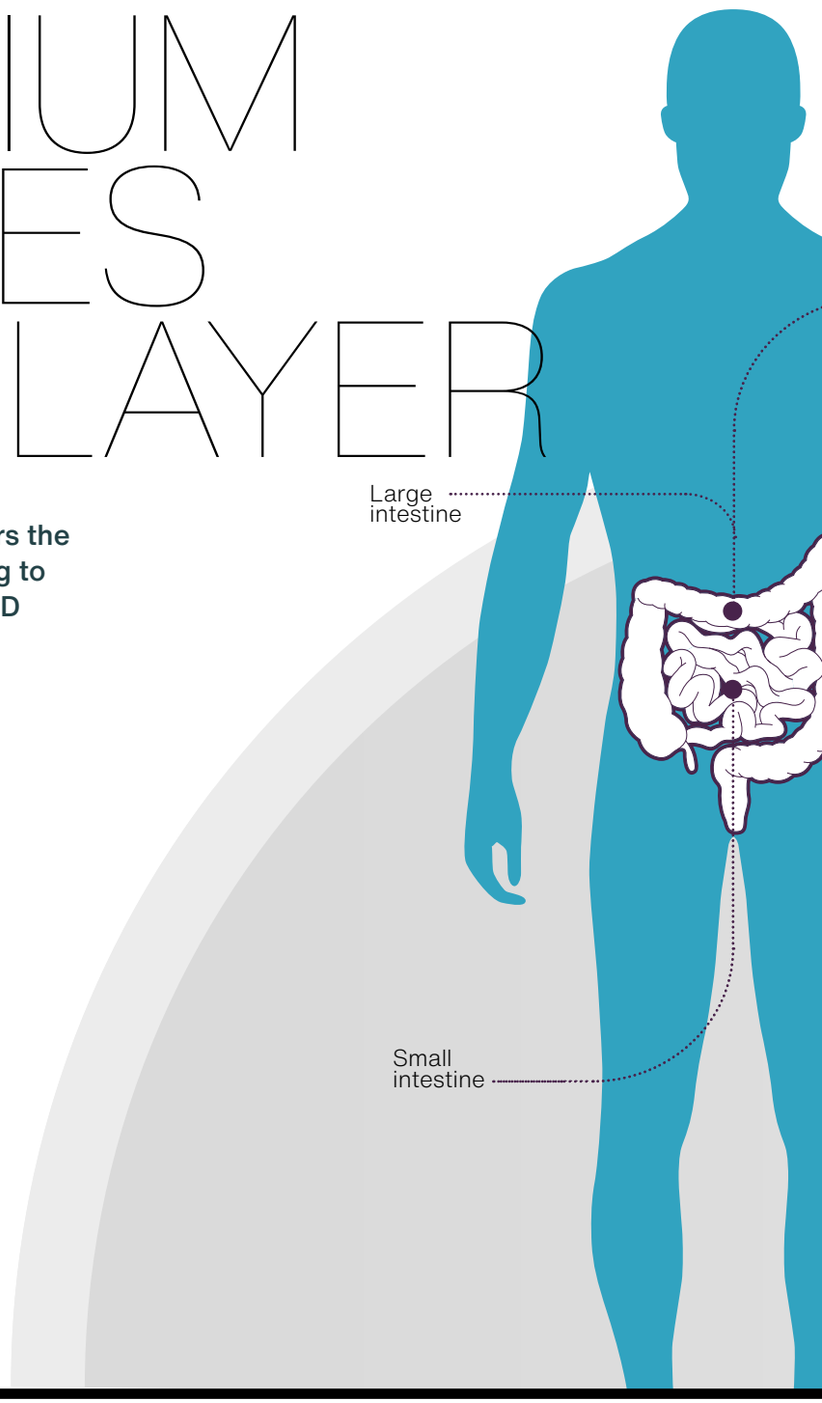
Residents:
Rebecca Hagos (23)
Leonne Mulder (21)
Jet van de Merwe (21)
Tommy Veltman (20)
Daan Kisteman (22)
Hein Koopmans (22)
Koen van Raaij (19)
Masha Hulleman (19)
Anne Elke van der Molen (21)
and HJ Krabbenborg (18)

Unique because:
The house is made up of a former law firm`s office, garage and antique dealer`s that were merged into a single student house in 2015.

If you too want your UNIque house in *Resource* send an email to resource@wur.nl

From left to right Ruan (a friend), Daan, Koen, Leonne, Hein, Jet, HJ, Masha and Tommy ◆ Photo Sven Menschel

BACTERIUM RESTORES MUCUS LAYER



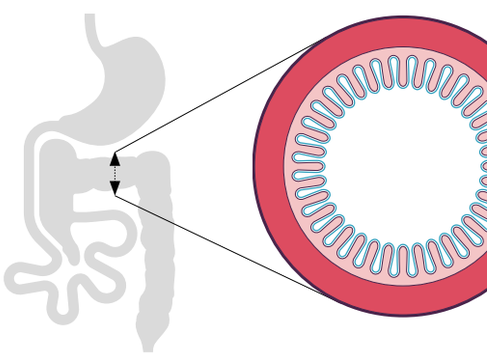
The benign bacterium *Akkermansia muciniphila* repairs the thickness of the gut lining in elderly mice, thus helping to protect the intestines. Benthe van der Lugt got her PhD for research on this at Human Nutrition & Health.

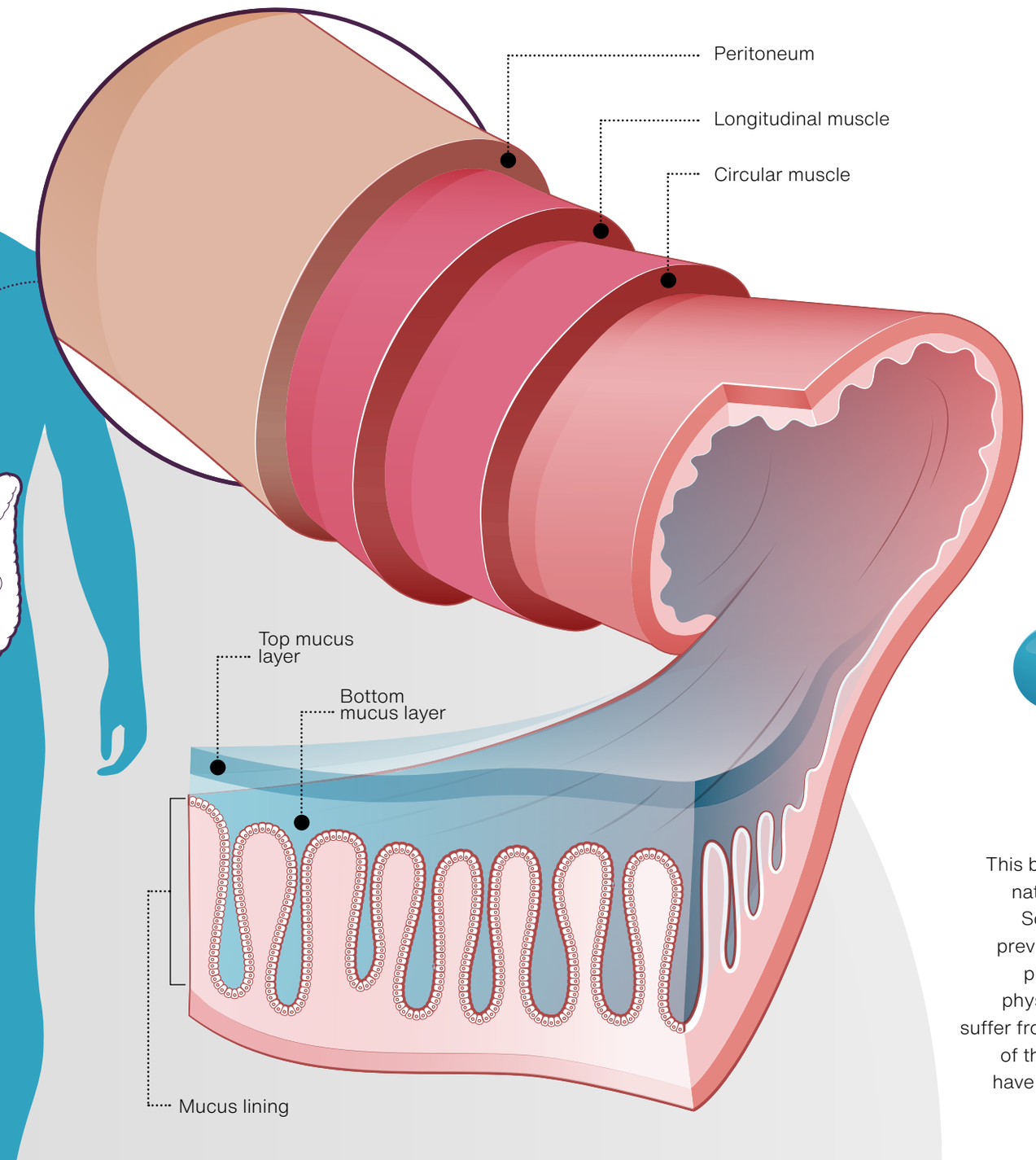
Infographic Pixels&inkt

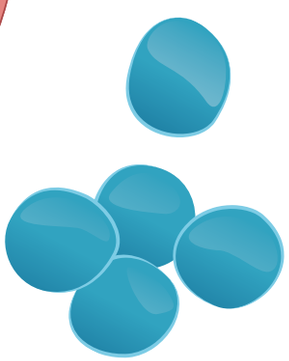
The intestines have a mucus lining that forms a barrier between the gut bacteria and the rest of the body. The lowest layer of mucus is totally sterile, while the top layer is full of organisms that use the mucus lining as a source of energy. During the ageing process, the guts and the gut flora change: the balance between good and harmful bacteria gets disturbed and the mucus lining gets thinner. This takes away an important energy source for some micro-organisms in the gut. What is more, the danger arises of bacteria and harmful substances getting into the rest of the body from the gut and causing inflammatory reactions. Van der Lugt and her colleague Clara Bolzer at Microbiology discovered a way of repairing the mucus lining with a benign bacterium called *Akkermansia muciniphila*. This is how they studied it:

1 Special mice that age fast were fed with the *Akkermansia* bacterium in the form of liquid drops three times a week. The control group got the same liquid without bacteria.

2 Ten weeks later, the researchers studied the state the mice's guts were in. The mice were sacrificed to science and the researchers removed their intestines.



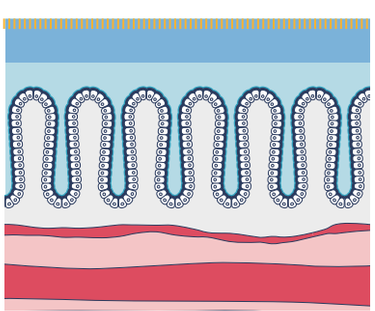




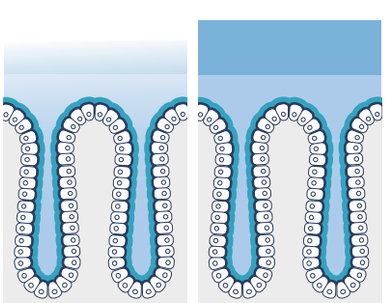
Akkermansia muciniphila

This benign bacterium occurs naturally in the human gut. Scientists had discovered previously that *Akkermansia* plays an important role in physical health. People who suffer from chronic inflammation of the bowel or from obesity have fewer of these bacteria.

3 They dyed sections of gut with a special dye that makes the mucus layer clearly visible. They studied the result under a microscope.



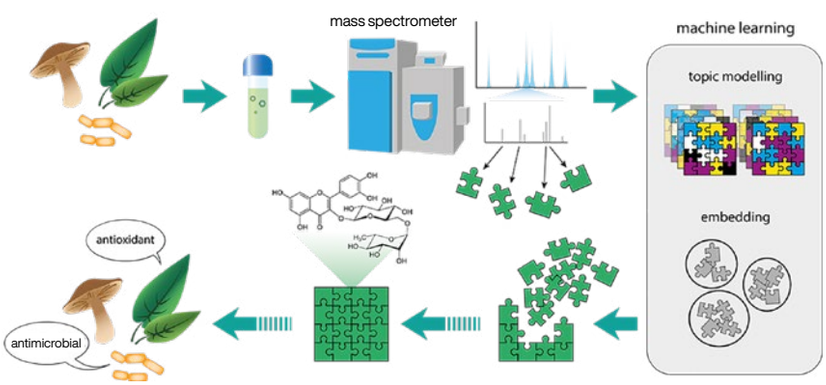
4 The mice that had been fed with the benign bacterium *Akkermansia* had developed a thicker mucus layer than the control group.



THE UNIVERSAL LANGUAGE OF THE MOLECULE

All life speaks a universal language made up of smells, colours and tastes: the language of the molecule, says Justin van der Hooft, assistant professor in the Bioinformatics group. But universal as this language may be, we don't understand it at all. Van der Hooft wants to change that through his research in metabolomics.

Text and illustration Stijn Schreven ◆ Photo Eric Scholten



What is metabolomics?

Van der Hooft: 'It is the fourth in the set of "omics", along with genomics, transcriptomics and proteomics. The first of these studies DNA, the second the RNA transcripts of DNA, and the third the proteins made that way. Metabolomics is the study of mixtures of small molecules such as glucose. Such mixtures include what is excreted by bacteria, as well as plant extracts such as coffee and tea, and urine specimens. The ultimate aim is to understand the language of these mixtures, thus learning about functions, active substances, and in the case of urine, for example, about a person's diet and health.'

What fascinates you about metabolomics?

'I am fascinated by the variety of molecular forms that exist. That such small compounds can have such a big impact. Sometimes the structure of two molecules only differs in a single group that points in a different direction, but that can make a huge difference to its effect or smell. An intriguing example is the mirror images of the menthol molecule: one smells like peppermint and the other is bitter. I would like to understand that. Another thing that makes this field interesting is that it is multidisciplinary: you are using analytical chemistry, statistics, machine learning and chemical informatics.'

You want to decode the language of small molecules. How?

'My group is working on computational metabolomics: we develop the tools for analysing metabolomics data. Those datasets come from specialized instruments such as mass spectrometers. A mixture of molecules is put into the machine, where they collide with inert gases and disintegrate into fragments. We see these fragments reflected in peaks in a spectrum. The location and height of a peak tell us something about the form of the fragment and the amount of it in the molecule. The question then is which fragments they are, and which molecules they formed between them. So we can't immediately say which molecules were in the mixture; we must first put the fragments together like a puzzle and see how they fit together. A molecule can produce lots of different fragments and the same fragment can occur as a building block in several molecules.'

How do you solve such puzzles?

'That used to be done manually. When I was doing my PhD, I figured out which

fragments belonged to which molecule. Worldwide, such studies now form a databank of 16,000 compounds that have been thoroughly studied – a collection of solved puzzles. The collection is growing steadily, but slowly, because the research is time-consuming. We have recently started making use of machine learning, thus automizing and speeding up the process. You give the computer the data and the labels saying what's what, and wish it luck. The computer learns to recognize the patterns itself. We use two methods of machine learning, both inspired by text mining.'

Text mining? Which method are you referring to?

'Topic modelling aims to extract topics from a text based on the words that occur in it most frequently. In metabolomics, the fragments of molecules are identified on the basis of the fragments that often appear together in spectra. We are also developing new techniques based on word-embedding, which looks at the context of words to decide whether sentences are similar to each other. For example: "I like coffee and cookies" and "I like a cappuccino and cake". The words are different, but the sentences are very close in meaning. Similarly, in metabolomics we try to identify chemical classes (the meaning) from the fragments (the words) without having to put together the molecules as a whole (the sentences). Examples of chemical classes are flavonoids and alkaloids. It's like finding the corner pieces and edges of the jigsaw puzzle: then you've got the structure of the molecule, which helps you solve the rest of the puzzle.'

How far have you got with developing these tools?

'At the start of this year, we used the first method to apply word-embedding in metabolomics. At the moment, machine-learning studies are popping up all over the place and a new publication comes out every month. AlphaFold 2 was launched recently for proteins. This is a machine-learning technique that can predict the 3D structures of proteins with 15 to 20 per cent more accuracy. Instead of months of laboratory work, it sometimes takes just 10 minutes to find out what a protein looks like. It is only a matter of time before there is some such breakthrough in metabolomics.'

Where do you want to go with this research, ultimately?

'My group focuses on the structures and functions of natural products – to find new antibiotics, for example. Ultimately, I want to solve those molecular puzzles in order to understand why an ecosystem works the way it does, and what language is spoken in it. For example: what functions does a plant extract with particular flavonoids have? Once we know that, we can start steering things. By introducing the right bacteria and fungi, for instance, you can make a soil tolerant of salt stress, drought or heat, so that it retains functions and plants continue to grow. Currently, that is still a long way off, though.' ■

‘A Covid pass should be introduced on campus’

You need a coronavirus entry pass at most places where a lot of people gather, from the pub to a festival or a student society clubhouse. But it is not required for classes on campus. What do students and staff think about that?

Text Luuk Zegers • Illustration Shutterstock

‘Why do we need tests in cafés but not here?

‘Daily testing in Ede is not doable’

Sjoerd van Asseldonk
External commissioner at Unitas

‘It’s good that everything can open up again thanks to the QR code. If everyone has to show that code in all places where people gather, then I think it should be required in education too, actually. It’s a bit strange otherwise, isn’t it? Because at the university you do have contact with a lot of people. Why wouldn’t it be necessary there, if it is necessary in catering outlets?
On the other hand, it remains a thorny issue. You can’t just exclude people from education. There are vulnerable people who can’t be vaccinated for health reasons. That’s a group you don’t want to exclude. Yes, they can get tested, but when the test location is on an industrial estate in the middle of nowhere in Ede, how accessible is that? Good luck with that if you’re not mobile!’

Jonathan Hoornaert
Bachelor’s student of Biotechnology

‘I am against a coronavirus entry pass for education. Through education you learn to think critically. If you introduce an entry pass, you exclude precisely the people you hope will learn to think critically. And then there are also people who can’t get vaccinated for health reasons.
It remains a tricky question, of course: it’s a moral dilemma between safety and what is ethically right. Perhaps it could work if you could either show a QR code or do a self -test on the spot. So you don’t have to go to Ede every day to get tested, because that’s just not doable.’

What do *you* think? Scan the QR code to comment!

Circe van der Heijden
Master's student of Urban Environmental Management

'I'm in favour of the entry pass, but not in education. Education is for everyone, and no pass should block access. Nearly all students are vaccinated and if people opt out for personal reasons, they are within their rights. It would also mean that you have to have your phone on you at all times, whereas I often leave mine at home so I can concentrate better.
I haven't got a QR code yet. That's because I've had Covid, but I don't have evidence of having recovered from it because I didn't get tested at the GGD (the municipal health service). I went somewhere else where I got an appointment faster. A certificate of recovery only counts if it's from the GGD, so I had to wait for my second jab, which I got last Monday. Then you have to wait two weeks before your Covid pass is valid. That's a bit annoying. My year group sorority is celebrating an anniversary with an activity every day. That means I have to cycle to Ede every day to get tested. I fell between two systems, somewhat.'

Ingrid Hijman
Head of the Student Service Centre

'No coronavirus entry pass should be brought in for education. Education must be as accessible as possible and no one should be excluded. Including people who are not vaccinated.
It is also impossible to implement. The unvaccinated would have to be tested no more than 24 hours before every class, somewhere in Ede. That is a massive barrier. And even if you could get tested on campus, it's not doable. Where are you supposed to check the QR codes? On all the roads into the campus? At the entrance to every building? For every classroom? Can you see how it would work?
I know there are vulnerable people who say: it is safer for me if an entry pass is introduced. But I think the main way to make it safer is to talk about the best way to look out for each other.'

Ignas Heitkönig
Assistant professor of Wildlife Ecology and Conservation

'I don't have strong views on this, but I incline towards "no". As I see it, getting vaccinated against Covid-19 is very sensible and shows a great sense of responsibility. By doing so you help stem the spread of the virus and you reduce the still tremendously high pressure on the healthcare sector. My guess is that there are very few people at university whose immune systems cannot cope with a vaccine. If there are any, they could take classes online if necessary. Those who just don't want to get vaccinated are now largely protected on campus by the vaccinated.
Rather than introducing a Covid pass, I would prefer to see that we are allowed to ask each other about whether we've been vaccinated. That is more in keeping with the academic culture than a stamp on your forehead or a tick on your phone.'

The unwritten rules of the male work culture

‘MAKE SURE YOU PLAY THE GAME’

The top of the academic tree is still mainly occupied by men. Why is that? ‘There *is* a playbook – it was written by men. I have always felt like I didn’t have the playbook.’ This quote from the documentary *Picture a scientist* points to one of the explanations. Women don’t know the unwritten rules. *Resource* followed a workshop about this during Diversity Week • Text Marieke Enter

Put yourselves in these children’s shoes,’ workshop leader Mira Vasic instructs us, showing us a photo of little boys playing. ‘They are talking about how high they can kick a ball. Can you reproduce their dialogue?’
The workshop participants don’t need long: ‘I’ll kick it onto the roof!’ ‘I’ll kick it over that block of flats!’ ‘I’ll reach the clouds!’ Vasic nods: yes, that’s how it goes. Bragging, exaggerating – while all the kids know perfectly well their claims wouldn’t withstand a reality check. According to Vasic, this is one of the unwritten rules you need to be aware of if you want to take part in a predominantly male culture: a bit of bluffing is part of the deal. *It doesn’t have to be true*. And another unwritten rule is: everything can be turned into a competition – even when competition is totally pointless.
The publicity for the workshop (entitled ‘Stratego: the unwritten rules’) promises that we will look at the game of building a successful career and how you can play it without losing your identity.

Workshop leader Vasic, co-owner of In Touch Female Leadership & Career Academy, emphasises that the terms ‘masculine’ and ‘feminine’ refer here to different styles of collaboration and not to gender identity. ‘Most organizations are built up by people with a dominant masculine style – even if these people are women. That’s why it helps you in your career to learn to understand that dominant masculine style,’ she explains.

Eye contact

So working style is not the same as gender identity. Nor is the masculine style any better or worse that the feminine one, emphasizes Vasic. ‘But it is a fact that the styles are substantially different.’ The aim of this workshop is to clarify those differences. Vasic uses video clips from observations of children, which immediately throw up a couple of differences between boys and girls: their posture and the amount of eye contact. We look at photos from the world of politics as well. Ex-minister of Defence Jeanine Plasschaert in an

Diversity Week
It was World Diversity Day on 5 October. WUR seized the chance to run a Diversity Week full of workshops, discussions, film screenings, lectures and masterclasses on diversity under the motto ‘together towards an inclusive WUR’. Mira Vasic regularly gives workshops at WUR, for instance on 'The unwritten rules', 'Strategic negotiation skills' and 'Unconscious gender bias'.

Gender diversity among professors
In 1998, only 6 per cent of all the professors at Dutch universities were women. That has since gone up to 26 per cent. The ‘top scorer’ is the Open University (42 per cent), followed by the University of Maastricht (33 per cent). Bringing up the rear are the four science and technology universities, with WUR doing slightly better than the others with 21 per cent women professors. Eindhoven and Twente have 20 per cent and Delft 18 per cent. Not one of us reached our target for 2020 (25 per cent) – although maybe it is better to set the bar too high in this respect than too low? New figures will be announced in December when the National Network of Women Professors publishes its 2021 Monitor. (Figures come from a HOP bulletin: ‘Milestone: one in four professors are now women’, 30/09/21)

aside with ex-minister of Foreign Affairs Frans Timmermans: she is looking firmly at him, while he is looking at his telephone.
Aha, something dawns on the participants: so eye contact is subject to unwritten rules too? Vasic confirms that. ‘In a dominant feminine style, eye contact is crucial. Little or no eye contact counts as indifference or a lack of connection. That is different in a masculine style, in which a lot of eye contact can even feel strained, almost like a staredown between two fighters. So be aware of that.’

Annoyance

We look at lots more examples and various pennies drop among the participating WUR students and staff. There is also a growing sense of annoyance. All very well, that bear pit with its unwritten rules. But is there no other option than to play the game and adopt a style that isn’t your own? Vasic understands the frustration but reacts phlegmatically. ‘I am all for changing the rules – because the present rules work too much in favour of a small, privileged group. But you can only change them once you have a certain level of power and influence. And you’ll only get that status by playing the game, at least to a certain extend’, she observes.
Vasic closes the workshop on an encouraging note. You really don’t have to deny your identity to play the game for that brilliant career, she stresses. ‘Observe and learn. Be aware of how things work, and what the written and unwritten rules are. In the end, you choose how you are going to play the game, and nobody else. But make sure you do play! Don’t stand on the sidelines because there is just too much competition for that.’ ■

‘YOU DON'T GET A POSITION OF POWER FROM THE SIDELINES’

Boys playing football soon start bragging about how high they can kick the ball. Workshop leader Mira Vasic (Stratego: the Unwritten Rules) says exaggerating is one of the unwritten rules of the male culture in the workplace ◆ Photo Shutterstock

From test plot to vegetable garden

The test plots used by the microbiologist Söhngen are exactly one century old. This national monument has been repurposed as a vegetable garden.

Text Roelof Kleis

Of the 60 official heritage structures in Wageningen, the former Microbiology test plots may well be the least known and the least visible. Not many people realize there are allotments next to the former Unitas building on General Foul-kesweg. They are tiny gardens and are just five years old. They owe their status as a monument to their history and sign-ificance as cultural and scientific heritage.

What are now vegetable gardens started out exactly a century ago as test plots for the Laboratory for Microbiology next door. Forty plots of six by seven metres were arranged in a block of eight rows of five. The complex was built in 1921 by Nicolaas Söhngen, the first professor of Microbiology at the Agricultural College that was then just three years old.

> In the light of today's nitrogen and climate crises, you could call Söhngen a visionary

Söhngen was lured to Wageningen from the National Agriculture Testing Centre in Groningen in 1917 by the prospect of becoming a professor there. A campus was planned on the Wageningse Berg for the new Agricultural College, which would include a lab for microbiological research. A lab was certainly sorely needed, as Söhngen was still doing experiments in his house on the Herenstraat.

A visionary

But the campus did not materialize: the Upper House of the Dutch parliament scrapped the plan in September 1919. To save money, writes Gert van Maanen in a recently published book on the history of the test plots. Van Maanen, editor-in-chief at *BioNieuws*, has an allotment on test plot number 12. Remarkably, though, in the same month Söhngen did get the green light to build a lab, a house for himself and one for his gardener, and the test plots. How the persistent professor managed that is anyone's guess, says Van Maanen. 'There is nothing about it in the official documentation. He seems to have financed it himself, largely.'

The first experiments took place at this location in 1921. Söhngen focused his research on the effect of fertilization and bacteria on soil fertility and crop growth, paying special attention to the role of nitrogen-binding bacteria. The plots consist of sandy and clay soils mixed with peat litter. Adding calcium-rich marlstone created variety in acidity levels. Thanks to the detailed lab journal kept for 20 years by Söhngen's close colleague Klaas Wieringa, we can still follow the exact course of the experiments.

In the light of today's nitrogen and climate crises, you could call Söhngen a visionary, says Van Maanen. 'He put the quality of the soil first. What happens in the soil that determines whether crops grow? What does it mean if we use artificial fertilizer? He was not against this but did point out the dangers of using it excessively, whereas most people at the time were all in favour of artificial fertilizer. And that kind of emphasis on soil life and cycles is seen as very modern now.'

The test plots photographed from the Laboratory for Microbiology (1927). Söhngen's house (since demolished) is in the corner on the right ◆ Photographer unknown

Heritage

Söhngen died at the age of 56 in 1934. Wieringa praised him in an obituary as an original thinker and 'a genius'. According to Wieringa, Söhngen attached 'far more importance to experiments than to theoretical ideas'. Söhngen's successors shifted the emphasis from field research to the study of bacteria in the lab. The last experiments in the test plots took place in 1987, and they have looked abandoned and overgrown ever since. In 1999 they narrowly escaped demolition by building contractor Roelofs en Haase, to whom WUR sold off the complex. In Van Maanen's view, that was a typical example of how badly WUR treats its heritage. 'Why would you do something like that? Why sell it? And if you have to, set some conditions that certain elements must stay intact. We could have had here the longest-running historic fertilization experiment in the country, or maybe even in Europe. But there just isn't anyone at WUR who is bothered about that.'

The demolition plan did set something in motion, however. One of the repercussions was that the test plots were designated a National Monument two years later. Not that that changed their sorry state of repair. Until the artist Christien Meindertsma used the plots in 2013 for her exhibit in the art exhibition Beelden op de Berg. She turned 10 of the plots into little fields of bright blue flax in honour of the successful flax variety Chantal. This inspired local residents to turn the test plots into allotments and to form De Proefvakken gardening association five years ago.

Has that saved the test plots? Not entirely. The building contractor is to be allowed to sacrifice two rows of plots, 10 in total, to build a new apartment block. The same number of plots on the other side of the complex have given way to a strip of greenery adjoining the housing there. That leaves half of the original 40 plots. Kept in memory of Söhngen and his pioneering work. What would the professor think of that? 'I think he would be disappointed that they are lost to science,' says Van Maanen. 'But maybe he would also like the fact that people are still growing food on them and are thinking in terms of cycles.' ■

***De Proefvakken*, by microbiologist**
Gert van Maanen and others
Published by Blauwdruk
9.50 euros

Soil-drilling championships

HAVING FUN IN THE MUD

After skipping a year because of Covid, the soil-drilling championships took place again this year. Nearly 900 competitors from all over the country convened at the Haarweg for this bit of Wageningen cultural heritage. *Resource* talked to the organizer, the referee and the winner • Photo Sven Menschel

Text Luuk Zegers

The organizer: Isabel Kuin, BSc student of Soil Water Atmosphere and treasurer of the Soil-drilling Championships of 2021.

'Actually, I'm on an exchange in Oslo at the moment. Since I didn't want to fly, I spent a whole day in a coach to get here. I'll have to do the return journey soon, too. My family and friends said I was mad. This year I was too busy organizing it to take part myself, but the Soil-drilling Championships mean a lot to me. It's one big party, and I really missed it in the Covid period. If you tell anyone from outside Wageningen that we're going to do soil-drilling, you get some funny looks. But it's such fun and nobody cares that you're doing something so crazy.'

The winner: Hendrik Holwerda (22), Master's student of Earth & Environment

'Our team knows each other from the Bachelor's in Soil Water Atmosphere. This is already the fourth time we've taken part. The last time, in 2019, we lost in the semi-finals. At first you think, it's just a game, but once you start drilling you suddenly get really fanatical, and you just want to win.
There is a nice atmosphere during the championships, with hundreds of people out in the mud. A lovely mess. I look forward to it every year. It was a pity it had to be cancelled last year, of course, but it was to be expected. I'm pleased it went ahead this year!'

The referee: Roel Dijksma, teacher of Hydrology

'Soil-drilling is part of Wageningen's cultural heritage. An amazing amount of research on Dutch soils was done by Wageningen in the 1940s, 50s and 60s – the time of Professor Edelman. He developed the soil drill that we use now, which is called the Edelman drill. Former WUR teacher Gert Peek gave lectures about the soil and did a lot of drilling with students. He noticed that some students were better at it than others. Then – many years ago – we held a competition in the river clay with 20 or 30 people. It became a thing. Eventually Pyrus study association took it up and turned it into the Soil-drilling Championships. This time there were nearly 900 people!
There hasn't been such a big gathering of people for a long time. That made for a very cheerful atmosphere. And it was seriously wet. Some people's boots and shoes got stuck in the mud and other people had to pull them out – which sometimes meant leaving a shoe or boot behind.'


LUMI NIEUS

Key people: Henk Welgraven

They are indispensable on the campus: the cleaners, caretakers, caterers, gardeners, receptionists – the list is long. *Resource* seeks out these key people. This time, meet Henk Welgraven (57), a security officer with Schipper Security.

Text Stijn Schreven ◆ Photo Guy Ackermans

‘I did security work for the first time when in national service, on Budget Day in 1983. We escorted the Queen’s Golden Coach in three columns of 100 men apiece.
We’d been training for weeks. Everything went smoothly. I would have liked to enlist in the army. I didn’t do so, and I regretted it later.
Through a friend I went into security work in 1995 at what was then the Agricultural University. I had no idea what it would entail. Security wasn’t a thing in Wageningen yet, and I’d never seen any security officers. The first time I ran into my friend in all his gear, I laughed my head off. Two weeks later I was wearing it myself.

‘Everything looks different in the dark’

I always used to cycle to the police station, where our day started. I wore my own coat over my suit because I didn’t want to be recognized as a security officer. It doesn’t matter to me anymore, it’s part of who I am, and everyone knows me like this.
After six years I left for another company to be a dog handler. Later I learned that Schipper was going to provide the security for the Wageningen campus, and I came back. I live in Wageningen Noordwest, so the campus is my back garden. I feel at home here.
A lot has changed since 1995. The buildings are easier to navigate, and the alarm systems have been much improved. And you can get to the scene faster because most of the buildings are close together. They used to be spread around the town.
Most reports are false alarms, but sometimes there’s a bit of excitement. In the past, heat lamps would sometimes get stolen from the Binnenhaven greenhouses. When the alarm went off I would go in on my own. Everything looks different in the dark. You’ve got to search, sometimes without a floorplan. Now I’ve been working here for so long that I know the layout of all the buildings. That makes it easier.
I still think it’s great here. You feel that you are working on serious business, it’s not just anything. As the only officer from Schipper, the car is reserved for me at fixed times. You are free and it’s always just you on your own. I like that. I hope I can work here till retirement. I’m in the right place.’

Campus ◆ residents

Dupan

Dupan, the Dutch foundation for a sustainable eel sector set up by businesses in the sector, is located in Plus Ultra. The office is run by Norbert Jeronimus, the secretary of Dupan as well as the director of communication bureau Jenx, located one door up.

Dupan was founded in 2010 with the aim of contributing to the Dutch Eel Management Plan. The foundation manages the Eel Stewardship Fund, a fund for non-statutory measures to benefit eel stocks. Examples of what Dupan does are: releasing more young eels than the agreed minimum into Dutch inland waterways, and lifting the adult eels over dykes and waterworks so they can swim to the Sargasso Sea to spawn.

‘Dupan will continue to invest in research to help the European eel to thrive.’

The foundation also co-finances the Eel Reproduction Innovation Centre in Wageningen, where WUR researcher Arjan Palstra studies the reproduction of eels. That reproduction is a mysterious process, but after five years of research, Palstra can now reproduce eel larvae. Breeding has not yet been successful though, because we don’t know what baby eels eat.

Dupan has been housed on the Wageningen campus since 2014, and has commissioned other research at WUR too, such as studies of balance calculations. ‘That research shows how the eel sector can reduce its impact on nature and increase the eel population in Dutch waters to a sustainable higher level,’ says Jeronimus. ‘Dupan will continue to invest in research to help the European eel to thrive.’ AS

There are about 100 companies on the campus. We introduce them to you in *Resource*. This time: stichting Dupan in Plus Ultra

All the flavours of the world can be found in the WUR community. Beatrice Bossi (19), a BSc student of Environmental Sciences, shares a dish from northern Italy.

Flavours of WUR

Mushroom risotto

‘Northern Italy is the home of risotto and mushrooms are our specialty. Every autumn, we would pick wild mushrooms with my grandparents. This is one of my grandmother’s best dishes. She taught me the recipe.’

Ingredients (for 2 people):

- 0.75 litres of vegetable stock
- 35 grams of butter
- 1/4 onion sliced thinly
- 100 grams mixed mushrooms, sliced
- risotto rice (Grandma`s rule: 3 handfuls per person)
- grated Parmesan cheese, as much as you like
- a pinch of pepper

1. Bring the stock to the boil and simmer gently.
2. Make *soffritto* in another pan: melt the butter and add the onion
3. Fry the onion until golden-brown (about 5 minutes). Add the rice and mushrooms and continue frying on a low heat for about 10 minutes, until the rice is shiny.
4. Add one or two spoonfuls of stock to the rice. Keep stirring.
5. Repeat every time the rice has soaked up the stock.
6. The risotto should be ready in 15-20 minutes but keep tasting it to know when it is perfectly cooked.
7. When the rice is done, add the parmesan to make it creamy. Add a pinch of pepper and... *Buon appetito*!

Beatrice Bossi
A BSc student of Environmental Sciences, from Italy

Which dish reminds you of home? Share it with *Resource* so we can all enjoy it! resource@wur.nl

In other news Science with a wink

RAISE A GLASS (1)

Researchers at McGill University have developed glass that is three times harder than regular glass and doesn't splinter. The glass is made up of layers of glass particles glued together with soft acrylic. The process was copied off snails, which line the inside of their shells with something similar (mother of pearl).

RAISE A GLASS (2)

With this flexible glass, the researchers believe they have rediscovered a forgotten invention from the Roman Empire. An inventor showed Emperor Tiberius his shatterproof glass and Tiberius had him murdered. He was afraid the substance would prove more valuable than all his gold and silver. The researchers have published their findings. Just in case...

GRAVITY

Worms like the model animal *C. elegans* can feel gravity. This conclusion was reached by researchers at the University of Pennsylvania. The worms feel gravity in the tiny hairs (cilia) on their skin, which they also use to taste and smell things. By switching genes on or off, the researchers are going to further investigate the nature of this 'gravitaxis'. The study could cast light on our sense of balance. After all, we share half our genes with worms.

FAKE

The Vikings did not discover America. At least, the so-called Vinland map said to be evidence that they did turns out to be fake, say researchers from Yale. The ink used on the map dates from after 1920. The world map with parts of North America on it became world news in 1965. It was said to date from the 15th century. Not so, then. Great for Columbus. We don't know who faked the map, though. RK

Diary of a caretaker

Globetrotter

My first column appeared in *Resource* on 5 September 2019: the story of a lady who rang me up in a terrible state to say there was hair growing on her living room wall. It turned out to be fungus, growing there because the heating was always on full blast without any ventilation.

Now, exactly two years later, I'm writing my last column. I've thoroughly enjoyed getting to write all sorts of lovely, sweet, moving, funny and extraordinary tales.

'Those heart-rending words still echo in my head sometimes'

The one that has stayed with me the most is the story of a woman from Rwanda. As a child, she lost both her parents in the genocide. I found her early one morning outside, in a state of shock. 'My parents were killed in front of my eyes. I survived together with my sisters. I am very happy to be alive but being an orphan at a young age is horrifying.' Those heart-rending words still echo in my head sometimes.

The Covid period was a strange and surreal time for caretakers. We were always around for the residents who were still in Wageningen, even during the first lockdown when Wageningen was deserted, and the streets were silent. Many residents had given up their tenancies and it was awfully quiet in the office. Totally unlike the past month or so, in which students from all around the world have returned to Wageningen. All our rooms are occupied again. Thanks to the easing of Covid measures, there are plenty of parties going on again. Here and there you still see students wearing face masks but the atmosphere in the town is back to what it was before Covid. Wageningen is bustling, friendly and lively again.

I still experience lovely, moving, funny and extraordinary things on a daily basis. As I have written before, there is another world behind every door. Really, I get to travel the globe in Wageningen.

For the past two years, Eugene van Meteren has written for *Resource* about his experiences as an Idealis caretaker. On behalf of all the editors, we would like to thank him for his stories about weed-growing students, romantic women, carefree parents and more. Read all his stories on **resource-online.nl**

Colophon

Resource is the independent medium for students and staff at Wageningen University & Research. *Resource* reports and interprets the news and gives the context. New articles are posted daily on resource-online.nl. The magazine is published every fortnight on Thursday.

Contact Questions and comments for the editors: resource@wur.nl | www.resource-online.nl

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[no]WURries

‘Someone I work with a lot is very friendly and likes to crack jokes. I find many of those jokes sexist and they make me feel awkward. But my co-workers laugh at the jokes and don’t seem to have a problem with them. I don’t want to come across as a moaner or someone without a sense of humour so I don’t say anything. But that leaves me feeling uncomfortable. What should I do?’

S. WUR employee who wishes to remain anonymous
(name known to the editors)

Explain please

‘Next time your colleague makes a sexist or embarrassing joke, ask them to explain it. This way you give your colleague the benefit of the doubt (did they really mean it the way it seemed to you?) And more importantly, your question might make them think more about the content of the joke and realize it is not appropriate. It might trigger a discussion but try not to react defensively: that nullifies your main message. In addition, inform Human Resources about the unpleasant situation. Others might follow, or even have preceded you. Together we can change things.’
Eugenia Leon Alvarado, Communication advisor in the Department of Social Sciences

Team discussion

‘People are often not aware that there’s another side to jokes. The quickest way to make your colleague aware of it is to have a conversation with them. But that’s not always easy. You could approach your line manager for support. He or she could take the lead and start a conversation with the whole team about how jokes are experienced, without focusing specifically on you or that colleague. That’s a way for you to explore together where people’s boundaries lie, and everyone can learn to respect them. It is easier to speak up about boundaries after such a discussion.’
Anke van Oostveen, confidential advisor

More awareness

‘Unfortunately, I have been in a similar situation. You not only have to deal with the discomfort of the comments, but also with the fear, guilt feelings and further discomfort of potentially confronting the person or raising the issue with a supervisor and facing the backlash that could come with it. The question should not be “What to do in such circumstances?”, but rather “What are we as a university doing to prevent such situations from occurring?” I would like to call on the university to create more awareness about this type of behaviour. It should never occur in the first place and should not be tolerated.’
Ann Barber, PhD student in Quantitative Veterinary Epidemiology

Snowball effect

‘Talk this over with a colleague you trust. Encourage each other to say something about this together if something like that happens again. Then you create a snowball effect. Also, plan in moments with colleagues when such problems can be raised in the group, without mentioning specific cases. For more advice about this “from bystander to ally” effect, you can consult the corporate social workers or the student psychologists.’
Margreet van der Burg, assistant professor of Gender Studies and leader of the EU GenderSMART project

NEXT WURRY

‘I’m a third-year Bachelor’s student and I’m delighted we can party again and go to the pub. And I’ve been doing so regularly with friends and classmates in Wageningen. But alas, it’s affecting my bank balance: I’m broke before the end of the month. Does anyone have tips for how to manage my money better without putting a stop to my social life?’

F.d.G., a student of Biology
(name known to the editors)

Do you have advice or tips for this WURrier? Or could you use some good advice yourself? ***Email your tips or your question (100 words max) by 26 October to resource@wur.nl*** *subject noWURries.*