Hesource

SEPTEMBER 2022 VOLUME 17

The journalism platform for all at Wageningen University & Research

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Room sharing

My first student room was a grey cubbyhole above a cafe in the little village of Ochten. It was about 20 minutes by bus to football stadium De Galgenwaard in Utrecht, where I had to change for another bus to the Uithof campus and the Journalism School. There were two or three other lodgers but we never ate together or really spoke to one another. It was fine for a couple of weeks, but it lost its charm once the local farmers started muck spreading.

This was followed by student houses actually in the city, places where we did eat together, and laugh, party and cry together. We became close — inevitable really when 15 of you (and later 25) share a kitchen. But however nice it is to have flatmates, it is also good to get some time alone in your own room.

That luxury is not available at the moment to exchange students Giuseppe and Stefano, who will be sharing a room in Dijkgraaf for the next six months. It is almost impossible for them to have any time alone. Even so, they see more positive sides than negative sides to sharing a room (page 12). I will be interested to see how close they are after six months.

Luuk Zegers

Editor

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CHILLY!

Gas prices have soared due to the war, and the government has asked everyone to cut back. Anyway, less heating is good for the environment. WUR is doing its bit: thermostats were turned down to 19 degrees last summer. But that was when it was sweltering. Now people are beginning to notice that one degree difference, for example here in Atlas, where not everyone is enjoying the chilly conditions. If this is your experience too or if you have a solution, let us know at resource@wur.nl.

Photo Resource

Student accommodation providers charge more for energy

If energy prices continue to rise, most social student accommodation providers will increase charges for their tenants. Idealis too foresees an increase in service charges.

To date, it has been mainly the private landlords that have passed on the higher energy costs to students, but now some social student accommodation providers are doing this. They include Vestide in Eindhoven, which increased the monthly advance for energy paid by its tenants by 30 per cent as of 1 July. 'We want to prevent students from getting a huge bill

'We want to prevent students from getting a huge bill at the end of the year'

at the end of the year.' But there are differences between corporations and even between student complexes. SSH in Utrecht has longterm contracts

until the end of 2023 for the supply of gas and electricity for many of its buildings. 'That means a lot of our students won't be affected by the rising energy prices yet,' says a spokesperson. Other SSG student complexes are connected to district heating, where rates already went up steeply and where SSH had to 'substantially increase' the advance paid for the heating costs. The country's largest student housing provider, DUWO, will increase its service charges as of 1 January 2023. Tenants will probably have to pay an extra 80 euros a month in service charges on average from January.

Wageningen

Idealis (Wageningen and Ede) also expects to have to increase service charges. Students already had to pay about 10 euros more this year but the spokesperson fears there will be more rises to come. 'We will probably introduce another increase as of 1 January. By how much is not clear as yet.' HOP

Second letter about gas drilling

Several hundred Dutch scientists have warned about the risks of drilling for gas in the Wadden Sea in a second open letter.

The letter is addressed to the ministers Van der Wal (Nature and Nitrogen) and Jetten (Climate and Energy) and state secretary Vijlbrief (Mining) and comes less than three months after a previous letter in which scientists sounded the alarm about the decision by the Dutch government to allow gas extraction in North Sea near the island of Schiermonnikoog. Both letters were sent by Scientists-4Future, a 'coalition of concerned scientists'.

From a WUR perspective, it is noticeable that the Wageningen signatories to the first letter are missing among the names at the bottom of the second letter. When we inquired about this, we were assured it was not because they have changed their views on the gas drilling. 'To be honest, I didn't notice the initiative for that second letter,' says marine mammal researcher Geert Aarts. 'If I had seen it in time, I would probably have signed the letter again. To invest in fossil fuel now is not a future-proof approach. That is quite apart from the ecological effects.'

Missed

Annet Pauwelussen, assistant professor of Marine Governance, also says it was not a deliberate choice to not sign the letter. Even so, she is relatively unbothered by the fact that her name is missing in the list of signatories. 'I'm OK with that. I like to read up on the topic thoroughly before signing, but I haven't done that yet in this case. I may still have signed the letter if I had known about it, but I must have missed the email.'

In the letter, Scientists4Future emphasize that granting licences for the extraction of gas under the Wadden Sea is a huge risk for the environment in this UNESCO World Heritage Site. Subsidence due to the gas extraction in combination with rising sea levels can reduce the area of mudflats exposed at low tide, whereas this is essential for the Wadden ecosystem. ME



The letter writers say subsidence due to the gas extraction in combination with rising sea levels can reduce the area of mudflats exposed at low tide. Photo Shutterstock

165

Students living away from home will get 165 euros a month to compensate for inflation. The cabinet announced this on Budget Day. The money is on top of the basic grant of 280 euros a month that the cabinet plans to introduce as of 1 September 2023. The measure is temporary, for one year. There will be no supplement to the grant for students living at home as parents get enough compensation through other measures, say the coalition parties. HOP



Coloured in

The first issue of *Resource* this academic year had a picture from the book *The Electron Microscopy Coloring Book* by Vittorio Saggiomo, WUR researcher at the laboratory of BioNanoTechnology. He obtained his images by using an electron microscope to magnify the surfaces of everyday objects by a factor of 6000. We asked readers to colour in the picture and submit their artwork. Chula Poleij-Hokahin did just that. Her exquisite colouring wins her a copy of Saggiomo's book.

Tackling buffet waste

Left-over bread rolls after a lunch meeting or buffet — it is a familiar sight for everyone on campus. Perfectly good food sitting there uneaten, which eventually gets thrown away. During the Waste-free Week, the relevant parties discussed how to tackle the issue.

Those relevant parties are the caterers on campus and the scientists working on food waste, says Sanne Stroosnijder, Food Loss and Waste Prevention programme manager. This was actually their first in-person meeting. 'Each caterer deals with this topic in their own way, independently from all the others. So it is good to work on this together.

Group catering is food that is ordered in advance. That is precisely the problem, says Stroosnijder: what has been ordered gets delivered. 'But the numbers on the form often don't 'The numbers on the form often don't match the number of people who turn up on the day' match the number of people who turn up on the day. Some cancel or attend the meeting

online, and then a lot of food is left over.'

Leftover food sometimes gets handed out to other people or taken by meeting attendees. Stroosnijder: 'But then you need a bag or tray to take it in. And handing the food out is not always an option, for example because of food safety rules.'

Reducing orders

The best option is to prevent the surplus in the first place. According to Stroosnijder, that means the ordering process needs to be flexible. 'You should be able to reduce your order if it turns out two days in advance that you can expect 80 people rather than 100. But then you get problems with suppliers or contracts that have already been signed.' An initial step is now being taken by mapping the whole process from ordering to consuming the food. Stroosnijder: 'And everything in between. Who is involved and can we standardize the process for all the caterers? We will start with that.' RK

VVD decries knowledge security 'freestyling'

Do universities fully accept the need for knowledge security? The VVD (a rightwing party) is not convinced, as it made clear in parliament in mid-September. Education minister Robbert Dijkgraaf has more confidence.

In recent years, people have become more aware that foreign powers use Dutch research to further their strategic interests. Politicians believe applied and academic universities should take more care to prevent their scientific knowledge getting into the wrong hands. China in particular is a cause for concern after revelations about Delft University of Technology and the Chinese army, and the dubious funding arrangements for a human rights centre at VU University Amsterdam. The universities have agreed with the minister that they will do more to protect their know-how and all perform a risk assessment. But how will they do this? VVD MP Hatte van der Woude is afraid they will take a 'freestyle' approach.

Shocking

'I heard that one institution apparently thought it was all nonsense,' she said. 'I actually find that shocking.' That same institution then discussed the possible risks in *all* sectors with *all* its researchers. That is not the way to get a good analysis, says Van der Woude. She tabled a motion jointly with the CDA (Christian democrats), arguing that a more systematic approach is needed. The universities should for example perform a 'risk classification of international relations and collaborative arrangements'. After all, not every partnership is the same. The minister, Robbert Dijkgraaf, agreed but also played down the criticisms Van der

'I don't believe we are overdoing the protocols'

Woude had heard. Critical voices are a feature of academia, he said, but universities are not being obstructive. 'They are simply doing

what I ask them to do.

Only it is not a straightforward task. 'Setting up the basics for knowledge security requires more work,' said Dijkgraaf. 'I don't believe we are overdoing the protocols: these instruments will let us raise awareness and create a better overview.' HOP



'Wet but fantastic'

The Dutch Student Cycling Championships were held on Sunday 18 September on the Wageningse Berg. Sofie van Hemmen, a member of Wageningen cycling club Hellingproof, which organized this year's championships, looks back with satisfaction at a 'very wet but amazing event'. Over 200 cyclists gave it their all, defying the steep slopes and rain. 'They were tactical, went on the attack and fell back.' There were a few minor collisions but the cyclists suffered no more than grazes. 'The atmosphere at the finish line was great.' Lz

Prize for lessons on coral reef recovery

WUR's first Nature-based Solutions Challenge was won by the team School Meets The Reefs from Sri Lanka. The team works on restoring coral reefs off the east coast of Sri Lanka. They have set up a school programme on nature-based solutions for conserving coastal areas, with the aim of inspiring pupils to make a difference themselves. Two other nature-based solutions in the final were the cultivation of fungi in forest areas to combat tree felling for agriculture (Indonesia) and a project to help farmers switch from growing crops to beekeeping to protect nature in a national park (Uganda).

Nature-based solutions are solutions where nature is used to solve problems at the scale of the landscape. The eight teams in the final got a budget of 2500 euros each and mentoring by experts. They were able to work on their projects from May to September. WUR is providing an additional 10,000 euros to help the participants continue with their projects. All finalists can apply for a share of that budget. LZ



Scan the QR code for more information on the submissions and winners.

Thale cress has a lodger

Thale cress (*Arabidopsis thaliana*) is used as a model plant in plant science. However, research by Wageningen and Utrecht shows many of the plants used in these studies have a virus. The discovery was a classic case of serendipity — finding something by accident.

The story begins about six years ago, explains René van der Vlugt, professor by special appointment of Ecological Plant Virology. When studying the genes for resistance to aphids in the plant Arabidopsis, Karen Kloth (Entomology) stumbled on something strange. 'In some plants, 90 per cent of the genes that were expressed after an aphid attack were not Arabidopsis genes.' But what were they? Kloth asked Van der Vlugt. Could they be the genes of a virus? They did indeed turn out to belong to an unknown virus, one of the group of coronaviruses. Van der Vlugt asked Ava Verhoeven (who had just graduated and is now at Utrecht University) to investigate this further.

It soon transpired that Kloth's thale cress plants were not the only ones to be infected with the virus: when the American database NCBI was screened, evidence for the virus was found in a quarter of the 6500 *Arabidopsis* datasets. The virus is widespread in laboratories around the world, and also in wild thale cress. But it does not make the plant ill. Infected thale cress plants do not show any symptoms of disease.

Repeat

So there is a virus and it is infectious. Does that mean all the studies of *Arabidopsis* are now worthless? Van der Vlugt: 'That would be going too far. Some of the research focuses on the influence of pathogens, including viruses, on gene expression. If a plant had this newly discovered virus, that might have affected the outcome, so you should really repeat



An image taken by an electron microscope shows virus particles in an infected thale cress. The image has been magnified 100,000 times. The particles are 28 nanometres in diameter. Photo Biointeractions & Plant Health

that study.'

An intriguing question is why the plant makes this viral material, and on such a large scale in some cases. 'From a scientific perspective, that is the biggest

It seems the plant and the virus have coexisted for a very long time question for me,' says Van der Vlugt. 'In some of the plants, the virus suddenly mushrooms. Is that triggered by something? Is it random chance?

That's unlikely; there must be a biological effect operating as it costs the plant a lot of energy to multiply the viral genetic material in such large numbers.' Some of the research was carried out at Utrecht. Verhoeven discovered there that the virus does not fundamentally change the gene expression of the thale cress. Van der Vlugt says this suggests the plant and the virus have coexisted for a very long time. That is also evident from the high degree of transferability of the virus via the plant's seed. The virus is present in 40 per cent of the plant's offspring, which is far more than for other viruses.

Another discovery was made in Utrecht: the virus makes thale cress slightly less sensitive to drought. The effect is small but significant. RK

[You win some, you lose some]

A failed experiment, an error in your model, a rejected article: in academia such things tend to be labelled failures. As for talking about failure? Not done! But that's just what WUR co-workers do in this regular feature, 'You win some, you lose some'. Because failure can be useful. In this instalment, we hear from Nico Claassens, lecturer in Microbiology. Text and illustration Stijn Schreven

'When I first started working on my Master's thesis, I thought "OK, so this is the plan, we're going to implement it like this, it will turn out like that and then we're done". When it went wrong, I got very impatient and felt frustrated. Now I approach failures differently: they're all part of the deal. 'A lot of Synthetic Biology projects are very ambitious: we try to create something and see if it works. And if not, it does feel like a kind of failure. That is why it is good to do some expectations management for yourself, your colleagues and the people you supervise. This helps you to stay motivated and to have a plan B - or at least to have something worth publishing if you don't make it. 'Even in my PhD research, the

goal turned out to be overambitious. I tried to put together the DNA to make bacteria grow on light. No easy task – it's a black box. If you don't manage it, you don't have many techniques at your disposal for figuring out where it went wrong, and why. That's frustrating, because you don't learn much and you don't make progress. But instead of trying to understand everything that didn't work, you're better off trying a different method. There are so many ways of building

'The confidence of my supervisors ensured that I was never terribly down in the dumps'

DNA these days, for example. Put the failure behind you and choose an alternative, otherwise you waste too much time. 'The confidence of my supervisors ensured that I was never terribly down in the dumps during my PhD research. They see setbacks as all part of the game. When things didn't go my way, they encouraged me to find other strategies and helped me think up solutions. Now that I am a supervisor myself, I try to pass on that lesson.'



Test to detect milk fraud

If cows are treated with growth hormones, their milk production increases by a quarter. But this treatment is banned. Nathalie Smits (Wageningen Food Safety Research) developed a test to detect such abuses, research for which she received a PhD this week.

Smits uses the antibodies that cows produce in response to the exogenous growth hormone rbST. The product was developed in the 1980s by the chemicals giant Monsanto. It is banned in Europe but not in the US or Asia. Actually, it is surprising that cows produce antibodies in response to the product because the hormone only differs in one of its 191 amino acids from the cow's natural growth hormone. LG Life Sciences even sells an exact copy of the substance found naturally.

Biomarker

Smits suspects that the injection itself triggers the cow to produce antibodies. 'That property is the basis for the milk screening process I have designed. The antibodies end up in the milk and I use them as a biomarker indicating the use of growth hormones.'

'The antibodies end up in the milk and I use them as a biomarker'

Legal proof requires direct evidence of the growth hormone itself, however. In the blood, because LG's product does not get into the milk. Rabbit antibodies are used to

fish the growth hormone out of the blood, after which it is identified.

That is all that is required from a scientific perspective, but not for legal purposes. Smits: 'It lets you incontrovertibly demonstrate the presence of Monsanto's growth hormone but not that of LG because it is identical to the cow's own growth hormone. So you can't say for certain whether the hormone was injected or produced by the cow itself.' BK

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This is how the fungus hurts the spud

The water mould *Phytophthora infestans* is the bane of potato growers. Last week, Jochem Bronkhorst obtained a doctorate for discovering how the mould gets inside the plant.

He developed a model leaf: a thin layer of rubbery material (PDMS) that has similar

The tips of the mould threads cut through the leaf like a Japanese knife

rigidity to a real leaf. Bronkhorst came up with a nifty method for measuring the force with which the mould

threads (hyphae) penetrate the model leaf. It basically comes down to making a precise elevation map of the surface. 'You measure how deep the rubber is pressed down by the tip of the mould thread,' he explains. 'You know the rigidity of the rubber so you can then calculate what force was exerted.'

Japanese knife

The elevation map shows the tip of the hypha cutting through the leaf like a Japanese knife. That is a knife sharpened on one side only, so the forces are exerted on a smaller surface. 'The shape means the knife cuts diagonally into the material. We see exactly the same with *Phytophthora*.'

He also discovered how the mould keeps the 'knife' sharp. The actin cytoskeleton, the cell's internal network, helps here. 'The cell accumulates an awful lot of that protein in a certain form in the tip of the hypha. As a result, the tip not only keeps its shape but even seems to become sharper when cutting.'

But the mould needs to be able to attach itself firmly to the leaf in order to exert those invasive forces. That opens up new options for combatting the mould. Bronkhorst: 'If you can reduce the adhesion force, that should lead to a big drop in the invasion efficiency.' Tests with model leaves and real leaves have indeed demonstrated that effect.RK

Sustainable packaging can sell itself

Sustainable food packaging often has different properties to ordinary plastic packaging. PhD candidate Giulia Granato researched how companies can convey the greater sustainability of the new packaging using explicit and implicit signals.

Some forms of sustainable packaging are opaque or make a loud crackling sound. Companies find this inconvenient as consumers are less keen on such packaging: they can't tell if their salad is fresh and they find the loud noise annoying. Companies may therefore decide to process the sustainable material so that it mimics conventional plastic. But there is a risk consumers will no longer perceive the packaging as sustainable. The research by Giulia Granato (Marketing and Consumer Behaviour) shows that companies can use the distinctive sensory properties of sustainable packaging to their advantage by giving a more explicit explanation. She will defend her thesis on 3 October. Granato investigated whether the

'meaningful reminder' can be used as a tool to help bring about behavioural change in consumers. Various cues given by the packaging can take consumers out of their routine (reminder) and make them aware of the packaging

'The loud crackling sound of packaging made from corn starch does not tell consumers it is sustainable' the packaging as different. It is then important to give meaning to the packaging they have now noticed. Logos and text could for

example be used to focus attention on the package's sustainability.

Corn starch

However, combining those implicit cues (packaging) and explicit signals (text and logo) can prove counterproductive. 'It can be perceived as too good to be true,' Granato explains. 'Then people don't believe it anymore. There is a lot of greenwashing (making something appear more sustainable than it is) in



Photo Unsplash

food packaging, which makes consumers sceptical.' Certain combinations of explicit and implicit cues did work well. 'The unusually loud crackling sound of packaging made from corn starch does not in itself tell consumers that it is sustainable, so you need a logo or text as well,' says Granato. ss

THE PROPOSITION

For PhD candidates, their thesis propositions are an opportunity to air their professional and personal convictions about science and society. In this feature they explain their most thought-provoking proposition. This time, a proposition from Jochem Bronkhorst, Physical Chemistry and Soft Matter, who defended his thesis on 20 September 2022.



'Mandatory mental health courses are crucial for maximizing the scientific potential of the PhD years.'

'Everybody needs their personal anchors, something you can always fall back on and that makes you feel peaceful. Something that can be relied on, so you know: if I do that, I will feel better afterwards. Something that takes care of your mental hygiene. For me, it's playing music. I only found this out when I fell into a depression at the start of my PhD research. The topic was tricky and wasn't right for me. So you struggle to make it work, but it was just no good. My supervisor Joris Sprakel said, "I can see that you're struggling. But you have so much more in you; take your time." I was depressed and I had a lot of therapy. That taught me what my anchors

are. I have been making music all my life, playing the trumpet in an orchestra, but I was never particularly aware of what effect that had on my emotions. We live in a very uncertain world and we don't know what the future will bring. When you start a PhD, there is a lot of new stuff to deal with: all things that can be very stressful. And you just have to cope with it. That's why my proposition is: make it compulsory for people to identify their anchors, and make time for that. I see a lot of people around me struggling. Don't wait until it's too late; you've got to have your coping mechanisms ready before the moment you need them? BK

Vacancy

The Board of Education is the legal board of all accredited study programmes at WUR and consists of 4 professors and 4 students. The activities of the BoE take up about one day a week. This includes a meeting every two weeks on Wednesdays between 9:00 and 12:30.

Interested?

Send your CV and motivation letter, in English, before 10th of October 2022, to **boardofeducation.secretary@wur.nl**. The interviews with candidates will take place in the week of 17 October.

More info: www.wur.eu/boardofeducation

WAGENINGEN UNIVERSITY & RESEARCH

Do you have a passion for education? From November 2022 one student seat in the Board of Education is vacant!

Your responsibilities / opportunities

- To represent students from Wageningen University & Research in the board that decides upon the content and quality of accredited study programmes and advises the Executive Board on various educational issues.
- To deal with a variety of topics, such as new study programmes, quality of courses and teachers, new education policies and education innovation.
- To take an in-depth look at the management of your university;
- To enrich your curriculum vitae with education management experience.

Your qualities

You have a passion for education and ideas to develop and innovate the WUR education. You are proactive and you

have a critical attitude. Preferably, you have prior experience on a (programme) committee, a board or similar. You study in the **domain of Life Sciences** (BAS, BBI, BPW, MAM, MAS, MBI, MOA, MPB, MPS).

The appointment is for at least one year, with the possibility of two reappointments. You are compensated with three months of FOS (financial compensation for board activities) per year.



COLUMN

180 degrees

When you stop writing columns for *Resource* after nearly five years, it is tempting to read over what you have written. You come across some pieces you are still satisfied with, but also some embarrassing rubbish. Much more interesting are the things on which you have completely changed your mind.

For instance, I once wrote a piece ridiculing nature conservation organization Natuur-

'Those who never change their mind are not thinking'

monumenten's member consultations. These were intended to give Natuurmonumenten's supporters a say in the nature

management implemented by the organization. I wrote with a little more nuance, but the gist of my argument was: leave nature management to ecologists who have studied it in depth, and keep others as far away from it as possible. To make sure my piece had a link to WUR, I addressed it to Jeroen Dijsselbloem, chair of Natuurmonumenten, and a WUR alumnus and chair of WUR's supervisory board. In addition to a coffee date with Dijsselbloem, the column brought in a series of emails from WUR folk who wholeheartedly agreed with me. 'Nail on the head!' someone wrote.



Vincent Oostvogels

But since then, I have become convinced that it is crucial for fair and effective nature conservation to take multiple perspectives into account, and that the local knowledge of practitioners matters just as much as the scientific knowledge of, say, ecologists. In my PhD research, I seek to substantiate this by focusing precisely on what farmers have to say about nature. Looking back, I am surprised that I got so many positive responses to a piece in which I pretty much advocated keeping a lot of people out of the nature management debate. All this reminds me of the column called '180 degrees' that the Dutch daily paper De Volkskrant used to run. It gave a platform to people who had radically changed their minds. An idea for Resource, perhaps? WUR is an organization in which - in spite of all the dialogue sessions it holds - different camps have sometimes dug in pretty deep. It is easy to stay in your own bubble and cling to your own rightness. But those who never change their mind are not thinking. So let's shine a light on changes in perception, and celebrate them. Long live doubt, long live those who change their minds!

Vincent Oostvogels (26) is in the second year of his PhD research on biodiversity restoration in dairy farming. He dreams of one day being able to keep a few cows himself. This is his last column in *Resource*.

Stefano and Giuseppe are sharing

2 IN A 3X4 ROOM

When there were still a lot of homeless exchange students just before the start of the academic year, WUR and Idealis came up with an emergency solution: room-sharing.

wenty students are now sharing rooms in the Dijkgraaf residence. How does that work, actually, sharing 13 square metres? Resource dropped in on Giuseppe Macaione (23) and Stefano Fazzari (21).

How did you end up sharing a room?

Macaione: 'It was extremely difficult to find a room. Many exchange students were struggling and couldn't find anything.'

Fazzari: 'Then WUR's Exchange Office wrote to us with some questions. One of those questions was whether we were open to sharing a room. We both answered "yes" to that and on 29 August - two days before we came to Wageningen - we heard that we had a room.' Macaione: 'What is a bit strange, I think, is that other exchange students I know were open to sharing a room but were just given a room to themselves. Nevertheless, I am happy to have Stefano as a roommate. We are both Italian, which makes it easy to communicate. Stefano is at university in Milan and I'm in Bologna, so we didn't know each other before we became roommates. We got to know each other here and have been living together for a few weeks now.'

Have you ever shared rooms before?

Macaione: 'In Italy, it is more normal to share a room, because otherwise leaving home is almost unaffordable. In Bologna, I shared a room with a friend for six months. It was difficult at times. Once he was very sad about something personal that he didn't want to share with me. He then went to cry in the bathroom so he could have some privacy.'

Fazzari: 'I never shared a room, except when I went on holiday with my friends.'

How have the first few weeks gone?

Fazzari: 'It's going pretty well so far. What I like about room-sharing is that I don't feel I'm on my own. On my first day in Wageningen, I stayed in a hotel. There I was a bit lonely and sad. When you share a room, you have company.' **Macaione**: 'On the one hand, it is almost impossible to have a moment to yourself because you not only share your room with someone, but also the rest of the house with 20 other students. On the other hand, when you start a new adventure, you want to have a sense of belonging. You get that more if there are people around you that you can share the adventure with. If I lived in a studio, I might start to feel lonely.' **Fazzari**: 'Another plus: I am not very extrovert but Giuseppe is very sociable. Thanks to him, I meet more people.' **Macaione**: 'And because we share the room, we also share the rent. That's another big plus.'

Are there any tricky elements? **Macaione**: 'Space and privacy. You have to accept that there is limited

'I'm not very extrovert; thanks to Giuseppe I'm meeting more people'



Text Luuk Zegers



Stefano Fazzari (left): 'Right now, I am happy to share this room, despite the downsides. I wouldn't want to split up.' Giuseppe Macaione: 'I agree with that.'

Photo Guy Ackermans

'We share one shelf in the fridge: that's not a lot'

space and respect the other person's space. We share one desk and sometimes I forget to put my things away. That's not good. Another problem is the fridge: the two of us share one shelf. That's not a lot. And if I ever want to be alone, it's simply impossible.' Fazzari: 'I do have some privacy sometimes. Giuseppe often goes to the gym and then he stays away for two hours and I have time to myself. I don't exercise as much as he does. Sometimes I might get back from uni a bit later, but not all that much later. So I get more time to myself than Giuseppe does.' Macaione (laughing): 'You really need to start exercising!'

Are either of you in a relationship?

Fazzari: 'I have a girlfriend in Italy. She's coming to visit in two weeks' time. We have booked a room somewhere so we can be alone. Of course, we will also come here so she can see where I live and meet my friends. And we will have lunch and dinner here.'

Macaione: 'I am single. Should I meet someone nice, I hope that person has a

nice room. Stefano and I have already discussed how we would deal with such a situation, if it arises. If I want the room to myself for a few hours, we'll talk about it and then he can plan something to do at that time. And vice versa, of course.'

Room-sharing is intended as an emergency solution. Should it become a standard option?

Macaione: 'If more rooms are made available for sharing, I think there will be a market for it. Especially if you can choose who you share the room with.' Fazzari: 'Right now, I am happy to share this room with Giuseppe, despite the downsides. I wouldn't want to split up.' Macaione: 'I agree with that. For me there are more positives than negatives to living with Stefano. We are up for this new adventure, the exchange and everything it brings with it.'■

Evolutionary advantage for shark that changes colour

When sharks go pale

The great white shark changes colour when it attacks. National Geographic Explorer and WUR PhD student Gibbs Kuguru has made a documentary about this phenomenon.

xplorers still exist, and one of them is Gibbs Kuguru from Kenya, who has been a PhD student at WUR for two years now. He was officially awarded the status of National Geographic Explorer in June. An appointment that enables him to go exploring the world in search of a good story at the expense of the renowned institution. And for him, that means stories about sharks.

Gibbs Kuguru has been studying sharks for 10 years. His parents actually intended for him to become a doctor. 'I studied medicine in the US. But as I went along, I realized that it wasn't what I really wanted to do. I wasn't happy doing what I did. My study advisor saw that too and handed me a flyer when I graduated from pre-med, the first four-year phase of the training, saying: "This is up your street". It was a job in South Africa on a boat, taking tourists into the sea in a cage to see great white sharks.'

'I wasn't a diver, I couldn't even swim properly and - like most people – I was scared of sharks,' he says. 'But the choice was to continue my studies or to go to the sharks. I opted for the sharks.' And his fear quickly evaporated. 'Everything changed from the first time I saw a shark. Sure, it's a predator, untamed and fierce, but it is also an incredibly beautiful animal, worthy of our respect. And actually much less dangerous than, for example, a lion when you come face to face.'

That's as long as you know how to behave. 'Just last week, in South Africa, I fell out of my kayak. There I was, in the water with lots of great white sharks around me. My first reaction was: shit! But my training took over. Don't react like prey. Show that you're not



panicking or in distress. Don't flounder. So I grabbed my paddle, swam calmly back to the kayak and climbed in. Nothing happened. But I did paddle back to the beach very fast.'

Colour board

Kuguru was in South Africa to film a documentary about a remarkable phenomenon: the way great white sharks change colour when hunting. This phenomenon has never been studied before. Kuguru: 'My former boss on the boat once said: "Hey, that shark we just saw seems to have gone paler". I hadn't noticed it and I thought: he's crazy. But later I heard similar stories from other people.' So Kuguru and his shark mentor Ryan Johnson decided to research this, and got the backing of National Geographic. 'Things like colour change makes for an appealing story, of course'.

The experimental set-up the researchers developed is as simple as it is spectacular. They lure sharks with a fake seal towed on a rope behind the boat. A colour board with shades of grey is mounted on a floating rack in front of the seal. When the shark jumps out of the water to strike, it is photographed from the boat. The set-up makes smart use of the behaviour of the sharks,

'I WASN'T A DIVER AND I WAS SCARED OF SHARKS' which jump out of the water when they attack, showing themselves in all their glory. 'Only the great white sharks in South Africa do that. It's amazing, if you think about it. They don't do it anywhere else. Somehow, this population has developed this behaviour. They grab their prey and jump.'

Fight or flight

Kuguru has many dozens of photographs of such attacks, which he never tires of. 'The ferocity of such an attack, those teeth, the impact on the prey. When you see it, you can't sit still. YES, it happened again!' And it turns out that the perceived change of colour is real, and Kuguru even reckons to understand the mechanism behind it. 'I think it's an unconscious response of the nervous system, just like blushing. Our hypothesis is that different hormones induce this colour change. Adrenaline, for example, is released when the shark feels threatened or scared.' This is still a hypothesis at this stage, but one that is supported by lab tests, in which skin tissue from the great white shark was exposed to adrenaline. This produced the same colour change, says Kuguru.

So the colour change is an effect of the age-old fightor-flight response. Kuguru: 'Sometimes sharks bash into the boat because they can't see their prey very well. That startles them and they go paler and then dive to the bottom of the ocean to hide. This colour change helps them hide: their muted colour pattern matches the colour of the deep ocean. So I think it is a natural adaptation that sharks have developed to have an evolutionary advantage. But much of this is still hypothetical.'

Leucism

Gibbs Kuguru is a PhD student working on the genetic basis of leucism in blacktip reef sharks in the Maldives. The condition leads to spotted depigmentation of the skin. Pigment cells (melanocytes) play a role in this, as they do in in the colour change observed in the great white shark. In addition to the genomics of it, Kuguru is also investigating the effect of leucism on the sharks' chances of survival.



The white shark jumps out of the water as it attacks. The researchers seize the opportunity to take a photo of the shark's belly and of the colour board, to compare colours. In this photo, the shark is demolishing the research equipment (not deliberately). • Photo Roller Coaster Road Productions





'Give people a nitrogen kilometre quota'

'Impose a quota on ordinary citizens too. For example, only let them drive their car 10,000 kilometres a year rather than 20,000.' This suggestion was made recently by Professor Wim de Vries during an interview about the nitrogen

crisis. Good idea? Text Marieke Enter + Illustration Shutterstock

he agricultural sector complains that the government is putting too much of the burden of resolving the nitrogen problem on farmers. Two Wageningen experts in the nitrogen debate agree: Wim de Vries, professor of Integrated Nitrogen Impact Analysis and 'nitrogen dissident' Han Lindeboom, emeritus professor of Aquatic Ecology. They differ fundamentally with one another in their views on the nature of this crisis and the solution, but on this point they are remarkably united. In a recent double interview (see inset), De Vries suggested imposing a kilometre quota on Dutch citizens, if only out of solidarity. *Resource* made some calls and asked what other people thought of the idea.



Tom Kisters Researcher at Wageningen Economic Research

'As a behavioural economist I understand the reasoning but a quota would be difficult to implement from a practical perspective. How would you administrate it? What would it cost to enforce the rule? I also foresee undesirable side-effects: people who live a long way from their work and can't visit family in December because they have already used up all their kilometres commuting. Of course farmers are citizens too and would also be affected by the kilometre quota.

Having said that, it would send a good message to farmers. Everyone needs to pitch in to help resolve the nitrogen problem, including ordinary citizens. But the general public is already doing that anyway, even if that is not always visible: petrol and energy are normally taxed more. The temporary reduction in those taxes is a choice by the government to scale back those incentives. When the taxes eventually go back to their normal level, the government could levy an extra surcharge and earmark that for nitrogen measures so as to give the general public's contribution a clear frame. Symbolism is important, but I don't think the Netherlands should just carry out measures that are mainly symbolic in their effect.'



Mayra van der Vrande

Biology Master's student and advocate of restricted car access on campus 'The behaviour of ordinary citizens hardly seems to be an issue in the nitrogen debate: of course we fly to our holiday destination, of course we go everywhere by car. It's high time that the general public feel the consequences of the nitrogen surplus and change their behaviour. I would personally prefer a different approach in persuading people to change their behaviour rather than a kilometre quota as that feels like a punishment. It would be better to give people low-nitrogen alternatives that are so appealing they opt for them vol-

'Farmers are citizens too, so they will also be affected by a kilometre quota'

untarily. For example, I hate the way the campus is designed to be so car friendly. There isn't even a decent footpath or cycle path between Mansholtlaan and Gaia/Lumen but there are (free) parking spaces everywhere. We will never persuade people to give up their cars like this! I find it equally ridiculous to see millions of euros of public money being spent on widening roads all over the Netherlands when we know there is this huge nitrogen problem. We all need to become aware of our impact and act accordingly.'



Joost Rijk

Farm of the Future manager 'Halving the number of vehicles — or at least the kilometres driven — sounds like a great idea to me. It would change farmers' perception for the better because agriculture is having to pay disproportionately for the nitrogen surplus. You could wonder, though, whether such a quota would really help the agricultural sector. A few cents added to the price of dairy products, vegetables or meat would probably do more in letting the sector tackle the nitrogen problem. At least, if that money reaches the farmers so they can use it to make their farms more sustainable, and it isn't



used to inflate profits or line other people's pockets. But unfortunately I don't see much chance of consumers being willing to pay more. Price increases are always tricky, especially now when there is high inflation. Even so, I think that is the solution in the end. At the moment, unhealthy, unsustainably produced food is too cheap. People have been calling on the government to do something about this for years, for example with a sugar tax or meat tax, or lower VAT on fruit and veg. Reduce the price gap compared with healthy, sustainably produced food. In the meantime, halve the number of vehicles on the road and close Schiphol; at least then we will be sharing the pain equitably.'■

Quota context

Excerpt from the double interview with Wim de Vries and Han Lindeboom in the newspaper *Reformatorisch Dagblad* on 10 September.

Lindeboom: 'The government is making a huge error in not involving other sectors. Farmers are being faced with a massive task while other sectors responsible for emissions are being left alone. I think industry, aviation and traffic should also be forced to halve their emissions. That would make people appreciate what the plans mean.'

De Vries: 'I totally agree, Han. We differ in our opinions scientifically but we agree on a lot of practical matters. Other sectors should do their bit purely out of solidarity. Then the general public would know what it means to have a 50 per cent reduction in nitrogen oxides from road traffic by 2030. I am not convinced that can be achieved through technology, so you should impose a quota on every citizen. For example, they should only be allowed to drive their cars 10,000 kilometres a year, not 20,000.'

DROUGHT FORCES TEACHERS TO ADAPT WATER PRACTICAL

Two weeks before the start of the academic year, teachers Edwin Peeters and Dorine Dekkers noticed that most of the ditches in the Binnenveld, the main location for their practical on Water Quantity and Quality, were bone dry. They hastened to come up with new locations and research questions. Text Tanja Speek • Photos Guy Ackermans

n the first Thursday morning of the academic year, Dorine Dekkers is standing with 13 students of Soil, Water and Atmosphere under an overhang of the building at the Sinderhoeve research site near Renkum. The much longed-for rainstorm pours off the roof and over the fields. The contrast with the reason the practical is being held here could not be greater.

Two weeks earlier, Dekkers and her colleague Edwin Peeters got together to change their plans for the Water Quantity and Quality practical, in which they study aquatic life. Their favourite research spot, the ditches of the Binnenveld, turned out to be so extremely dry that water research was not possible for their 75-plus students. So they found an alternative location at the Sinderhoeve, a WUR research site with artificially created experimental ponds and ditches. Between them, they quickly came up with new research questions to go with the new location. And it worked out even better than they expected.

No mud

'I came back from holiday and discovered that the Binnenveld really was extremely dry,' explains Peeters dejectedly. 'In most places there wasn't even a layer of mud left in which the last aquatic insects could have survived.' The Binnenveld is the area between Veenendaal and Wageningen, east and west of the Grift drainage canal. 'It will be some time before the aquatic life in the Grift and other nearby ditches returns, when everything is nice and wet again.' Learning about aquatic life, especially insects, and how it is related to water quality is precisely what this practical is aimed at. 'We had problems with drought for the first time four or five years ago, but then it was enough to find a few extra locations in Wageningen. This year, that

was definitely not going to be enough for the 18 groups of students we've got.' The teachers quite regularly collaborate with the Sinderhoeve site for their research. 'By chance, we were both working there, so we decided to see what the possibilities were,' Peeters says. 'In the back of your mind, you have already started pondering your options. So when we sat down together, there was a torrent of ideas. That's the beauty of collaboration.'

Almost all the topics for the practical are new. 'So, previously, we used to compare the ditches in the east of the Binnenveld with those towards the west, or sandy soil versus peaty soil. We've taken that





out completely now. We decided to make the topics much more about climate change. And about other ways of sampling, about how to catch the bugs that are found there.'

Gravel

That first Thursday morning, the practical at the Sinderhoeve begins for the students with a guided tour. 'These ditches and those long ponds over there are available for our practical. The experiment on the effects of fish on aquatic insects is here,' Dekkers tells the second-year students. 'Normally, the staff at this location mainly investigate what substances do in the aquatic environment. Drugs or plant protection products, for example. That effect has to be tested before such substances can be sold.'

At a long, straight experimental ditch, a group of students get to work with wire baskets filled with gravel, or

'When we sat down together, there was a torrent of ideas'

'There wasn't even a layer of mud left in which the last aquatic insects could have survived'



The artificially constructed test ponds and ditches at Sinderhoeve in Renkum.

with artificial grass. Others use 'multiplates', a stack of plywood boards screwed together, with some space in between. 'We hang them in the water to see which one catches the most water bugs,' explains one of the students. 'And whether there is a difference in which material different bugs are drawn to,' adds his groupmate. 'Usually we take samples with a net, scraping it over part of the bed,' explains lecturer Dekkers. 'There can be big differences in the insects' favourite substrate, the material they sit on. That makes testing this all the more interesting for us.'

Campus ponds

Peeters talks enthusiastically about another new place where students are sampling the water. 'The ponds on campus! At the beginning of the summer, WUR held a Biodiversity Challenge. The aim was to discover as many species as possible on campus in a few days. It wasn't a great success in terms of aquatic insects because there were so many people and for practical reasons. But now we have a group of students who are going to do it properly after all. They will also identify the insects down to the taxonomic level of genus or even species. For the practical, we usually only go down to the level of family.'

So what do the students think about doing their practical in a new location? 'Why, is it different now?' asks a second-year student. 'It used to be in the Binnenveld? Oh, I didn't know that actually.' Others see the plus side of the change. 'I might like this better in fact, it's really cool to be here too. Something completely different, and we went to the Binnenveld on a course at the end of last academic year.'

The lecturers are certainly very pleased with the new location. 'All these new topics raise new questions. I get a real kick out of that, it's such fun,' confesses Dekkers. Peeters, too, enjoys how they made a virtue of necessity. 'I've been walking around beaming with delight all day.'■

'The energy transition is seen too much as a landscape planning issue'

The government advisory body on spatial quality, the Board of Government Advisors, issued new recommendations last week on the interaction between energy infrastructure and space. Associate professor of Landscape Architecture Sven Stremke has been studying this topic for years. 'It is time to think bigger.'

Don't these recommendations come a bit late?

'The way The Hague looks at time, the document has come at exactly the right time. But on the ground, it is true that many important decisions on energy infrastructure are already well underway. In that respect, we could have done with these recommendations a few years ago. Although the Board did point out earlier that the energy infrastructure is a key factor in landscape planning in the Netherlands, for example in the 2019 exploratory paper *Via Paris*.'

Was there little response then?

'It took a while in The Hague, yes. The Netherlands has only recently drawn up an Energy Network Programme. These recommendations by the Board were written at the behest of the programme managers'

What do you think of the report?

'I am somewhat surprised by how technical it is. The Board puts forward some recommendations, all of which are valid: 'take the rising sea levels into

'I don't see any linkages with our future living environment: our landscapes, towns and villages. I don't see much imagination.' account'; 'formulate a standpoint on the principal economic structure'; 'focus on a more European and regional energy system'. At the same time, these

recommendations are rather self-evident and not what you would expect from the Board of Government Advisors. I don't see any linkages with our future living environment: our landscapes, towns and villages. I don't see much imagination.'



Imagination? There's plenty of it in this submission to a design competition for the energy landscape of the future. • Illustration Braining the Future Baumeister

What do you mean?

'This piece seems to aim at putting the spatial dimension of the energy transition on the agenda, whereas we've been aware of that for a long time. Now is the time for bigger ideas, to have the courage to dream and to come up with new perspectives. Having said that: I do believe that the Energy Network Programme will benefit from this piece. We are not the target group, of course.'

What should the Board be dreaming about?

About how the energy transition can be used repeatedly as leverage to address other societal issues such as the nitrogen crisis, sustainability in agriculture and the need for more ecological links between nature reserves. Given that the report is entitled *A lever for a clean future*, the Board does seem to see this potential, but fails to go into substantial detail.

A nice source of inspiration for your new book?

'At the beginning of October, Landscape Architecture lecturer Dirk Oudes, Paolo Picchi (Amsterdam University of the Arts) and I will publish the book *Power of Landscape*. This book highlights many examples of how the energy transition can contribute to solutions to other societal issues. If we succeed in making the right combinations, the energy transition brings tremendous opportunities with it' ME

Student launches Wageningen Cat Watch on Insta

CAT WATCH

Pascal Kuijpers, a Bachelor's student of Food Technology, manages Wageningen Cat Watch, an Instagram account created to give all the cats spotted in the wild in Wageningen a chance to shine. 'At some point, other people started forwarding their own photos too.'

t started as a joke. Kuijpers (19) already had a collection of cat photos he had taken in high school. During the AID, history began to repeat itself: once again, he came across cats everywhere he went. A month later, his phone was full of cat photos.

And then you just started an Instagram account?

'Yes, I thought it would be fun to put them on Insta and the name Wageningen Cat Watch rolled off the tongue. It was just for fun, I had no big plans with it except to share my own photos. But my housemates and friends liked it a lot, so suddenly I got a lot of photos from them too. And then other people started forwarding their photos too.'

Doesn't it take up an awful lot of time? 'Not so much. When I cycle to university and see a cat on the way, I get off, pet it, take a photo and cycle on again. The photos people send me I sometimes leave

'MY HOUSEMATE IS MY MAIN DEALER IN CAT PHOTOS'

for a day and then post them later. I don't put a lot of effort into it - just take a picture and put it online. Some friends come across five cats a day and take photos of them all, and then I have to post them all. But I do it with love.'

Do you have a favourite cat?

'No, not really. Some cats feature more often. One is called Saartje and she is apparently not so shy, so I get sent lots of photos of her. I don't mind that, and I don't want to get strict and say that photos can't be posted. Besides, many cats look alike, so then I don't actually see the difference anyway.'

Do people ever get angry because their cat is suddenly online?

'I haven't had any negative responses yet. I don't think I really violate anyone's privacy by posting the cat photos. Sometimes part of someone's house is visible, but I haven't had any problems with it. I don't meet many cat owners online, but occasionally a cat gets recognized. Then you get a comment like "oh look, there's Saartje!" There are other cats in Wageningen that are spotted a lot too, like Barry the Haarweg cat.

A selection of cat photos from Cat Watch Wageningen with top left Pascal Kuijpers cuddling a cat that came calling at Dijkgraaf.

He has his own Instagram account, by the way. So I once got a comment from "Barry" who recognized himself in one of the photos on Cat Watch. Actually, Barry is looking for a permanent home. He is old and needs looking after and peace and quiet. So if anyone has a place for him...'

Do you have a cat of your own?

'Back home, I have a cat called Deus. Now that I've left home, he's starting to forget me, which is a bit tragic. He's a simple animal, he's mainly interested in food. I am not allowed to pet him until I have fed him. Where I live in Wageningen, on the Dreijen, there is a cat that hangs around outside a lot too. But it doesn't belong to me or my house. Student houses do sometimes take in a cat, but we wouldn't be able to do so, unfortunately. Too many people and not enough space. That's not good for a cat.'

Is Cat Watch here to stay?

'A friend of mine just started one about cats in Eindhoven, but that account is not running very well yet. One of my housemates is promoting Wageningen Cat Watch to everyone she meets and she is also really my main dealer in cat photos. In recent months, I got a lot of "bonus guests" on the account: in summer, many international students go back home and then they send pictures of cats they met in their home countries. That happened spontaneously, which I thought was funny. I think I'll just keep going, yes.'

The spuds prof gets a (second) PhD

Potato professor Anton Haverkort has received a PhD for the second time in his life. On the potato, of course. Text Roelof Kleis

he red degree certificate tube is on the table: the latest bit of WUR history to be made in the historic building on the Wageningen canal. This was the hall of residence of the then Agricultural College in its early years. For several decades after that, classes were held here. 'I was taught here myself,' Haverkort recalls. 'Agro-meteorology, taught by Professor Kees Stichter. And now I live here.' The PhD certificate has only been here a day. It is Haverkort's second. He obtained his first in 1985 at the University of Reading. What followed was a glittering career in the potato world – a career that ended on 9 December 2016, the day he turned 65. 'Actually, I could have gone on for seven more months. But I always said I'd stop work at 65.' Stopping work turns out to be a flexible concept.

Whereas most people slow down a bit after retirement, Haverkort, now an emeritus professor, went into overdrive. In 2018, that resulted in *The Potato Handbook*, a 600-page standard work on everything you ever wanted to know about the spud, but never dared to ask. The book is now available in English,

The thesis is brimful of facts, trivia, tables and diagrams about the innumerable ways in which people process potatoes. A heatmap of 13 classes of dish with 10 relevant attributes. • Illustration from the book

Dutch and French, and a Spanish translation is on the way. For two years after that, Haverkort led the Climate Change Taskforce at a major potato-processing company. And now he's produced a thesis. 'But I'm taking a gap year next, mind you.'

No history

'I intended to write a book on the history of potato processing, really. *The Potato Handbook* is about breeding, diseases, cultivation methods etcetera – basically about everything that happens before the potato reaches the processing plant.' The scope of his initial goal proved too small: 'You can't fill a book with that.' So Haverkort shifted his focus to all the stages of processing potatoes in the present day. 'Everything from the harvesting on the farm to the processing in the factory, by the cook in the restaurant or the consumer at home.'

The book became a thesis, *On Processing Potato*, written under supervision from Han Wiskerke (Professor of Rural Sociology), Paul Struik (Professor of Crop Physiology) and Anita Linnemann (Food Quality and Design). The thesis is brimful of facts, trivia, tables and diagrams about the innumerable ways in which people process spuds into products and ingest them. A feat, for sure, but not science as such. Yet the thesis earns its

Photo Guy Ackermans

scientific laurels because of the way Haverkort has arranged and analysed his material.

Getting to grips with the text takes time and attention. 'Yes, my supervisors found it tough going too,' laughs Haverkort. 'You've got to concentrate. My writing style is not very straightforward and I tend to go into a lot of detail.' But hey, here's an attempt. Haverkort divides potato processing into domains with classes and properties. Haverkort: 'Take the domain of the factory and all the processes that go on there, such as washing, peeling, etcetera. Those are classes of processes, of which I have identified 66. And all those processes have properties, such as the duration of the treatment or the temperature or pressure under which it takes place.' Haverkort then assigns numbers and colours (from 1-red to 5-green) for the extent to which a property applies to an operation. 'Temperature, for example, scores low for washing or peeling, but high for baking or roasting.'

Maths

'My innovation is that I give a weight (grade) to all these properties, for each process,' Haverkort explains. 'This makes the qualitative description of all those processes quantitative and you can do maths on them, make heatmaps and cluster things in dendrograms.' That method, according to Haverkort, makes it possible to answer research questions,

Haverkort's method makes it possible to ask research questions about potato processing

for example about process efficiency, energy use or waste production. Haverkort's system resembles the way Linnaeus imposed order on nature. Whether his method will become as widely used remains to be seen. 'I hope so,' he says. 'But you never know. These things take time. I probably won't live to see it.' Haverkort is more confident about the future of the potato itself, which is bright. Ever since the Spanish brought the tuber to Europe from South America, the spud has risen in the world unstoppably. Based on fresh weight, it is the world's third staple food crop after wheat and rice. And the prospects are good. Indeed, the potato is benefiting from climate change, which means that cooler northern regions like Sweden, northern Siberia and Canada are becoming suitable for growing potatoes, according to Haverkort.

At present, potato farming still suffers a lot from the notorious disease phytophthora. But that, according to Haverkort, is only a matter of time. 'There is no need for potato plants to get diseased. We know what to do to get resistance to phytophthora.' He himself was closely involved in developing it. There is one 'but', though: that resistance is obtained through genetic manipulation and is therefore bound by rules. 'But if those breeding techniques are approved shortly, the potato will become an even more important crop.'

THE SIDE JOB

You've got to make ends meet somehow. We can all borrow from Uncle Duo, but there are also students who earn money in unusual ways. In this series, we put some interesting side jobs in the spotlight. This time we meet Stan Jansen (22), a tutor at the *Internationale Schakelklas*, a bridging programme in which the children of expats and refugees are prepared for entry into regular Dutch education in two years. Text Steven Snijders

'Each tutor works with two students. At the moment, I am tutoring a 19-year-old Ghanaian boy and a 14-year-old Indonesian boy. I help these two with their homework every Saturday morning. But there is much more to it than that. We

'I learn things from them too, like to be less preoccupied with yourself, your busy schedule and your own opinions' make the students feel welcome and we create a friendly environment for them. I also help them integrate. We do everything the Dutch way. For instance, they mustn't be late, which can be difficult sometimes. Contact with Dutch people is important too. I have invited them to my home a few times, and we made pancakes and ate them with my housemates. That side of the work is just as important to me as helping them with their homework.

'Some pupils have been through difficult experiences. One of the children I tutor is a refugee, I think, but when I ask about it, I get the idea that he

Stan (right) with two students from the Internationale Schakelklas. Own photo

Stan teaches kids

Who: Stan Jansen, a secondyear Master's student of Cellular and Molecular Biotechnology What: helping the children of expats and refugees with their homework Why? Teaching each other in a constructive atmosphere is fun Hourly wage: €12.50

doesn't want to talk about it. I still want to find out, but I have decided not to rush things. My main aim is to make the sessions fun, so they can forget their worries for a while. We have a good relationship; we have been seeing each other once a week for almost a year. We have our running gags, like the fact that I can't stand spicy food and that they put so much sugar in their tea. I learn things from them too, like to be less preoccupied with yourself, your busy schedule and your own opinions.

'Certain topics are tricky, though. Homosexuality, for instance. That is not as normal for them as it is for us, partly based on their religion. I try to think in terms of cultural relativity, seeing all cultures as equal. But I do just tell them: this is how it is in the Netherlands and how we see this issue. You have to really understand each other first. Only then can you decide what you like and don't like about a culture.'

The *Internationale Schakelklas* is looking for new tutors.

Do you have an unusual side job or know someone else who does? Send an email to steven.snijders@wur.nl

Flower hunting

In this series, student editor and MSc student of Plant Breeding Julia van der Westhuyzen (photos and text) and professor of Plant Ecology Joop Schaminée (stories) go looking for the loveliest campus flora.

Field scabious

Common name: Field scabious Scientific name: *Knautia arvensis* Flowering time: June to October Where to find it on campus: on campus everywhere

'This plant was named after the German botanist Christian Knaut. The common English name comes from its use as a treatment for scabies and other skin rashes. Its common name in Dutch, beemdkroon, means field crown: the flower is actually many flowers clustered together into what is known as a flower head. The flower has its own bee, the Andrena hattorfiana. This large, solitary bee is completely dependent on field scabious for food and doesn't visit any other flower. The bee is very rare and usually only found around South Limburg but it was recently spotted in the WUR campus garden, a spectacular find. Research done at WUR found that it takes 72 clusters of flowers (or 11 individual plants) per day to provide for one average nest of this particular bee species. Finding this bee species on campus says great things about the biodiversity we have here.'

The WUR community is home to all the flavours of the world. Paula Rivas, an MSc student of Biotechnology from Switzerland, shares a recipe for a vegan Swiss quiche.

Flavours of WUR

Vegan Swiss Wähe quiche

'I've been vegan for many years now and my Swiss friends often tell me the one thing they would miss if they also went vegan is this quiche. After some experimenting, I have managed to replace the egg filling with a vegan alternative which is just as good. You can get creative with the vegetable filling and use up whatever is in your fridge.'

- **1** Pre-heat the oven to 200° C.
- **2** Pastry: mix flour, butter and salt, and add a little water if needed to form a pliable dough.
- **3** Filling: fry the onion and garlic in a little olive oil until golden. Mix in the spinach and seasoning.
- 4 Blend the tofu and cashews and season with salt and pepper, and maybe your favourite spices. Dissolve the corn starch in water, add it to the mixture and blend it again until smooth. Combine the contents of the blender with the spinach mix.
- **5** Line a tray with the pastry, keeping it no more than 1cm thick. Pour in the filling.
- **6** Bake at 200°C for 20-40 minutes.

Ingredients

For the pastry

- 3 cups flour
- 200-250g vegan margarine
- A little water to soften the dough
- 1 teaspoon salt

For the filling

- About 500g frozen spinach
- 1 onion (diced)
- 3 cloves garlic
- (finely chopped)
- 1/2 block tofu
- 3/4 cup soaked cashew nuts
- 2 tablespoons corn starch
- 1/4 cup water
- Ground black pepper
- 1 teaspoon nutmeg
- 1 vegetable stock cube, salt

Vegan Swiss Wähe quiche

10-euro lunch voucher

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The tradition was established three years ago: sometime around the Dutch Budget Day, Prinsesdag, students from the four Dutch technological universities give their variant of the King's Speech: the Tech Speech. Douwe de Jong represented WUR this year and was received in that capacity by State Secretary Vivianne Heijnen yesterday. Text Marieke Enter

As 'Drivers of technology', in the Tech Speech the students make a strong appeal to policy-makers and decision-makers to use technology to accelerate important societal transitions. This year the theme of Agriculture & Food was tackled by WUR representative Douwe de Jong, who successfully completed his MSc degree in Biosystems Engineering last month, and Delft

'We eat three meals a day, but we are far too uninterested in where our food comes from' student Mustafa Agbaria.

In the past, this theme has always been covered by a team of two Wageningen students, but De Jong worked with a Delft student. 'I thought it would be particularly good to work with someone who does not necessarily think from a Wageningen perspective,' he says. 'Mustafa has a different view on agriculture than I do, partly due to his personal background. As a Palestinian, he grew up in a country where a lot of food has to be imported. That gives you a different take on the food supply in the Netherlands, where the shops are always full, the prices are very reasonable and there's loads of choice.'

The project which De Jong and Agbaria got their teeth into is a teaching module for the elective secondary school subject 'Nature, Life and Technology'. The aim is to teach secondary school students about the food supply and innovation in agriculture. Their motive: to encourage consumers to make more conscious and better choices and to increase their affinity with sustainability in agriculture. 'We eat at least three times a day, but as consumers we are actually far too uninterested in our food and where it comes from.'

Kick

The teaching module includes guest lectures and visits to innovative companies in the agribusiness sector. There is no lack of cooperation from the sector, says De Jong. 'All kinds of doors open for you as a Driver.' For De Jong, those many nice contacts were one of the best things about being a Driver of Technology. 'Combining it with completing my degree was quite tough going. I was doing an internship four days a week and working as a Driver one day a week. But it was worth it, he thinks. 'It was such a great project, you learn a lot and you get a massive kick out of seeing what an impact you can have by dedicating eight hours a week to something for eight months.

Yesterday, the two Drivers of Technology were the guests of Vivianne Heijnen, State Secretary for Infrastructure and Water Management. She got a sneak preview, but from today the 2022 edition of the Tech Speech can be viewed by everyone at Tech Speech2022.nl. Which is also where the would-be Drivers of the future can apply.

WEEKLY UPDATES ON STUDENT LIFE AND WORKING AT WUR?

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IN MEMORIAM

LARS BECHMANN

We are deeply saddened to have to announce that our student Lars Bechmann (Master's in Nutritional Epidemiology and Public Health) passed away due to metastatic cancer on 1 July. Our thoughts are with his wife Lynn-Katrin and their three children at this most difficult time of loss.

Lars managed to combine our Master's programme with his positions as Head of the Metabolic and Preventive Medicine department at Bochum hospital in Germany, and as Assistant Professor at Ruhr University in Bochum. He was keen on learning new disciplines and he chose this Master's because he wanted to enhance his statistical and epidemiological knowledge so he could ultimately improve the treatment of patients with fatty liver disease in the hospital. He believed that this Master's would make him a better clinical scientist in hepatic metabolism and nutrition research. Besides his career and studies, he was a family man and he enjoyed travelling, photography and sports such as hiking and cycling.

Lars was a real example of a lifelong learner, who wanted to keep on growing in knowledge and skills and find new perspectives in order to improve the health of his patients. He will be missed by our team and his fellow students.

On behalf of the Nutrition and Health programme team, Rolf Marteijn (programme director), Amanda Jager (deputy programme director/study adviser) and Rosalie Dhonukshe-Rutten (study adviser).

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

Editorial staff Willem Andrée (editor-in-chief), Helene Seevinck (managing editor), Roelof Kleis (editor), Tessa Louwerens (editor), Luuk Zegers (editor), Marieke Enter (editor), Stijn Schreven (editor), Coretta Jongeling (online coordinator), Thea Kuijpers (secretariat). Translations Clare McGregor, Meira van der Spa, Clare Wilkinson Design Alfred Heikamp, Larissa Mulder Overall design Marinka Reuten Cover Photography Guy Ackermans Printing Tuijtel, Hardinxveld-Giessendam

Subscription A subscription to the magazine for one academic year costs 59 euros (135 euros if abroad). Cancellations before 1 August.

ISSN 1389-7756

Publisher Corporate Communications & Marketing, Wageningen University & Research

[SERIOUSLY?] Kooky news

WUR WANTS TO SHRINK

While the three other Dutch technical universities have announced plans to grow substantially, WUR is moving in the opposite direction.

elft University of Technology wants to increase student numbers from the current 27,000 to 40,000 and Eindhoven plans a doubling in eight years. 'As a society, we are facing major challenges that students will have to help resolve: nitrogen, the climate, the energy transition, urbanization, raw materials and so on. The private sector is crying out for our graduates,' says a spokesperson for the 4TU association of technical universities. But WUR is not interested in following suit; on the contrary, it wants fewer students. Rector Arthur Vol: 'Of course, we also see the private sector tugging at us. I have even heard of companies approaching new graduates when they come out of Omnia with their certificate and trying to seduce them with fantastic employee benefits. Naturally we too are aware of the major challenges, but we have an awful lot of alumni who can help with that.'

Last academic year, Wageningen University had 13,676 students, made up of 5,904 Bachelor's students, 7,249 Master's students and 523 exchange students and students doing individual minors. That total included 3,186 international students. On top of that, there were 2,317 PhD candidates. The Netherlands and the rest of the world will have to make do with this, says Vol. 'Students can already barely find any accommodation. Resource has a harrowing story about two Italian students sharing a room. Can you imagine? What do these companies want us to do? Build more and more student flats until we reach the borders of Ede? What about teaching quality, do we just want high potentials, to become a kind of Harvard on the Rhine? And the work pressure for lecturers? No, our preferred option is to shrink fast. We will be presenting our shrinkage strategy soon.' Vol does suggest a compromise solution. 'We can lend our students to Delft or Eindhoven. That will give us some breathing space and let the other universities achieve their growth targets. That way, we help one another. A truly Wageningen approach.' After the above text came to the attention of the spokesperson, we were given the following additional information. 'The shrinkage strategy is one of the scenarios. But we could easily put up another education building on campus with some tiny rooms for students to live in. Cosy?