

Supervision guidelines

To cut PhD student dropout rate | **p.5** |

Three-quarters at home

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Student Council election

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RESOURCE [EN]

For everyone at Wageningen University & Research

no 18 – 4 June 2020 – 14th Volume



**What will
campus look like
in September?**


‘First-years will have priority’ | **p.12**

**INTERNATIONAL
EDITION**

Manon + chromometer

WUR researchers work with all kinds of equipment. Meet Manon Mensink, post-harvest physiology researcher in the Post-Harvest Technology group

SNAPS OF CUCUMBERS

Fruit and vegetables change colour after harvesting. The chromometer allows accurate measurements of that process. The device was developed by WUR and built by IPSS Engineering. The chamber with LED panels and an RGB camera records standardized colour images, in this case of cucumbers three weeks after harvesting. Shrinkage and shape can be measured in addition to colour. The measurements are part of a new project aimed at cultivating cucumbers, peppers and chrysanthemums with longer shelf lives. See page 8 for news about the spectrometer and rotten mangoes.  RK, photo Sven Menschel

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CHATTING

There is light at the end of the coronavirus tunnel. We can leave our gardens and balconies, sit outside at a cafe and rent a holiday cottage. WUR can start to relax too. In this issue, *Resource* looks ahead at the next academic year: what will the university look like? (see pages 12) If everything goes according to plan, students will be back on campus for lab work, field trips and group work – still keeping 1.5 metres apart, of course. But the campus will remain closed with all teaching online for the rest of this academic year. Even so, perhaps the option could be explored of the students gathering on campus together to mark the end of the year. They could have a drink and a chat with the teachers at the end of period 6, in groups of no more than 30. On the small scale Wageningen is famous for. Surely that would be OK?

Albert Sikkema, science and organization editor



>> [Acetic acid in chocolate reveals its origin | p.8](#)

WUR IS MAKING FULL USE OF THE SUN

WUR is not letting the grass grow under its feet when it comes to generating solar energy. The roofs of several buildings have recently been covered in solar panels. And there are more to come.

The video screens in the hall of Zodiac will soon be showing how much energy has been generated on the roof, where 600 solar panels on the roof have been converting light into electricity for a week now. Adding Zodiac to the considerable list of WUR roofs with solar panels.

Solar panels were installed on the roof of the second sports hall at De Bongerd sports centre four years ago. That was WUR's first big project, with a total of 459 panels. Another big step was taken two years ago, when 1340 solar panels were placed on part of the roofs of Radix Klima and Agros. A further 1300 have been added recently, says energy coordinator Michiel van der Wal. If all goes to plan, it will be the turn of the barns at Carus livestock research facility this summer. Van der Wal: 'The tender

process is ongoing now. We got a subsidy for 2000 panels.' This subsidy comes from Stimulation of Sustainable Energy Production (SDE+), a fund for compensating producers of renewable

The subsidy for solar panels on roofs has quickly become smaller, making the payback time longer

energy. That compensation is crucial to the installation of solar panels.

BY THE WAYSIDE

This subsidy for the energy that is produced makes for a relatively short payback time for the solar panels. 'About 10 years,' says Van der Wal. 'But that subsidy, specifically for solar panels on roofs, has quickly become smaller. That makes the payback time longer and makes investing in solar panels less attractive.' The last round of subsidies was also



▲ Solar panels on the roof of Zodiac.

PHOTO: ROELOF KLEIS

very oversubscribed. So some WUR initiatives fell by the wayside, with applications for subsidies for panels on Gaia, the ESG building and Axis being turned down. WUR projects in Lelystad did win some funding, however. Accres already boasts 3000 solar panels, and 1500 were placed on the roofs of Bioveterinary Research this month. And there are plans for a further 3000 panels, reports Van der Wal. Smaller numbers of panels have

been installed here and there as well. Between them, all these panels generate a lot of electricity. 'Based on a possible 12,000 panels on WUR roofs, each producing 250 kWh, you end up with three million kWh per year,' Van der Wal calculates. Enough to supply 1000 average households with electricity. Given the scale of WUR, however, that is a limited contribution: 'Only about five per cent of the electricity we consume in a year.' **RK**

MAJOR DEAL WITH ELSEVIER FOR OPEN SCIENCE

Dutch academic and applied universities and research institutes have reached an agreement with the scientific publisher Elsevier on free access to publications and open science.

They announced this in May. Now Dutch researchers can publish open-access articles in 95 per cent of Elsevier's journals. Their articles will be available for everybody free of charge. The agreement applies until 2024.

The institutions and Elsevier are still in discussions about the remaining five per cent, which includes the leading medical journal *The Lancet* (although some associated journals such as *The Lancet Public Health* and *The Lancet Microbe* are already included in the agreement).

Agreements were also reached with Elsevier about open science, which means achieving maximum transparency at all stages in the scientific process. The idea is to publish not just the research results but also the underlying data and the choices that were made.

SUBSCRIPTIONS

The Netherlands and the EU want all publicly funded research to be accessible to all, free of charge. Scientific publishers such as Elsevier have long been opposed to this as they earn money from subscriptions. Open access and open science require a different business model, where you pay to publish rather than to read the articles. So the publisher receives publication fees instead of subscription fees. **HOP**



PHOTO: SHUTTERSTOCK.COM



PHOTO: JORIS SCHAAP

WUR DRAWS UP GUIDE FOR SUPERVISORS

WUR has issued guidelines for the supervision of PhD candidates. This should reduce drop-out rates and enable candidates to finish their research in the allotted four years.

The Wageningen Graduate Schools have joined forces to draw up guidelines to improve the PhD trajectory. This is partly in response to complaints by some PhD candidates about workload, housing issues and unclear supervision. The 'Guide for Supervisors' is aimed at ensuring sound, uniform supervision for all Wageningen PhD candidates.

The guide contains a list of the supervisor's responsibilities. For example, the supervisor must ensure that a fulltime PhD is financially and logistically viable in four years. Furthermore, the supervisor must assist the candidate in finding accommodation, give regular feedback on the candidate's work and ensure the guidelines for co-authors are adhered to. 'The supervisor is not automatically a co-author', the guide states. In addition to the supervisor, a co-supervisor must be appointed to make sure the candidate is not entirely dependent on a single person.

EDUCATION

Chairholders must ensure that the quality of the supervision is discussed regularly in the annual assessment interview. Furthermore, the chairholder must make sure the PhD candidate is not so overloaded with teaching responsibilities that they don't have enough

time for training and research. The number of candidates per supervisor must be reasonable. The guide does not specify a maximum, though, as the capacity for supervision depends on the type of research, the quality of the supervisor, the supervisory team and the PhD candidate's degree of autonomy. Chair groups must also appoint a buddy for the PhD student. This could be another candidate in the chair group, someone with whom the new student can discuss their questions and issues.

PHD COUNCIL

The rules are meant to give the PhD candidate something to fall back on, says Dean of Research Wouter Hendriks. If a candidate feels the supervisor is not keeping to the guidelines, they can report this to the Graduate School, which will then talk to the supervisor or chairholder. Hendriks: 'Thus we hope to be able to identify problems at an early stage, and prevent people from dropping out or getting behind with their PhD studies.'

The Wageningen PhD Council is pleased with the guide. 'We were able to provide input, and we consider the fact that the responsibilities are now recorded in writing a step forward,' says Jasper Lamers of the PhD Council. 'Now we need to know whether the guidelines are being followed. We need contact points at the Graduate Schools to whom complaints can be directed.' **AS**

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Interruption

I can picture them sitting there during a class, just as though I could see into their houses through little digital windows. Some still in their student rooms with an empty wine bottle and dirty clothes in the background, but most of them at their parental homes in a room with furniture and a bed that look more suitable for a teenager than an adult student.

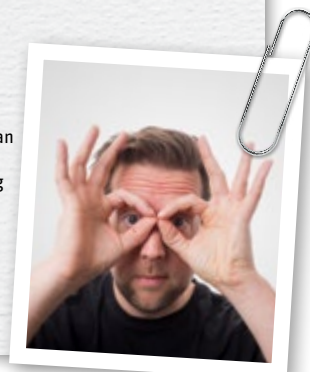
I try to make the classes as interactive as I can, and to provide opportunities for group work and discussion, but I am quite sure I'm competing with a second screen or an off-screen mobile phone full of Insta pics and TikToks.

I'm only a screen-sized part of their life

There is a reason why we lure students to a campus: it physically removes them from normal life so that they fully open up to new academic insights. Instead, the online classes and assignments are a minor interruption to a life that mainly takes place elsewhere. We try to reach them through a small screen, but we are literally only a screen-sized part of their life instead of a complete context for it.

Our rector reported with satisfaction that the questionnaires about online learning show that 'the educational quality was as good as in previous years', and that 'students were equally involved in learning processes'. I'm pleased to hear that of course, but I'm afraid that what our students are missing out on now is hard to capture in a questionnaire. **R**

Guido Camps (36) is a vet and a postdoc at the Human Nutrition department. He enjoys baking, beekeeping and unusual animals.



MARTIN SCHOLTEN TO BE WUR'S 'MAN IN BRUSSELS'

Martin Scholten is stepping down this month as director of the Animal Sciences Group for a post as advisor on European and regional cooperation.

Having been general director of WUR's Animal Sciences Group for 12 years, Martin Scholten was ready for something new. In consultation, he and WUR President Louise Fresco came up with a new job: advisor to the Executive Board on Europe and the regions of the Netherlands. Scholten: 'It is a temporary post, which has come out of the strategic plan. WUR has been very successful in Brussels when it comes to acquisition of research projects, but we don't set the agenda at the point where research and policy intersect. I want to get involved in that.'

Scholten knows his way around Brussels: he was a member of the expert group of the Horizon 2020 innovation programme, for exam-

ple. But now he will have more time to drop in on policymakers in Brussels. 'In January I was at the directorate-general for Maritime Affairs

'If you don't get Brussels on board with innovations, they can run aground'

and Fisheries to talk about marine policy and the green deal. The director said: WUR, help us. We are now working on an integral policy for energy, food and nature at sea. I want to share our findings with Brussels soon.'

AFTER BREXIT

Scholten would also like to act jointly with the ministry of Agriculture, Nature

and Food Quality more often in Brussels. 'We've got to learn from the fiasco over pulse fishing. If you don't get Brussels on board with innovations, they can run aground. The French are smarter: they form co-productions in science and policy. We should do that more often too, with the French for instance.'

Scholten also wants to look at how WUR can continue to collaborate with British researchers after Brexit and he wants to present a broad Wageningen approach to zoonoses in Brussels. He expects to spend half the week working with Brussels. He will spend the other half of his working week on familiar topics in the Netherlands: circular agriculture, nitrogen and biodiversity. I want to link up the outside world's knowledge needs with WUR's internal world: that's what I'm good at.' **AS**

STUDY OF HOW TO COMBAT CATERPILLAR

WUR will be investigating how to improve pest control of the oak processionary caterpillar.

The pestiferous caterpillar has been in the Netherlands for decades. Municipalities plagued by them have come up with all kinds of solutions for tackling the pest, some more successful than others. There is no comprehensive approach, although there is a guide advising municipalities on the different methods. But the evidence supporting that advice is weak. A new study intends to change that.

'We will need to learn to live with the caterpillar'

A consortium of 20 different parties, including the WUR Oak Processionary Caterpillar Expertise Centre, 11 municipalities and the Society of Forest and Nature Landowners, are involved in the study, which is funded by the Horticulture Top Sector. WUR and the Expertise Centre will be carrying out the study, which is headed by ecologist Joop Spijker. 'We will need to learn to live with the caterpillar,' says Spijker. So the aim of the study is not to eradicate the caterpillars. 'That is no longer



PHOTO: SHUTTERSTOCK.COM

possible anyway. But we can improve the approach.' That starts with information on how numbers of caterpillars and moths are changing. In the 11 participating municipalities, a standardized count will be conducted this year and next.

GP VISITS

That will enable a comparison of the effectiveness of different pest control methods used by the municipalities. Spijker will also use pheromone traps to monitor the moths. In addition, they will assess health complaints in partnership with the healthcare institute NIVEL. Spijker: 'We want to connect the num-

ber of caterpillars to GP visits. This will give an impression of the societal impact.' That impact is important for policymakers when they have to take decisions about measures to combat the caterpillar. The ultimate goal of the two-year study is a new guide. Spijker: 'One with recommendations backed by evidence on what works and what doesn't. That could mean more advice on effective measures that offer value for money and don't harm biodiversity.' Three WUR researchers will be involved in the study: Spijker, biologist Arnold van Vliet (from the Expertise Centre) and Hidde Hofhuis (Environmental Systems Analysis). **RK**

THREE-QUARTERS WORKING FROM HOME

Fewer than three-quarters of WUR staff are working from home. They are struggling too as it is not easy to find a good work-life balance.

These findings come from a survey on working from home among employees. This was the first of a planned series of 'Pulse' studies: short sample surveys to sound staff out on specific topics in between the Employees' Monitor that takes place every two years. The scores give the situation at the end of April when 500 employees received an online questionnaire from the survey firm Effactory.

ON CAMPUS

Only 34 per cent of those 500 questionnaires were completed, half the response rate for the Employees' Monitor. One striking result is that far from everyone is working from home. A quarter of the employees are working partially or entirely on campus or at another WUR location. That figure undoubtedly reflects the fact that a lot of lab work is continuing, although respondents were not asked to give a reason.

The home workers are managing OK. They give just under a seven for working effectively. But there are some downsides too. One in five employees has difficulty focusing on their work while at home. The kids and ambient noise are the most commonly cited reasons for not being able to concentrate. People are also distracted by general worries about the coronavirus crisis. The big problem with working from home is

finding the right balance between work and relaxation. This aspect gets a six, the lowest score in the entire survey. There is also room for improvement in collaboration with colleagues (6.6). The most frequently mentioned obstacle to working from home is problems with access to the WUR network. Skype and Microsoft Teams are used most often for meetings. Interestingly, the crisis management and

communication score poorly relative to the benchmark. The absolute score for management is 7.9, which is good, and communication also gets a respectable 7.7. But when compared to the national figures, WUR scores 0.75 lower for both aspects. Effactory calls this 'a highly relevant difference'. **IR RK**



ILLUSTRATION: YVONNE KROESE



PHOTO: JOOST RIKSEN

SOLDIER IN LUMEN GARDEN

The Lumen nature garden has a 'soldier', a rare orchid. The *Orchis militaris* was discovered by nematologist Joost Riksen. The plant is barely 15 centimetres tall, which is small for this orchid. Ecologist Wieger Wamelink thinks this is due to the dry conditions. 'There is much less growth than last year.' It is difficult to know how the plant got onto campus. 'It may have been among the seeds at the start,' suggests Wamelink. But it could also have been blown in: orchid seeds are very fine and light and can travel great distances. 'It just needs the right environment.' Which Lumen offers. When the garden was laid out, the soil was made less fertile by excavating the top layer, and calcium-rich marl was brought from Limburg. You could say the garden is a piece of South Limburg. It is no coincidence that this is the only Dutch region where the military orchid is still found. This is the seventh different orchid species to be discovered in the garden. **IR RK**

ACETIC ACID IN CHOCOLATE REVEALS ORIGIN

PhD student Valentina Acierno looked for specific traits in chocolate that can be traced back to the country of origin and the growing conditions of the cocoa beans used. Various substances in the chocolate pointed her in the right direction.

Acierno graduated earlier this month with a PhD project supervised by Saskia van Ruth, professor of Food Authenticity and Integrity at Wageningen. She researched how you can trace which species of cocoa bean – Criollo, Forastero or Trinitario – the chocolate was made from, and on which continent – Africa, South-East Asia or Latin America – the beans were grown. In other words: she researched the botanical and geographical origin of the chocolate using compounds and isotopes from the different cocoa beans. To do this, she

looked for ‘markers’ that can be measured during the stages of production, processing and consumption.

MARKERS

When Acierno compared the composition of the various cocoa beans from different countries, it turned out that acetic acid concentrations were characteristic for the Criollo cocoa bean throughout the entire production chain. What is more, the level of acetic acid provided information about the fermentation and drying conditions of the three different cocoa beans.

Acierno’s results have not been applied yet by quality control organizations such as the Netherlands Food and Consumer Product Safety Organization. She thinks researchers will first need to analyse many more samples to confirm her markers, but her research is important for



Dutch chocolate producers and labels such as Max Havelaar. Under Dutch legislation, all chocolate produced in the Netherlands must fulfil sustainability criteria by 2025. **AS**

SPECTROMETER PICKS OUT ROTTEN MANGOS

From the outside, rotten mangos often look unblemished. WUR researchers developed a method to tell whether the fruit is rotten without having to slice it open.

Researchers of the Post-harvest Technology group at Food & Biobased Research sliced open hundreds of mangos to check if the fruit was rotten. This was done by hand. ‘We even had a special slicing device made at the workshop,’ Suzan Gabriëls says. However, before opening the fruit, they measured the moisture content and chemical composition using a near-infrared spectrometer (NIR). Then all the sliced mangos were photographed in a chromometer (see the photo on page 2.) These images were translated into values, whereby all the brown and black pixels represent ‘rotten’ areas and the yellow pixels indicate ‘healthy’ flesh. Using these val-

ues, the researchers defined a healthy-to-brown ratio for each mango. The higher the ratio, the fewer brown pixels.

Then the researchers checked whether the NIR measurements could reveal the mangos containing rotten flesh beneath the skin with the help of this model. This showed that the predictions were correct in 80 per cent of the cases.

TRANSPORT

This is an excellent result that will prove useful to mango traders, according to Gabriëls. They will be able to assess the quality of the mango using the spectrometer, send the unblemished mangos to more distant locations, sell the average mangos on the local market and discard the rotten mangos. Globally, some 1.1 million tons of mangos are traded annually, with a value of about 2 billion euros. **AS**

RESEARCH ON MIGRANT HOUSING

How migrants are housed has a significant impact on integration. WUR professor of Development Economics Nico Heerink will be investigating the effects of housing in collaboration with his Chinese partners from Nanjing Agricultural University.

‘In the Netherlands, we are mainly focusing on the integration of seasonal labourers, migrant workers and refugees,’ says Heerink. ‘In China, the key issue is domestic migration from rural areas to urban centres — that involves over 240 million people, primarily temporary migrant workers. These migrants often live close to their work or in designated districts.’ Heerink says this method of housing hampers integration, which, in turn, leads to segregation, unemployment, poverty, addiction and crime. ‘The research is partly a survey. Our researchers will also study the effects of innovative housing programmes. In the Neth-

erlands, there have been pilot projects where refugees are housed with Dutch residents in a single apartment block.’

The research is funded by the Dutch Research Council (NWO), which provided one million euros from the Merian Fund. The Chinese research council contributed 520,000 euros. **RK**



PHOTO: SHUTTERSTOCK.COM

TROPICAL FORESTS CAN'T COPE WITH HEAT

Do tropical forests grow faster if there is more CO₂ in the air? Not all trees, and especially not if it is hot, according to a WUR study.

WUR professor of Tropical Forest Ecology Pieter Zuidema and his colleagues analysed 5318 tree rings of 129 Australian cedars (*Toona ciliata*) in four different locations in Australia and South-East Asia. The tree rings were an archive on growth between 1950 and 2014. During that time, the CO₂ in the atmosphere increased by a quarter. The measurements clearly show that the trees are sensitive to climate change. The growth per tree varied a lot between years. But all trees showed the same pattern: they grew fast in good years but not in poor years. According to Zuidema, the variation means statistics can be used to disentangle the effects of increasing CO₂, precipitation and temperature. With some surprising conclusions.

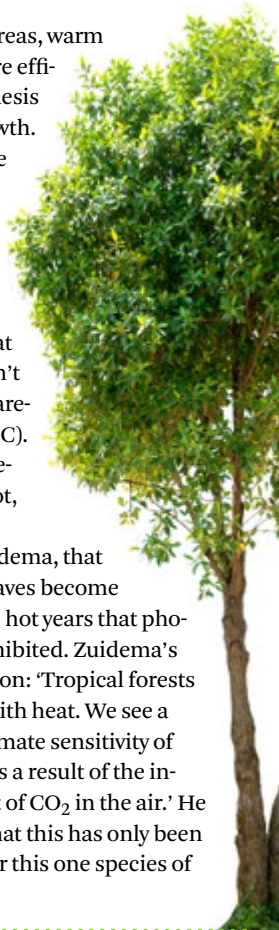
PHOTOSYNTHESIS

The fertilization effect of CO₂ does exist but only in cooler areas (averaging

20°C). In those areas, warm years lead to more efficient photosynthesis and so more growth.

Also, the trees are less sensitive to drought stress as they make more efficient use of the available water. But that CO₂ bonus doesn't work in warmer areas (averaging 25°C). In fact, growth declines there in hot, dry years.

According to Zuidema, that is because the leaves become so warm in those hot years that photosynthesis is inhibited. Zuidema's striking conclusion: 'Tropical forests can't cope well with heat. We see a change in the climate sensitivity of tropical forests as a result of the increasing amount of CO₂ in the air.' He hastens to add that this has only been demonstrated for this one species of tree. **📍 RK**



CONSUMERS PAY MORE IN SUPERMARKET DUE TO CORONA CRISIS

Dutch consumers are paying more for bread, potatoes, eggs and meat due to the corona crisis.

We learn this from the food price monitor published by Wageningen Economic Research and Statistics Netherlands. In February and March, the prices of chicken and fruit rose by 3 per cent, potatoes by 5 per cent and pork by 10 per cent. 'These price rises were caused by increasing demand in the retail branch,' says Huib Silvis, who leads the food price monitoring project. 'People have started buying more in the supermarket because they can't eat out anymore. And we can also see an effect of the hoarding which happened at the start of the lockdown.' The prices of dairy and beef have remained fairly stable. Silvis: 'The lockdown

measures only came into effect in mid-March, so we might only be seeing the tip of the iceberg now.'

Consumers have been paying more for their products over the past few months, but potato farmers amongst others saw their selling prices go down. 'That is mainly because demand from abroad has fallen,' says Silvis. 'Most of the chipping potatoes are exported.'

One small plus for the farmers: consumers all around the world have stocked up on wheat with a vengeance. 'That has meant higher wheat prices for farmers,' says Silvis. 'However, wheat is not a very important crop for the incomes of Dutch farmers, since it is mainly used for livestock feed. The price of potatoes is much more important for arable farmers here.' **📍 TL**

VISION

'Insect deaths still worrying'

The death of insects around the world is less apocalyptic that was believed, shows new research. But it is still worrying, says Professor David Kleijn.

A Dutch/German study (Hallman et al.) in 2018 showed that 75 per cent of all insects have disappeared over a period of 27 years. The study caused a stir worldwide. A recent study arrived at a death rate among land insects that is three to six times lower than that. And water insects are actually doing better than they used to. The first author of this article is Roel van Klink, an alumnus and an ex-student of Kleijn's.

Are you astonished by the results?

'No, not really. The Hallman study was done just across the border here, in one of the most intensively managed and farmed areas in the world. That kind of intensive land use is not good for biodiversity. The new study is about the worldwide trend in insect populations.'

Across the board, the trend is negative. But there are big differences, even within Europe. Germany comes out badly. Is that surprising?

'No. This new study lumps all insect studies together. That confuses matters. The final result depends a lot on the species of insect that the individual studies focused on. My guess is that location is not the only factor, but also the species group that is studied. Some groups are in decline, other are on the increase.'

So is there any point in this kind of study?

'There certainly is. Taking everything together, you can see that things are going downhill globally. That is quite shocking.'

The trend seems to be less negative around agricultural areas. Is there an explanation for that?

'One of the possible explanations is that the biodiversity on and around farmland is always low. So the decline cannot be very big. But it could also be something to do with the method of measuring and the traps used.'

Former WUR president and current farmers' ambassador Aalt Dijkhuizen tweeted triumphantly: see, it isn't just agriculture. Does he have a point?

'No. The Hallman study is much more indicative of the Dutch situation than this new global study. And then: a loss of one per cent per year! That means losing a quarter of all insects in 20 to 30 years. One out of four creepy-crawlies gone. From very many studies, it is clear that intensive agriculture is a factor in that.' **📍 RK**



PHOTO: ALDO ALESSI

Fluorescent balls reveal food structure

PHOTO: SHUTTERSTOCK.COM

Researchers in the Biophysics group have developed a method that identifies the structure of foodstuffs at the molecular level by using tiny fluorescent balls.

These structures play a crucial role in the release of flavours. The researchers published their findings in the scientific journal *Langmuir*. Foods contain thin, long chains of, for example, glucose or proteins. If these chains form an open network, the flavour is released rapidly, whereas a more dense network retains the flavour. 'In the ideal situation, a foodstuff consists of a combination of structures,' says Koen Martens, PhD candidate and lead author of the article. A network of long, open chains combined with dense areas ensures a constant, slow release of flavours, which makes the taste experience last longer.

PING-PONG BALLS

Despite the importance of these structures, there was no good method for identifying the complex organization of the structures until now. So Martens and his colleagues developed a method that uses tiny fluorescent spheres. The movement of the tiny balls reveals how the chains are organized. 'You could compare the system to fluorescent ping-pong balls in a tank of water in a dark room,' Martens says. The balls move through the water freely. But if you add obstacles to the tank, they can no longer move in random directions. If you study the fluorescent ping-pong balls for a while, this will show you exactly where the balls can move, and consequently where the obstacles are. This is

precisely how Martens' method works, only on a much smaller scale: with 30-nanometre 'ping-pong balls' weaving through an obstacle course of long chains.

DO-IT-YOURSELF MICROSCOPE

'For us to see these spheres and make the organization of the structures visible, we needed an extremely sensitive microscope with a powerful laser,' Martens explains. 'We didn't have such a microscope and it would cost half a million eu-

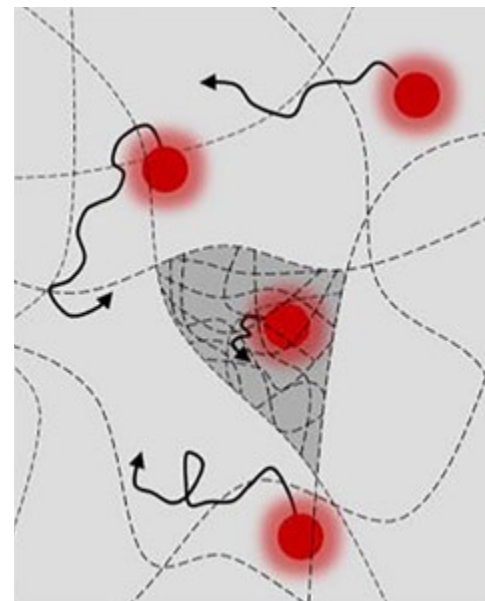
The PhD candidate built the microscope (which would cost half a million euros new) himself

ros to buy'. To economize, the PhD candidate built his own microscope, using aluminium blocks and 3D printed parts.

Using that microscope, the researchers applied the method to the thickening agent carrageenan, a food additive containing long sugar chains. They observed that the sugar chains in the thickening agent were tightly packed in some places, and further apart in other places. Thus they proved that the method is able to identify different chain structures, something that was hitherto impossible.

MEAT SUBSTITUTES

This newly developed method will allow scientists to study the structure of more complex



▲ The fluorescent balls move more freely in open structures (light grey) than in denser areas (dark grey).

foodstuffs, such as meat substitutes. Meat contains long protein chains, all facing in the same direction. 'To make plant-based meat substitutes appear as meat-like as possible, their protein chains should be similarly arranged,' Martens explains. This new method can provide new insights and could bring us one step closer to 'plant-based meat'. **NvtWH**

The VLAG Graduate School funded the study by Martens and his colleagues.

GRANT FOR ECOLOGICAL STUDY OF SOLAR FARMS

WUR's research on the effects of solar farms on the soil and the ecology has attracted a substantial grant.

The Netherlands Enterprise Agency (RVO) has allocated 3.6 million euros to the project SolarEcoPlus. WUR will collaborate on this project with the Netherlands Organization for Applied Scientific Research TNO, and the solar farm developer LC Energy. Among the solar farms to be studied is Nergena, the one planned on WUR land at the Dijkgraaf. LC Energy aims to create a 10-hectare solar farm there, in combination with research. Solar parks are controversial. Their opponents point to their possible negative impact on the soil and vegetation. Because the panels shade the ground, it could dry out and

vegetation could shrivel and die. 'But that is not research-based,' says WUR project leader Friso van der Zee. 'This grant enables us to research that. On the basis of the results, we expect to draw up design and management guidelines for improving the ecological quality of solar farms.'

To this end, solar farms created according to different designs will be studied. Along with conventional designs, the project will also look at 'bifacial' solar panels, which stand upright and capture sunlight on both sides. These panels are expected to score better on ecology, because they stand further apart.

CAMERA TRAPS

SolarEcoPlus consists of six solar farms on sandy, clay and marshy soils. One of these is the Nergena

solar farm – if the plan goes ahead, that is. Ede Municipal Council still has to give the official go-ahead, and there are doubts about whether that will happen. At an earlier stage, the plan was approved by a narrow majority of the municipality, and one member was absent. The decision is due soon. The ecological research focuses on a broad spectrum of biodiversity. Van der Zee explains that WUR has developed a monitoring protocol for the research. 'One aspect of it is monitoring mammals using



▲ Protest in Ede to stop the Nergana solar park.

PHOTO: ERIK WESSELIUS

camera traps. Another is monitoring changes in the soil quality, and we shall look at the effects on the chemical composition and fertility of the soil.' The project will be implemented over four years. WUR's research will be funded to the tune of 1.2 million euros. **© RK**

PROPOSITION

'Consider the ethical implications before you share your results'

PhD student Karine Kiragosyan is all for discovering and sharing new technologies. But when she saw the first glow-in-the-dark dogs produced with gene-editing techniques she was appalled. So her proposition is: 'Researchers should consider the social and ethical implications of their new developments.'

'As a researcher, of course you are very excited when you develop something new. But we should be aware that people can abuse it and I think we have a responsibility in that respect. This became obvious to me after I had watched the Netflix series *Unnatural Selection*, in which a dog breeder uses gene-editing techniques to create glow-in-the-dark puppies. Some techniques like CRISPR-Cas are

quite straightforward, and you don't need to be a scientist to be able to use them. That worries me because that could easily spin out of control. I do un-

Researchers have a responsibility themselves

derstand that it is difficult for researchers to prevent this, and I am all for developing new techniques. But I think it is important for your integrity as a researcher to at least consider the broader picture and probable applications before making knowledge public. Sometimes it is good to hold back, at least until you have thought of a way to



PhD students are expected to submit a handful of propositions with their thesis. In this feature, they explain their most provocative proposition. This time, it's the turn of Karine Kiragosyan, who got her PhD on 8 April for her study on the removal of hydrogen sulphide gas from natural gas.

prevent abuse. Maybe a technique could be patented, for example, although that's tricky too, since researchers work with many different parties and don't have ownership of the techniques. I work in the field of environmental technology, so this example of genetic modification is not relevant here. But we have similar dilemmas. One example is the development of wind turbines to generate green energy. We know they are far from green, as the turbines are made of plastics and the materials are not reusable. As a researcher, knowing this and still working on it as a "green" energy source has ethical implications too.' **© TL**



‘First-years will have priority on campus’

If circumstances allow for it, WUR hopes to open up the campus from September, primarily for first-year students, practicals and small-scale intensive teaching. WUR Board member Arthur Mol and education director Arnold Bregt explain.

text Albert Sikkema photos Guy Ackermans

For the rest of this academic year, students will not be coming to the campus much. Staff are still being advised to work at home too. But as the next academic year approaches, people need to know what the prospects are. Is there any point in first-years moving to Wageningen, for example? The Executive Board is now working on scenarios for how to open up the campus from September. Board member Arthur Mol and education director Arnold Bregt outline the contours of the one-and-a-half-metre university.

What do you have to offer first-year students in the new academic year?

Bregt: ‘We want to maintain the core qualities of a Wageningen education. These qualities are: a personal approach; education in small groups to facilitate interaction between



▲ Classroom in Forum with coronavirus layout. All tables and chairs are at least 1.5 metres apart.

students and teachers possible; working on real problems and gaining skills through lab- and fieldwork. We want to prioritize these things on the Wageningen campus. And we shall have to respond to how the coronavirus crisis develops.

'In the new setting, we will create a combination of education on campus and virtual classrooms. We want to work adaptively: on campus if we can, online because we can.'

Mol: 'And we want to maintain the international classroom on campus. So we are inviting international students to come to Wageningen too, both physically and virtually. It will be a dual system, in which students come together on the campus in small groups, as well as attending online lectures and working on assignments.'

One quarter of the teaching on campus, and the rest digital?

Mol: 'Indeed, we are thinking in terms of 25 to 30 per cent of the teaching on campus in the first half of the next academic year. More than that doesn't seem realistic at the moment. Public transport is one difficulty. The cabinet has decided that students are not allowed to travel during the rush hour, so we shall have to adapt lecture times to that. We definitely want to let the finalists do their experiments on campus. To do that we need to adapt the campus facilities for group work and practicals so that students can sit one and a half metres apart.'

'We haven't got the figures yet, but this is going to cost money'

Bregt: 'I've got a solution for students who want to get around the public transport problem caused by the corona crisis. Come and live in Wageningen.'

Is the number of international students plummeting?

Mol: 'With regard to the European students, we are now consulting our European partner institutions with a view to letting exchange programmes go ahead next year as much as possible. We will take a decision on that on 15 June. The situation for the non-European students is more complicated, given the travel restrictions. I can imagine that the Chinese students who register, will take classes online from China at first and maybe come to Wageningen in February 2021 to be taught here on campus.'

What is the campus going to look like, in terms of teaching facilities, canteens and the library?

Mol: 'We'll make provision for social distancing and one-way traffic throughout all the buildings. The labs for practicals will have one third of their normal capacity, and the teaching will have to be adapted to that. There will also be fewer work stations to study at: probably about half. The library and canteens will probably open in the new academic year, with limits on the number of places. We are also thinking of making use of parts of the old Dreijen campus in town again. There is room for group work there. And lastly: time is space. We might have to extend our normal timetable, with more hours in a day. Especially if we are affected by the directive that says: no students on public transport in the rush hour.'

Bregt: 'I think too that the students can do their bit for campus education by bringing along their own laptops. With the coronavirus measures, fewer students can be in the labs and computer rooms, but if they bring their own laptops the options increase, including for group work and computer practicals.'

What are the implications of the coronavirus for research?

Mol: 'In that respect we need to make a distinction between Wageningen Research and the university. The work of Wageningen Research has largely continued under the new hygiene measures. The odd research assignment has been postponed, but new projects have also been added because of the corona crisis. People mainly work from home, but they also work in the lab where necessary.'

'At the university, most of the PhD and postdoc researchers'



▲ The Helix canteen, normally a busy place, in corona times.

work in the lab and at home has continued too. A few PhD researchers have gone back to their home countries, so in those cases the lab work has ground to a halt, and fewer experiments can take place on campus in the one-and-a-half-metre labs. Two chair groups closed their labs for a few weeks, but they have opened them again now. Research is getting delayed a bit, but compared with other universities, it's not too bad.

'We told the PhD students: adapt your work, write an article instead of doing the experiments you had planned, or make some adjustments to your research to avoid falling behind with it. Up to now that's working well, but if this corona crisis goes on, we shall run up against more and more problems and delays.'

'We want to give the finalists the chance to come to campus'

Who gets to work on campus soon?

Mol: 'If you don't need to work on campus, you work at home. That will be the rule until September at least. After that we are considering the option of allocating work locations. PhD students and staff who need a lab will get priority. And so will staff with social reasons for needing to work on campus – people who can't easily work at home. And we shall bear in mind international students and staff who don't have an extensive network in Wageningen. We want to work towards a coronavirus exit strategy in which we give staff access to the campus on a phased and rotating basis. People who don't really need to be there,

like Arnold and me, will be the last in line.'

Bregt: 'I was on campus this morning because I still teach GIS courses with a colleague. When you team-teach, it's nice to do it on campus. In the GIS group, everyone works at home but from time to time it's nice to see your team again and catch up. I think we should also facilitate campus sessions for teams from September.'

And which students get to come to the campus?

Mol: 'We want to set priorities there too. As we have said, we want to give the finalists the chance to come to campus if they need facilities. But we also want to give priority to the first-years, on both the Bachelor's and the Master's programmes. First-years need to form a bond with the university and build up a network. You don't do that at your computer, but by meeting other students on campus. A good relationship with teachers and other students increases motivation and success at university. With a bit of luck, second- and third-year students already have that sense of connection. And of course, the introduction – the AID – that we will be organizing in August will help with that too.'

Fieldwork and internships for students are a tricky point for the time being, due to the restrictions. Surely that could delay graduation for students?

Mol: 'We want as many exchange opportunities as possible to go ahead. We are looking into what is still possible. For example, we are currently consulting the other Dutch universities about having more exchanges between the minors of the universities, so students can still gain knowledge and experience beyond Wageningen. As for the internships: students can still do internships in the Netherlands. Internships outside Europe are difficult, but I am expecting opportunities to arise in the coming months in countries such as Sweden, Denmark and Germany.'

Bregt: 'We also notice that MSc students can still go ahead with their internship plans by organizing something themselves. A few international students are now going to do an internship in their own countries, with supervision from Wageningen. And we are seeing the rise of the e-internship, especially in food companies, because it's business as usual for them during the corona crisis. In these internships, students do their literature study at home first and then go to the company to do research in a controlled environment. Some food companies have already made arrangements for this kind of e-internship.'

'And a lot of programmes offer the option of replacing the internship with a second thesis project. Or students decide to do their final thesis first and then their internship. We are finding that the teachers and students are dealing with the corona crisis creatively and innovatively.'

The transition to digital education seems to have gone smoothly and successfully.

Bregt: 'Indeed, the teachers have worked extremely hard on making their courses online only. After period 5 they immediately started evaluating their teaching themselves and making improvements.'

Mol: 'I am curious to see the student evaluations of the online education. The Executive Board wrote to the teachers to tell them the course evaluations of period 5 wouldn't

count in their personal evaluations. We thought teachers shouldn't be judged on online education that had to be put together from scratch at great speed. But we got a few indignant responses from teachers. They said they had gone all out to create good online education and were keen to have their students' evaluations. Wonderful to see that level of motivation. So we adjusted the plan straightaway and are going to evaluate the courses after all.'

Teachers have had to put a lot of overtime into the courses.

Mol: 'Right. My biggest worry is that the teachers who have made massive efforts to switch the courses to online forms will just go on slogging away. My advice is: after period 6, take a break, time off, get away from your work. Take a good holiday. And we are not going to do any resits in the summer holidays. It's not on, the teachers need a break, and so do the students.'

'My biggest worry is that the teachers will just go on slogging away'

What is the financial damage from the corona crisis?

Mol: 'We haven't got the figures yet, but this is going to cost money. We'll get fewer students and we can do less research because of the crisis. How much less depends on how long the restrictions remain in force. Also, we don't know how big the economic impact is going to be. Will there be a recession, and if so, for how long? One positive is: we've got reasonable reserves. We are aiming for continuity, so we are not making any cuts this year. We shall calculate what the corona crisis is costing us in the autumn. We are already holding consultations with the education ministry about who will bear those costs.'

What is the monthly shortfall so far?

'There is no monthly figure. The income from the Sports Centre has stopped, which is a couple of hundred thousand a year, but that is not disastrous given our total budget. Here or there, research contracts have been postponed or cancelled, but that's not disastrous either. We are also getting extra coronavirus-related research assignments. The crucial thing for the extent of the damage is: how long will this crisis go on?' **B**

► One-way system in a corridor in Helix.



1454 SOLAR PANELS ON THE ROOF

Over the past few months, Wageningen Bioveterinary Research in Lelystad has not only been working hard on research on animal diseases and coronavirus tests, but has also been investing in solar energy. The institute has had 1454 new solar panels installed on the roof. These will generate about 450 MWh of electricity per year, enough for over 100 households. And that is not all. The institute hopes to install a further 1000 solar panels. More news about solar panels on WUR roofs on page 4.  AS, photo Sven Menschel





WHERE ARE WE HEADED?

The pandemic is creating havoc with everything, including our holiday plans. What will WUR students and staff be doing this summer?


text Resource editorial staff illustration Henk van Ruitenbeek



Dianne Smits




BSc student of Food Technology

'I had a number of holiday options but nothing planned. I could go with my parents, or with friends from back home — we always organize everything a bit last minute. **I also had a plan to do something with my student house, for example a weekend hitchhiking.** And our KSV drinking club (KSV= Catholic Student Society, ed.) wanted to go to Sziget, a big festival in Hungary. None of that will be going ahead, of course. In retrospect I'm pleased we hadn't booked anything. My only plan now is to promote KSV during the AID week. I'm not sure yet how we will be doing that but our society can play a nice role in that week. I will also be working as much as possible.'  **LZ**

Jaap van Raffé



Forestry Management researcher at WENR, in his free time GPS and geocaching fan and organizer of GPS trips

'I am busy setting up a GPS hiking trail across the Veluwe. It will be a six-day hike from campsite to campsite, through nature wherever possible with as little contact with other people as possible. No, not straight through the woods. We keep to the rules, which means sticking to the paths. But you can still roam across the Kootwijkerzand area. The trail was actually prompted by the coronavirus crisis. We normally do a lot of walks abroad, but that's not possible now. We have been working on the route for a couple of months. We have walked individual sections. The daily distances are about 20 km. We start in Wageningen, walk to Otterlo, De Hoge Veluwe park and Kootwijkerzand and end up in Nunspeet. A total of 120 km. The route will be published on a dedicated website I will be creating later this year.'  **RK**

Sofia Wolfswinkel




MSc student of Management, Economics & Consumer Studies

'I wanted to go on holiday with my boyfriend this summer but that wasn't certain anyway because we both had internships planned. Now I will be doing an internship in The Hague in August; I've already moved there. So there is plenty for me to discover here in the Netherlands and I don't feel the same need to go abroad. **I might visit somewhere in the Netherlands for a few days because there are so many lovely spots I've never been to.** I wouldn't feel comfortable travelling further afield even if it is allowed. Anyway, I'm a creature of habit. Being at home so much gives me more of a routine, which only makes me happier. Even so, I miss my friends and spontaneous trips to bars, but those are luxury problems given all that is going on.'  **MvdH**

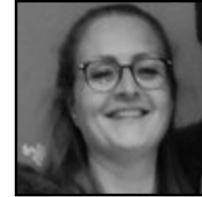
Guido Camps



Lecturer in Nutrition and Health

'I was supposed to be going on holiday this week to Normandy with my in-law, wife and two children — a third is on the way — but that was cancelled. Instead we are spending a weekend with the in-laws in a holiday cottage in the Netherlands. There is also a plan to spend the first two weeks of August with my entire family — my parents, two brothers, sister and their families and us — in a large house in France. I am hopeful it will go ahead. It's a huge country house in a remote location with its own swimming pool so we won't be among the crowds. **We organized this holiday a year ago. You never know whether the coronavirus epidemic will flare up again — if it does, we have a problem.**'  **AS**

Lea Esser




International Office employee

'I have no idea what I'll be doing this summer, whether I'll carry on working or take some leave. I normally travel to Asia with my family but fortunately we hadn't pre-booked anything. I don't think we'll be going this year. **Perhaps a week in Austria if that's possible and allowed.** We normally always go there for our winter break but my daughter suggested it for our summer holiday. But if there's nothing you can do there, that's not much fun either. So I might end up spending two weeks on leave at home. Then I'll stay in the house and the garden and perhaps put up a mini-swimming pool. You can complain about not being able to get away but it is what it is. I'm not afraid of the virus but I don't put myself at risk either. I won't be joining the crowds on the banks of the Rhine, for example.'  **MvdH**

Cor Meurs



HR project manager

'We are taking a house in Friesland for a week this summer. It's on the water's edge with a boat outside the door. I prefer not to go far on holiday anyway, and certainly not to fly, mainly for sustainability reasons. There are lots of lovely places in the Netherlands. I'm going with my husband, our two daughters and their mothers. We shall have to see how it works with the rules, as we are a combined family. Our daughters live with their mothers, who are a couple too, and my husband and I live together. So officially we shouldn't be all staying together in one house, because we form two separate households. When rules have been set, I think you should stick to them. On the other hand, all the campsites are reopening and you share the washing facilities there with a lot of different people, so then you can share a house too.'  **TL**

How to make healthier meat substitutes

People who want to cut down on meat are no longer condemned to spongy tofu chunks and tempeh. Whether you want smoked sausages or steak tartare, there is a vegetarian version of everything nowadays. That sounds healthy enough, but a lot of meat substitutes are high in salt, sugar and fat. Room for improvement? How, then?

text Tessa Louwerens *illustration* Paul Gerlach / Shutterstock

Eat less meat and more plant-based food, is the Netherlands Nutrition Centre's advice. It is better for the environment and for your health. The good news is that meat substitutes are usually high in protein. What is more, legumes such as soya lower your LDL cholesterol and therefore help to keep your blood vessels healthy. And yet research by the Nutrition Centre has often shown that meat substitutes contain too many saturated fats, and too much salt and sugar.

The Nutrition Centre has set an upper limit of 1.1 grams of salt per 100 grams of product. No product that exceeds that gets into the Wheel of Five, a pie chart widely used in the Netherlands to depict a healthy diet. It is not easy to cut down on the salt in meat substitutes, says Atze Jan van der Goot, professor of Protein Structuring and Sustainability at WUR. 'Meat doesn't not have much taste in itself. It gets its flavour from spices and from the Maillard reaction, which is what happens when sugars react with protein during the frying and roasting process, and is what creates a brown crust and savoury meaty flavour.' It is difficult to get that effect when you fry meat substitutes, because they burn faster when fried at high temperatures. 'That's because plant proteins don't hold moisture as well as animal proteins,' explains Van der Goot. 'There is less



‘Meat substitutes are meant to entice people’

water to evaporate as they fry, so they burn more easily. We are researching ways of getting more water into meat substitutes so we can replicate the frying experience.’ If frying doesn’t work, producers have to find other ways of making the product tasty. Salt is a good flavour enhancer and covers up any unwanted flavours. Van der Goot: ‘Without a lot of salt and flavourings, that kind of product tastes of wheat, peas or soya. People don’t like that.’ A lot of salt is undesirable, though, because it is unhealthy. But the professor says it is difficult (i.e. expensive) to flavour the products with anything else. ‘The disadvantage is that plant proteins bind strongly to flavourings. We really want to research why that is. It is important because manufacturers currently have to add a lot of flavourings and they are expensive ingredients. Once we understand this better, we can be more focussed in our search for ways of giving plant-based products more flavour without a lot of salt. Besides enhancing flavour, salt helps give products structure, says Van der Goot. ‘Salt influences how proteins form networks. That is a reason why you add salt when baking bread. It’s not just for the flavour but also to get a firm dough and bread with good volume.’

BACON

A third reason why meat substitutes contain salt has to do with the processing stages involved in extracting proteins from the raw materials such as peas and soya, explains Joeri Hollink, head of product development at vegetarian chicken producer Ojah. ‘With peas, you have to add acid to make proteins precipitate so you can extract them.’ To get rid of the acidity, producers of the raw material add sodium salt. So there is often 0.50 per cent of salt in the raw material. Hollink: ‘That might not sound like much, but if we want to sell products in the UK, for instance, they are not allowed to contain more than 0.63 per cent salt. So you reach that quite fast.’

But Hollink does think salt reduction is possible. ‘It depends on the product you are making too. Vegetarian bacon is on the high side, with two per cent salt, even

though that’s quite low compared with bacon from pigs. We choose to give our products a fairly neutral taste, which is what chicken has too. Consumers can choose for themselves how to give it flavour.’

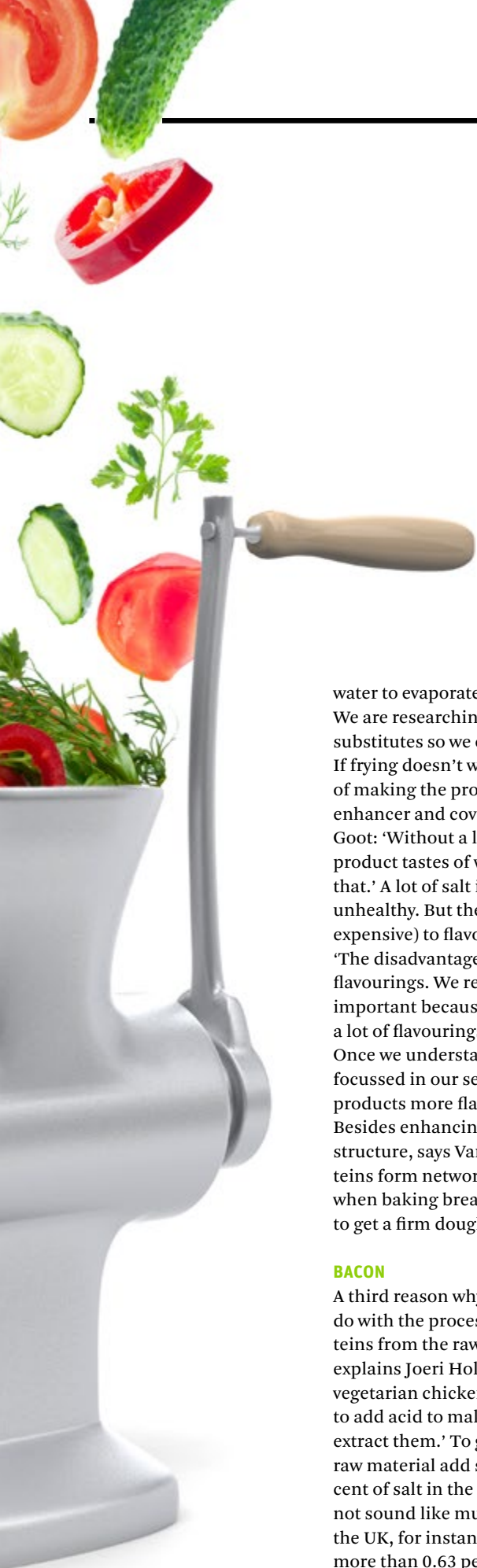
One way of reducing salt is to replace sodium chloride, kitchen salt, with other kinds such as potassium chloride. Unlike sodium, potassium lowers blood pressure, so it is healthier in that respect. Hollink: ‘The disadvantage is that it tastes bitter. You can replace about one third of the salt with potassium chloride before that taste starts to dominate.’

‘We like the fat to run out in the pan, not in the packaging’

Along with salt, meat substitutes often contain too much saturated fat, according to the Nutrition Centre, which has set an upper limit of 2.5 grams of saturated fat per 100 grams. Meat products such as pork schnitzel or hamburgers are excluded from the Wheel of Five too.

‘Fat is important for the flavour and the smooth structure of products,’ says Van der Goot. ‘Consumers want the fat to run out when you put it in the pan and not before.’ To make sure the fat only runs out in the pan and not in the packaging, hard fats such as coconut or palm oil are used that stay solid at room temperature. These aren’t necessarily any less healthy, says Hollink: ‘If you use vegetable oil and heat it at high temperatures, you get unhealthy trans fats. That doesn’t happen when you heat coconut oil. So in that respect, it is better to use hard fats, especially if you are going to deep-fry the product.’

Sometimes extra sugar is added to meat substitutes,



‘A lot of sugar used to be added to vegetarian products so they would brown when fried’

but usually in small quantities, says Hollink. ‘There used to be too much sugar in vegetarian products, added for flavour and so they would brown when fried. Nowadays, sugar levels have been reduced a lot. In our products we don’t use any sugar at all.’

MEAT SUBSTITUTES ≠ MEAT

A final criticism of meat substitutes is that they do not contain sufficient nutrients such as essential amino acids, vitamin B12 and iron. Is that a fair accusation, or do we just expect too much of meat substitutes? Professor of Protein Structuring Van der Goot: ‘The idea of meat substitutes is to entice people into cutting down on meat, not to replace it entirely. They were mainly designed for flexitarians so they can eat something other than meat now and then. So it is doubtful whether it’s desirable to put all the nutrients that are in meat into meat substitutes. Our diet consists of a range of foods, and meat substitutes don’t have to solve all the possible deficiencies. What is more, you can use meat substitutes to provide people with certain nutrients that they often don’t get

enough of, such as fibre.’

Meat substitutes are mainly intended to make it easier for the consumer to eat less meat. ‘That is easiest if the alternative product is very like meat,’ says Van der Goot. He sees producers focusing on working on a wider choice of meat substitutes. ‘You could see that last year with the competition for the best vegetarian smoked sausage. And spreads for on bread are particularly popular in the Netherlands.’ Hollink agrees: ‘In health terms, our products are all right. What’s important to us is taste, sustainability and affordability. We are particularly interested in finding new ingredients, textures and taste experiences.’

To Van der Goot, it is important to think about the place of these meat substitutes in our diet, and what their nutritional value is. ‘For now, it is handy for them to resemble meat, to make the transition easy for consumers. Once people get used to the idea that protein-rich products don’t necessarily have to come from animals, there is scope for other kinds of products. Plant-based raw material is just not the same as animal raw material. Once we get away from the idea that meat substitutes must be like meat in nutritional value and structure, fewer processing stages will be necessary. You could then make products out of whole beans or peas, for instance, with all the valuable nutrients they contain.’ **B**





PHOTO: GUY ACKERMANS

Key people

They are indispensable for keeping the campus going and keeping it pleasant, yet they are not always the first people you think of when you think about the campus: the cleaners, caretakers, caterers, gardeners, receptionists – the list is long. In these coronavirus times too, they play a crucial role. Resource seeks out these key people. This time Corina Hobé (37), cleaner in Atlas and freelance hairdresser.

text Milou van der Horst

'I enjoy people and their stories. People like to unburden themselves to me. I'll be cleaning and I can see from someone's face that there's something wrong and I ask them about it. And they tell me. I love that. I don't know everyone here by name, but I recognize their faces. And I know what's going on. I definitely feel I'm appreciated. If I'm away for a few days, they miss me and they say it's nice to see me again. And people often thank me too.

It makes me sad that there's hardly anyone around nowadays. Having people around me is an important part of my work. That's what gives me satisfaction. Luckily, it's getting a bit busier now, but it's still not normal. And I don't like

change. I'm the hugging type too. It is no fun that you can't do that now, because I can't be myself. That gets to me. But I'm happy that I can do my work, because I'd go crazy at home. Since nothing gets so dirty at the moment, we've been given extra jobs like cleaning the insides of the kitchen cupboards. And we polish door knobs, handles, taps, table tops and ledges extra often. Normally, the hardest part of my job for me is vacuum-cleaning around people while they sit.

'I'm the hugging type. I can't be myself now'

They usually don't mind, because they are pleased when it's clean again. But before the coronavirus outbreak, I used to vacuum before office hours, because I felt awkward about it. 'I used to want to be a beautician, with my own salon. I did a combined course to become a hairdresser and a beautician, until I got to the feet. I can't stand feet, I just think they're dirty. So I stuck to hairdressing. But when the children started school, I wanted

to do something during school hours, as well as my work as a hairdresser. Because just staying at home, I get stir-crazy. I like to keep busy. While cutting someone's hair I heard that Asito was looking for a cleaner for Atlas, so I applied at once. I've been working here for four and a half years now.

I'm grateful for my job and I'm always happy to come back to work. It's nice for me to know what I'm supposed to do, because I don't like leaving my comfort zone. And my work provides security: I'm building up a pension and I get holiday pay.

If I had to choose a job now, I would choose a job in the health sector, such as working with children with a disability or with special needs, such as ADHD. I think it would be wonderful to help and look after them. But you have to train for that and I'm nearly 40. And I like security. So I think it's OK the way it is.

I don't dare to think about the future during this corona crisis. Prime Minister Rutte says 'this is the new normal', but this is awful. I hope it will go back to normal soon. And that everyone comes back in good health. I hope people will carry on being careful to protect each other. We all need each other, and not just at this time.' 📍

The one-and-a-half-me

Student societies had to close their doors because of Covid-19. Now the door is ajar again. Two chairs and a vice-chair of the Wageningen societies look ahead.

text Luuk Zegers photo Sven Menschel

'We want to stay open this summer'

**JORIS BERGMAN,
CHAIR OF W.S.R.
ARGO**

'When we had to close, we put all the ergometers (rowing machines, ed.) in members' houses so they could still train. Outdoor sports have been allowed again since 11 May. The changing rooms are closed and the big boats don't go out, but we are rowing again at Argo. We make sure it's done safely and we



walk around at the clubhouse to ensure the protocol is observed. So far, so good. In the first week, 85 members signed up for training. 'As well as rowing, this place is socializing of course. We and the municipality are pondering to what extent we can start up social activities again. We are keeping an eye on the government's timeline. We shall see how we can open up a bit more, step by step.

'The club normally closes over the summer, but now a small group of us are looking into the possibility of running activities all summer in small groups. A bit of rowing, a bit of sitting in the sun. It might even be possible for non-members to come by. That would make rowing accessible for them too, and enable us to offer our own members and all other students something nice.

'We don't know yet what the AID will look like. I'm not very worried about recruitment for next year: in the corona time it's a particularly good idea to join a club of some kind, to build up a circle of friends and to have activities to do. I'm confident that the people who come to Wageningen looking for interesting experiences will think: 'Hey, that rowing club would be a good place for that.'

'It is nice to spend more time at Argo. Looking outside, I can see a guy having a skiff lesson (a skiff is a one-person rowing boat, red.). We

can't stop for a chat: by law I must tell them to go straight home after training. But it is nice to see the members again. They are the ones you are doing it for, after all. It is a nice sight: on land there are barriers and demarcation tape all over the place, but on the water nothing's really changed. And when the team boats can go on the water again in a while, the picture will be complete.'

'First- years might be looking for extra adventure'

**AMBER LAAN,
CHAIR OF
KSV FRANCISCUS**

'Member involvement is very important to the society. The fraternity l'Esprit de la Licorne held an online 'beer cantus' for all its members. Members cycled through Wageningen with water pistols, rang the doorbell at members' houses and soaked them from a distance of one and a half metres. Instead of the well-attended pub nights, members can now listen to a radio programme made by members for





the student clubhouse

members. And we've held an online quiz about the society. That was nice: suddenly you are on Zoom with all the members.

'It is still unclear when we are really allowed to open our doors again. Student societies are a bit of a legal grey area. There is a chance that we come under the relaxing of the rules on café terraces. Or under the relaxing of rules for the cultural sector, such as cinemas where a limited number of people are allowed per screen. We are looking into what's possible at the moment.

'We don't know what the AID will be like yet, and there won't be any big parties at the clubhouse. The question is how we can give new first-years a real impression of the society under the restrictions that there will be then. There is enough time to adjust to that, so I'm not worried about recruitment. And new first-years aren't having any post-exam trips or fabulous summer holidays, so maybe they will be extra-eager to look for adventure in a student society. The introduction period is another issue. If all the measures still apply then, should we run it at all? That period is primarily for new members to get to know each other and the society. There are other ways of doing that. 'Personally, I've got more of a grip on my own life since the coronavirus measures came into effect. I used to be at the clubhouse 24/7, and

now suddenly I'm a proper housemate as well. I eat and exercise with my housemates and have nights off. The first week without parties was really chill: suddenly I had a good sleep routine. But from the second week I was already missing it.'

'We hope to open the doors of our "one-and-a-half-metre society" as soon as possible'

**BAS VERKERK,
VICE CHAIR OF
SSR-W**

'On Saturday 14 March, we were going to hold the best-attended SSR-W ball ever. To say we were looking forward to it is putting it mildly. Then came the press conference on Thursday 12 March and the country closed down. We had to cancel at the very last minute. Really tough, but on the board we flicked a switch and set to work. Meetings had to be on Zoom, the beer tanks had to be closed and the pipes rinsed. 'To keep our members involved, we launched



an online platform with online Friday afternoon drinks. One of our members puts together a nice playlist and everyone can share photos in the livestream of how they are enjoying their Friday drink. We did a special beers quiz and one week we made a radio programme in which members could phone in, shoot the breeze and relate anecdotes, just to keep in touch and keep the crazy stories alive. There is a real need for that.

'There is not much clarity about to what extent student societies are included in the lifting of measures, because we are not a typical café, but nor are we a standard canteen. At SSR-W we have a huge garden with a bar. It would be nice if that were counted as a café terrace. Cinemas are allowed to have 30 visitors per screen from 1 June. We've got several large rooms at the clubhouse, so is that the rule for us too? We will sort this out in consultation with the municipality. We hope to open the doors of our 'one-and-a-half-metre clubhouse' as soon as possible.

'At the moment we are busy making preparations: demarcating routes, seeing where to put the entrance and the exit, whether our furniture is suitable and how to arrange it. We are also working on a safety protocol that has to be approved by the municipality. No more parties for now, but we try to focus mainly on what we can do.' 🗣️

IN OTHER NEWS

SKINNY GENES

Why can some people eat whatever they like without putting on weight? Scientists at the University of British Columbia have tracked down a gene (the ALK gene) that is behind this: thin people have an abnormal ALK gene. The 'skinny gene' has an effect on the metabolism. Mice without the gene stay thin no matter what they eat. So is being thin a disorder?


HEARTBEAT

Drumming together makes our hearts beat in time with each other, shows research at Bar-Ilan University in Israel. The better people's hearts synchronize, the better they seem to cooperate with each other. The study doesn't mention whether the findings have been corrected for inborn musicality. Anyway, does the world need people who fall in line?

SNAKE!

Some birds understand each other's alarm signals, shows a study at Kyoto University in Japan. The study focused on the signal for 'Watch out, a snake!' Black tits understood the alarm signal of the Japanese great tit. Yet the two birds' languages are totally different, say the researchers. Of course, it could be that 'snake' is a bit like 'police'. Which sounds similar in many European languages.

CHIPS

Having a chip shop round the corner isn't what makes you fat, concluded Swedish researchers at Lund University. In a large-scale study, the scientists found no correlation between the two. No more than a gym in the neighbourhood makes the residents less obese. Could there actually be a link between silly research and latitude?  RK

Idealis has no more vacant rooms than usual

In spite of a number of students vacating their rooms earlier than usual, Idealis has no more vacant rooms than usual for the time of year.

At the beginning of April, the number of vacated rooms was higher than at the same moment in 2019. Idealis spokesperson Hellen Albers thinks that was partly due to students who were already intending to end their rental contracts, and did so earlier than planned because of the corona crisis. Since then, the number of contract terminations has stabilized and is back to normal. 'There are roughly the same number of vacant rooms as usual: about 300 rooms that have been vacant for longer than one month,' says Albers. 'Other vacant rooms are already being rented or have been reserved. Every year, in anticipation of the next academic year, Idealis reserves hundreds of rooms for international students. This is done in consultation with the university. Right now, it is still unclear how many international students will be able to come here in September




▲ Student flats on the Haarweg in Wageningen.

to start their degrees. If numbers are lower this year, there will be more rooms available for Dutch students.'

CONSTRUCTION PLANS GOING AHEAD

A total of 730 rental contracts have been terminated so far in 2020. At the same time last year, the number was 751, more than this year. 'That is partly because the Nieuwe Kanaal complex was completed last year,' says Albers. 'Then 65 students moved into that complex from another complex, so there were 65 more terminated contracts. If you subtract those, slightly more contracts have been terminated this year than last.'

In spite of the uncertainty that the current situation brings with it, the coronavirus crisis has not affected Idealis's construction plans. 'We are not going to adjust our long-term plans on an ad hoc basis just because there may be less demand in the short term. We consult the university on the situation regularly. You need a crystal ball to have any idea how things will be on 1 September. It depends on government policy here and on what happens internationally. At the moment it is anyone's guess, so we are just carrying on with our plans for Kirpestein (127 rooms to be ready by summer 2021, ed.) and Costerweg 65 (264 rooms to be ready by summer 2021, ed.).'  LZ



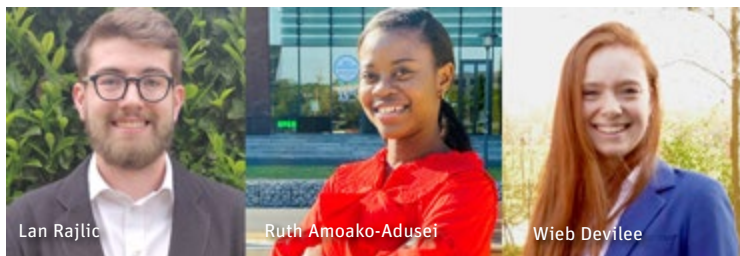
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Student Council election results: parties' shares unchanged



The results of the Student Council elections were announced in the afternoon of Tuesday 2 June, by Dean of Education Arnold Bregt. The share of the seats for the three parties is unchanged: VeSte (7), S&I (4) and CSF (1).

Bregt made this announcement Tuesday afternoon in a Microsoft

Teams livestream. A total of 28.76 per cent of the students with voting rights cast a vote. 'That's a bit less than last year but then there was campaigning on campus. Now all that is happening online so it's actually a good turnout.' 'The Student Council is an important consultative body within

Wageningen University,' stresses Bregt. 'Teaching quality and student welfare are very important. Students play a key role in that via the Student Council.' The Council consists of 12 students, with annual elections. Members of the Council meet regularly with individual students, student societies, study associations and the university's Executive Board to discuss such topics as mental health, student rights, careers and waste disposal on campus. The Student Council has three parties at present: Sustainability & Internationalization (S&I), United Students (VeSte) and the Christian Students Party (CSF). **IC LZ**

The members of the Student Council for the coming academic year are:

CSF:

1. Ruth Amoako-Adusei

S&I:

1. Lan Rajlic
2. Chenyue Li
3. Tamkin Haider
4. Ardha Vashti

VeSte:

1. Wieb Devilee
2. Jette Breedijk
3. Irene van der Boom
4. Marieke van Vonderen
5. Sam Hoogaars
6. Renee Rooijackers
7. Judith Kikkert

MEANWHILE IN... HONG KONG

'Many of my Cantonese friends are planning to emigrate'

China's parliament has backed security legislation for Hong Kong that criminalizes secession, subversion, terrorism and engaging with 'foreign forces'. Many fear it could lead to increased prosecution of Hong Kong's residents for exercising their rights under local laws. The move has sparked international outrage. 'Hong Kong citizens want the one country-two systems principle to be upheld so we can begin to resolve our many social ills,' says Gina Ho.

'The current situation is new as Beijing is getting directly involved. Using the excuse of tackling social disorder, they're bypassing the Hong Kong government to get the security law passed. China's narrative is to present the Hong Kong protesters as separatists, which the new law targets directly. Already, thousands of protesters have been arrested and they could be charged with rioting, which carries a prison sentence of up to 10 years. When the security law is fully implemented, anyone, not only protestors, could be accused of being a

threat to national security. 'The purpose of the pro-democracy protests has been less about achieving independence and more about demanding all the freedoms that were promised



PHOTO: PAULWONG / SHUTTERSTOCK.COM

in our de facto constitution (Basic Law). Hong Kong is governed by the one country-two system principle: it allows the city to be semi-independent and grants its citizens fundamental human rights and freedoms. In 2003, half a million people demonstrated against a similar security law. 2014 saw the Umbrella Movement when universal suffrage to elect our governor was "explained away" from the Basic Law. And last year's protests with more than a million people, successfully put paid to an extradition law, one of five demands. 'Since China has stepped in, the tone has changed. A threshold has been crossed and some are now openly calling for independence as they believe the one country-two systems principle is broken. Many of my Cantonese friends who have the means to emigrate are planning to do so. But this creates a really sad situation. We are becoming a diaspora who have a place where we belong, but can't go back to.' **IC**



Gina Ho (34), an Environmental Sciences MSc student, reflects on the situation in her home country

YOU (STILL) ON CAMPUS

BSc student of Urban Forestry Charlotte Mathisen (21), from Vancouver, arrived in Wageningen in January. Her plan was to take some courses in periods 4 and 5 and then travel to Italy, Greece and Croatia with friends. Needless to say, Covid-19 cancelled those plans. She is not too upset about it though, 'because I got to see a lot more of the Netherlands than I expected to!'

Actually, Wageningen University was not Charlotte's first choice to go to on exchange; a university in New Zealand was. 'But I am so thankful I got to go here instead! I study Urban Forestry, so Wageningen is actually the perfect place.' The level of education also really impressed her; 'I loved all my professors and I feel like I have learned a lot.'

When the coronavirus hit, a lot of exchange students immediately went back home. That meant she had a difficult choice to make: stay in Wageningen until June or go back home im-

mediately. 'If I had been travelling and staying in hotels, I would have gone home in a heartbeat, but I have already paid my rent until June and Wageningen is a small city so I was not too worried.'

'My five sisters had a lot to say about my decision to stay in Wageningen'

Her friends and family were not too happy with her decision though. 'Especially my five sisters had a lot to say about my decision to stay in Wageningen, but in the end opinions are just opinions. No one is right or wrong.' Her parents understood her decision and backed her up. 'I am happy I stayed here. Instead of travelling throughout Southern Europe I got to cycle to a lot of places around Wageningen. Spring-

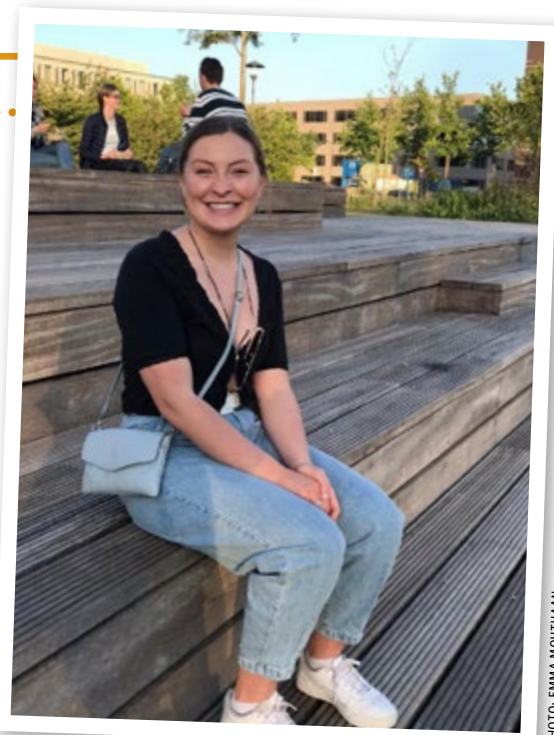


PHOTO: EMMA WOUTHAAN

time in the Netherlands is actually really beautiful.'

Right now Charlotte is supposed to go back home on Sunday, but the question remains whether that is going to happen. 'My friend went back home two weeks ago and found out that her flight was cancelled when she was already at the airport. Thankfully she was able to get a flight the next day. I'll just make sure to call my airline and check the flight status before I go to Schiphol.' **EM**

Behind the scenes

As people start seeing friends again, the Hoogstraat gets more and more crowded, and the police closed the road to the Rhine because way too many Wageningers were crowding onto the beach, at WUR we're still teaching and learning online. How is it going behind the scenes? Well, it's going.

I'm on the teaching staff of a course that caters for more than 100 students. The course is running, lectures are live and students have the chance to ask their questions and get them answered, breakout rooms enable discussions and group work, and recording the sessions makes it possible for people overseas to follow classes despite being nine hours behind. It takes several pairs of eyes to

monitor all these platforms, so here we are, a crew of two besides the main teacher of the day, keeping the boat afloat. Yes, even without the distance and the occasional connection dramas, you need a strong and well-attuned team to run an online course. And I am lucky to be part of one.

BONUS

Nonetheless, working on an online course entails working more than fulltime, answering students' messages at weekends, and dreaming about Zoom meetings at night. And as a bonus, online live classes drain all your energy. For sure, teaching online works in meeting basic learning objectives and allowing people to bring home the needed ECTS. Also for sure, students are missing 50% of

the experience: the personal relationships and the atmosphere of excursions that have the magical power of massively enhancing

'Teaching online should never become the norm'

learning. Even surer, teaching online requires double the energy from teachers, only to deliver part of the quality of their teaching.

LESSONS LEARNT?

Teaching online fits the purpose of emergency adaptation to unforeseen circumstances. But don't for a moment imagine this should ever become the norm. When all this is over, I would like

BLOG



Donatella Gasparro graduated recently as a Master's student in Organic Agriculture. She currently works as a Teaching & Education Coordination Assistant at Farming Systems Ecology.

to make a stand for moving education outdoors as much as possible, especially in the natural sciences; for reintroducing hands-on, offline activities wherever possible; and for a well-deserved detox from laptops and screens. **B**

Fasting KSV members raise 2500 euros for food bank

Twenty members of student society KSV Franciscus raised over 2500 euros for the Wageningen food bank by fasting for 24 hours.

The activity was organized by the Fiducia foundation, set up to inspire students to do voluntary work in Wageningen. Dianne Smits (19), a BSc student of Food Technology and the foundation's treasurer: 'Fiducia was set up by KSV

'It's tricky when your housemates sit down for a meal'

members and it mainly targets KSV members. We run a lot of activities with old peoples' homes and care facilities for people with disabilities in Wageningen. We also organize a benefit dinner every year for a different local cause.' When the Wageningen food bank asked the students of the Fiducia foundation for help,

they couldn't refuse. 'So we had to think of a coronavirus-proof activity,' says Smits.

Asking for sponsorship for a 24-hour fast seemed an appropriate way of drawing attention to the food bank and raising money at the same time.'

DONATE A METRE OF BEER

The initial idea was that the donations would come primarily from KSV Franciscus members. 'We asked for student contributions of various amounts: two euros – the price of lunch in the clubhouse; four euros – the price of an evening meal; or eleven euros – the price of a metre of lager. But in the end other people starting donating as well, members' families and housemates. A total of 275 people eventually made a donation.'

The fast started on Thursday 28 May at 20.08. Not a random choice of starting time, says Smits. 'The time is symbolic of the moment when we normally all get together. If you are at the bar with your mates at that time on a Mon-



day evening, you score one point. At the end of the year, the winning group gets a keg of beer.' Smit also joined in the fast. 'It's tricky when your housemates sit down for a meal. And there was a very tempting pack of cashew nuts open on the table. But in the end it was good to do this and we raised a lot of money.' **LZ**

International graduates want extension of job-search visa

Many international WUR graduates from non-EU countries extend their stay in the Netherlands by getting a temporary job-search visa, which grants them 12 months to find a job and start a career here. If they get a job, they can stay in the Netherlands. Former *Resource* blogger Kaavya Raveendran graduated in August 2019 with an MSc in Food Technology. She returned to India for a couple of months and then came back to the Netherlands on a job-search visa in January 2020, with the plan to find a job and start her career here. 'But finding a job has become more difficult because of the coronavirus pandemic.'

TWELVE PRECIOUS MONTHS

'The problem is that the visa period has already started,' Raveendran says. 'It's a precious period of 12 months. Many companies now have a hiring freeze and have withdrawn vacancies they posted before

the pandemic. In the current situation, time is not on our side. The job market is standing still, but the visa clock keeps ticking.'

Together with other recent graduates on these temporary visas, Raveendran is trying to draw more attention to the issue. 'This situation has never happened before, which makes it complex. The only real solution is an extension of the visa period. If we get enough time, most of us are perfectly capable of finding good jobs.' **LZ**

The graduates have started a petition on www.verlengzoekjaarvisum.petities.nl, asking the Dutch Parliament to extend the job-search visa period.



PHOTO: KAAVYA RAVEENDRAN

Wageningen Master's students do internships and thesis research all around the world, getting to know their field and other cultures. Here they talk about their adventures.

'Everyone helps each other here'

'The Blue Deal programme is an international programme run jointly by the Dutch ministries of Foreign Affairs and of Infrastructure and Water Management, and all the water boards. Its ambitious goal is to give 20 million people in 40 river basins around the world access to sufficient clean, safe water.

SUSTAINABLE POLICY

I was involved in the projects in southern Ghana, where the focus lies on the Volta Delta, the watershed of the River Volta in Ghana and its neighbouring countries, often referred to as the Lower Volta Delta. My thesis is about the extent to which stakeholders are involved in setting up and operationalizing a new management system for the Lower Volta Delta and around the nearby Keta Lagoon.

LOCAL LIFE

I lived at a local NGO in Ada Foah, a little village on the coast at the mouth of the Volta. The river and the vegetation around it make for a beautiful environment. Sadly, there was plastic waste scattered everywhere, and especially the beaches were covered in it. That is partly the local population, but a lot gets washed up that comes from big cities such as Accra. I lived among the locals and was immersed in Ghanaian culture. At the same time, I stood out of course. In the local language, the word for white person is 'bofono', and everywhere I went someone would call out, "Bofono, bofono! How are you?"


GHANAIAN COOKERY CLASSES

A Ghanaian woman from the village cooked at our house every day. She was like a mother to us. She was very keen for me to learn to cook Ghanaian food so that I could teach my mother once I got back to the Netherlands. We stood in the kitchen together every evening and she let me fiddle about with all the spices and ingredients for making the perfect stew.

There is a great sense of community in Ghana. Everyone looks out for each other, and it

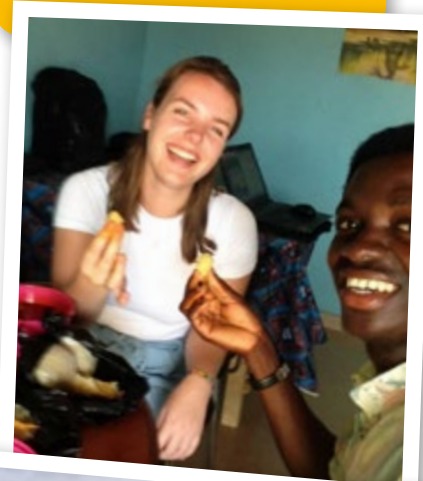
is taken for granted that you help each other out. Everyone greets everyone else and has a chat.

THEORY AND PRACTICE

While you are studying in Wageningen you always learn that you should involve local stakeholders like farmers and fishers in policymaking, but in practice this turned out to be difficult to achieve. The Dutch team from Blue Deal only goes to Ghana four times a year for a week, and that is not enough time for a broad approach. You can get annoyed by such differences but I learned a lot from seeing how it works "on the ground".  MvS

THE WORKS

Who? Elna Memelink (22), BSc in International Land and Water Management
What? Internship with the Blue Deal programme
Where? Ada Foah, Ghana



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Colophon

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>>TYPICAL DUTCH

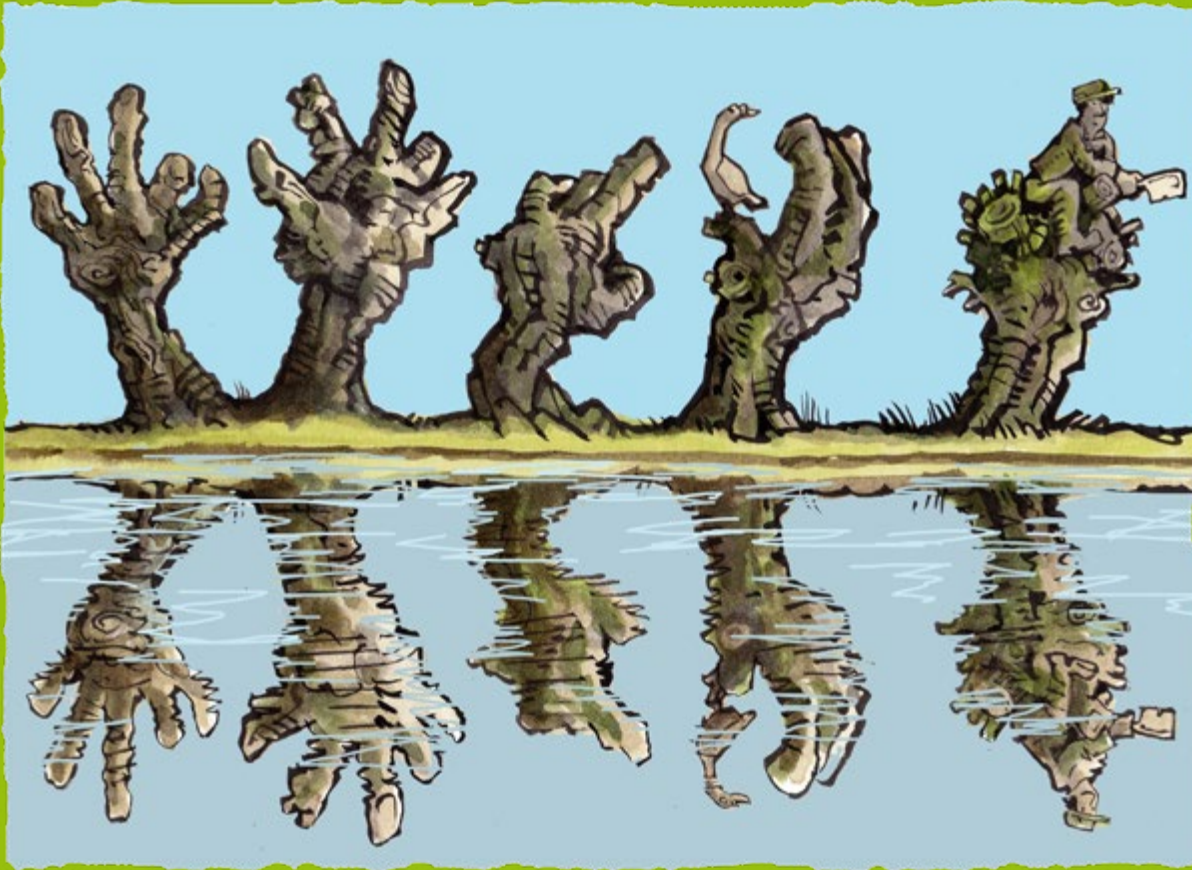



ILLUSTRATION: HENK VAN RUITENBEEK

Keeping trees in shape

There is a very Dutch way to prune and train the branches of trees. As you walk along the Wageningen dyke you can see old willow trees planted in line by the water. A lovely sight: they are so old and majestic. To picture them, imagine the shadow of the Grinch's hand on a chubby troll. The straight branches coming from an old gnarled trunk are reflected in the water. You can easily spot them on the Rhine when cycling near the Blauwe Kamer.

The branches of these willows get cut off during the pruning season in February. Then the trees look to me like a big mushroom on top of which geese can rest on a natural perch similar to the ones built for storks. The pruning is a traditional activity. On a February weekend, you can see people by the dyke with extensible pruning shears, ladders, chainsaws and other tools. They are taking care of those old trees.

There are linden trees in front of many Dutch houses to provide shade in summer. These trees are grown as sunshades that don't take up much space in the garden. To me, they look like a head with elongated tuning pegs from a guitar on it. I was surprised when I saw that branches can be trained into an L shape on a corner to continue the hedge. That's not something you see back in Italy.

I once spotted a recently planted linden tree whose shape reminded me of a music stand. There is poetry in this image. Just as there is accuracy in music, it takes a clear structure to shape young trees. There is beauty in the tradition of those typically Dutch ornamental shapes. I hope now you have been triggered to spot them.  Elisa Bongiolatti, double degree student of Agricultural and Food Economics, from Italy.

'I saw that branches can be trained into an L shape on a corner'

Do you have a nice anecdote about your experience of going Dutch? Send it in! Describe an encounter with Dutch culture in detail and comment on it briefly. 300 words max. Send it to resource@wur.nl and earn 25 euros and Dutch candy.