

Resource

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The journalism platform for all at Wageningen University & Research

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'could be simpler'

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ticking time bomb

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FOREWORD

Disappointment

Sometimes, life is about dealing with disappointment. Louise Fresco told us she didn't want a farewell interview as it is the start of a new era and she prefers to make way for her successor. But she did speak to financial newspaper *Het Financieele Dagblad*. Even so, we can't let her departure pass entirely unnoticed. We did a tour of the campus and asked WUR people what they thought of her leadership over the past eight years (p. 18).

The new collective labour agreements (CAO) are not a source of disappointment. In the past, benefits and holidays could be quite different depending on whether you worked for the university or Research. The differences became smaller this spring. How small? Play the *Resource* CAO board game on page 16 and find out.

Even less of a disappointment is the news that there are concrete plans to reform the generous policy on resits at WUR after years of talk. As of yesterday, the Student Staff Council has had the Executive Board's proposal to evaluate. Read what it is all about on pages 4 and 12.

Finally, this is the last issue of the academic year. On behalf of the editorial board, I wish you all happy holidays. We will be back on 1 September to interpret and explain the news. Of course you can follow us on resource-online.nl until then.

Willem Andréé
Editor-in-chief





WHAT'S THAT I SEE?

How many species are found on campus? Last weekend, more than 200 students, PhD candidates and staff members set off to help answer that question in the first WUR Biodiversity Challenge. By the end of the weekend, the Bioblitz counter (see the dedicated WUR webpage on waarneming.nl) had reached 655 species. The search continues until 1 July. The species observed include the very rare white spotted rose beetle and the black-veined white butterfly. ^{RK}

Photo Guy Ackermans

Council to vote on resit policy after years of debate

Students will be allowed to register for a maximum of three resit exams (unlimited at present) and the summer resits will be moved from August to July.

At least, that is what the Executive Board wants. The Student Staff Council still has to give its consent to the proposal. The Executive Board's proposed decision comes after years of debate about WUR's resit policy. Teachers in particular complain about the extra workload caused by the generous rules on retaking exams at WUR. The proposal to bring the summer resits forward was made by the Resits working group.

Policy officer and working group member Jetske ten Caat: 'Normally the resit week would start on 7 August 2023. In the new proposal, it will begin on 12 July, possibly

with opportunities on 27 and 28 July to retake the exams from the second half of period 6. We will give staff who taught courses in that period the choice: you can mark the exams quickly and be ready on time, or if you need longer, your resits will be at the end of July.' The deadline for handing in all resit grades is 15 August. 'Staff get more time as that gives them more flexibility and they can go on longer holidays.'

Criticism

The science groups were positive about bringing the resit period forward but there was criticism too, as this doesn't make the workload any less. To achieve this, the plan is to limit the maximum number of resits a student can register for to three per period

'This will let staff go on longer holidays'

(there is no limit at present). Dean of Education Arnold Bregt and Rector Arthur Mol added this proposal.

The Council considered the proposed decision on Wednesday 29 June. There will be an announcement in a week's time on whether the decision has been accepted in full, in part or not at all. Incidentally, Mol said that if the Council does not give its consent, further steps will be taken 'because teachers' workload needs to be reduced substantially'. LZ

Read the feature article on this topic on page 12.

New Marine Sciences BSc planned

This Bachelor's degree will cover marine sciences in the broadest sense, looking at national and international issues such as energy generation and biodiversity.



Photo Shifaaz Shamooun/Unsplash

The marine sector is experiencing significant developments, says programme director Jan Philipsen. Together with education policy officer Jetske ten Caat, he is the driving force between the new degree. 'Take the huge expansion of renewable energy generation at sea, the need to preserve biodiversity, and opportunities to help the protein transition and climate adaptation. These are important topics that we have been working on for a while at Wageningen.' So the expertise is available, just not the Bachelor's degree. Although there is

already a Master's in this area: Aquaculture and Marine Resource Management.

Marine Sciences will consider international issues and is aimed at both Dutch and international students.

Philipsen: 'So the students will have

varied experiences with marine questions. During the degree course, they will learn about the system in all its facets: as an ecological system, an environmental system, a food system and a socio-economic system.'

Diving

A diving certificate is not a requirement, explains Philipsen. 'But the students will learn about how to do marine science research. And that means snorkelling or diving occasionally. It's quite likely that we will be offering a diving course.'

The Ministry of Education has already given permission for the new degree programme. Ten Caat: 'The next step is for NVAO (the Accreditation Organization of the Netherlands and Flanders, ed.) to look at the curriculum for the first year. We are now busy developing that.' If everything goes well, the programme will be able to start in September 2023. LZ

'It's likely that we will be offering a diving course'

1000

The number of trees per species — eight species in total — that have been planted in collaboration with nature management agency Staatsbosbeheer to see whether they can be used in Dutch forests. They are relatively uncommon species such as the wild service tree and Atlas cedar that could be an alternative to the Norway spruce, which suffers from drought and insects. Wageningen Environmental Research will measure survival, leaf growth, shape, height, and diameter growth.

Hugo de Vries prize for WUR PhD thesis

Miguel Calvo-Agudo has won the 2021 Hugo de Vries Prize for the best botanical PhD thesis. His thesis is about his discovery that insecticides affect not just pests but also useful insects such as bees and other pollinators via nectar. In particular, he demonstrated this for the infamous neonicotinoids, the most widely used insecticides in the agriculture sector. Calvo-Agudo got his PhD last year with professor of Entomology Marcel Dicke as his supervisor. He received the prize earlier this week. PK



AIR: 21% O₂, 78% N₂

IN THE HAGUE THEY SAY
NITROGEN'S BAD
WHILE THEY'RE ALL GLAD
TO BREATHE IT EVERY DAY

HERSCHO DUDS

More funds for education: 'Good, but it could be simpler'

On 13 July, Education minister Robbert Dijkgraaf announced the details of the extra funds for higher education, in part to reduce work pressure, as promised in the coalition agreement. In a 37-page letter, the minister told parliament what money he has reserved for what purposes. He will be earmarking 100 million euros this year for personal starter grants for newly appointed assistant professors. As of 2023, that will increase to 300 million euros per year, and the money can also be used by university boards for incentive grants for other researchers with a permanent contract. The minister will spend 200 million euros a year on 'sector plans' for university disciplines, plus another 200 million per year on topics including major research infrastructure, student welfare

'Higher education needs structural extra funding of 1.1 billion'

and matching for European research funds. Han Wiskerke, professor of Rural Sociology: 'Dijkgraaf is now earmarking some 700 million euros, part of which is for universities of applied sciences. That is not enough; higher education needs structural extra funding of 1.1 billion. My heart sinks when I see that table dividing the millions up into different topics. I think it could be a lot simpler: trust the universities and chair groups to spend that money well.'

'Good approach'

Associate professor Joshua Dijkman agrees with the criticism but is pleased with the incentive grants, especially because they are intended for lecturers who don't get funding from other sources: 'I think it will encourage universities to invest in research that isn't sexy enough for a Research Council grant. Combine that with the other conditions — the researcher must have a permanent con-



tract and must combine research with education — and this is precisely filling the gap for scientists who usually miss out on the "normal" grants even though they are doing good work that is of value to society. This letter shows that the minister doesn't want a competition; he wants to keep the breadth of quality of Dutch universities. I think that is a good approach.' HOFF/ME

Ceres is the greenest

Wageningen student society Ceres has won the Groene Pint sustainability prize for Dutch student societies.

This is the first time Ceres has won the prize, says Tim Huurdeman, who chairs the Ceres sustainability committee. 'Our members are really committed. The sustainability committee is always the most popular one.' Food is one of the categories Ceres scores well in. 'We have more people who choose the vegetarian options than meat eaters and the number of vegetarians is increasing. That's unique among student societies.' The society's premises also help it get a high score. There are 104 solar panels on the roof, they don't use gas for cooking and they have a beer cooler that uses less electricity. LZ

Argo planning new regatta



Next year, Argo rowing club will organize a new competition, the Spiegelwaal Regatta, together with student rowers from Nijmegen and Eindhoven.

There will be races over three distances: four kilometres, two kilometres and 500 metres. The new competition is named after the waterway where the regatta will be held: Spiegelwaal near Nijmegen. Argo chair Luwe Groot says, 'Most races are on the Amstel or

Bosbaan in Amsterdam or the Willem-Alexanderbaan in Rotterdam. This location makes it more attractive for German or Belgian teams to compete.' The first Spiegelwaal Regatta is scheduled for 29 and 30 April 2023. RK

Tern deaths are ticking time bomb

Bird flu is currently causing mass deaths among shorebirds. Complete breeding colonies of the Sandwich tern, a Red List species, have been wiped out. Epidemiologist Armin Elbers of Wageningen Bioveterinary Research explains the (dismal) situation.

This is the first time shorebirds have been affected by bird flu. Could this be a virus mutation?

'We don't know of any specific mutation. These colonies were unlucky to have come into contact with the virus, which is still circulating. In the past, the Dutch bird flu season was from October to April, but in recent years the virus has hung around for longer. So in addition to resident birds, it is also affecting migrant birds that come to the Netherlands to breed.'

Can such mass deaths be prevented?

'That's very difficult. The most important preventive measure

is to stop poultry infections in certain parts of Southeast Asia such as China. A large proportion of the commercial poultry population there is vaccinated but they

'The world has not learned from the SARS and Covid pandemics'

still have large outbreaks because the vaccines don't give enough protection. The outbreaks aren't dealt with as thoroughly as here, so the virus regularly spreads to wild birds. In Asia, bird flu viruses have been circulating permanently among wild birds for some time.



The Texel tern colony at De Putten has almost been wiped out with the loss of more than 2500 birds • Photo René Pop Fotografie

The virus then spreads to the rest of the world via the breeding grounds in Siberia, for instance, where migratory birds from Asia and Europe come together.'

The time bomb keeps ticking?

'There is no sign of any improvement in the situation in Southeast Asia for now. That is worrying. It shows the world has not learned from the SARS and Covid

pandemics and there could easily be a new zoonosis. The only thing we can do in the Netherlands is to take biosecurity measures and try and keep the bird flu virus away from the poultry farms. Fortunately we are relatively good at this: the Netherlands has had about 50 infected poultry farms so far, compared with 1400 in France.' ME



Zika and Mayaro vaccines being developed

Virologist Sandra Abbo got a distinction for her PhD research on the development of candidate vaccines for two tropical diseases that are on the rise. The viruses are transmitted by mosquitos.

In 2015 and 2016, the world was worried about an outbreak of the Zika virus, mainly in South American countries. Infection is particularly dangerous for pregnant women, as it can lead to severe microcephaly in the baby (small skull and brain). Numbers of infections are much lower at present, although the virus is still circulating in the tropics. There is no approved treatment or vaccine for the virus. So Abbo decided to

Two jabs gave good protection against the Mayaro virus and arthritis

develop a vaccine in her lab. She also came up with a vaccine for the Mayaro virus. That virus is found in Central and South America and can lead to persistent joint pain. Abbo developed vaccines based on virus-like particles. The exterior (envelop) is identical to that of the virus but the particle does not contain any genetic material. That means it is harmless but still causes a strong immune response.

Test with mice

Both vaccines were tested in mice by scientists in Australia. Two jabs of the Mayaro vaccine gave good protection against the virus and arthritis. The Zika vaccine did not work well, possibly because the protein on the virus envelop was not folded correctly. Abbo strengthened the links between the proteins and reduced the acidity of the bioreactor to change the folds. The tweaked design is now ready for a new test with mice. The Mayaro vaccine can be developed further for trials with human subjects. ss



Iron deficiency possible cause of depression in teenage girls

After puberty, depression is almost twice as common in girls as in boys. Arli Zarate Ortiz studied the relationship between diet and symptoms of depression in teenage girls in Mexico. 'Teenagers are an understudied group in health studies.'

With the onset of puberty, twice as many girls as boys suffer from depression. The start of menstruation coincides with the onset of depression symptoms, says Arli Zarate Ortiz, researcher at Human Nutrition and Health. Besides biology and social factors, nutrition can play an important role. Poor nutrition can cause not just over-

'Suicide is the second leading cause of death among adolescents in Mexico'

teenage girls showed that more than half of them scored as (very) probably depressed. Blood analyses among the group showed that girls with an iron deficiency were more likely to suffer from depression. She also found that more Mexican girls (13 per cent) than boys (7 per cent) suffered from anaemia, which may be explained by blood loss during menstua-

tion. In addition, girls who start menstruating early are more likely to be obese. The inflammation caused by obesity can also lead to iron deficiency.

Western diet

Obesity is usually accompanied by mild inflammation that affects the absorption of iron. 'In countries such as Mexico, the iron intake may be adequate, but the problem is absorption.' Zarate Ortiz analysed the dietary patterns of 7380 Mexican teenagers. Teenagers on a western diet were more likely to be overweight or obese and anaemic. Even a plant-based diet increased the risk of obesity.

Zarate Ortiz hopes that her thesis will start a conversation about teenage health (including mental and sexual health). 'I would like the taboo about it to end. Suicide is the second leading cause of death among adolescents in Mexico, but no one does anything about it.' ss



A Little Wiser

Fresh or tinned veg?

Fresh vegetables do not always contain more healthy nutrients than tinned ones. In fact, sometimes they contain less...

You might intuitively assume it's better to buy fresh vegetables, believing them to contain more vitamins and other healthy nutrients than tinned or bottled vegetables. But that is not true, says Matthijs Dekker, associate professor of Food Quality and Design. 'People might think that bottled vegetables contain all kinds of preservatives, but that is not the case. The method of preservation is the same as our grandparents used, namely heating them in sterile glass jars sealed with a rubber ring. No preservatives are involved.'

According to Dekker, the term 'fresh' is a rather elastic one. Vegetables are freshest when they have just come from the field. After harvesting, the nutritional value gradually decreases. Green beans, for example, already contain 30 per cent less vitamin C within three weeks. Vegetables in the fresh food section of the supermarket are sometimes weeks or months old. The green asparagus we eat at Christmas, for example, is shipped from Peru and takes weeks to arrive here.'

The freshest vegetables are those that are locally harvested, or even better, out of your own vegetable garden. If you want to eat an out-of-season product that has to come from far away, Dekker says it is better to get it in bottled or frozen form. These vegetables are usually canned or

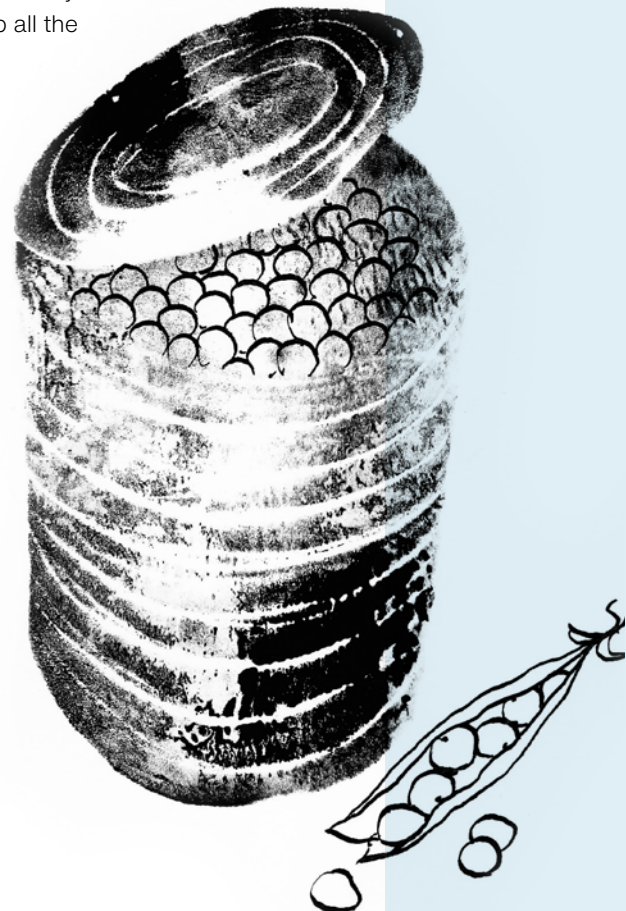
frozen straight after harvesting so that their nutrients are preserved. It also makes a difference how you then prepare the vegetables, says Dekker. 'When you boil vegetables, many water-soluble nutrients such as vitamin B and C leak into the water and you can unintentionally throw half the nutrients down the drain. The more water you use, the more you lose. Steaming is a better option, or roasting them briefly in the oven. But the best option is to stir-fry them in a wok. Only fat-soluble nutrients get into the oil, but you still eat them.' And raw vegetables are not healthier, according to Dekker, because they are hard to digest and you therefore don't absorb all the nutrients as well. TL

'Vegetables in the fresh food section of the supermarket are sometimes weeks or months old'

Matthijs Dekker, associate professor of Food Quality and Design

Every day we are bombarded with masses of sometimes contradictory information on pressing issues. In this feature, a WUR scientist gives you something to hold on to. What are the facts of the matter?

Illustration Marly Hendricks



Better fish feed with new calculation method

Researcher Phan Le Thien Thuat developed a method for making fish feed better suited to the species, with less protein waste.

Fish farms are using more and more different raw materials to feed fish, such as protein from peas, soya, insects, algae and offal (processed protein from chickens or pigs). The question is how you can determine the amount of energy in a diet made up of such diverse ingredients. Phan Le Thien Thuat, a researcher at Aquaculture & Fisheries, found that while the usual measurements say how much is digested

and absorbed in the bloodstream, that is not the same as the net utilizable energy — how much energy the fish can use for growth. The sector assumes a constant utilization value for all fish feed whereas the utilizable energy differs per digested macronutrient (protein, fat or carbohydrate).

Win-win-win

There needs to be a balance in the amount of protein and energy in fish feed for the fish to make best use of the protein. Too much protein or too little energy leads to more ammonia pollution in the water. Le

Thien Thuat calculated the net energy for digested protein, fat and carbohydrates for five fish species, including pangasius. The digestibility and energy efficiency differed per species. The new calculation method gave energy values for the pangasius that are 1 to 20 per cent more accurate, depending on the ingredients. The greater accuracy will let manufacturers produce more balanced feed products geared to the specific fish species. That is better for the fish, more cost effective for the farmer and reduces protein waste and environmental damage. ^{SS}

Revising nutrition guidelines can cut CO₂ emissions

National nutritional guidelines recommend a diet that is healthy for humans — but often less so for the planet. ‘Even when the guidelines do take account of sustainability, they often assume the farming system will not change,’ says Hannah van Zanten, associate professor of Farming Systems Ecology. She is co-author of a new study in the journal *Lancet Planetary Health*, which examines how the guidelines can be adapted to fit with a circular food supply system. ‘The current recommended intake of animal protein according to the guidelines is not feasible using circular food production. If we want that, we need a big reduction in the number of animal products in our diet, especially chicken, eggs, fish and pork.’ Incidentally, you don’t need to produce so much animal protein anyway according to Van Zanten. Her study shows that someone who sticks to the guidelines eats too much protein. Carbon emissions can be cut by up to a quarter by reducing the animal products in the guidelines and introducing circular agriculture principles in livestock farming. ^{SS}



Photo shutterstock.com

What does the garden dormouse need?

Since early May, 15 garden dormice in the Savelsbos woodland near Maastricht have been wearing collars fitted with small radio transmitters. In a study commissioned by the Dutch Mammal Society, Femke Warmer, an MSc student of Forestry and Nature Management, has been monitoring the animals closely.

‘The aim of the study is to get a fuller picture of where the garden dormice stay, what home range each individual has and what the habitat is there,’ Warmer explains. ‘At night I follow where they are active and what distances they

travel. We map out those places during the day. By linking these data, we obtain a picture of which habitat goes with which activity.’ With this research, the Dutch Mammal Society aims to figure out what is needed to better protect the garden dormouse, which is one of the most endangered mammals in the Netherlands. There are no more than 200 of them left in the Savelsbos and on the nearby Bemelerberg. Known in Dutch as the ‘acorn mouse’, this little creature belongs to a subgroup of rodents that hibernate in winter and are known as dormice. ^{RK}

Shit, I need the doctor

WUR's new iGEM team is developing a self-test for the early detection of bowel cancer.

iGEM is an international student competition for synthetic biology. The aim of the self-test is as a replacement for the current population screening programme for people aged 55 and over. 'The programme screens high-risk groups for the presence of blood in their faeces,' says spokesperson and Master's student Max Allewijn. 'Blood indicates a possible tumour. But by that stage the tumour is already quite advanced.'

The self-test developed by the students — mainly bio-

technologists and molecular life scientists — is much more sophisticated. It uses probiotic bacteria that are naturally present in the intestines. Allewijn: 'We modify the bacteria so that they detect biomarkers indicating early-stage bowel cancer. The bacteria then emit a colour signal that you can see with the naked eye.'

Coloured

To do this, the bacterium first needs to track down the cancer cells. As Allewijn explains, it uses its fimbriae:

'These are small tentacles on the outside of the bacterium that it uses to attach itself. We attach groups capable of recognizing cancer cells. The modified bacterium can then recognize two biomarkers for cancer.'

Those two biomarkers are an increased concentration of lactate and the protein MMP9. Allewijn: 'Both biomarkers need to be present before the bacterium emits a signal. That reduces the risk of false-positive test

results. If both are present, the bacterium produces a chromoprotein, a coloured protein, which then appears in the poo.'

If this setup works, there is still a long way to go before it can be applied in practice. 'It requires people to ingest a genetically modified product, which isn't allowed at the moment,' explains Allewijn. 'But if we take the first steps, perhaps it will be possible in 10 years' time. Developing a bacterium that can recognize cancer biomarkers could already be a significant advance for future diagnostic cancer tests.' FK



In other news science with a wink

◆ CANCER (1)

Cancer cells mainly spread at night. This surprising discovery was made by researchers at the University of Basel. While the patient is asleep, the tumour wakes up, according to a study of women with breast cancer. The cause is hormonal. Melatonin, the substance that governs our diurnal rhythm, is instrumental in waking up the tumour. The question is whether the patient staying awake stops the metastasis.

◆ CANCER (2)

The discovery of the diurnal rhythm of cancer metastasis is a good example of serendipity.

Scientists sometimes work odd hours. As a result, the blood samples for this research were not always collected at the same time. The difference corresponded to the varying numbers of cancer cells circulating in the blood. These fluctuations bothered the scientists. Until the penny dropped.

◆ MOTHS

Moths look dull, with their grey and brown colouring. That's true by daylight, but not under infra-red light, shows a study by the Swedish Lund University. To their fellow moths, they are just as colourful as butterflies. But we don't see that

with our daytime eyes. Which is good news for the moth, by the way: birds don't notice it by day. Shame for us, though. If only we could see (infra-)red.

◆ PLAGUE

The plague epidemic that wiped out a large part of the European population in the 14th century stemmed from Central Asia. The culprit was the bacterium *Yersinia pestis*, found in human remains in a grave in Kyrgyzstan. So claim scientists from the Max Planck Institute and elsewhere. This solves an ancient mystery. Based on the tombstone, we even know exactly when the disease broke out: 1338. FK

Many thanks

As a lecturer, you want your students' education to be fun, but also useful. You want it to be related to practice. To achieve that, it's good to go off campus with students or to bring the 'outside' world into the lecture halls.

For my course HNH-52306 Quantified Self: Monitoring Physiology and Behaviour, I recently organized one such 'outside world day'. First, the students were given a lecture about building apps by a real-life designer. Then, a Food Informatics researcher supervised a practical session in which students were allowed to build their own heart rate monitor. Then we walked from Orion to Plus Ultra II for a tour of the OnePlanet Research Centre,

'And as a thank you, they receive a travel expenses form to fill in'

this year, I invited a food journalist to tell Nutrition students how a story ends up in a newspaper. On the whole, the people I approach are happy to share their knowledge with students.

But a problem I come up against is that it can be hard to find a good way of thanking these guest speakers. As a university

where we were shown the latest sensor and health technologies they are developing there. Earlier



Guido Camps

employee, you want to encourage external lecturers to come and teach here, so you want to be a good host. Guest speakers have to make time for us, travel to the campus, and prepare a lecture. And as a thank you, they receive a travel expenses form to fill in.

With our new dialogue centre Omnia, we want to open up to other points of view. External speakers help us do that by introducing our students to the world outside the classroom from different angles. Let's thank these guest speakers properly for that. Let's invest, as WUR, in a nice thank-you package of local produce along with generous compensation. Let's do justice to our status: Wageningen, the best university in the Netherlands. For guest speakers too.

Guido Camps (38) is a vet and a researcher at Human Nutrition and OnePlanet. He also enjoys baking, beekeeping and unusual animals.

'Students and teachers must get out of the trenches and join forces'

RESITS UP FOR DISCUSSION

WUR has the most generous resit policy of all the Dutch universities. This seems noble, but it may come at the expense of educational quality, lecturers and students. After years of dissatisfaction it is time for action, think teachers in particular.

It has been a thorn in the flesh of many lecturers for years: rushing back to Wageningen in the middle of the summer holidays to run and grade resit exams. To make matters worse, some of the students who registered don't show up and many of those who do are poorly prepared.

But there are other sore points too, such as the possibility for students to resit as many times as they like, the fact that students are allowed to start a second course on a subject before they have passed the introductory course, and the fact that it does not matter how badly they failed to be allowed to resit. (At Utrecht University, for example, you have to get at least a four to be allowed a second chance. If you get a lower grade than that, you have to retake the course.)

Stress

Teachers and students agree that Wageningen's resit policy is flexible, says policy officer and member of the resit working group Jetske ten Caat. 'On the whole, students see this as a positive thing: they feel they are allowed to make mistakes, which reduces stress. But teachers tend to see it mainly as negative: setting and grading new exams increases their workload. Their frustration is

increased by the fact that some students do not prepare adequately, do not show up or register ten times for a resit.' The changes being proposed now (bringing forward the summer resits and limiting the number of resits, see page 4) are small steps in a complicated dossier, she says. 'We've been discussing this for many years, but it is a sensitive issue because the wishes and interests of students and lecturers are opposed to each other. That is why the situation has stayed more or less the same for a long time.'

Lecturers Julia Diederren (Food Chemistry) and Jenneke Heising (Food Quality and Design) had had enough after years of fruitless discussion. They wrote a call to action in which they state that the current resit policy adds significantly to teachers' already heavy workload and that it is

'WITHOUT RESTRICTIONS THERE IS NO INCENTIVE TO PASS A COURSE IN ONE GO'



Text Luuk Zegers

On 29 June, the Student Staff Council will discuss a proposed decision by the Executive Board (1) to bring the summer resits forward from August to July and (2) to limit the number of resits to three per (resit) period (see also page 4). Keep an eye on resource-online.nl for the latest developments.

unacceptable that nothing is being done about it. The aim of their appeal is to spur people in the decision-making process on to show the 'courage and determination' needed to change the policy. Heising: 'The resit policy is often presented as something in which students and lecturers are opposed to each other. And yet nobody really wants those resits: students would rather pass a course first time.' According to Heising, the current policy is not good for anyone. 'It encourages students to procrastinate. And by resitting later, the testing becomes disconnected from the teaching, as if it's only about the exam.' This jeopardizes the quality of the education as well, she adds. 'Teachers

want to use interactive methods, but if some of the students do not participate actively during the course because they can resit anyway, that affects the quality. Half-full lecture halls are not very motivating. And who suffers as a result? The students who do want to participate. What is more, with endless resits, there is a bigger chance of a student passing the course without really having an adequate knowledge about it.'

Out of the trenches

The system has to change, of that Heising is convinced. 'Students want a good education and a highly valued degree. Teachers want to provide that. And we want to guarantee the quality of education. In short: we all have the same goal, so we must get out of the trenches and join forces to figure out how we can best achieve it.'

MSc student of Food Safety Menno Kasteleijn is in the resit working group

too. He does not entirely agree that students do not experience any pressure. 'At present it may seem as though students like it this way, but they certainly do feel pressure to pass exams, if only financially. They also don't want to fall behind their fellow students.' According to Kasteleijn, the value of the degree is not at risk. 'If the exam system is solid and you pass, you show that you have mastered the subject matter. Even if it's your tenth resit, you prove your competence.'

But Kasteleijn does agree with Heising and Diederens's call for a broadening of the discussion. 'At present, discussion is too often about the number of resits, while everyone stands to gain from keeping the number of resits as low as possible.' He himself struggled with the Advanced Statistics course. 'After I failed for the second time, the teacher emailed me: 'Hey, it's not going so well. You know you can always come by and spend

an hour preparing together.' I passed the next time round. Giving a student a helping hand like that means extra work for teacher beforehand, but saves them work later when they are grading the exam. So that's another way of going about it.'

This broader discussion is happening, Ten Caat tells us. 'We are working on a new approach to examinations, in which we look at testing within WUR from a broad perspective. Jenneke Heising is helping think it through as well. There are many ways to deal with fails and resits, for example that students can graduate with a fail for one course as long as they compensate for it with high grades for other courses. If you get a five for one subject and eights for all the rest, that really doesn't make you less capable.' ■



What do you think of Wageningen's resit policies? Have your say at www.resource-online.nl



The way students in Wageningen are allowed to resit as many times as they want creates extra work pressure for teachers. 'But it also has a negative effect on students!' • Illustration Valerie Geelen

National bird (and film star) has it tough, but

'Godwit is not helpless'

Cameraman and ecologist Melchert Meijer zu Schlochtern followed the Dutch national bird closely, from Senegal to Iceland, for his new film *Grutto!*

His work is done. The footage has been shot, the editing is finished. Now there is hard work going on to get the sound right. But that is a separate department. So cameraman Melchert Meijer zu Schlochtern has time in his office in Plus Ultra, where his production company is located, to look back on the filming of *Grutto!* The film is the latest nature documentary by Ruben Smit Productions. Smit is a WUR alumnus who is involved in the film together with Wageningen scientists such as black-tailed godwit expert David Kleijn.

Grutto! fulfils a long-cherished wish to 'do something about field birds,' Meijer zu Schlochtern begins. 'Our meadow birds have not been thriving for decades. Their populations are declining by five per cent every year. That is fast. The black-tailed godwit is an iconic species for our country. Most of the world's population breeds here. *Grutto!* tells the story of an opportunist that has adapted to human agricultural systems over the centuries.'

Field bird by default

Let's start by shattering a few myths: the black-tailed godwit is not a meadow bird at all. At least, not historically. The primeval black-tailed godwit is a marsh-dwelling bird. 'We filmed the godwit in Estonia, where it still breeds in marshes. In the Netherlands, we have dug out such bogs and replaced them with meadows. As a result, the godwit has become a meadow bird here. In the mid-20th century, this process led to a population boom among black-tailed godwits. Until the agriculture here became too intensive. Exactly the same thing happened in the parts



Text Roelof Kleis

of Africa where the birds overwintered. There, the black-tailed godwit lived on the mudflats of the Casamance in southern Senegal. Now it forages in the rice fields at the edge of the mangrove forests.'

Not so Dutch

Another myth: the Dutch national bird is really an African bird. The black-tailed godwit spends most of the year in Africa. *Grutto!* is the story of its travels. Meijer zu Schlochtern: 'We start the story in Senegal. En route to the Netherlands we visit Spain, Portugal and northern France. Along the way, we tell the story of the primeval godwit in Estonia and there is a detour to take in the Icelandic godwit.'

Unlike in previous Ruben Smit films, humans play a major role in *Grutto!* 'Everywhere it goes, the godwit faces problems caused by humans and is dependent on farmers. That is the story we tell, without passing judgment. The farmer is caught between nature management and business management. He has to mow his fields at some point. The first mowing in spring yields high-protein grass. The rice farmers in Senegal would be glad to see the back of the godwits, because they eat all their sowing seed. They hate the bird. When we arrived there and told them we were going to film godwits, they asked, "Why

'Everywhere it goes, the black-tailed godwit faces problems caused by humans'



Camerman and ecologist Melchert Meijer zu Schlochtern shooting the film *Grutto!* • Own Photo

don't you keep them in the Netherlands?" They thought we had released the birds there! They try to chase them away, but it doesn't work. They said they even wanted to poison the birds. If that happens, it will be the end of the black-tailed godwit. But I can understand it. In a resilient system, a farmer can cope with birds eating his seeds. But with climate change, the rains are irregular, harvests are dwindling and the soil is becoming salinized. It is bizarre, really: such a green area and yet so fragile. We record all of that cinematically.'

Iceland

The Icelandic godwit's story is extraordinary. At the end of the winter, on their return journey, 'our' godwit and the Icelandic one meet in Portugal. 'The Icelandic bird is a subspecies that is slightly redder. It winters in Portugal. Nearly the entire European population, some 70,000 godwits, can be found in a few rice fields near Lisbon in early February.' No matter how bad things get for the black-tailed godwit in the Netherlands, the population down there remains stable. How is that possible? The

answer is that the Icelandic black-tailed godwit is doing well because of climate change. 'The growing season is longer, the population is increasing, and so more land is being farmed. The godwit, which used to breed only in south-west Iceland, is now found all over the country. So the same thing is happening there as here in the past. Peat bogs are being reclaimed and the black-tailed godwit seizes the opportunity that throws up.'

There is 'some hope' to be gleaned from this Iceland story, says Meijer zu Schlochtern. 'But it is sad as well. Nature is being sacrificed at the expense of the golden plover and the snipe. And in the end, it will also be at the expense of the godwit.' But he is still positive about the bird's chances. 'I think we will save the godwit eventually. It is good at adapting. Several initiatives by farmers and conservationists are working well. But they do cost energy and money.' ■



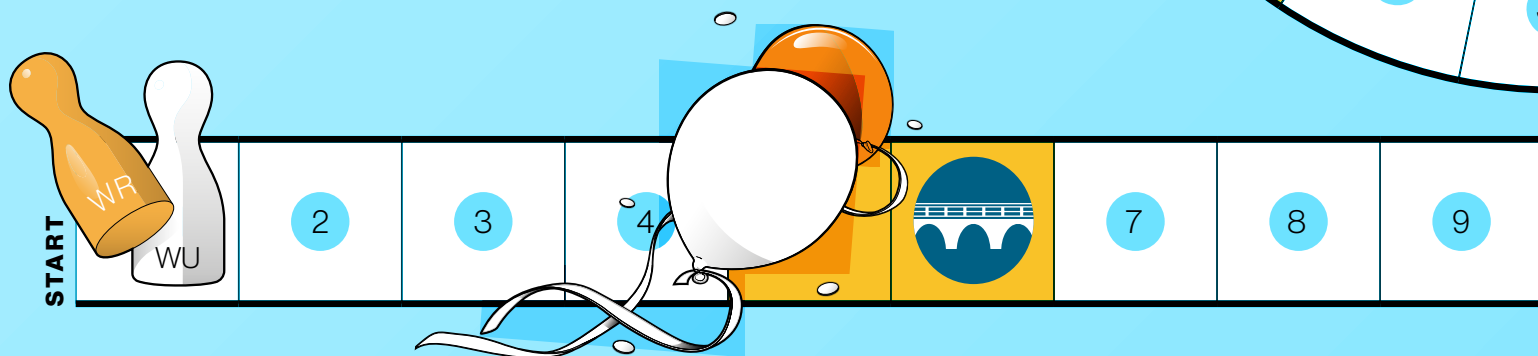
The film *Grutto!* will be shown in Pathé cinemas from 7 July.

University versus Research

CAO SNAKES & LADDERS

WUR's One Wageningen philosophy doesn't apply to labour conditions. More than two decades after WUR was formed, university (WU) and research (WR) staff still have separate collective labour agreements (CAO). And there are considerable differences between them. Maybe the best thing is to laugh about it. The results of the latest round of negotiations are integrated into this game.

Infographic Pixels&inkt • Text Roelof Kleis



Find a dice and move your counter along the CAOs.

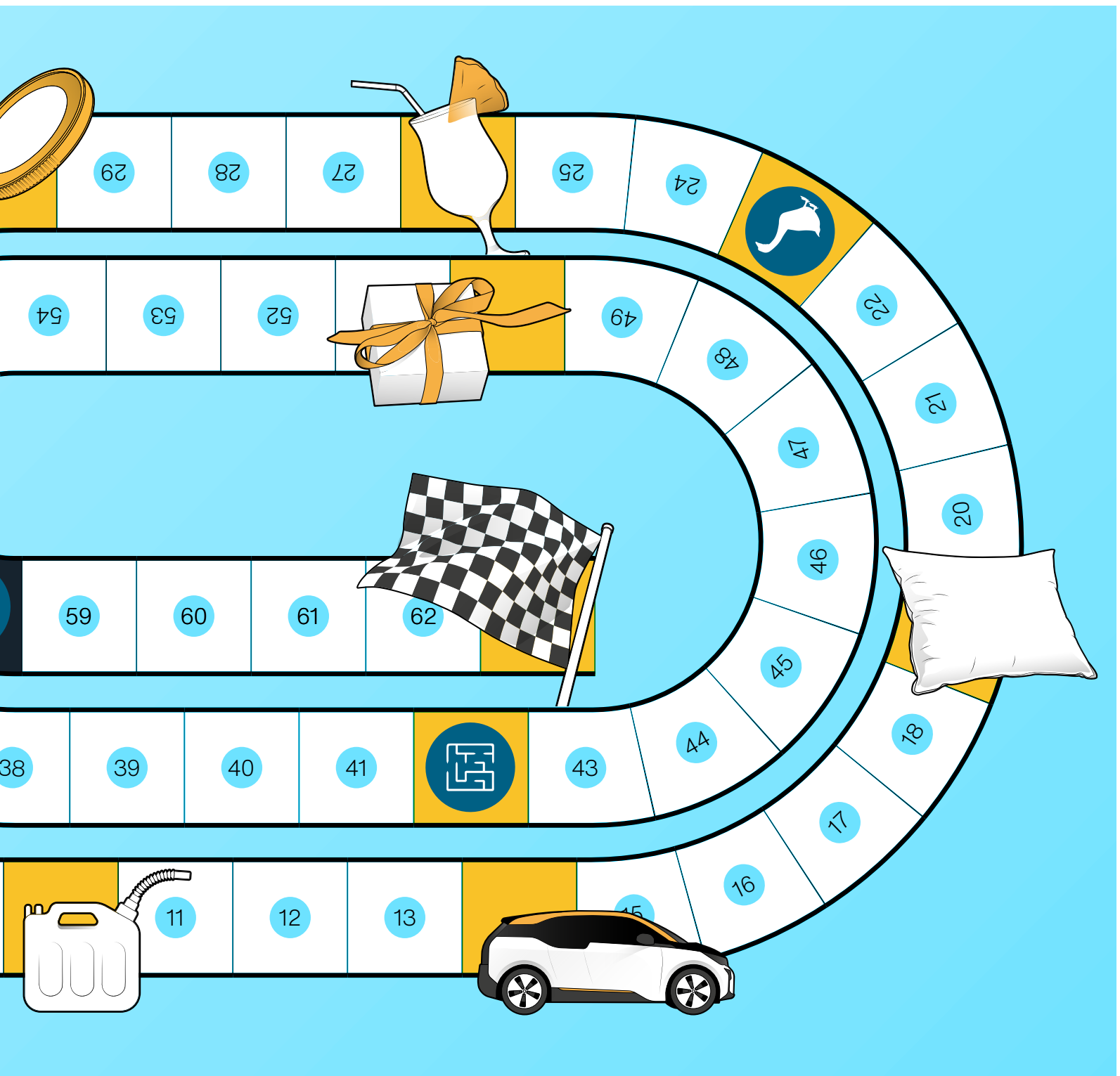
- 5** Liberation Day and Good Friday are days off at WU: go forward four spaces. WR: sorry, no day off: go back two spaces.
- 6** Bridge: advance to 12.
- 10** Travel expenses for commuting to work have been raised by 4 per cent to 12 cents/km (up to 30 km one way).

Due to the high fuel prices, everyone gets a one-off payment of 200 euros. Move on two spaces.

- 19** Hotel: skip a turn.
- 23** Goose: go back the same number of spaces.
- 26** The holidays! WU staff get 232 hours,

WR 171 hours. But WU still works 29 hours more per year than WR. That's because WU's working week is longer (38 rather than 36 hours). WU: move on four spaces. WR: go back two spaces.

- 30** You get a raise of 4 per cent and a one-off payment of 400 euros. Move on four spaces.



31 Hole: skip a turn.

36 Goose: go back the same number of spaces.

42 Maze: go back to 39.

50 The end-of-year bonus is in sight. WU's is 8.3 per cent; WR's is 4 per cent. WU: you've had enough luck

already – go back five spaces. WR: by way of consolation, move on three spaces.

57 Jail: skip two turns.

58 Death: go back to the start.

63 Finish: Congratulations! But wait for your colleagues. After all, we are One Wageningen.

Fresco's legacy

After eight years, the Louise Fresco era has come to an end. What has she meant for WUR as President of the Executive Board? *Resource* asked around on campus.

Text Willem Andrée and Roelof Kleis

At the start of her stint as President of the Executive Board, Louise Fresco said in our magazine that she did not want to be a director who focussed entirely on procedures. Her approach: 'The collaboration between the university and DLO (now Research, ed.) within WUR remains a brilliant idea. I wonder whether we can get more out of that cooperation. Can we make more use of DLO for student internships, and can DLO be more involved in lectures and universities?' She wanted to put societal issues on the agenda too. 'I think Wageningen must provide clarity about the intensification of agriculture. Upscaling is not a goal in itself and is not the same as intensification. We have to look for the best way to intensify. [...] Also, producing enough proteins for the growing world population remains a major point on the agenda and the biobased economy calls for new knowledge from Wageningen'. That was then. Have her objectives been achieved?

Simon Vink

Former spokesperson for the Executive Board

'You have to see it in the context of a series of Wageningen presidents. At the turn of the 21st century, Cees Veerman was appointed Chair of the Executive Board, when Wageningen was looking quite desolate. It was small and fragmented, and lacked self-confidence. Veerman turned it into a coherent whole in terms of governance. After that it needed a strong manager with a clear vision on how to make it a rational organization. That was Aalt Dijkhuizen. And after his period, what was needed was calm and confidence in the organization. And that has come mainly thanks

to Louise who – together with the Executive Board – restored a sense of connectedness and the focus on the substance of our work. It's hard to imagine a better series of leaders. Louise was a President with an overview of the full breadth of WUR's scientific domain: she could easily talk to fundamental scientists, sociologists and administrators. She also positioned WUR in a broader societal context. Take for example the way she managed to interest people in photosynthesis as a science that addresses social issues rather than a complicated biochemical process for the initiated.'

Pablo van Neste

Study advisor for the BSc in Forestry and Nature Management and former chair of the Farmers' Group

'I came to Wageningen because I read her book *Hamburgers in Paradise*. I thought she took a firm stand in it. And that firmness is her strength, because she challenges you to think about your standpoint. When she walks across the campus, she is like a celebrity. You are almost star-struck when you see her. But her policies and communication are a different story. Her views on agrotechnology and her position in the debate on organic agriculture are disappointing; she is pro crop protection products and pro big business, which sidelines part of WUR. And she hasn't done much to change the idea that WUR's task is to feed the world. I think we should get rid of that idea as soon as possible. She is also outspokenly critical of the idealistic worldview of dreamy, holistic students. And yet you can see from her books that she does investigate these kinds of thinking. You can read her train of thought, which I think is terrific. She has also brought major investors here and put Wageningen even more firmly on the global map. That has made WUR what it is today. My final verdict? Whatever the case, I am always impressed by people who bring about major changes.'



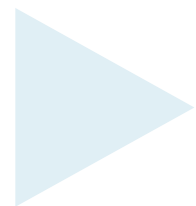
Dies Natalis 2017. Louise Fresco in the middle next to Job Cohen • Photo Jonne Seijdel

Lisa Becking

Associate professor in Aquaculture and Fisheries and a researcher at Wageningen Marine Research 'New ideas stem from both rational thought and associative thinking. The creative process of forming indirect associations requires us to be open to it. At our university, where much research is quite applied, it is easy to get stuck in a practical-minded tunnel vision. For this reason I appreciate the continued encouragement by Louise Fresco to look "out of the corner of your eye" at something that is literally or metaphorically at the edge of your field of vision, something you are not focused on, but which suddenly arises and puts your thinking on a different tack. In the overly full academic life of scientists on campus it is not easy to allow time for these intellectual digressions. All the more important for a university president to give the message: it's ok, indulge in things that are of no immediate use. Art will give a surprising new perspective on a subject you thought you already knew well.'

'She did little to change the idea that WUR should feed the world'

'I learned from her that anything is possible for a woman'



Maria Forlenza

Associate professor in the Cell Biology and Immunology chair group

‘When I think of Louise Fresco, I think of her often-repeated messages that “universities should serve society” and “because we are supported by society’s money, we have to work on what society deems important”. On the one hand, I totally agree that we should be accountable to society for what we do with its money. On the other hand, statements like these make universities lose their primary identity and purpose: to generate and teach knowledge and to discover the potential of nature. Universities should not work on commission. I still think of the university as a rock in a flowing river our turbulent society that does not let itself be swayed by the latest “trends”. In the past few years, I felt that our director was better at representing a large part of our university, which does, indeed, focus on top research with fast impact, than at representing a smaller, yet significant portion of our university that is working on fundamental issues in nature with potentially no predictable short- or longer-term societal impact.’

Cees Buisman

Professor of Biological Recycling Technology

‘Louise Fresco has lent grandeur to WUR. When I started as a professor in Wageningen in 2003, things weren’t going very well here. We had barely 400 first-year students, and we had an inferiority complex. Then along came the new rector Martin Kropff and he said: “Come on, we are the largest knowledge institution in the Netherlands, bigger than TNO”. He shook things up and we started winning Spinoza awards. Suddenly we were a serious player. Fresco has added international importance to that, through her personality and

profile and the organizations she is involved in. She has raised WUR to a higher level. Fresco is a brand of her own and she was WUR President as well. Those are two separate things, but she did connect her personality with Wageningen. In terms of the direction, she has focused more on Food and Agri than her predecessors. Do I, as an environmentalist, feel disadvantaged by this? Fortunately, our rector Arthur Mol is an environmental professor. Louise’s strength is that she always stays friendly; picking a fight is a bad form of dialogue. She sets an example.’

‘She has positioned WUR in a broader societal context’



Louise Fresco in 2013 • Photo Bart de Gouw

Jan den Ouden

Forest Ecology and Management

'I had expected Louise Fresco to usher in the winds of change. But I didn't notice anything like that. There's been no change and not much internal communication.

At least her predecessor Aalt Dijkhuizen used to come and talk to us about the issues at stake. She has never visited us. I especially missed any apparent interest in the problems in the workplace. Things like the pressure of work and the large influx of students. I had expected Fresco to be more open to other forms of agriculture, but she mainly advocates intensive forms of agriculture. That is a missed opportunity. Wageningen is still associated with the current problems in agriculture. I have also been disappointed in her decisiveness. Sustainability is a high priority for

'I missed any apparent interest in problems in the workplace'

WUR, and in her columns in *NRC* (a newspaper, ed.) she wrote about the behavioural changes needed for a sustainable future. When I emailed her suggesting we apply this at WUR, and questioned the way we take travelling around the world for granted, I was sent packing. A few weeks later, in her column, she criticized people who make excuses to avoid acting sustainably.

I responded to that again: how relevant to WUR. And once again, I was rebuffed. In the current climate crisis, Wageningen should be leading the way in behavioural change. But she just didn't want to go there, and that has been a disappointment to me. I hope the new President will do better.'

Renee Rooijackers

Student assistant at Environmental Systems Analysis and former member of the Student Council

'At meetings with the Executive Board that I attended on behalf of the Student Council, I saw how she listened and kept things on track. After a heated discussion she was positive and encouraging. "Thank you for being so committed," she would say. Then you'd be outside again without a conclusion, but you'd still think: that was a good conversation, ha ha. Indirectly, I learned things from her at those moments. To persevere and to probe. I also learned from her that anything is possible for a woman. If you consider when she started her career: it was a world dominated by men. She had an ideal and she went for it. During the lecture tour in Omnia, she said, "Don't be a victim of your choices". You can always change directions and life is not a straight uphill road. In terms of WUR, apart from things like the building of Omnia and attracting investors, I think the big thing she's done has been to facilitate entrepreneurship, including for students. The message is: you don't always have to work for a big company, you can do it yourself based on your own ideals and ambitions.'

Jelle Behagel

Chair of WUR Council

'Louise Fresco is good at letting you know that what you do is valuable. She is respectful, which I really like. Internally she has created a much more relaxed and open working atmosphere. There is always room for dialogue and conversation. That is a big difference from her predecessor. Externally, she has clearly strengthened WUR's international reputation. She puts a strong emphasis on cooperation with industry and she has attracted a lot of companies to the campus. Some people think that has compromised our integrity. I think it's more a question of reputation. Fresco believes that you bring about societal change through innovation in business. I think the role of government, civil society organizations and citizens is a lot more important than she does. You have to see her job on the side as a commissioner at Syngenta in that light too. But it would have been better if she hadn't taken that job. For many students and staff members, it implies that you don't think their ideas are very important. I think and hope that in the next eight years the focus will be more on the societal side of things. Her successor Sjoukje Heimovaara also wants to make room for NGOs and other organizations on the campus.' ■

Archipelago best place to study changes caused by warming

SPITSBERGEN REVISITED

While most of us are basking in the sun, seven WUR researchers are opting for the cold of Spitsbergen. Not as tourists, but to work there and see what impact climate change has.

Text Roelof Kleis

Spitsbergen sounds cold. But it is not too bad. When Expedition Spitsbergen starts in two weeks' time (13-22 July), the temperature will be about seven degrees Celsius. 'The average summer temperature on Spitsbergen right now,' says polar researcher Martine van den Heuvel. She coordinates the Wageningen contribution to what is officially called the SEES expedition. SEES stands for Scientific Expedition Edgeøya Spitsbergen.

Cold or not, the fact is that Spitsbergen is one of the best places in the world to observe climate change. 'It's warming up incredibly fast there. Particularly on

the northwest side of the archipelago, where the water temperature has risen by several degrees. The warming in the polar region has already reached three to four degrees.' One way you can see this is the speed at which the sea ice melts in the spring. Because the ice is thinner than it used to be, it melts away faster and the islands are surrounded by water much earlier than they used to be.

Observing the changes caused by the global warming is the goal of Expedition Spitsbergen. This is largely a repeat exercise, actually. A similar expedition took place in 2015, and Van den Heuvel was on that one too. 'A number of the 50 researchers from that expedition are on board again now. Some of the research will be repeated and expanded, and some of it will be new. But it is precisely the repeated research that is super interesting, because you can compare the results with those of 2015 and of the 1970s and 1980s.'

Cold and warm

The focal point of the trip is the coast off Kapp Lee on the island of Edgeøya on the southeast side of the Spitsbergen archipelago (see map). Van den Heuvel: 'I am going to do a basic survey there of what lives in the water along the coast, focussing on the dominant species in the water and on the seabed. After the expedition, I will do the same in Ny Ålesund in the northwest of Spitsbergen. I want to compare these two places because on the west side of Spitsbergen, the Atlantic Gulf Stream is pushing further and further north. So that area is getting warmer. The south-eastern side mainly gets currents from the Arctic Ocean, keeping the east side colder than the west side. By comparing the two sides, you can see what impact climate



The route the *Ortelius* will take. ©Oceanwide Expeditions



The *Ortelius* at Kapp Lee, Svalbard, during the 2015 expedition • Photo Martine van den Heuvel

change is having there.’

Van den Heuvel’s study is one of many. SEES aims at diversity, to record the many changes and see how they are linked. ‘My colleague Sophie Brasseur focuses on what walrus eat. She is going to study that using DNA techniques to examine their faeces for dietary residues. We can then link that to my analysis of what lives along the coast. Joep de Leeuw is doing the same thing with bird droppings’. In addition to dietary research on various species, the WUR researchers focus on counts of seabirds and animals, mercury pollution in the soil and grass, and the interaction between researchers and tourists.

Tourists

This last aspect of the study is new. Besides the 50 scientists, there are the same number of tourists on board. They are not only there to experience the trip of a lifetime, but also to help out. Social scientist Nathalie Steins will study this cooperation. ‘Of course, they are not your average tourists,’ Van den Heuvel explains. ‘They are interested in research and often their own background is in something nature-related.’

The expedition will take 10 days and will start in Longyearbyen, the capital of Spitsbergen. The ship *Ortelius* is already there, with 87 crates of research material on board. In theory, the route has been decided. ‘But on Spitsbergen you never know if it will all go to plan,’ says Van den Heuvel, speaking from experience. ‘The weather, the wind and the sea ice can upend your

‘On the northwest side of the archipelago, the water temperature has risen by several degrees’

plans. And the presence of polar bears, of course.’ At most, the polar explorers will see these iconic animals in the distance from the safety of the ship. Security measures are strict. ‘We are on board most of the time: the ship is not just where we sleep, but also our base. You go ashore in zodiacs, small inflatable boats. That too is surrounded by many safety measures. The guides on board have to follow an extensive procedure before mooring the boat to make sure that there are no polar bears around.’

The seven WUR researchers going to Spitsbergen are Martine van den Heuvel, Hans Verdaat, Nathalie Steins, Susanne Kühn, Joep de Leeuw, Sophie Brasseur and Nico van den Brink. Further information can be found on the SEES website (www.sees.nl/2022). The WUR participants write blogs about their activities, which will be reported on by the Dutch television news channel NOS, among others. ■

Four uncertainties

ON WORLD HUNGER AND CRISPR - CAS PATENTS

At the opening of the academic year, Louise Fresco announced that WUR is going to make five CRISPR-Cas patents available free of charge to NGOs that seek to improve the world's food supply. Master's student Sophie van Wijk (Biotechnology, Communication) spotted a nice subject for her thesis: what will it take to make a success of this good intention? She shares her findings in *Resource*.

Text Sophie van Wijk

How will you solve world hunger by releasing CRISPR-Cas patents? You won't, is the short answer. World hunger is not a technological problem, emphasizes one of the experts from the non-profit organizations (NGOs)* that I consulted for my thesis: it is a political problem. A non-technological problem like this is not necessarily solved with a technological solution such as gene editing. He does however see promising scope for improving food security by using the released patents to develop disease-resistant or climate-resistant crops. But the road between the release of the patents and the moment that small-scale farmers can sow a disease-resistant maize variety is long and beset with uncertainties. These are the four

* Including IRRI (International Rice Research Institute), CGIAR and The International Maize and Wheat Improvement Center CIMMYT.

The context

Bob Mulder, assistant professor of Strategic Communication, gave Van Wijk's thesis an 8.5. 'To have any real impact, a technology has to be applied. Sometimes scientists think - or hope - that once a technology has been developed, application will take care of itself: "Just release the patent and you're done". Fortunately, many Wageningen scientists, including students like Sophie, realize that the use of technology is down to people. Her thesis is a strong example of research into stakeholders' perceptions of the opportunities and barriers involved in actually using CRISPR-Cas to increase food security'. ME

most important ones I have identified after discussions with NGO experts, WUR actors and external experts in the field of patents:

Uncertainty 1: the scope of the released patents

What does it actually mean that WUR wants to release the CRISPR-Cas patents for non-commercial purposes? The instigators of this move do not appear to have defined this precisely in advance. It is by no means certain that small-scale farmers will be the main beneficiaries of the free WUR patents rather than the NGOs that develop a crop with them or commercial players such as seed distributors. One of the external advisors pointed out to me that there always has to be a commercialization stage at some point

in the process to scale up enough to achieve the intended goal. The NGO experts I interviewed also thought it wasn't clear what the scope of the release of the CRISPR-Cas patents would be. Normally, a patent holder and the (future) licensee enter into a clear licensing agreement or contract. This WUR initiative lacks this kind of clarity. Are we talking about an agreement whereby the NGO does not have to pay for the patents, but may only use the technology for research purposes? Licence agreements like this already exist for CRISPR-Cas, for

example at the Broad Institute. Or is it a licence agreement that gives an NGO total freedom to develop an end product without having to pay for the patents? The usefulness of the released patents depends largely on the answer to these questions. After all, the impact of research alone is much more limited than that of a ready-made end product such as seed.

Uncertainty 2: the small print

One of the NGO experts mentioned that there would almost certainly be conditions attached to the licence agreement with regard to the management of the product developed with the patents, the protection of WUR's name (with respect to what is done with the product once it is commercialized, for example), and measures to prevent misuse. Depending on the precise details of these

conditions, meeting them may be quite costly. Given the often limited budgets of NGOs working in the public sector, a licence agreement that is free of charge could still be beyond their financial reach.

Uncertainty 3: legislation and regulations

Fresco mentioned low- and middle-income countries as the beneficiaries of the released patents. But many countries still have little or no legislation and regulations for genetically modified organisms. Such a legal framework has a big impact on the costs of developing genetically modified crops (GM crops) and therefore on the question of how feasible it is to start doing this in a country.

The interviewees also mentioned the

influence of Europe as an economic bloc as an important factor in the development of GM crops. The European legislation on GM crops is extremely strict and focusses mainly on risk limitation. If other countries were to adopt this legislation, it would make developing GM crops a lot more expensive. And then there's the role of export interests. A country could choose not to grow GM crops if they would be barred from exporting them to Europe.

Uncertainty 4: acceptance of GM crops

Acceptance is a crucial factor. If farmers do not want to grow GM crops and consumers do not want to buy them, WUR's mission will not succeed. Views on how to achieve acceptance differ among the interviewees. Some see it as primarily a matter of explaining clearly that GM crops are safe; others stress the importance of public participation, so stakeholders are involved from an early stage and their needs are addressed in product development. ■



Can giving away five CRISPR-Cas patents for free help solve the world food problem? The photo shows a child in Somalia, which is currently threatened by famine due to drought and other factors • Photo Amors photos / Shutterstock.com

Science communication according to Simon Clark

The man with 429,000 followers

Communicating about science is at least as important as doing it. YouTuber Simon Clark (SimonOxfPhys, 429,000 subscribers) has made it his mission. He was in Wageningen to film last week, and *Resource* asked him for some tips.



Text Coretta Jongeling

What's your drive in making videos?

'There are two reasons I make videos. Firstly, I try to make the content that I wish was out there for other people to see. I hope my videos will make people take the climate crisis seriously and improve their scientific literacy. I want people to feel a connection with science and enjoy hearing about it. So it's about videos that make a positive social contribution. The second reason is much more selfish: because I find it fun! I get real enjoyment from teaching and from the film-making process.'

How do you become a YouTuber?

'I made my first video 12 years ago, to give students tips on how to get admitted to the universities of Oxford

and Cambridge. I received a lot of questions in response to that video and I decided to make a few more to answer them. Shortly after that, my college was looking for someone to make videos about student life. I bluffed my way into the job, saying that I had a lot of experience of making films. Then I had my work cut out to learn how you actually do so.

I enjoyed doing it and the videos got a lot of viewers. I carried on making films when I started a PhD after my Master's. At first it was mainly personal vlogs on topics like a week in the life of a PhD student. Then I gradually started to talk more about research and the content became more scientific.

At the end of my PhD, I had about 70,000 subscribers. I was faced with a

choice: should I continue in research, or try to make a living out of making videos? I decided I had to give it a go. It was a gamble and it worked out well.'

How do you make a good video?

'The most important thing is to make it a story. Get your viewers on board. Fortunately, there are lots of books, films and documentaries to get inspiration from. And you learn at least as much from the bad examples as from the good ones. Think about what you want your audience to learn from each video. Also think about exactly who your audience is. Then choose the format that suits them the best: a vlog, an explainer video or a live stream. Then think about how to structure your story logically. One of my rules is: the

Clark was on the Wageningen campus to make a video about PhD student Francesco Garrasino's research. Garrasino studies the plant *Hirschfeldia incana*, or grey mustard, which is extremely efficient in its photosynthesis. Garrasino wants to know why this is so and whether this characteristic can be used to make other food crops grow more efficiently, for example in dry areas. The video about this can be seen from mid-July on the YouTube channel SimonOxfPhys.



The Biggest Error in The Day After Tomorrow Tomorrow

48K views • 3 weeks



Where do these words come from?

20K views • 2 months ago



The rotten core of the new IPCC report

60K views • 2 months ago



How to sue climate change (and win!) with @legalEagle

24K views • 2 months ago



Why the sixth mass extinction is here. NOW.

47K views • 3 months ago



How the Tongan shockwave caused a tsunami

129K views • 5 months ago

Simon Clark: 'The key things are a good thumbnail on social media and a title that people want to click on.'

successive pieces of your story should always be linked with “so” or “but”. If you use “and then” too often, you’ll sound like a toddler.’

How did you get 1.5 million views?

‘Sheer luck. It really is 90 per cent luck and 10 per cent other factors. The key things are a good thumbnail on social media (see illustration, ed.) and a title that people want to click on. You can make a great video but if you give it a bad title, nobody will click on it. That is my big frustration. I wish there was a better correlation between the quality of a video and how often it is viewed. Of course, you need people to keep watching after they click, so the content does matter. But the starting point is pure marketing.’

How do you get started with science communication?

‘Just start! Nearly everyone has social media accounts. Start there by occasionally talking about your research, your department or your university. Your social media – where you also post about a reality show or

that terrible football match – are just the right place to talk about research, because it makes science human. And also: make mistakes. Experiment! You can only become successful by failing a lot.’

How do you make money?

‘I work with an agency for education YouTubers. They look for companies to sponsor my films. I also earn from the videos through the ads that Google places on them.’

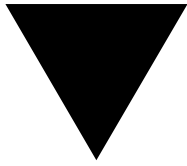
‘You can only become successful by failing a lot’

‘The most important thing is to make it a story’

And I get some income from Patreon, where users pay for unique content, and Twitch, where I make streams on things like programming and scientific papers. I give advice to other YouTubers and I make some money from my book. So it’s a question of betting on several different horses.’

How do you deal with negative comments?

‘The comment section is quite a sewer, yes. But YouTube has good moderator tools, which allow you to hide comments based on certain words. The person who posted it doesn’t notice. I block people who are repeatedly crude. By the way, I do enjoy answering questions from viewers, so I always look at the comments. But if I were to read them all ... that really isn’t good for you.’ ■



Key people: Raymond Kraaijenzang

Everyone on the campus is indispensable, but not everyone is in the spotlight or gets much of the credit for all the hard (team) work that goes on. *Resource* has been putting these colleagues in the limelight over the past two years in the Key People series. In this final edition, meet Raymond Kraaijenzang (51), the handyman at Nexus, Actio, De Bongerd, the Clock Building and De Valk.

Text Milou van der Horst • Photo Guy Ackermans

‘When I get asked if I can fix something, I usually say yes. I can see how things are put together, from bicycles to video calling equipment. I have nimble fingers that I have used to replace hundreds of things like tap washers. The most unpleasant job is unblocking toilets, but it's all part of a day's work. And when I'm cleaning up the grounds with my leaf blower, I am happy again. I start the day with a tour of the campus in my own van, refilling the photocopiers, putting post in pigeon holes and repairing anything I see that needs it. Then I plan the rest of my day around the repair requests in the Planon system.

‘I always work on my own and I love that’

I always work on my own. I am also the only one doing this job at the university, and I love that. If I have to work with others, I make sure I have my own task. This is the first job I've had in which I can work independently. I used to be supervised all the time, and I had to meet targets – not my thing. I'm proud of what I do, but I would like more appreciation in the form of salary; I'm almost on the lowest salary scale. To get one higher, I have to take courses, but I have never been good at studying and taking exams, which was why I went to a special school. I hope that other people will see how much I have done in my 22 years of working at WUR - and that I am always considerate, take time to talk to people, have a good sense of humour

and am cheerful with clients. Who knows, maybe there's a chance of going up a scale. I've had several different jobs at WUR. First I became a cleaner in the technical areas, through a temping agency. After 18 months of that I became a handyman on the campus with my own van. I could see myself doing that until I retired, but when they had to make cuts, I was made redundant because they only wanted to keep qualified people. Through my old boss, I then became a caretaker at De Dreijen and in Orion, but those university buildings were too busy for me. Fortunately, the same sort of job I'd been doing became available and I have been doing this for five years now. I'll keep on doing it until I retire, I really enjoy it.'





Campus ♦ residents

Vaccination centre

Those who will be travelling to faraway places this summer can get their vaccinations on campus. The Vaccination Centre is located between Campus Plaza and Plus Ultra, next door to the childcare centre.

The clientele consists largely of students and university staff. The centre has had a connection with the campus for a long time. Its founder Marchel Ratering worked as assistant to the then

'Besides vaccinations, the centre gives advice, especially on 'hygiene, bugs and sex'

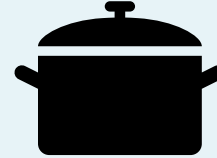
Student Doctor for almost 20 years before setting up the Vaccination Centre first at Duivendaal, later in the Nexus building and since January 2018 at the current location.

Anyone can go to the centre, by appointment, to fill their

'yellow booklet' with every conceivable vaccination. You can also obtain malaria prophylaxis there, as well as good advice. According to the centre's nurse Sharona Erol, this advice focuses on 'hygiene, bugs and sex', the three main sources of illness when travelling. Hygiene is all about food and drink, bugs include mosquitoes, ticks and parasites, and when it comes to sex, *Resource* doesn't need to explain anything, right? Keep it safe, even in this post-Covid summer of love! Speaking of which, the Covid pandemic has had quite an impact on the world of travel and therefore on the Vaccination Centre's business. For a Covid vaccination you have to go to the GGD, but for an antigen test, PCR test or recovery statement you can go to the Vaccination Centre. It's welcome business, after all those Covid months when you couldn't earn a cent from travel vaccinations. But we're all on the move again now. Happy holidays, everyone! ME

This is the last episode of this Campus Residents feature. Over the past two years we have introduced you to companies located on campus.

You can find all the flavours of the world in the WUR community. Marc Daniel, an MSc student of Forest and Nature Conservation from Lebanon, shares a recipe for tabouleh.



Flavours of WUR

Tabouleh

'Tabouleh is a refreshing salad and can be eaten as a main or a side dish. Every Lebanese has their own version of this dish. I am still honing my own recipe. This version is most similar to the way my mother always makes it – and she makes the best tabouleh. In second place is the tabouleh that my half-Lebanese hairdresser in Wageningen makes. At home, we serve this with lettuce leaves in which you can roll up the tabouleh like a little wrap. *Sahtein!*

- 1 Mix the olive oil and lemon juice and add the bulgur. Leave this mixture to stand.
- 2 Remove the seeds from the tomatoes and cut the tomatoes into small cubes. Add salt and pepper.
- 3 Chop the parsley, spring onions and white onion as finely as possible.
- 4 Mix the bulgur mixture with the rest of the ingredients. Add extra olive oil or lemon juice to taste.

Ingredients (for 2 persons)

- 100g fine bulgur
- 150 ml extra virgin olive oil
- 6 tbsp freshly squeezed lemon juice
- 50g flat leaf parsley
- 3 tomatoes
- 2 spring onions
- 1 white onion



Marc Daniel
MSc student of Forest and Nature Conservation from Lebanon



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



UNIQUE houses

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

Coretta: 'Now we are in the town centre, but once this was the edge of Wageningen with a view "over the Eng", hence the name. It was built in 1852 by a rich tobacco farmer.' **Marta:** 'That is why we still love it! Fun fact: Over-Engh has its own Wikipedia page.' **Coretta:** 'The roof was shot to pieces in World War II. You can still see the bullet holes in the attic.' **Geert:** 'It's been a shared house since the 1970s. In the stairwell you can photos of ex-residents, going back to the days of black-and-white. My colleagues in Amsterdam think I live in a commune, haha.' **Marta:** 'Maybe it was like that in the 70s. There was a fairtrade craft shop, and it was a merry bunch of lefties and anarchists.' **Geert:** 'Just like you!' **Marta:** 'It really is, we're organized here!'

Femke: 'We eat together regularly and there's always coffee in the morning; the loud coffee maker wakes everyone up. Sound carries incredibly in this house, you can hear everything. We also organize odd-job days, to get things done in the house or in our huge garden, where Bob recently dug a pond.' **Geert:** 'Yes, thanks for all the mosquitoes, Bob...' **Bob:** 'Anything for biodiversity.' **Merel:** 'I'm a lecturer at WUR and Bob takes classes with me.' **Geert:** 'And Merel is my half-aunt. That's how it goes here.' **Coretta:** 'There's someone missing here, by the way: Chico, the most theatrical cat in Wageningen. He starts "singing" at five o'clock in the morning until he gets food, and he does it again in the afternoon.' (Everyone starts imitating Chico's operatic singing). **Bob:** 'And don't forget our hens and chicks, in the garden.' **Coretta:** 'We also throw parties regularly.'



Over-Engh

Residents :

Merel (teacher at WUR), Geert (WAIO), Bob (student), Femke (PhD student), Marta (alumnus and Science Shop assistant), Coretta (alumnus and Resource editor)

UNIQUE because :

the house is 170 years old and the residents are not all students (but do all have a WUR/Wageningen connection)

This year it was the Beastly Glitter Gala.'

Marta: 'We are so cool, haha.' **Coretta:** 'Speaking of which, in the winter it's so cold here that you feel like keeping your coat on.' **Merel:** 'We sometimes say we'll still be living here when we're grandparents...' WA



From the left: Femke, Bob, Marta, Merel, Coretta and Geert • Photo Guy Ackermans

WEEKLY UPDATES ON STUDENT LIFE AND WORKING AT WUR?

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Resource

WUR from within: straight, sharp, transparent



IN MEMORIAM

PAUL HEBINCK

It is with a very heavy heart that we have to announce that our beloved, recently retired colleague Paul Hebinck has passed away suddenly while on holiday in France. Paul was a colourful, committed and extremely collegial development sociologist who worked at Wageningen University from 1989 until his retirement in 2019. Specialized in rural development, land and agrarian reform, resource management and agricultural livelihoods, Paul was happiest doing long-term research in what he referred to as his 'dorpies' (local villages) in Kenya, Namibia and South Africa. His commitment to the

people he worked with, studied and supported was unwavering, akin to his commitment to his many students, colleagues and academic friends all over the world. Paul did not want to retire and was indeed still very active with publications and projects. Those who knew Paul understand that the world truly is a lot quieter without him. We will miss Paul dearly and our thoughts are with his wife, children, family and friends.

On behalf of the Sociology of Development and Change Group and the Rural Sociology Group, Prof. Bram Büscher, Prof. Han Wiskerke

Colophon

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

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Summer fun
'I won't be going home this summer. I hear that Wageningen is deserted during the holidays. What is there to do? How can I get through the summer?'

Zarina, PhD student



WUR summer programme

'We are organizing all kinds of activities especially for students like you who will be staying in Wageningen this summer. We offer a fun and interactive programme, set up by and for students. You will meet new people and get to know Wageningen better. We are still working on the programme but there will be activities like barbecues, sports events, beach visits and movie nights. To get an impression, I recommend you visit the website of the previous edition: wur.eu/Summer21.'

Lisa Nguyen, Diversity and Inclusion project leader

Come and help

'There is absolutely nothing to do in Wageningen in the summer. Unless you want to help out with our crop protection field trials ;)'

Jean-Marie, researcher in the Plant Sciences Group

Uiterwaarden

'This is only my first year in Wageningen, but in the summer I would definitely make the most of the nice weather. On a hot summer day, go to the floodplains – known as the 'uiterwaarden'. Put on some music, drink a cold beer, cool off in the river and enjoy the beautiful surroundings. You can enjoy the local countryside too. Go walking or cycling in the nature areas around Wageningen. Not a nature lover? From Wageningen you can be in Utrecht or Arnhem within an hour. Play the tourist in those cities for a day. There is enough to do there, even when the weather's not so good.'

Job van Wanroij, BSc student of Plant Sciences

Nature reserves

'I don't have any tips for activities in Wageningen, but I do have tips for activities in the Netherlands. We have beautiful areas and parks here that you could visit this summer. Take the Biesbosch, South Limburg and the Wadden Islands, for example. And just down the road from Wageningen is the Veluwe, of course. So there are enough options! These areas are easy to reach by car or public transport. Rent a bicycle or explore the areas on foot. That will definitely keep you busy for a while.'

Robert van de Ven, PhD candidate in Agricultural Business Technology

Treasure hunt

'It is true that Wageningen is a bit deserted in the summer. Yet there is plenty to do. Try to find all the town's "hidden gems" this summer. Visit the arboretum on the Wageningen 'mountain' and drop in at the free sculpture museum next door. Or make it your mission to find the best coffee in Wageningen. Or if you're not a coffee drinker, look for the best tea, sandwich or salad in town. This way you might discover new places in Wageningen where you can take your friends and colleagues after the summer.'

Marloes, a student of Nutrition and Health

NO WURRY

This was the last instalment of the noWURries feature. If you have questions, tips and advice, you can always visit resource-online.nl.

