

Wartime drama

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Microbiology

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RESOURCE **[EN]**

For everyone at Wageningen University & Research

no 6 – 2 November 2017 – 12th Volume


Tinka Murk

A passion for marine life | **p.12**



**INTERNATIONAL
EDITION**

POP IN THE FORUM

This horn player is playing her part at the Forum Dive pop concert, which attracted an audience of 400 on Saturday 28 October. Music Society OBK Bennekom took the initiative and asked student orchestra De Ontzetting and the Argo band to play too. 'We generally play classical music but we fancied a change,' explains Timo de Ruijscher, a player in the Bennekom orchestra and a PhD candidate with Hydrology and Quantitative Water Management. 'We want to play more pop and would like to attract more young people and more Wageningen locals. I reckon we achieved our goal.'  VK, photo: Guy Ackermans

Look at the photo series
on resource-online.nl

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'I am lucky in my powers of concentration'

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BUM-WATCHER

I normally don't pay much attention to news from Hollywood. The MeToo discussion also passed me by at first as I saw it as something typical of 'wannabe famous' circles. I now know better. When the stories from the Netherlands started to surface, I too realized that the world is not always how I would like it to be. I looked back on my own working life and started to ask myself why I didn't speak out on certain occasions. I thought of that director who started massaging a shy colleague's injured hand during a meeting. And the high-ranking co-worker who always turned round to get a better look at people's bums. Everyone called him the 'ass-watcher' as if that was a completely normal thing to do. Incidentally, this was before I joined WUR. But in this magazine, Professor Tinka Murk tells us inappropriate behaviour occurs here too (see p. 12). Sexist jokes and nude women on your office wall are obviously beyond the pale. But she doesn't want to come across as a whiner. And that is precisely the problem. I didn't see it and she doesn't want to whine. Let's put an end to this taboo and starting seeing it and saying something about it. With or without a hashtag.

Edwin van laar

>> [Craft beers contain more fungal toxins | p.9](#)

STUDENTS MUGGED ON THE CAMPUS

Two Wageningen students were victims of muggings on campus early in October. The police have no leads on the culprit(s) to date.

The two muggings took place between ten and eleven o'clock in the evening of Monday 9 October in the area of the Akkermaalsbos near the Mondriaanlaan. One of the two women was robbed of money at knife point. The other attempted mugging failed.

The police appealed for witnesses online, in the hope of collecting evidence about the guilty party or parties. Unfortunately, no one has come forward, says spokesperson Paul Koetsier of the East Netherlands police. Surveillance in the area has been intensified, but Koetsier says there have been no further incidents of this kind. Detective work has not turned up any leads.

WUR's security team has been patrolling more on campus during evening hours since the attack. Spokesperson Simon Vink: 'We feel responsible for security on campus, and we want to do everything we can to contribute to it'. Vink appeals to everyone to report anything suspicious they see, and any occasions on which they feel unsafe. 'And if something happens, call 112 and report it.' **TL, LvdN**

THREE MINISTERS FOR WUR

Wageningen University & Research will have to report to three ministries in The Hague when the new government comes into office. That could complicate the oversight of food and nature research.

In recent years, the ministry of Economic Affairs (EZ) has been responsible for funding Wageningen university and the research institutes. But two things will change for WUR with the new cabinet. First, education in agriculture and nature will be funded by the Ministry of Education, Culture and Science (OCW) rather than EZ. Second, a new ministry of Agriculture, Nature and Food Quality (LNV) will be set up. It will mainly be staffed by employees from EZ's current Agriculture and Nature department.

This means WUR will have to deal with three ministers: Carola Schouten (LNV) of ChristenUnie (a Christian party), Eric Wiebes (EZ) of VVD (a right-wing liberal party) and Ingrid van Engelshoven (OCW) of D66 (a liberal party).

The ministry of EZ is expected to remain responsible for part of the funding for Wageningen Research, including for the top sectors. The ministry is currently home to the Innovation and Knowledge department, which it will probably keep. But much of the money for the research institutes comes from the Agriculture and Nature Knowledge department, which will probably be moved to the new ministry of LNV.

Last week, Wageningen alumnus Harry Paul was appointed to separate out the new ministry of LNV from the ministry of EZ. The LNV civil servants will probably continue to share offices with



PHOTOS: NATIONAL GOVERNMENT

The three ministers WUR will be dealing with: Eric Wiebes (VVD), Carola Schouten (ChristenUnie) and Ingrid van Engelshoven (D66).

the EZ staff. Paul, who studied Phytopathology at Wageningen, was inspector-general at the Netherlands Food and Consumer Product Safety Authority until last year. Before that he held senior departmental positions at the former ministry of Agriculture, Nature and Fisheries before it merged with EZ. The intention is that the new ministry of LNV will be in place by next summer. **AS**



ILLUSTRATION: PAUL DE RUITER ARCHITECTS

A PEEK INTO THE FUTURE

Preparations have been going on for months. But on Friday 3 November, the official, festive starting shot will be fired for Unilever's Global Foods Innovation Centre on campus. With this artists' impression, Paul de Ruiter Architects' firm gives us a peek into the future. The imaginary photo has been taken from a vantage point above Orion. If all goes to plan, the new building will be ready by mid-2019, and will accommodate 550 employees. Note the two WEpods on the bus lane. The transport of the future. **RK**

AGREEMENT SIGNED WITH UAF

Wageningen University & Research and UAF, the foundation for refugee students, officially ratified their partnership this week. The university hopes to double the number of refugee students at Wageningen, from five to ten.

The UAF offers refugees with residency status support when studying in the Netherlands. UAF director Mardjan Seighali and rector Arthur Mol signed a covenant in which they undertake to intensify their collaboration. UAF and WUR have worked together in the past, but on a more ad hoc basis.

WUR has also become a member of the Scholars at Risk network. The organization

will make two positions a year available for threatened scientists. 'We are a small university but we are very international,' said Mol. 'Our students and staff sometimes visit countries where people cannot assume they will have the freedom to study. Quality of life is a priority issue for us. That's why we find it so important to give refugees a chance to continue working on their personal development over here.'

The WURth-while programme was also mentioned. This programme, which started this academic year, lets refugees without residency status take courses at WUR free of charge. Nine refugees without residency status are currently doing a course. **LvdN**

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Nostalgia

Ting! I jump to attention. The committee is processing solemnly into the hall. This is the first PhD ceremony I have attended since my own. The ceremony itself has little effect on me, but the setting does. I revisit my old life for a while. A brief reunion with former close friends I've been losing touch with, without meaning to. A nostalgic feeling creeps over me. It was always such fun, but it is gone for ever. Many of my friends have gone abroad. For a postdoc, or to return to their home countries. Berlin, China, the US, Catalonia. And I see less and less of the friends who are still around. Post-academic life is swallowing me up. All too often I don't even manage to reply to friendly Facebook messages from people from my former life (sorry), let alone managing to meet up for a beer.

Since I left the university world, I feel less connected with it too. Suddenly I am meeting lots of nice new people whose situation is more similar to mine now. And I connect with them faster.

I feel new in Wageningen. For the third time. The first time was as a student, the second as a PhD candidate, and now as... yes, what am I actually? Each time I have found myself in a different kind of town. And each time it turns out to be bursting with open, interesting and committed people with whom you quickly make friends. That is the charm of it. On the other hand, nothing lasts long. That is Wageningen. Everything is transitory here. **L**

Stijn van Gils (30) recently got his PhD for a study of ecosystem services in agriculture, and is now making the switch from science to journalism.



in brief

>> WILLEM DE VOS

Royal honour

Professor of Microbiology Willem de Vos received a royal honour on Friday 20 October. From now on, he can use the title Knight of the Order of the Dutch Lion. De Vos is one of the world's leading microbiologists, said Wageningen mayor Geert van Rumund in his speech at the honours ceremony. De Vos's H index is over 100, which means he has written more than 100 publications that have each been cited over 100 times. He won the Spinoza Prize and was pronounced the Netherlands' most enterprising researcher because he has more than 25 patents to his name and has launched numerous startups.

AS

Read too: *A century of Wageningen microbiology on page 20.*

>> NEW PROFESSORS

Meuwissen and Keesman

Wageningen University has gained two new personal professors: Miranda Meuwissen and Karel Keesman. Meuwissen was appointed personal professor of Business Economics from 1 October. She does research on decisionmaking and insurance against commercial risks in agriculture. Karel Keesman was appointed personal professor of Biobased Chemistry and Technology from 1 October. He makes mathematical models of such processes as wastewater flows or drinking water supplies in a city. **AS**



PHOTO: GUY ACKERMANS

>> STORY TELLING

Jessica Duncan

Teacher of the Year Jessica Duncan is looking for storytellers. So on 24 November she is organizing the Diversity Chronicles, an evening devoted to good stories. According to Duncan, everyone has a story to tell, so all are welcome, especially people who don't think their story is important. Duncan is funding this initiative with the money she received earlier this year for her election as Teacher of the Year. She hopes the evening will teach young scientists a bit about how to be a good storyteller, and start a dialogue about diversity on the campus. **LvdN**

BIOVETERINARY RESEARCH OPENS NEW BUILDING

On Tuesday, Wageningen Bioveterinary Research put on a party to celebrate the opening of its new premises in Lelystad. The new building will house 85 of the research institute's 250 employees. It has 30 labs, where they will conduct research on preventing, combatting and controlling infectious diseases in animals and humans.

The building's celebratory baptism starts with a guided tour. The visitors, clothed in plastic lab coats, shuffle along through the halls in groups of about ten. They admire the new equipment, such as the freezers that can cool objects to temperatures as low as -80 degrees Celsius. For guests unable to make the guided tour, a video clip was made showing a freerunner taking the same route, only at a somewhat faster pace and with

more backflips.

The message is clear: this new facility is fast and modern. 'The new building shows an institute that takes rapid, reliable and appropriate action using up-to-date facilities,' says Aldrik Gierveld, acting director-general of Agriculture and Nature at the ministry of Economic Affairs.

Ten million euros were invested to achieve this. That was necessary as the 35-year-old buildings and laboratories on Edelhertweg no longer met modern-day requirements. 'The new building will bring biomedical and veterinary research closer together,' says Ludo Hellebrekers, the director of Wageningen Bioveterinary Research. In his opinion, intensive collaboration between researchers working on humans and veterinary researchers is not just beneficial; it is essential. 'This One



PHOTO: TESSA LOUWERENS

In Bioveterinary Research's new building in Lelystad, visitors admire freezers that can cool objects to as low as -80 degrees Celsius.

Health approach is a chance to make serious progress. We will continue to work here on the health of humans and animals in a location that we are incredibly proud of.' TL

See the photo series at resource-online.nl

PLAY ABOUT STUDENTS IN WARTIME

In the middle of the Second World War students were required to sign a declaration of loyalty to the German occupying power. What would you have done: would you have signed? That is the question at the heart of the forthcoming big theatrical production *Getekend*, which WUR staff and students can get involved in.

The show will be staged in the Junushof theatre in Wageningen next May as part of WUR's centenary festivities. Most of the cast and the production team will be drawn from Wageningen students and staff. The production process kicked off in Impulse on Tuesday 31 October.

The declaration of loyalty that students were faced with in 1943 was not without consequences. Signing meant you could stay at university. Not signing meant being sent to a labour camp in Germany. The moral dilemma raised by the decision forms the central theme of the show.

The play will be written by Reinier Noordzij and directed by Albert van Aniel. This is a re-run for both of them, as they first wrote and produced the play two years ago for Delft University of Technology, where it was a great success. The plot is based on Onno Sinke's book

Loyaliteit in verdrukking (Loyalty under oppression), which is about Delft during the war. Noordzij and Van Aniel are now adapting the script to the Wageningen context.

'For example, students in Wageningen helped steal the population register from the town hall,' says Van Aniel. 'We'll definitely put that in.' 'There were quite a lot of students from the Dutch East Indies here,' adds Noordzij. 'That Wageningen local colour will get a mention.'

Getekend will be a production by and for students and staff. There is a core cast of four professional actors, but all the other parts will be played by students and staff. Van Aniel reckons to need 10 to 15 actors for speaking parts, and 10 and 20 for non-speaking parts. A backstage crew will be needed too. 'Casting is in January and everyone is welcome.'

Van Aniel describes the show as a play with musical backing – 'a kind of soundtrack'. For the music, the director is talking to the WUR big band Sound of Science. Students will also be carrying out tasks such as signposting, logistics and publicity. Initiator Studium Generale will set up a programme around the performances, including other drama and lectures.

The wartime declaration of loyalty did not



PHOTO: SARTIS & DEN ENGELSMAN

A scene from the Delft production of the play *Getekend* two years ago.

have the effect the occupying power intended it to have. In Wageningen only 154 out of 850 students signed it. 150 students were sent to labour camps and the rest disappeared from the town or went into hiding. RK

See the 100 years WUR dossier on resource-online.nl

PHD GRADUATIONS TO MOVE FROM AULA TO CAMPUS

The university wants to move a number of academic ceremonies such as graduations from the Aula in the town centre to a planned Dialogue Centre on the campus.

The Aula on the Generaal Foulkesweg dates back to 1935 and is a municipal monument. When the main auditorium is full, the building no longer meets fire safety standards, says Executive Board spokesperson Simon Vink. The Aula is also outdated because it doesn't have enough rooms or adequate catering facilities. 'We need more and better spaces.'

The new Dialogue Centre on the campus is intended to be a multifunctional building for meetings between students, teachers, entrepreneurs, politicians, executives and civil society organizations. A place, explains Vink, where the university and the other campus residents can hold debates, seminars and official functions, including academic ceremonies. The Aula cannot offer that at present.

It has not been decided whether the university will sell off the Aula. 'Perhaps it could be used for other purposes and maybe a few PhD defences and graduation ceremonies will still be held there,' says Vink. 'We need to think about that.'

It was announced in March this year that the Dutch government will put 1.6 million euros towards the Dialogue Centre on the cam-



PHOTO: SVEN MENSCHER

pus. One of the government's objectives is to stimulate the development of Wageningen Campus. It is not clear yet how much the new centre – to be located between Unilever's new

building and Atlas – will cost. The call to tender is in preparation. Vink doesn't know yet when the Dialogue Centre will be up and running. **AS**

building and Atlas – will cost. The call to tender is in preparation. Vink doesn't know yet when the Dialogue Centre will be up and running. **AS**

BEATING GERMANY

WUR celebrates its centenary next year. *Resource* has been digging through the archives for interesting photos. The only information on the back of this snapshot of partying people is a date – 21 June 1988 – and a result – Netherlands-Germany: 2-1. That tells most football fans enough. This was the semi-final of the European Cup in 1988, which ended so gloriously for the Netherlands. Our guess is the photo was taken outside the Poorthuis cafe on the Beuningstraat in Wageningen. Were you there? Or do you have a nice story to tell about another photo in the series 100 years of... laughter? Come along to the *Resource* office or send an email to vincent.koperdraat@wur.nl.

See the photo series
'100 years of... laughter'
on resource-online.nl



PHOTO: GUY ACKERMANS



TINY PARASITIC WASP KEEPS ITS BRAIN SMALL

Tiny parasitic wasps have smaller brains than larger members of their species, and yet they are equally smart. They manage this by making smaller brain cells, concludes Emma van der Woude in her thesis *The art of being small*.

Van der Woude's study builds on a remarkable discovery she made when working on her Master's thesis. Measurements of parasitic wasps then showed that these creatures do not abide by Haller's law, which states a relation in size between the brain and the body of an organism: the smaller the animal, the larger the brain in relative terms. The relation is exponential. But in the parasitic wasp *Trichogramma evanescens* the relation between body and brain size is linear, discovered Van der Woude. A parasitic wasp that is twice as small as another one has a brain twice as small too. Smaller than is theoretically possible. This makes sense in terms of energy, a lot of which is needed to maintain a brain. In her PhD research, Van der Woude delved deeper into this mystery.

At 0.3 to 0.9 millimetres in size, Trichogrammas are amongst the smallest creatures on earth. Their brains are 50 to 100 micrometres in size, and working on them is microsurgery. Van der Woude: 'You work under a microscope with sharp tweezers.' Her 'victims' came from a genetically identical line of sister wasps, bred so that their measurements would vary.

The most likely explanation for the relatively small brain volume of tiny parasitic wasps is that they have fewer brain cells. Van der Woude investigated that by studying the olfactory system in the brain, which processes



A *Trichogramma evanescens* sitting on the eye of the larger parasitic wasp *Nasonia vitripennis*.

PHOTO: JITTE GROOTHUIS

odours. She found that wasps of different sizes possess the same number of glomeruli, spherical structures for odour processing. It also turned out that larger and smaller wasps have the same quantities of the neurons which express neurotransmitters such as serotonin and dopamine. These neurons are smaller in small wasps, however.

So parasitic wasps seem to be in command of a trick with which they can adapt the size of their brain cells to their environment. And that does not happen at the expense of their ability to learn, showed tests in which wasps were taught to remember odours or colours.

Larger and smaller wasps learn equally fast, and remember what they have learned equally long. This is what Van der Woude calls the art of the parasitic wasp: 'Making brains smaller than you would expect according to Haller's law, without any loss to the complexity and learning capacity of the brain.'

But of course, this trick has its price. Smaller parasitic wasps have shorter lifespans, as was discovered back in the 1980s. Van der Woude assumes that the smaller cells of tiny Trichogrammas are less equipped to keep up with internal maintenance. **BRK**

ONLY ROOT CROPS BENEFIT FROM MORE ORGANIC MATERIAL

More organic material in the soil does not automatically lead to more fertile soil or higher yields. But farmers who grow root or tuber crops in dry sandy soil or heavy clay soil do benefit from more organic material. These conclusions can be found in Renske Hijbeek's PhD thesis.

The relationship between organic material and soil fertility is complex because soil biology and structure also play a role. Hijbeek analysed the results of 20 long-term experiments in several European countries. Organ-

ic fertilizer, compost, crop remains and green manure do not have a positive effect on crop yields on average.

However, the addition of organic material to dry sandy soil and heavy clay soil does improve the soil structure, says Hijbeek. In wet climates, the humus also increases yields. She finds a positive effect of 3 to 7 percent, depending on the conditions. She does not see that positive impact with cereal crops, only with root crops such as potatoes, sugar beets, onions and carrots. So in those cases it pays for farmers to invest in more organic material.

Hijbeek knows Dutch arable farmers take a positive view of organic material because of a survey among 435 farmers. Nine out of ten farmers want to increase the proportion of organic material. In clay soils, the organic material improves the soil structure and makes it easier to work, say the farmers, while in sandy soil the organic material captures more water. A negative aspect according to the farmers is that you get more weeds and pathogens on the plot as they are in the fertilizer and compost. **BRAS**

FUNGAL TOXINS MORE COMMON IN CRAFT BEER

Craft-brewed beers contain more fungal toxins on average than industrial beer, according to research by Rikilt scientist Jeroen Peters and his colleagues.

Peters and his fellow scientists collected thousands of beers for the study. The beers came from 47 countries, mainly in Europe. About half were from Belgium and the Netherlands. The researchers determined the concentration of mycotoxins, toxic substances that are secreted by fungi. One important fungal toxin is deoxynivalenol, or DON. It is found in most cereal products, such as bread, pasta and breakfast cereals. 'Almost all beers contain DON too,' says Peters. 'But levels are higher on average in craft beers.'

The concentration of DON exceeded the tolerable daily intake (TDI) in 22 of the craft beers in the study. The TDI is the maximum amount of a substance that can be consumed lifelong on a daily basis without harming your health. The calculations assume a person weighing 70 kilos and drinking half a litre of beer a day. Peters: 'DON is not hugely toxic but it suppresses the immune system and can cause vomiting and diarrhoea.'

Peters thinks the higher concentrations of mycotoxins may be to do with the brewing process. In particular, malted grains such as malt barley can be contaminated with mycotoxins. Brewers use relatively high proportions of malt barley for heavier beers, such as the popular imperial stout. Darker malts also seem to be associated with higher concentrations of mycotoxins. What is more, craft breweries often use additional ingredients that can be contaminated, such as coffee, cocoa, fruit and spices.

'The EU has set maximum permissible levels for mycotoxins, but only for the raw materials and not for the beer itself,' explains Peters. He argues that raw material suppliers should not just state on a certificate that concentrations are below the maximum limits but also specify the concentrations that were measured. Brewers can use that information to calculate how much of a given raw material they can safely use. 'Another option is for brewers themselves to test their products before marketing them, but that isn't financially viable for small breweries.'

This is the first large-scale study of fungal toxins in craft beers. Peters notes that such beers are becoming much more popular. **TL**



PHOTO: SHUTTERSTOCK

VISION

'Using plant breeding against the tomato mite'

Tomato growers are having more and more problems with the tomato russet mite *Aculops lycopersici*, which is not easy to control biologically. This is because of the tomato plant is so hairy, says entomologist Gerben Messelink of Wageningen Plant Research's Greenhouse Horticulture business unit in Bleiswijk. He thinks plant breeding has a solution to offer.

What is the problem with the hairiness?

'Most insect pests in greenhouses can be successfully dealt with using predatory mites. But that doesn't work on tomatoes. Tomato plants are covered in glandular hairs. They are really a defence line. And they impede predatory mites, which get stuck in those hairs.'

Don't those hairs bother the russet mites?

'No, they are so small – about 0.15 millimetres – that they creep under the hairs. The remarkable thing is that in places where there are lots of russet mites, the plant gets rid of its glandular hairs. Then the predatory mites can do their work.'

So the plant solves the problem itself?

'Well, no. Before it's had time to do so, the russet mites have already moved on to other parts of the plant. So the predatory mites have a limited impact. If you want to deal with them successfully, you have to prevent the problem with the glandular hairs. In the past we have done research on using the morning glory *Ipomoea* which winds around the tomato plant and can improve the distribution of predatory mites on tomato plants. But growers want to grow tomatoes, not flowering climbers. Another solution could be breeding. For example, we could develop smaller predatory mites, which wouldn't have problems with the glandular hairs.'

Why is the tomato russet mite such a pest right now?

'Russet mites are controlled chemically with an agent called Oberon. It may be that resistant lines have developed. And nowadays, tomatoes are grown all year round, thanks to lighting in the greenhouses. That enables the pest to thrive there, which it didn't in the past.'

What is WUR doing?

'We are involved in a public-private collaboration within which we are researching how to tackle this kind of mite. But we are not focusing specifically on tomatoes. We are working on getting funding for this kind of research, though.' **RK**

CROP ROTATION IS PRODUCTIVE IN BRAZIL

The main traditional crop in the southernmost province of Brazil is irrigated rice. The cultivation of this crop could be rendered much more productive and sustainable by introducing crop rotation with maize, soya and livestock, claims PhD researcher Giovani Theisen.

In the southern tip of Brazil lies Rio Grande do Sul, a federal state six times the size, and just as flat, as the Netherlands. Farmers here grow rice and keep cattle. But they do not do so very efficiently. Giovani Theisen, who works for the Brazilian institute Embrapa, looked for alternative business models which can produce more food, and more sustainably.

Theisen created four mini-farms on an experimental farm of Embrapa's in Rio Grande do Sul, and compared these business models over a period of nine years. He compared the dominant monoculture of rice with the existing mixed cropping with rice and soya, with and without ploughing. But he also tested a new form of crop rotation with maize and soya in combination with livestock and green manure crops. Since maize plants do not like soggy soils, Embrapa created raised ridges eight metres across on the trial plot, with ditches between them for drainage. With this approach, originally from the Netherlands, the farmers could grow cash crops such as black beans along with the maize. A further advantage of these ridges was that when the rice fields were lying fallow in the winter, cows could graze there and green manure crops could grow.

The new rotation system offers the farmers other advantages too, writes Theisen. Their yields and incomes were higher because Embrapa could sell food all year round. And over nine years, the combination of maize, soya and livestock boosted levels of organic matter in



PHOTO: GIOVANI THEISEN

Rice fields in the Brazilian federal state of Rio Grande do Sul.

the soil by a full 46 percent. Moreover, greenhouse gas emissions were two to three times lower in this system than in rice farming. One minus point, though, was that the researchers had to apply more herbicides.

Theisen also calculated how much food the various systems produced. One hectare of rice could feed 12 people, a hectare of mixed rice and soya 19 people, and a hectare of maize, soya and rice 25 people. 'Rice is generally grown for two or three seasons, after which the rice field isn't used for the next three seasons,' says Theisen. 'We are looking at how to optimize land use in these fields.'

Theisen is going to translate the conclusions from his thesis into practical tips for farmers from the federal state. The farmers can also visit Embrapa's trial plots to see the cropping systems with their own eyes.

Theisen expects the existing rice monoculture to continue in the federal state. 'Rice farming is important for food security: 65 percent of the rice for the Brazilian population comes from this federal state.' But on land that now partly lies fallow, farmers can develop a much more productive and sustainable farming system, says Theisen. **AS**

BACTERIUM MAKES PLASTIC PRODUCTION MORE SUSTAINABLE

An adapted E. coli bacterium can convert petroleum directly into the building blocks for plastic. The process consumes little energy and releases only small quantities of greenhouse gases. Youri van Nuland discovered this in the course of his research for the PhD in Bioprocess Engineering he received on 20 October.

Key building blocks for plastic are alkanediols such as propane or butane, with an alcohol group at each end. These alcohol groups can be compared with hooks in a chain,

which enable the building blocks to link up with each other. To date, these alkanediols could only be extracted from petroleum through a series of complicated, energy-intensive steps. Industrial and university laboratories have been working hard on a technique for mounting the hooks directly on the molecules so that these interim steps can be skipped. But it proved very difficult, explains Van Nuland. 'The hooks were often in the wrong place and burned the product.' At some point chemists discovered an enzyme – alkane hydroxylase – which was capa-

ble of securing the hooks on the molecules. It seemed like a eureka moment until it turned out that the enzyme changed the hooks and only secured them to one side. Van Nuland succeeded in keeping the hooks intact and getting them onto both sides, with the help of a genetically modified E. coli bacterium.

This is now working in the test tube. The next step is to optimize the process for industrial use. Van Nuland is now looking for producers who want to invest in this. A patent for his invention has been applied for. **TL**

Not all our news bulletins, videos and photos get into *Resource* magazine. A selection of what's online can be found here.

DANGEROUS FISH



PHOTO: JAN HAELTERS

The common sole is more dangerous than you think. Seals, pilot whales and porpoises sometimes choke because a sole gets stuck in

their windpipes. So says Mardik Leopold of Wageningen Marine Research, referring to a recent news item about a British fisher who gave a freshly caught sole a kiss. Thanks to some alert first-aiders, he lived to tell the tale.

WORLD FOOD DAY



PHOTO: TESSA LOUWERENS

Several WUR scientists spoke at World Food Day in Ede. Sustainability expert David Klingen, from WUR, explained how to find your way through the jungle of products in the supermarket. Professor Marianne Geleijnse talked about salt and health. Have a look at the photo series on resource-online.nl.

PHOTO: TESSA LOUWERENS

TUITION FEES PETITION



PHOTO: SHUTTERSTOCK

The Dutch National Union of Students has launched a petition for tuition fees for all students to be halved. This is a

response to a plan by the new cabinet to halve tuition fees for first-year students. Nearly 6000 people have already signed the petition.

TEACHERS' CAFÉ



PHOTO: SPREAD THE WORD

Comparing notes on the challenges of the teaching profession. Not just in snatched moments at the coffee machine but over drinks and bites. This is the

idea behind the Teachers' Lounge Café. At the first edition on 26 October, teachers warned against taking the digitization of education too far. 'I enjoy my job precisely because of the personal contact.'

MEANWHILE ONLINE

TENURE TRACK



Blogger Carina Nieuwenweg is orientating herself to life after university. She notices that the rules around PhDs and tenure track are not very geared to science. For a PhD position, for instance, 'they are asking for a student-pleaser who can write for their own kind.' Read the blog on resource-online.nl.

Watch and read it all on resource-online.nl

PROPOSITION

'My supervisor advised me to be myself'

For foreign researchers, doing a PhD at WUR is not only a scientific but also a cultural journey. As Yujie He well knows.

'During the four years that I spent in the Netherlands I saw some Chinese friends struggling with their wish to immerse themselves in Dutch culture. They wondered how they could do this without pretending, or losing their own cultural identity. This is quite difficult for PhD students, because we already have our own mindset and attitude towards the world when we come here.

By my proposition I don't mean that you should give up on trying to integrate, just that you should not try too hard. It is like holding

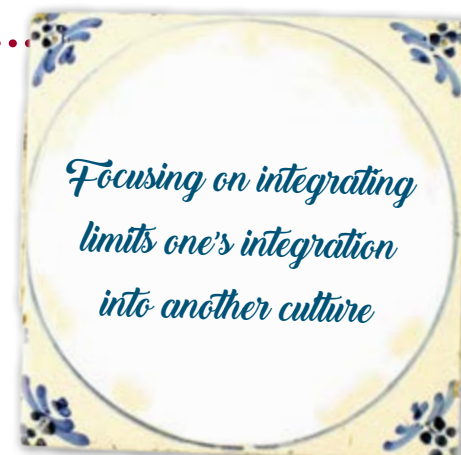
sand in your hand: if you hold it too tightly, it will run through your fingers. It is my belief that as a foreigner in a new coun-

try, you can appreciate the good in the new culture as well as the good in your own culture. That way you can combine the best of both worlds.

I struggled a little bit with the Dutch coffee culture. I really wanted to be sociable with my colleagues but I am also efficient in the morning and felt the daily morning coffee break made me lose valuable time. I discussed this with my supervisor and she advised me to be myself. So I did. If there was a special occasion and someone brought cake to celebrate something, I would join my colleagues.

On other days, I followed my own routine.

I like the informality of Dutch culture. People keep their distance and do not judge you. There is less pressure here than in China. Luckily, I do not feel so much pressure in my family. I will go back home now to be with them and my boyfriend.' LdK



Yujie He (China) graduated with a PhD on 10 October for a study of the removal of pharmaceuticals from wastewater in constructed wetlands.



Wageningen's Leading Lights: Tinka Murk

Boundless curiosity

As a child she brought dead birds home to study their skeletons. As a student, one degree programme was not enough for her. Professor Tinka Murk (58) is full of curiosity. 'All the time, and about everything. It drives my friends and family nuts at times,' she admits. But it has brought her a long way in science.

text Roelof Kleis *photos* Guy Ackermans and Udo van Dongen

The interview for this story takes place in Belmonte Arboretum on the warmest October day 'ever recorded'. Too warm for Tinka Murk, actually. She describes herself as a winter type. 'Anything between minus 15 and plus 25 is fine by me, but above that the fun goes out of it.'

The #metoo discussion has just broken out. Although the subject doesn't come up, she emails me about it two days later. She feels the need to express herself on the matter. As a student in Leiden in a male-dominated chair group she 'had to put up with quite some sexist behaviour'. 'Your bum and breasts look good in that dress. That kind of thing. Annoying and always childishly predictable. But denigrating too. Once, when it really did go too far, I told my supervisor it would cost him his career if he didn't stop. That helped.'

That was Leiden. But it happens in Wageningen too. 'Years ago I confronted two male PhD candidates about the sexist jokes they cracked,' says Murk. 'They hung pinups up on each other's walls, too. That is absolutely not acceptable, especially in a context with people from different cultures. I explained why I was confronting them about it. No more sexist nonsense after that.' She asks me to formulate this carefully: she doesn't want to come across as a whinger. 'But these kinds of experience have made me aware that diversity among managers is important, and that you shouldn't shirk your responsibilities towards others, correcting them if necessary.'

SCIENCE GIRL

Tinka Murk, professor of the Ecology of Marine Animals, is not one for the barricades. But she does have her own ideas about things, and makes them known. Take the 13th proposition accompanying her thesis: 'Although WUR claims to give priority to getting more women into top jobs, the negligible amount of attention paid to the obstacle of insufficient childcare arouses the suspicion that the priority is primarily for women without a womb.' 'Yes, that was quite critical,' she laughs. 'They didn't like

TINKA MURK

1959, b. Harderwijk

1977-79	First degree in Environment Biology, Leiden
1979-82	First degree in Biochemistry, Leiden
1982-85	Master's in Biology, Leiden
1985	Institute of Environmental Sciences in Leiden, part-time secondment to RIZA in Lelystad
1986-89	Health Council, The Hague
1989	Lecturer in Ecotoxicology, Toxicology chair group, Wageningen
1997	PhD with Professor Koeman
2008	Personal professor of Ecotoxicology
2015	Professor at the new chair group of the Ecology of Marine Animals

Tinka Murk is chair of the scientific advisory board of the North Sea Foundation and the REEFolution, and teaches diving in her spare time. She has a partner and a son.



Tinka Murk sorts fishing tackle that she and other divers salvaged from a shipwreck in the North Sea.

that here. But the policy on childcare changed soon afterwards. And it was bizarre, how badly arranged it was.' Murk didn't have children herself yet at that point. She waited until after she got her PhD. Her son has recently started at university in Enschede.

When Tinka Murk left home, she chose to study biology. What she really wanted was to be a vet. 'But I wasn't good at remembered facts, so that wasn't a smart choice. I looked at physics too, because I am a real science girl. But physics departments were full of nerdy men and that didn't appeal to me. So biology it was. In Leiden, because then I only had to cycle 11 kilometres, and I could carry on living at home for my first year.'

SHARK'S SKULL

Biology was a pretty obvious choice, actually. In her bedroom, she volunteers, she had a glass tank full of biological curiosities. 'A preserved cow's foetus, a dried fungus, a shark's skull. And then my mum found a dead bird under my bed, which I had hidden there in order to get the skeleton out later. Or a goldfish in the freezer. Do you

think that's nerdy? Yes, I suppose you could call it that.'

Nerdy or not, it certainly gives an idea about the curiosity that has always been typical of Tinka Murk. 'Boundless curiosity. Always and about anything. It drives my friends and family nuts at times. I always want to get to the bottom of things.' One effect of this was that she did two first degrees: first Environmental Biology and then Biochemistry. 'Environmental Biology, Ecology really, was too much of a black box for me. Just identifying a correlation between an environmental factor and its impact on an organism is not enough for me. Correlations do not explain why something is the way it is. For that you've got to take a look inside the animal. That is precisely what my chair group is doing now: looking at how animals react to various kinds of change at the molecular, physiological and ecological levels. And then trying to explain, predict and in some cases manage developments on the basis of that.'

PLASTIC IN THE SEA

Murk made the switch to toxicology after graduating. After working briefly for the Institute of Environmental Sciences in Leiden and for the National Institute for Integral Freshwater Management and Wastewater Treatment RIZA in Lelystad, she was appointed to the Health Council of the Netherlands in 1986 to set up the new branch of ecotoxicology there. 'That was challenging. The Health Council translates science into advice for policymakers. Toxic substances were a massive problem at that time. The then chairperson, ex-minister Ginjaar, was very clear about the link between health and the environment. I was given an empty room with an empty desk and almost the first laptop in the world, a seven-kilo thing that was back-breaking to lug around with you. And the job description was: just do ecotoxicology. In that situation you've got to be very enterprising. Which I am, actually.'

'I like trying out new things, and getting something off the ground,' Murk goes on to explain. 'My strength lies in connecting disciplines and people. I like that because you learn from each other's fields of expertise, and social problems really always require an interdisciplinary approach. Now, for example, I am working on giving the tackling of plastic pollution an interdisciplinary boost. Clearing plastic from the sea isn't getting us anywhere. The issue is how does the plastic get into the sea: that's what we've got to do something about. On islands where there is no drinking water system, people only drink water from plastic bottles. Where are they supposed to dispose of them? There is no infrastructure for waste disposal. So it ends up on dumps along the coast and 'washes away'. You don't need any marine ecology to do something about that; you need local recycling, for instance. And to find solutions like that you need to cooperate, with Environmental Governance, with Resource Economics, and with Environmental Technology. You have to offer people an alternative. I believe in that.'

SEA URCHINS

It was former professor of Toxicology Jan Koeman who invited Murk to Wageningen. She joined the university in 1989 as a lecturer in Ecotoxicology. Eight years later she got her PhD for a study on the physiological effects of

PCBs and dioxins, for which she conducted lab and field tests on common terns and common eiders. She also developed a fast and efficient new method of identifying the presence and the toxicity of dioxin-like substances using a cell test.

Much of Murk's work focussed on the disruptive effect of toxins on the way the thyroid hormone works. Hitherto, African clawed frogs were usually used to demonstrate this disruption, but Murk introduced the sea urchin as a model animal. That meant far fewer lab animals – sea urchins are invertebrates and therefore legally not lab animals – and it was far more efficient. Murk is crazy about sea urchins. 'They are fascinating animals, which are very similar to us hormonally. Like frogs, the larvae of sea urchins undergo a metamorphosis driven by the thyroid hormone. Just like us humans, actually. We too go from an aquatic to a terrestrial habitat after birth, so we suddenly have to inhale air.'

'It was a triumph to say out loud that I wanted to be a professor'

BECOMING A PROFESSOR

Murk became personal professor of Ecotoxicology in 2008. It took a long time before she plucked up the courage to express her ambition to become a professor. That's a woman thing, she says herself. 'As a woman you are inclined to think that they will discover you if you are good enough. But that is not the case at all. Women often feel embarrassed to voice their ambitions. I had that problem too. Until I started sitting on appointment committees for professors and saw candidates who made me think: you? Well, in that case, I should have been a professor long ago. It was a triumph the first time I said out loud that I wanted to be a professor. Men often do that kind of thing more easily and then they just see how it works out. Women could learn a thing or two from that. I say that to my women students and PhD candidates too: say what you want and avoid false modesty.'

Two years ago, Murk's career reached its peak with her appointment to the new chair in Marine Animal Ecology. 'Life is much easier as a chair-holding professor than as a personal professor,' she says. 'You can do things your own way and you don't have to adapt to how someone else thinks it should be done. That is much less draining for me. It is hard work, but everybody works hard here. And if you really want to have a say and be taken seriously, it does help if you are a professor.'

REEFS AND SEA GRASS


Murk's group has three members of staff, two postdocs and 15 PhD candidates. Their research includes how marine animals such as sponges and corals adapt to changes in the environment such as rising tempera-

tures and acidification. They also study how isolated marine lakes have developed, and the lessons we can learn from them for the oceans if environmental conditions change. And they study what happens when you use dispersants against oil spills and the oil, influenced by algae, sinks and smothers the seabed.

But the researchers pay attention to issues that are closer to home as well. In her inaugural lecture, which she gives on 2 November, Murk will talk at length about the environment of the North Sea. Entitled *Back to the future instead of forward to the past*, her address is an appeal for a North Sea which once again has room for natural reefs and seagrasses. Her vision is of a return 'to a habitat with places for fish which need little holes and reefs,' explains Murk. 'Mussel fishers grumble that crabs and starfish are eating their mussels. But that is because there are no longer any cod, rays or eels to eat up the young crabs and starfish in time. Now mussel farmers are using large mops to keep the starfish off their patches. But it is a lost cause. The whole system is out of balance.'

THE SAME BOAT

To restore that balance we need a new future, with possibilities for a rich and diverse system with the habitats and the functions to go with it. Murk: 'People want to hold on to what there is. But if the environment changes drastically, you mustn't try to keep it as it is: that is just gardening. You have to enable marine nature to adapt to future conditions. And to do that, society has to change just as much as the ecosystem. Make sure you get reefs again, with shellfish that filter the water clean, seagrass fields and rich deltas connecting saltwater with freshwater. And if you do it sensibly, eventually you'll even be able to harvest from them.'

But these changes must take place in consultation with, and with respect for, all the stakeholders. That is the route Murk chooses to take. 'That is the role that appeals to me. Stating your limits, and thumping the table if necessary, but keeping on talking. I don't think it's very nice – or fair – to dismiss fishers, for example, as a bad lot. Those fishers have a lot of knowledge and experience, and are respected in their trade. They are not saints, though, and rules and supervision are necessary. But you must listen to them seriously, too, and see whether there are more innovative methods of harvesting food from the sea while respecting the ecosystem. After all, we are all in the same boat, heading for the future for our children.' 

Want to read more interviews?
See the Leading Lights dossier on
resource-online.nl



TODDLER NUTRITION

With its wooden shelves full of foodstuffs, the room where Annemieke Pustjens and her colleague Dave Khodabux work looks a bit like a warehouse or a larder. But it is an office on the campus. To be precise: the office of the Authenticity and Nutrients


team at Rikilt, on the third floor of the building in the far western corner. It is bit of a goldfish bowl, with a lovely view over the Dassenbos and The Field. 'In clear weather you can see the wind turbines near Ede,' says Pustjens. But what she's here

for is these groceries. They haven't been stocked up to keep the wolf from the door; they are research material. Part of an ongoing study on toddler nutrition. 'We know quite a bit about what macronutrients and toxins adults ingest. But we



don't really know anything about children of one to three years old,' explains project leader Pustjens. The research is intended to close this gap, and to that end a collection of items has been put together which represents the average toddler's diet. '1942

products consisting of 160 different kinds of food.' Only the non-perishable foods are still on the shelves: tomato ketchup, tinned vegetables, apple sauce, rice etc. The perishable goods such as fruit and vegetables have already been processed. The

analysis focuses on macronutrients such as proteins and fibres, as well as on heavy metals. Pustjens: 'Arsenic is important, for instance. That is sometimes found in rice, and toddlers eat a lot of rice cakes.'  RK, photo Margriet van Vianen

Is there really a Wageningen syndrome?

'You can't move a pole around here'

In Wageningen, discussions about town planning can go on for ever. Showdowns between the municipal council, major landowner WUR and educated, politically active townspeople are not uncommon and are described by some as 'the Wageningen syndrome'. Others prefer to talk of 'Wageningen common sense'.

text Stijn van Gils illustration Henk van Ruitenbeek



Traffic jams form at the entrance to Wageningen Campus every day. Some see this as a serious problem, making a new ring road a matter of urgency. Others think more asphalt will just attract even more traffic, and that it would be better to discourage car use by incentivizing cycling and slapping charges on parking. After years of talking, neither camp has come up with a solution that everyone can live with. Gelderland provincial council got fed up with waiting and recently took the reigns over from Wageningen municipality.

The accessibility dossier is not the only one on which the municipality has trouble finding a satisfactory solution. Feelings have been running high on the question of the redevelopment of the old football stadium on the Wageningse Berg ever since 1992. Admittedly, the municipal council has now reached a decision on this, but thanks to objections from local residence, the dossier is now with the Council of State, the highest administrative court in the country.

PANDA CARPARK

There were long discussions, too, about the expansion of the golf course on the Zoomweg (the licence was cancelled by the court in Arn-

hem), the expansion of the Nude industrial estate (objections were rejected by the Council of State), the repurposing of the tropical greenhouse on the Arboretumlaan (all the plans were rejected and the greenhouse was demolished), the heavy bicycle traffic in the Tarthorst neighbourhood (there are now plans for a cycle lane) and the extra Panda carpark at Ouwehands Zoo (Wageningen granted permission and then withdrew it).

'The Wageningen syndrome' is what residents, councillors and civil servant often call the spatial planning paralysis that Wageningen seems to suffer from. One of the reasons is said to be the dominance of left-wing and local parties which tend to listen to the locals, with indecision as a result. The current council, for instance, wants to do 'everything with the townspeople', says Marc Kiel, councillor for the conservative VVD party. 'And then the municipal council itself ends up with its hands tied, defending that because it is what has been agreed with the town.'

The relatively high level of education of the local population – brought here by Wageningen University & Research – is another frequently cited reason for what WUR spokesperson Simon Vink calls 'academic

inertia'. Councillor Erik-Jan Bijleveld of the green party GroenLinks: 'Most of the input comes from academic types. They know their way around, and will find their way both to the municipal council and the Council of State.' VVD member Kiel: 'It is typical of researchers to go on researching something for ever. And to add to that, environmentalism is highly developed here, so you get a lot of resistance from that corner.'

THE POWER OF WUR

Willem Straatman, columnist at the local weekly paper *Stad Wageningen*, also cites 'academic sentiment' as a cause of delays. 'University education people don't really know any better than other people in the town, but they are better at making themselves heard. They know how to lodge an objection, and they are quicker to do so if there is something they don't like. I don't think that's right. It's not fair that people from the university should have more influence in the town.'

According to Straatman, people at WUR often have political connections at high levels. 'You can see that in the case of the ring road. It's impossible to prove, but I reckon WUR has more connections with the provincial executive than with the municipal coun-



cil. Ultimately, WUR is in charge.'

It is also argued that a relatively weak civil service faces the all-powerful WUR. 'Things are done so ineptly here sometimes,' says VVD man Kiel. 'After the municipal council had decided the Olympia Hall should be demolished, it transpired that the users of the sports centre had not been informed. Court cases are also frequently lost due to procedural mistakes.' It is quite difficult for a small municipality such as Wageningen to hold on to good staff. 'A talented civil servant soon moves on to a larger municipality,' says Rien Bor, former spokesperson at WUR and now municipal councillor for the City Party.

BEAUTIFUL WAGENINGEN


But Bor doesn't think the situation in Wageningen is so terrible. 'The municipal council often deals with important themes that are sensitive. You do have to weigh up these decisions carefully. That can take years in other places in the Netherlands too. On a number of issues that have been around for years, we have now taken a decision. But what you see then is that someone raises objections. In a manner of speaking, you can't move a pole around here without somebody going to the Council of State about it.'

According to Bor, the Beautiful Wageningen foundation, led by WUR teacher Patrick Jansen, is particularly inclined to go to court 'right, left and centre'. 'Up to now, the municipality wins most of the court cases, but they cause delays and additional costs.' The VVD agrees that the role of Beautiful Wageningen is disruptive. 'As far as I'm concerned, we needn't bother to consult Beautiful Wageningen anymore. Whatever you agree with them, they end up taking you to court anyway.'

SHEER FRAMING

Patrick Jansen, chairperson of Beautiful Wageningen, says the term 'Wageningen syndrome' is 'sheer framing'. He says there are long-running cases on sensitive dossiers in all municipalities. 'Our foundation does not hamper democracy; it is the people who bypass the municipality to stir things up at provincial level who do that. We come up with initiatives and we help think things through. And indeed, sometimes we lodge objections, but only to decisions which conflict with other agreements. And, please note, we all do this in our spare time. Isn't that kind of civil society participation fantastic? That is why I prefer to talk about Wageningen common sense resisting bad planning.'

On this point, Jansen has executive councillor Han ter Maat of the City Party on his side. 'I hear a lot about that Wageningen syndrome, so something of the sort must have existed, but I don't see it. I have worked at Gelderland province and Arnhem municipality, and people raise objections to things there too, you know. And WUR, yes, WUR is very important to us but it is the municipal council that decides.' Petra Borsboom, spokesperson and communication advisor at Gelderland province, agrees: she does not see Wageningen as radically different to other municipalities. 'It is noticeable that people are getting more outspoken everywhere, and participation is changing.'

There are no hard statistics on this, says Leonie Janssen-Jansen, professor at the Land Use Planning chair group. 'It is common sense that in municipalities with a lot of highly educated people, more objections are raised, but I don't expect major differences. Ultimately, anyone can lodge objections: there is a perfectly good explanation of how to do so online. So, yes, that Wageningen syndrome exists. But you get that sort of thing in every municipality.' 

A century of Wageningen *microbiology*

In 1917, Professor Nicolaas Söhngen laid the foundations for WUR's Microbiology chair group. A century later some leading lights in the field assess his legacy. What has the world gained from one hundred years of Wageningen microbiology?

text René Didde *photos* Guy Ackermans, W.J. de Zwart and WUR

Autumn 1917. Groningen professor Nicolaas Söhngen arrives at the National Agricultural College in Wageningen to set up research and teaching on anaerobic microbiology. There is a shortage of space and facilities, however: he stays at Hotel de Wereld, sets up a temporary laboratory in a house, and gives his lectures in the main building on the Salverdaplein. After a year he is so fed up that he threatens to go back to Groningen. That helps. In 1920, an elegant laboratory designed by Amsterdam School architect Cornelis Blaauw goes up on the Hesselink van Suchtelenweg.

The rest is history. Not only is the Microbiology Laboratory now an immaculate listed building, but Söhngen's big success was in laying the foundations of a rich tradition of microbiology research in Wageningen. He paved the way for research on the then newly discovered bacteriophages, highly specific viruses that attack specific bacteria. He also explored the symbiosis between Rhizobium bacteria and tubers in crops such as clover. It turned out to be a rich field of research. Remarkably, too, Söhngen saw the value from the outset of exchanging research results with players from industry and agriculture.

WATER PURIFICATION

In the years that followed, the Wageningen chair group built up a solid reputation with its research on bacteria in their environmental context, their capacity to adapt and the way they use the results of each other's metabolic processes. This was apparent last month at the Centennial Symposium with which the group celebrated its 100th anniversary. The study of anaerobic bacteria, for instance, led to progress in the fields of water purification and soil decontamination. But the work on gut bacteria is internationally renowned too and produced results which are used in developing new drugs. Finally, the insights into defence mechanisms against bacteriophages have generated countless new methods of genome editing, such as CRISPR-Cas. In short, there is a direct line from 1917 to 2017.

Several keynote speakers at the seminar were originally Wageningen researchers, including Mike Jetten (Radboud University Nijmegen) and Mark van Loosdrecht (Delft University of Technol-



1. Laboratory for Microbiology
2. Nicolaas Söhngen
3. Mark van Loosdrecht
4. Willem de Vos
5. Mike Jetten

ogy), both Spinoza Prize winners. Their lectures gave an overview of Wageningen research. 'What kinds of micro-organisms are there, what do they do, how do they communicate, do they collaborate, and how can you use them for social or industrial purposes – whether alone as pure cultures or together as mixed cultures which can do the trick faster?' That is the summary of Wageningen microbiology offered by another Spinoza Prize winner, Willem de Vos, Wageningen professor for 30 years and Söhngen's fourth successor for the last 25. 'The integration of microbial physiology, ecology and genetics is characteristic of our research, and gut microbiota and bacterial defence systems are still fruitful areas of research along with water purification and soil decontamination,' he says.

AKKERMANSIA

An example is Mike Jetten, who was involved in environmental microbiological research on topics including water purification and the role of the Anammox bacterium. This micro-organism converts ammonia and nitrite from wastewater into nitrogen gas under anaerobic conditions. This research too is directly descended from the very first research on anaerobic bacteria and the nitrogen cycle, which started a century ago.

Another 'anaerobic' example is the Akkermansia bacterium. 'We isolated it in the human

gut, and analysed it genetically and in the ecology of the gut microbiota,' says De Vos. 'Then we used the bacterium in animal tests, and an improvement in the barrier function of the gut was demonstrated in mice. Now we are working on developing this anaerobic bacterium as a treatment for people with diseases of affluence such as obesity and type 2 diabetes.'

INTERDISCIPLINARY

Jan Roelof van der Meer, professor at the University of Lausanne, was on the list of keynote speakers too, but he broke his shoulder and could not attend. 'I got addicted to microbiology through my research on soil as a Wageningen student and PhD candidate,' he explains on the phone. 'It is an excellent trend that we no longer only work with pure cultures, but focus on mixtures of bacteria instead. Because that is the reality now. You can see it happening everywhere, and certainly in Wageningen,' says Van der Meer.


Mark van Loosdrecht (Delft University of Technology) is especially full of praise for the interdisciplinary research culture. 'That is the basis for successful research, and can deliver the breakthroughs we need in the fields of agriculture, nutrition and the environment. In the 1980s and 1990s, this laid the foundations for successful soil decontamination.' Among other things, he is referring to bacteria which, after some adaptations, were effectively able to break down organic solvents in the soil. Compared with the then standard thermal and chemical methods of soil decontamination, the new biological method vastly reduced the requirements for energy, excavation and transport.

One of the things Van Loosdrecht himself made his name for was the Nereda process, in

which bacteria form clumps of granulated sludge and sink fast, saving time, energy and space in water purification. The granules grow by making smart use of both oxygen-rich and oxygen-poor conditions. The basis for this is 'biofilms', which Van Loosdrecht did research on when he was in Wageningen.

DELFT

But like Van der Meer, Van Loosdrecht is not inclined to talk of some sort of 'Wageningen School'. 'There is more of a Delft School,' he says, in a nod to his current employer. 'Söhngen was a student of Beijerinck's, and he was at Delft. Söhngen discovered that methane is formed in places like swamps by bacteria, and he successfully expanded that research in Wageningen. So I would describe Wageningen as the anaerobic branch of the Delft School.'

But there are people who left Delft for Wageningen, such as the famous Gatzke Lettinga. Back in the 1970s, Lettinga developed a compact reactor for use for anaerobic water purification in industry and in the Third World. Wastewater purification with this reactor required no energy, instead actually producing energy in the form of biogas, says Willem de Vos. And he knows of another example. 'The Delft-based Beijerinck taught at the Agricultural College too, where he discovered plant viruses and did research on the nitrogen cycle.' In short, all these professors of microbiology are not unlike a cocktail of different bacteria. They turn up all over the place, they communicate with each other and pass on the results of their work to each other. And they collaborate in the – there he is again – Söhngen Institute for Anaerobic Microbiology. 



CAN WE SURVIVE WITHOUT THE AULA?

The university wants academic ceremonies to move to the planned Dialogue Centre on campus from the 'Aula', the auditorium in the town centre. The Aula, which dates from 1935 and is the only historical building still in use by WUR, no longer meets modern requirements. Can we do without it?

text Yvonne de Hilster photo Sven Menschel

Kiki Kots



PhD candidate and member of the EPS PhD council

'I do see the benefits for WUR of having as many activities as possible organized on campus. It's more practical and easier to reach with public transport. That also makes it easier for students and professors to attend official events. **I'm not actually that bothered where I will have to defend my thesis.** But I do find it a shame that all the old buildings at and around De Dreijen have been abandoned, only to throw up a whole load of new buildings on the other side of Wageningen. In my opinion, new buildings can never compete with old ones in terms of character. In the case of the old Aula, the building's history and character definitely add to the atmosphere at ceremonies.'

Gerry van Nieuwenhoven



Programme director, BSc Communication and Life Sciences, BSc Health and Society, MSc Communication Health and Life Sciences

'Good traditions should be respected. **I realize there's a problem with parking, but not having any graduation ceremonies in the Aula any more would be a loss for Wageningen.** Graduation is something to celebrate, as well as usually being the moment when students say goodbye to Wageningen. Then perhaps wander through the town with their family and go out for a meal there one last time. If the ceremony is on campus, it will soon put an end to all that. The university was an integral part of Wageningen before the campus was built. It would be an eternal shame if all con-

nections with the town were to be severed. In my opinion, the Master's ceremonies should stay in the Aula for as long as they fit in there.'

Walter Gerrits



Professor of Animal Nutrition

'I received my degree, defended my thesis and gave my inaugural lecture in the Aula. I can imagine they will come up with a location on campus that is just as fine for the person who is at the centre of all the attention. But I feel it's a pity to leave the Aula. **The venue has a historical feel that is in keeping with such traditional ceremonies.** They are really just a big show, a parade of penguin suits, but the location gives the event cachet. It is also quite something for students and their parents to have the graduation in such a historic building. I don't see the fact that the Aula is in the town centre as such a strong argument, though — it's not actually that accessible.'

Ilonne Bongers



Shopkeeper and soon to be Wageningen's 'town centre manager'

'If the university abandons the Aula, it will make the town that little bit less lively. The graduation and PhD ceremonies bring groups of people to the town centre. They might buy some flowers or go out for a meal afterwards. One restaurant owner also told me they were unhappy with the plan to leave the Aula. **We'll have to wait and see whether people visit the town centre after a ceremony on campus.** But I intend



to carry on looking at how to collaborate; I do see ways of keeping the university's links with the town. It's nice if local residents also know what's going on at the university.'

Frits Huijbers



Chair of the Old Wageningen history society and a former alderman

'I can understand WUR's position from a financial and economic perspective. But I think it's a pity from the point of view of our heritage and sense of history. When Wageningen celebrated its 750th anniversary, the procession crossed the entire town. A lot of people thought that was a special moment. But you won't go to the campus for that. WUR is part of Wageningen's heritage. One hundred years of the university also means one hundred years of professors in the town. You'll lose that if you don't have the Aula. **If WUR really does cluster all its activities on campus, WUR will drop off the radar of residents and tourists.** And out of sight is out of mind, isn't it? The Aula is a listed building, so it is not in danger of being demolished. But giving it a new function in the town will be quite a challenge.'

Lorena Martinez



Second-year MSc student of Animal Sciences


'I studied at university in Mexico City before I came here. The big, old campus in the centre has some famous murals. But my faculty was outside the city and in new buildings. I missed that sense of history. I only discovered Wageningen's current campus was not the first one or the only one after I had been here a while. Why are they no longer using the wonderful old Chemistry building, for instance? In Wageningen, you can't separate the town from the university; the two are closely interconnected. Think of housing, for starters. **I would rather get my degree certificate in the Aula than on campus.**'

Cees Leeuwis



Professor of Knowledge, Technology and Innovation, and member of the Academic Board

'The Aula is pretty much the last thing connecting the university to the town. Doing everything on campus might be efficient,

but barricading ourselves in our own grounds does not send the right message to society. It's no coincidence that Amsterdam, Utrecht, Groningen and Leiden still hold all kinds of academic ceremonies in historic buildings in the town centre. **The buildings and grounds around the Aula could be transformed into a wonderful branch of that new Dialogue Centre.** It would fit in well with Hotel de Wereld and its Capitulation Room. As far as I'm concerned, we could then continue having the graduation and PhD ceremonies and inaugural lectures there.' 



Harvard? Oxford? No, Wageningen!



PHOTO: SVEN MENSCHER

Food Technology student Chris Berendsen graduated *summa cum laude* from high school last year.

For Dutch high school students who graduate *summa cum laude* – a grade average of nine – the world is their oyster. But Chris Berendsen (18) chose Food Technology in Wageningen rather than aiming for Cambridge, Harvard or Oxford. ‘I want to have a positive impact on the world by influencing large-scale processes.’

More than 2200 Dutch high school students graduated with a grade average of eight last year, receiving the accolade *cum laude*. The number who achieved *summa cum laude* is small and not known precisely. So Berendsen is proud of her achievement. Her grade list displays two eights, seven nines and four tens. ‘Although I got good grades throughout high school, I was still quite surprised. During the exam period I worked quite a lot in a restaurant. I studied hard but not with the aim of getting *summa cum laude*.’

People are often surprised. ‘They ask if I do anything else apart from studying. I think I am very lucky in my powers of concentration. If necessary, I can easily concentrate on studying for four hours in a row.’ This meant she had enough spare time to do things she enjoys: playing the piano, taking dance lessons and going out.

Because this first-year Bachelor’s student enjoys a party. ‘After my final exams at school I went on holiday to Lisbon and the party town of Albufeira with some girlfriends.’ And in Wageningen she joined Ceres stu-

dent society straightaway, and is helping organize the first-years’ weekend. ‘It’s one thing to do well on your degree programme, but I think it’s important to develop yourself in other ways as well. I think it’s useful to learn to work in teams.’ She hasn’t decided whether she will sign up for the honours programme. ‘That wasn’t a factor in my decision to come to Wageningen.’

TOO BIG A STEP


With her excellent grades, Berendsen was urged to apply to a prestigious university – in America for instance. But she decided on Wageningen. ‘I did consider going abroad but in the end it seemed too big a step. I would have had to work much harder, and it is important to me to go on seeing my friends and family, too.’ And she is drawn to the Wageningen sustainability philosophy. ‘You can see the urgent need for change all around you. Food production processes take place on such a large scale that I think in this field you can really have a positive impact.’

Berendsen’s scientific mind is reflected in her grade list: two tens for the advanced maths exams B and D. ‘To me, the exact sciences are far more interesting than languages or history, for example, where you have to learn a lot of facts by heart. In science subjects you learn how to solve problems. The nice thing is that you can then apply those insights in all sorts of situations.

	In figures
English language and literature	9
Latin language and literature with classical culture	9
Dutch language and literature	8
Arithmetic test 3F	10
Biology	9
Physics	8
Chemistry	9
Mathematics B	10
Geography	9
Mathematics D	10
General Science	9
Social studies	9
Research project	10

That is one of the reasons why I chose food technology too: as soon as you have learned something new, you see how it is used in the industry.’

MEALWORMS

Berendsen first came in contact with Wageningen while she was working on her final high school project on the world food problem. ‘Eating insects can contribute to a sustainable food supply. They are already eaten in a lot of countries, and it is only westerners who are still wary of eating them. In high school I researched how many school students were prepared to taste a mealworm. In classes which didn’t get any information in advance, 53 percent were willing, but if we showed the students an informative film first, more than 70 percent wanted to try the mealworms. It’s nice to see what a difference five minutes of information can make.’ Beaming, she explains that her research produced statistically significant results and was awarded - yet another - ten. 

SUSTAINABLE DISHES IN MUSEUM RESTAURANT

Six Food Technology Bachelor's students have given a sustainable twist to the menu in the Museum Boijmans Van Beuningen restaurant to tie in with the *Change the System* exhibition currently on show at the Rotterdam museum.

The exhibition showcases projects by various Dutch and international artists who want to change the world by focusing attention on such problems as pollution, conflicts, scarcity of raw materials and political tensions. The museum asked Wageningen's Food Quality and Design Group to elaborate on the theme 'Change the food system' for the museum restaurant.

The aim of the project was to create tasty, nutritious dishes that also have a smaller water footprint and carbon footprint and generate less waste. The six students — Buiske Boone, Eveline van Honk, Greg Meesters, Si-

mone Penris, Iris Raes and Louka van Stuijvenberg — put together a new menu as part of their 'Case Studies on Product Quality' course. They worked closely with the museum restaurant chefs. The chefs prepared the dishes and the students calculated the footprints of each item on the menu. 'It was really great working so intensively with people who don't have a scientific background. We were doing this together with artists, which was a unique experience,' says student Iris Raes.

The menu, on offer for the duration of the exhibition up until mid-January, features soups, sandwiches and lunches using local and seasonal products such as pumpkins and potatoes. The students also designed a special 'WUR burger', which consists of sourdough buns and a burger made of carrots and sweet potatoes, served with apple chutney. 'The WUR burger has a carbon



PHOTO: RUIJD VERKERKE

In Museum Boijmans Van Beuningen, the Food Technology students try out dishes from the sustainable menu they helped create.

footprint that is only one tenth that of an ordinary cheeseburger and we use a quarter less water,' says Raes.

The students hope to raise awareness among museum visi-

tors about modern-day eating habits and how vegetarian and vegan dishes could help reduce the burden on the environment. 'We also want to show that such dishes can be incredibly tasty.' **MR**

STUDENTS TRAIN YOUNG PROFESSIONALS

Roles were reversed on 28 October when five MSc students from WUR ran a workshop for young professionals. The workshop was part of a three-day course in which employees learn how they can make their organization more sustainable.

The students of Food Quality Management and Urban Environmental Management had taken the Strategic Change Management and Innovation course during the fifth period of last academic year. They successfully completed an assignment for their teacher Domenico Dentoni, whereupon he invited them to help deliver the workshop on system change last Saturday.

Led by Dentoni, the students supervised a total of 20 teams. Each team had to choose a problem and come up with solutions to it. 'The designs were very varied. One group focused on obesity in children, an-

other on food waste, and a third on youth migration,' says student Philomena Kafui Darku.

The workshop was part of the three-day course, Nudge Global Impact Challenge. The participants were between 23 and 33 years of age and came from all around the world.

According to WUR student Nicole Jansen, the workshop was a great success. 'I wondered beforehand whether they would set about things differently because they have more work experience than we do,' she explains. 'But it was not the case. They got less stuck in theoretical concepts than students do, because they had more examples from actual practice up their sleeves.'

The team that eventually won had come up with a solution to the housing shortage for labourers in the Philippines: container housing for three to four people per unit. **DdV**



FOTO: STEPHANIE BARBACHAN OSORIO

The WUR students in action during the workshop on system change, for young professionals.



SHRINKING HEAD

The common shrew has something no other animal has: a shrinking head. Their heads shrink in the winter and swell up again in the summer. Researchers at the Max Planck Institute for Ornithology have documented this phenomenon carefully. The difference in volume goes up to 20 percent. The scientists think the mouse saves energy this way. Warm-blooded animals lose a lot of heat through their heads. And mice don't have woolly hats.

POLLUTION

One in six deaths worldwide are caused by pollution. That means nine million deaths per year, states a report in *The Lancet*: three times as many victims as are claimed by AIDS, malaria and TB put together. And 15 times as many as are killed by war or violence. According to the researchers, the biggest killer is air pollution caused by fossil fuels.

MPEMBA

Warm water sometimes freezes faster than cold water. This little understood phenomenon is called the Mpemba effect, after the Tanzanian scholar Erasto Mpemba, who made use of it in the 1960s. He discovered when making ice cream that warm milk freezes faster than cold milk. Spanish physicists think they know why. It has to do with the history of the liquid. In other words: what happened before the liquid was cooled?

INVERSE MPEMBA

According to the physicists, this phenomenon is only seen when a liquid is not yet in equilibrium. For example, if the temperature is raised suddenly – by boiling, for instance – before the liquid is cooled. Their theoretical model shows that 'Mpemba' then occurs. The model predicts that a reverse effect must exist as well: a cold liquid cooling down faster than a warm one. The scientists are now working on finding evidence of this.

Forgot to register? Then wait a full year

Students who forget to re-register risk having to wait an entire academic year before they can continue with their degree, warns Bachelor's student Naomi de Vries. She discovered to her surprise that the university does not make an exception for students who miss the registration deadline of 31 August by mistake.

The Nutrition and Health student registered for a minor at another university last spring. Because she had already been through that registration process, she mentally ticked off 'register' from her 'to do' list. But she forgot that she still had to re-register with Wageningen University. She only found out about that when she received a message in September that her WUR email account was about to expire. She contacted the university immediately but it was unable to help her.

'The deadline of 1 September is fixed by law, partly because government funding is determined on 1 October,' says Ingrid Hijman, head of the Student Service Centre (SSC) and in charge of implementing the registration resolution. This rule applied in previous years too but exceptions were sometimes made. Hijman says a decision was taken to enforce the rule more strictly this year. The result is that a few Wageningen students will now have to wait a year, like De Vries. About 10 to 20 students contact the university every year after missing the final deadline for re-registration.

'The 1 September deadline has always been definitive at other universities — if you register too



PHOTO: SHUTTERSTOCK

late, that's just bad luck. It's actually rather odd that Wageningen still makes so many exceptions,' says the Dean of Education Arnold Bregt.

Naomi de Vries urges all WUR students never to ignore warning emails from the organization, even if you think you have already registered. 'Always check. Your life is turned upside down if you have to take a compulsory gap year you hadn't counted on and haven't saved for. Your friends carry on with their studies. The whole thing made me really ill for two weeks. I want to warn other people so they don't end up in the same boat.' **AvdH**

Students produce a MOOC about beer

Four honours students plan to develop a massive open online course about the science behind beer. The MOOC will be published online next year, when the university celebrates its centenary.

The idea came when the four honours students Nico van der Veen, Sander Breevaart, Esther Kunst and Florence Scherer were doing research into the 'ideal university'. One conclusion was that the university should make more knowledge available to the general public. After an evening brain-

storming, they came up with the idea of a free online course about beer. 'The science behind beer draws on a range of Wageningen degree programmes. Think of production, marketing and the impact on health,' says Van der Veen. 'And beer is popular too.'

The online course will be part of WUR's centennial celebrations. Josette Jacobs, Honours Programme coach: 'The centennial committee had also had the idea of making a MOOC, so this ties in nicely.'

The honours students are looking for other students who are



willing to help develop the MOOC. You can find more information on the Facebook page 'Science behind beer'. **LvdN**

Canal surfer surprised by all the attention

'Farm wakeboarding' involves standing on a kiteboard and surfing along a canal as you are pulled by a car going 30 kilometres an hour. Teun Vogel and his mates have been doing it for years. But suddenly their hobby has become national news.

It all started when a photographer friend of theirs took some photos and sent them to the national media. Dutch newspaper *De Telegraaf* devoted an article and video to the topic and the TV programme *RTL NEWS* sent a reporter, who even had a go. Not a very successful one. The *AD* newspaper and *Qmusic* radio station also paid attention to the surfers. 'They all talk about us as if we're a bunch of farmers who take off our clogs and do a bit of surfing,' laughs Teun Vogel, who recently graduated in International Land and Water Management. 'We call it farm wakeboarding but that's because of the location. There aren't actually any farmers in our group.'

Farm wakeboarding started off partly out of necessity: there is not always enough opportunity for kitesurfers on the Dutch coast. So about five years ago, the friends came up with the idea



Watch the video
on resource-online.nl

PHOTO: TEUN VOGEL

of being pulled by a car instead. If the weather is good and there's no wind, the guys send one another a message: FWB tonight? Then they gather at a canal near Wijk bij Duurstede, get the barbecue going and take turns on the kiteboard for a 400-metre stretch and back. These days, Vogel does as much canal surfing as he does kitesurfing. 'Kitesurfing is something you do on

your own. This is really a trip out with your mates.'

There are four former Wageningen students in the group, all recent graduates. Vogel: 'We did it for a while in Wageningen too. But this location is safer: there's no traffic and only a few trees. That's why the police leave us alone.' **LvdN**

MEANWHILE IN... KENYA

'We need more tolerance'

Politics in Kenya are going through a troubled period. On October 26th, repeat presidential elections were held in most counties. These were preceded by protests. The leader of the opposition called for a boycott, resulting in an unusually low turnout. Joshua Wambugu hopes transparent leadership will emerge.

'The recent elections are a rerun of the elections in August this year, when officials were elected for all six elective posts at different government levels. The narrow majority won by President Kenyatta was not accepted by the opposition. After a petition that declared the election procedure invalid, the Supreme Court of Kenya made a ruling that new elections must be held. Fortunately, everybody accepted this decision.

Meanwhile in the international news, I see that my country is portrayed as a mess, which I find exaggerated. For instance, some friends showed me the Dutch NOS headline "Chaotic election day in Kenya".

It is true that barricades are regularly built by protest groups, but this is also just a way of expressing their opinion. Fact is that many people are afraid of an escalating situation like we had in 2007, when widespread violence broke out after the



Joshua Wambugu, a Master's student of Leisure, Tourism and Environment from Kenya, talks about the recent troubles in his country.



PHOTO: WOGHIT POLITICS, YOUTUBE

elections. From what I hear, this is the main concern of Kenyan citizens about elections.

The main area in which Kenya needs to make progress is towards more tolerance. Kenyans still view each other as different tribes on political issues, while they are really fellow citizens in a comparable situation. People should learn to engage more in debate. At the end of the day we can agree to disagree, but there has to be continuity. I believe that it is the role of the president to demonstrate this by being transparent. That is the only way of showing that the government is functioning properly. This will hopefully build more trust in the democratic system.' **TF**

YOU ON CAMPUS



On campus, you often come across people quietly reading a book, but people who are reading their book starting at the back and working forwards are rarer. Yet they do exist. The Biotechnology Master's student Jorien Hattink (23) reads manga, Japanese comic books. You read them from right to left. 'I do read books going the right way too, though.'

'Manga books are a kind of fantasy that sometimes goes way over the top,' explains Hattink. She usually prefers fantasy when she reads normal books as well. 'It's just nice to lose yourself in a book and discover an entire new world. That's easy with fantasy.'

Reading is not the only thing this student does in her free time. 'You could call me a typical geek,' she laughs as she lists her hobbies. In addition to reading, she likes gaming, writing stories and making fusion bead objects. Lots of people used to arrange little

'My biggest work was a vocaloid 50 centimetres tall – that was quite something.'

plastic beads in a pattern and melt them together with an iron when they were kids. Hattink has never stopped. 'I find designs on the internet and adapt them to suit my own tastes or my client's.'

She incorporates a lot of references to pop culture in her art, for example by creating characters from Pokémon or Marvel. 'My biggest work was a vocaloid 50 centimetres tall – that was quite something.' A vocaloid is a cartoon figure that can make music and puts on hologram concerts.

Fusion bead craft takes up a lot of Hattink's time but her degree comes first. Before she started her Master's in Wageningen



PHOTO: ANNE VAN DER HEIJDEN

she spent four years at a university of applied sciences. 'This is where I wanted to end up eventually, and it's what suits me.' On biotechnology, she says: 'I think it's the future.' She has also thought about her own future. 'I wouldn't want to spend every day in the lab; I'd prefer a management position. I would also like to get my fusion bead work off the ground.' AvdH

Read all the interviews on resource-online.nl

PARTIES

In the party mood? Wageningen Party Promotion (WUP) tells you where to find one. See too www.wageningenup.nl.



KSV - KSV FRANCISCUS PUBLIC PARTY: FANTASY FRANCISCUS

Thursday 2 November from 23.00 to 05.00

It's the first week of the second term so you have all the time in the world to party! Admission is 4 euros. Don't forget your uni card and ID card, otherwise you won't get in.

WAGENINGEN - DOBBEL PALM INDRONK

Wednesday 8 November from 18.00 to 02.00

The Dobbel Palm Indronk — a pub crawl to celebrate Dobbel Palm being on tap again — has been a Wageningen tradition for 20 years. The barrels of beer are brought into the town by horse and cart. You can still enjoy a sociable beer even if you don't have a ticket. The afterparty is in café Luca.

WAGENINGEN - ROOMSERVICE 2017

Thursday 9 November from 20.00 to 23.45

Roomservice Wageningen has been going for 10 years now. The festival features a wide range of music, theatre and dance, all performed in students' living rooms. Tickets go on sale on Thursday 2 November. You are advised to be quick.



PHOTO: SVEN MENSCHER

At SSR-W's Kiss and Tell party, you could tell who the singles were behind and in front of the bar from their red wristbands.

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.

In diplomatic circles in Myanmar

'Before I started my Master's in Wageningen, I was at Van Hall Larenstein University of Applied Sciences. There, I did internships with an NGO, a consultant and a water board. With a view to gaining some insight into policymaking, I wanted to do an internship with a government institution as well. The ministry of Foreign Affairs' vacancy seemed like an ideal opportunity to me.


The job was not a perfect fit with my degree: they were looking for someone with a political-economic background. But I applied anyway and during the interview it emerged that they actually wanted an additional intern with a water and agriculture background. So that was a learning moment: people are not always aware that they need you.

SEALED LETTER

I am working on setting up a water hub and a water academy, in which local students are linked up with professionals. One example of this is the water challenge, in which students and companies do case studies together on things like waste water purification, flooding, and the dredging of ditches and canals. I am also organizing a seminar on delta management for donors, government bodies and companies, I report on meetings, I write a monthly newsletter and I contribute to developing the Netherlands' water strategy in Myanmar.

I am really enjoying my internship. Only now do I realize why certain bureaucratic procedures at an embassy take so long. In the Netherlands you can plan a meeting by email, but at an embassy that is done by sealed letter. I am also getting the opportunity to go to lots of meetings and events, even if they are not directly relevant to my work. I have been to Unicef and UNFPA meetings, for instance, to get an impression of the embassy's humanitarian work.

One funny fact: Myanmar is an extremely hierarchical country and interns are not taken seriously at all. That's why my business card says I am a 'junior policy officer' at the Dutch embassy.

Life in Myanmar is pleasant. I live with another intern who is working in the same political department. We live within walking distance of the embassy. That is very nice because there are always massive traffic jams here. And it is nice that Myanmar attracts a lot of young expats. I was soon made welcome in Dutch water circles, and invited to parties, yoga classes and lunches.'  CN

THE WORKS

Who? Laura Huisman, MSc student of International Land and Water Management
What? Internship at the Dutch embassy in Myanmar
Where? Yangon, Myanmar

Read all the interviews on resource-online.nl



announcements

Shout Wageningen: Buddy Program

Would you like to join an activity run by Shout (a lesbian, gay, bisexual, transgender, queer interest group and social association) but you don't like to go by yourself? You can sign up through the buddy program to be linked up with a buddy/mentor. Together you'll decide which activity both of you would like to attend. Every third Friday of the month Shout organizes a pub night with all kinds of activities, and every first Saturday of the month you can party. SHOUTWAGENINGEN.NL/EN/BUDDY-PROGRAM

Academy Ecology Fund

Young researchers can apply for a grant to collect ecological field data in the Netherlands and abroad. Ecological research at a foreign institute is also eligible. Priority is given to fundamental scientific questions, but research that tries to find a fundamental solution for practical problems is also eligible. Deadline for

submissions is 15 December 2017. KNAW.NL/NL/PRIJZEN/SUBSIDIES

Grant from scientific institute Bier

The scientific institute dedicated to beer is offering a grant of €5000 to encourage research on responsible alcohol/beer consumption as part of a healthy lifestyle. Students, PhD candidates and postdocs can submit a research proposal, for example on the biomedical, psychosocial or nutritional aspects of the responsible consumption of beer. The maximum length is one A4. Deadline for submitting proposals: 27 November 2017. KENNISINSTITUUTBIER.NL/GRANT

Want to find out how to Cope with the Blues?

Did you know that the government has started a National Depression Campaign to end the taboo on sombre moods and depression? Depression symptoms are common, including among students. You can have a great student life but given all the

changes (a new degree, town, friends), it would be no surprise if you felt ill at ease and anxious at times. You might wonder: am I up to it, do other people really like me, why do I feel down when everyone around me seems to be so happy? You're not the only student to feel like this! If you get help and advice in time, then the risk of a genuine depression will be much smaller. Grip Op Je Dip (coping with the blues) and Kopstoring ('head dysfunction') were developed to make it easier to get help and advice. Go to Gripopjedip.nl and Kopstoring.nl for free, anonymous help, by email or via online group courses, with specialized mental health professionals. New courses start every month. GRIPOJEDIP.NL / KOPSTORING.NL

Wanted: volunteers to keep party platform WageningenUP going

WageningenUP has been the biggest online platform for student parties in Wageningen for nearly 10 years now. With a website and a column in Re-

source (see p. 28), the platform keeps students and other Wageningen residents informed about what is going on in the town. To keep the platform going, we need students who are willing to help maintain the website. Your working hours are flexible and there is the possibility of some pay (to be agreed). This work will also let you quickly build up a broad network in Wageningen. Do you like the idea of contributing to our active platform that gets used by thousands of students and Wageningen residents? Then send an email to wageningenup@gmail.com.

agenda

Thursday 2 to 15 November FILMS FOR STUDENTS

Félicité: a Congolese social drama with music about a singer's uncompromising fight for a medical operation. *Walk With Me*: a cinematographic journey through the world of mindfulness with the Buddhist teacher Thich Nhat Hanh in the rustic South

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of France. *Het Mysterie van de Melk-robots*: dairy farmer Johan versus the multinational that provided him with three defective milking robots, followed by a discussion with the Farmers Foundation. *Kedi*: Modern Istanbul as seen by seven cats, who mirror its human inhabitants. Venue: Wilhelminaweg 3A, Wageningen.

MOVIE-W.NL

Saturday 4 November, 10.30-17.00 VWI SYMPOSIUM

The annual symposium organized by the Network for Wageningen University Alumni Women (VWI) offers numerous workshops that all have links in different ways with your network. Discover your talent for networking and benefit from one another's expertise and skills. You can play the 'Flip-thinking Game' to get more out of your network and find out-of-the-box solutions. The day will end with a drinks reception and live music. The symposium is for VWI members and their guests. Students receive a special discount. Venue: Oude Stadsdekkantoor, Olympiaplein 1 in Wageningen.

VWI-NETWERK.NL

Thursday 9 November, 12.30-13.20 LUNCH WORKSHOP WAGENINGEN WRITING LAB 'PLAN FOR SUCCESS'

Not sure how to make an effective start on your writing assignment? That's the question we aim to address during this workshop. We will provide you with the theory behind the writing process and guide you in applying this theory to your own assignment. Don't forget to bring your own assignment! Free access. Be on time, as participant numbers are

limited to 20. Venue: C0106 Forum. Info: info.wageningenwritingLab@wur.nl.

Thursday 9 November, 20.00 – 23.00 ROOMSERVICE STUDENT ROOM FESTIVAL

Studium Generale presents this festival for the 10th time. Twelve Wageningen student rooms are transformed into cosy little theatres, music clubs and stages to celebrate the arts. In each room, there will be a 30 minute show with a variety of music, cabaret, theatre, storytelling, magic... you name it! Choose three shows from the program, buy tickets for each show and bike (or walk) through Wageningen to an unfamiliar room. Then, sitting on a sagged couch after a warm welcome from your host, you can enjoy an exceptional performance in the company of a small audience. And off you go for the second and third show! Reservations can be made from 2 November via info.sg@wur.nl. There are a limited number of tickets available, so be quick because full = full! For more info and an overview of the shows see our RoomService Facebook page.

Wednesday 15 November, 18.00 B.V.W. BIOLOGICA 'NATURE CALLS' SYMPOSIUM

In this symposium, various aspects relating to the topic of 'sound' will be discussed. Dr Wouter Halfwerk (VU University Amsterdam) will talk about the impact of sound on animal behaviour, Dr Ronald Pennings (Radboud University) will explain the use of gene therapy in the treatment of deaf people and Dr Guillaume Dezechache (Université Pierre et Marie

Curie) will talk about the development of alarm signals in wild chimpanzees. Venue: Junushoff Theatre.

SYMPOSIUM-BIOLOGICA.NL

Tuesday, 16 November, 12.30-13.20 LUNCH WORKSHOP WAGENINGEN WRITING LAB / WUR LIBRARY 'SEARCH EFFICIENTLY IN THE RIGHT DATABASE'

There are many places and ways to look up information. Knowledge of databases and search strategies will help you find scientific publications on your topic efficiently and systematically. Learn about tips and tricks in this workshop. You can bring your own research question to get advice. Free access. Be on time, as participant numbers are limited to 20. Venue: Forum PC0725. Info: info.wageningenwritingLab@wur.nl.

Wednesday, 20 November, 16:00 WEES SEMINAR: 'MICROBIAL EVOLUTION: TAKING A DIP IN THE MOBILE GENE POOL'

In this seminar, Michael Brockhurst (Professor of Microbial Evolution, University of Sheffield, UK) will present data from experimental evolution experiments looking into horizontal gene transfer (HGT) and mobile gene elements (MGE) in environmental *Pseudomonas* species. A workshop earlier in the day will look at antibiotic resistance through bacteria-plasmid coevolution.

Venue: Impulse.

WEESWAGENINGEN.NL

colophon

Resource is the magazine and news website for students and staff at Wageningen University & Research. Resource magazine comes out every fortnight on Thursday.

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>>TYPICAL DUTCH




ILLUSTRATION: HENK VAN RUITENBEEK

Impossible Dutch names

The Dutch language is really difficult to learn. But what is worse, Dutch first names are very hard to remember. I often don't even recognize them as a name.

I was sitting at a computer in Radix recently, next to the same colleague as usual. As I was having a brief chat with him, I received a hastily written text message from his supervisor: 'I could send wouters proposal though.' For a French person, English is hard enough, so when I hear or see a new word, I always ask for the translation or search for it. So I typed into Google Translate the unfamiliar word which looked like an adjective to me: 'wouters'. No translation for it. In any language. Just then my colleague glanced at the screen and said with an exasperated voice: 'Yes... that's my name.' I felt kind of sorry for him, because after talking to him for two weeks, I still didn't know his name.

For foreigners from anywhere in the world, Dutch names are impossible to pronounce, to remember, to spell or even to distinguish in a sentence. To make matters worse, some of them are only part of their more familiar full name. Xander, one of my housemates, should be called Alexander – proof that the Dutch are too lazy to write their own names. Finally, when you have managed to remember the name of your Dutch housemate, you must still try to spell it correctly. Like Natasja with a 'j' instead of Natasha with an 'h'. I decided to live with 20 Dutch housemates, so you can understand what a hard time I had at first.  Cindy Lainé, guest researcher in Plant Genetics, from France

Dutch names are impossible to pronounce, remember, spell or even distinguish in a sentence

Have you had an interesting encounter with Dutch culture? Send your anecdote (in 250 to 350 words) to resource@wur.nl and earn 25 euros and a jar of Dutch sweets. The editors reserve the right to shorten and edit the contributions before publication.