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# RESOURCE **[EN]**

For everyone at Wageningen University & Research

no 14 – 9 March 2017 – 11th Volume

## Fewer lab animals

Numbers halved in five years | **p.12**

**INTERNATIONAL  
EDITION**



## DRONE REVEALS LEGACY

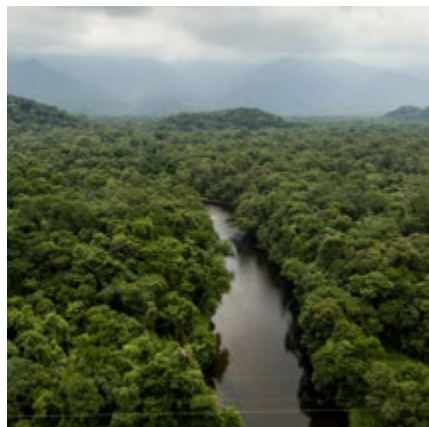
This pattern appeared in the summer of 2015 on the edge of the campus, and was filmed by a WUR drone. With the help of such images, geoscientist Bob van der Meij has revealed how the growth of crops is influenced by the chemical and biological legacy of plants which grew on the same piece of ground before them. This new study was published in *Biogeosciences*. Janna Barel and John van der Lippe of Unifarm designed the pattern of blocks using oats (dark green) and endive (light green).

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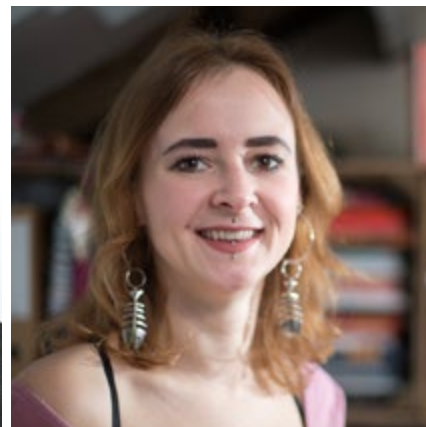
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## FAKE EXPERTISE

Hats off to Brenda Narinx and Nathalie Wilmsen, WUR students of Nutrition and Health. I'm looking at their appeal on [petities24.com](https://petities24.com). At this point 1551 people have put their digital signature under the petition: make 'nutritionist' a protected title. I totally agree. There is practically no such thing as expertise these days. Or perhaps I should say that it has become far too easy to get the title of expert. In the old days, your titles were determined by your education or social hierarchies; nowadays the crowd and the media dictate what people believe. I'm all in favour of quality labels, ratings and reviews. A method of identifying fake expertise still has to be developed. A stamp on the forehead, perhaps? Just joking of course, but those students do have a point. Any idiot can call himself a diet expert, a job coach, a mediator or a photographer. How can you establish a person's level of expertise? By the degrees or publications to their name, or just from a casual chat? I don't know. I do know that fake expertise infuriates me, so I am delighted to sign the petition now. I'm number 1656.

*Edwin van Laar*



>> [Cute foreign doggie could carry scary bacteria](#) | p.9

# LITTLE SUPPORT FOR EVENING TEACHING

**Over three quarters of students (76 percent) and two thirds of lecturers (66 percent) don't want classes in the evening, it appears from the evaluation of the evening classes pilot.**

In the period from September to January, more than 2500 students and over 50 lecturers took part in a trial by Wageningen University & Research with classes after six in the evening. Afterwards, they were sent an online questionnaire by the research firm Panteia. The survey was completed by 1409 students and 43 lecturers. Panteia also held in-depth interviews with students and lecturers.

In the evaluation, students and lecturers said that they experienced additional stress from the long days with classes in the evening. The evening classes also prevented them from undertaking other activities. Students were unable to exercise, study or relax. Lecturers found problems making time for team sports, their family and regular engagements. International students are not as negative about evening classes as Dutch students: 22 percent say they

don't find it a problem, compared with 6 percent among the Dutch.

Most lecturers say attendance was lower than for daytime classes because the evening classes often clashed with other obligations. A quarter of the students missed more than four sessions. Nearly 80 percent of the students say that when they did attend, they were not able to concentrate so well, a picture that is confirmed by the lecturers. However, this does not seem to have led to poorer exam results: the average grades during the pilot barely differed at all from the average in the previous three years.

Students and lecturers wonder whether there really is a capacity problem, given the many empty classrooms they see during the daytime. Rather than evening lectures, they would prefer to have the university do more in checking whether reserved rooms actually get used. If the university still decides to introduce evening classes, they would prefer this to be limited to formal lectures given once a week at most, on a Tuesday. The university should not plan morning, afternoon and evening classes

on the same day, nor a morning class the day after an evening class, and evening classes should be recorded so that students can watch them later on WUR TV.

Panteia also asked facilitating staff, such as IT workers, and student societies about their experiences with the evening classes. There was not much support among these groups either.

The aim of the pilot was to get some experience with teaching in the evening that the Executive Board will then be able to draw on in further decision-making. Spokesman Simon Vink says that the board will be starting an open dialogue with the student and staff representatives about the findings. 'The results do not mean the option of evening classes is no longer on the table. It's not just about broad support. We need to provide teaching and there is not much room for avoiding the evening solution. But there is clearly a need for improvements in the way we set up the evening classes. We will be discussing this in the next while with the student and staff representatives.' **LvdN**



PHOTO: GUY ACKERMAN

## EVERY VOTE COUNTS

The Dutch parliamentary elections of 15 March are approaching and the political parties are on tour. Almost daily, people in raincoats bearing party logos walk across the campus, and MPs and ministers find their

way to Wageningen too. D66 MP Stientje van Velhoven (in the photo, with the green scarf on) got onto the proverbial soapbox in Impulse. Remco Dijkstra (VVD) talked to researchers and Henk Leenders and Lutz Jacobi (PvdA) came to debate about the climate-friendly city. Alumnus Jeroen Dijsselbloem, PvdA minister of Finance, will be talking to the public in Orion on Monday 13 March. **Evl**



# WUR IS BEST FOR AGRICULTURE AGAIN

**Wageningen University & Research is once more at the top of the QS ranking for agricultural sciences. For environmental sciences WUR has dropped two places to position 6.**

In the field of agriculture and forestry, WUR scored 96.5 points out of 100 this year: half a point more than last year. Once again, WUR thereby trumps the American universities UC Davis and Cornell. For environmental sciences, Wageningen scored 93.6 points: 0.10 less than last year.

For veterinary sciences Wageningen is ranked 15th (with 85.3 points); for develop-

ment studies it is in 13th place (with 82.1 points). QS has not yet published an overall ranking – that will come out later this year.

The compilers of the QS ranking assessed more than 4000 universities, analysing millions of academic articles and citations, evaluating degree programmes and asking thousands of academics for their opinions. QS used to compile the rankings for the renowned British newspaper *Times Higher Education* (THE), but they parted company in 2010. THE wanted to give less weight to subjective appraisals. QS went its own way. The QS ranking is 40 percent based on the institution's reputation. **AS**

## ©COLUMN|STIJN

### Emancipate the right

Not once have I encountered an ecologist at the university who is really critical when it comes to the subject of nature. Everywhere I look, I see people who are all for more biodiversity and more nature conservation. Just occasionally I wonder: isn't it a bit odd that we are the ones who get to research exactly how important biodiversity is?

Of course we do stuff with data and all that, but you certainly couldn't call us 100 percent objective. If someone discovers a case, for example, in which biodiversity turns out not to be important at all, no time is lost in declaring that the measuring method was wrong. We are homogeneous in other ways too. In our circles, GroenLinks (the green left party) will no doubt be the biggest winner in the next week's elections, followed by D66 and the animal rights party PvdD. Now of course not all Wageningers are ecologists, but the vote Wageningen-wide is not much more varied than that. In 2012 the far-right PVV got less than five percent of the votes. Here the left only narrowly missed a parliamentary majority. (For the sake of clarity, I haven't even counted D66 as left-wing).

So let's face it: that VVD politician who reckoned science was (too much of) a left-wing bastion is quite right. We scientists are biased, we have a one-sided worldview and our worldview influences our recommendations. That's a problem and I think we should do something about it. Diversity matters. And if we want more women and cultural diversity in the sciences, why not more political leanings as well? The only question is: how can we attract right-wingers to an academic career?

Wait, I think I know how: with money, lots of money. So, government: I propose a big boost to academic salaries. No, not for our sakes. For the sake of the emancipation of the right. **B**

**Stijn van Gils** (29) is doing doctoral research on ecosystem services in agriculture. Every month he describes his struggles with the scientific system.



PHOTO: WUR



Anneloes Groenenboom, Sophie le Hesran and Sabine Vreeburg (from left to right).

### in brief

#### >> GUIDE TO MASTER'S 23 top programmes

Of Wageningen's 27 Master's degree programmes, 23 have been declared 'top programmes' in the *Keuzegids* (Guide to Master's) of 2017. This is seven more than last year. These programmes have scored at least 76 points. Three of the top programmes are also listed in the top 20 of 'the very best Master's programmes': Plant Sciences (92 points), International Land and Water Management (90 points) and Geo-information Science (90 points). The Wageningen Master's which were not designated top programmes were Environmental Sciences, Aquaculture and Marine Resource Management, Applied Communication Science, and Landscape Architecture and Planning. The latter programme received the lowest score, but is on its way up now after an overhaul. It scored 64 points this year, compared with 60 last year and 58 in 2015. The scores in the *Keuzegids* are based on student evaluations in the National Student Survey and the expert evaluations of the national visitation committee NVAO. **LvdN**

#### >> FAMELAB Wageningen winners

Sabine Vreeburg and Sophie le Hesran will represent Wageningen at the national final of FameLab on 3 May in Utrecht. On Friday 24 February they won the local qualifying round at an afternoon event in Impulse. Eighteen young Wageningen scientists were given three minutes to present their research as clearly and enthusiastically as possible to a lay audience. This was the fourth time Wageningen has entered this originally British

competition. Besides Vreeburg and Le Hesran, there was an honourable mention for Marlies Groenenboom. PhD candidate Vreeburg (Laboratory for Genetics) was convincing with a fluent account of termites and their fungus gardens. Sophie le Hesran (Entomology) talked about her doctoral research on biological pest control using mites. Both participated because they feel it is important for scientists to be able to explain their work clearly. **RK**

# PROBE INTO SCIENTIST'S CITATION SCORE

**The Academic Integrity Committee (CWI) at WUR has begun an investigation of a Wageningen soil scientist who may have massaged her citation score. According to the European soil science association, she is innocent.**

The CWI is looking into whether the researcher misused her position as editor of academic journals. The issue came to light during an internal evaluation of the chair group in question. The professor discovered that this particular researcher's H score had shot up as a result of a big increase in the number of citations. Further re-

search showed that the impact factor of a soil science journal had also increased in the past two years.

When the university enquired with the publisher of the journal about any possible academic misconduct, the publisher said he'd received other similar signals and was looking into it. The university also received documents from anonymous sources which spoke of the existence of an international 'citation cartel'. The anonymous accusations were reason at the end of February for the executive board to call on the Academic Integrity Committee for help.

Just one week later the European Geosciences Union (EGU) reported that there was no question of a 'citation cartel' among European soil scientists. The EGU scrutinized the correspondence between the editors and the soils scientists who published in the journals *SOIL*, *Solid Earth* and *Geoderma*. Only the chief suspect, the Spanish professor Artemi Cerda, turns out to have manipulated his citation score by requiring scientists to refer to articles of his. In the past ten years this has led to 100 unjustified references in 12 articles in *Geoderma*, reported Elsevier publishers.

*Geoderma* found no indications, however, of any systematic boosting of the citation scores of the group of editors which the Wageningen soil scientist belonged to. Nor did they find any evidence of the existence of a cartel in which editors and researchers constantly reference each other's articles. According to the EGU, only one person has massaged his citation score in an unacceptable manner and the other editors, including the Wageningen one, are innocent.

When the Academic Integrity Committee will complete its investigation is not yet known. **AS**

# MOSQUITO RESEARCHERS TO SHARE LABS

**WUR is going to open its high security BSL3 lab for research on the Zika virus and other insect-borne diseases to other European researchers. The sharing of the research facility will be funded by the EU through the InfraVec2 programme.**

The 24 partners in the EU project all have facilities for studying the spreading of animal and human infections via insects. They are now making those facilities available to researchers from other institutes, such as those in eastern Europe. 'Researchers from outside this consortium can now make use of these facilities,' says the Wageningen entomologist Sander Koenraadt, a partner in the European project. 'If their application is approved, they can come to Wageningen for example, to do a test with mosquitoes and viral diseases, and we'll provide support.' The EU is making 10 million euros available for this. The project will be headed by the Pasteur Institute in Paris, which has an advanced lab of its own for mosquito research.

In the Wageningen BSL3 lab in Radix, there are stringent security



Virologist Giel Göertz and entomologist Chantal Vogels prepare mosquitoes for Zika research in the BSL3 lab in Radix.

standards for the research on mosquitoes and pathogenic viruses. For example, mosquitoes are now infected with the Zika virus in order to study the spreading and expression of the disease and the behaviour of the insects. A lab of this kind is important but it is not cheap, says Koenraadt. Together

with the Virology chair group, he is responsible for acquiring enough research assignments to fund the lab. Market research among his European colleagues has suggested that they would be keen to use the research lab. 'I already thought so, because at conferences I am often asked whether we could do re-

search together in this lab. That is possible now, with the EU funding.'

Due to climate change, more and more insect-borne infectious diseases are infiltrating Europe. The EU wants to make better use of the available facilities for studying this. **AS**

PHOTO: ATHOS SILVA DE OLIVEIRA



## MAKRO GETS INVOLVED IN STARTLIFE

**The parent company of the self-service wholesaler Makro, the German Metro Group, is entering into a collaboration with StartLife, the Wageningen organization for startups in the food and agriculture sector. The deal makes it easier for starter entrepreneurs to test their products in Makro stores.**

'The deal with StartLife means that for the next three years Metro will be at the cutting edge when it comes to innovation in the food sector,' says StartLife director Jan Meiling. According to Meiling, large companies want to innovate faster and smarter because they fear competition from newcomers such as Hello Fresh. 'They deliver straight to the consumer and skip the whole retail chain. That con-

cept has woken up companies like Metro.'

Metro will pay StartLife an annual partnership fee. It is not a fortune, says Meiling. 'The amount is less than 100,000 euros. It is a symbolic sum to show that we both intend to take our collaboration seriously.' The collaboration will provide opportunities for young entrepreneurs, says Meiling. 'If a startup wants to test a new product, that will soon be possible in special places in Dutch Makros. And if a product turns out to be a success, this collaboration can also lead to it getting onto the shelves of the Makro stores more quickly.'

The agreement with the Metro Group is the third partnership StartLife has entered into. The Rabobank and BDO accountants

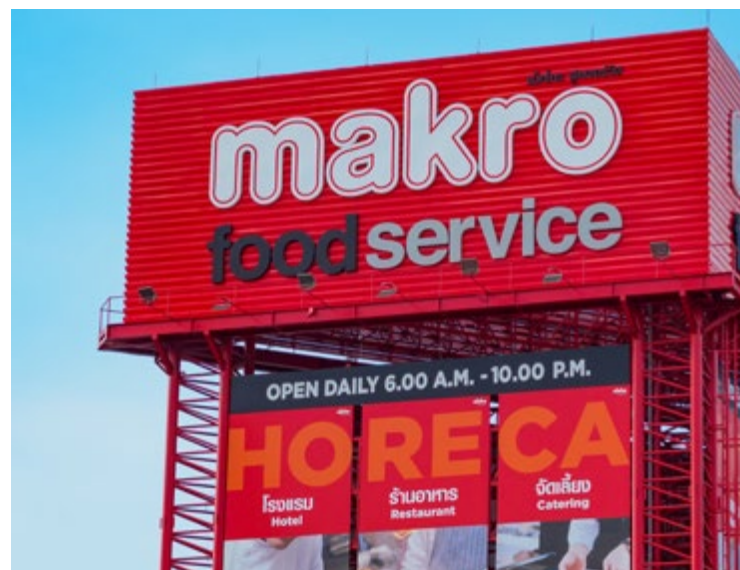


PHOTO: SHUTTERSTOCK

have already signed on the dotted line. A fourth deal is in the making too, says Meiling. 'That is a large

international company which will be moving to the campus. No, I'm not going to name names.' **® VK**

## WAGENINGEN NO LONGER SMALLEST UNIVERSITY

**Thanks to the rapid growth in student numbers, Wageningen University & Research is no longer the smallest university in the Netherlands. WUR has overtaken the University of Twente and is about to overtake the Technical University of Eindhoven.**

In the academic year of 2016-2017, there are 10,697 students registered at Wageningen, according to figures from the Universities Association VSNU. That is 1300 more than at the Technical University of Twente (9396).

Wageningen still has the smallest intake of Bachelor's students, but its intake of Master's students is high. This academic year, 1512 first-years came to Wageningen for a BSc, as opposed to 1963 to Twente and 2247 to Eindhoven. But while these technical universi-

ties get a few hundred first-year Master's students, more than 1000 new MSc students come to Wageningen.

Spokesperson Simon Vink knew last year that the university was no longer the smallest, but he did not publicize the fact. 'It's not an issue for the board because it carries no consequences.' Wageningen University is now comparable with the technical universities in Twente and Eindhoven, claims Vink. 'The budgets of those universities are roughly the same as ours, at about 320 million euros, and our student-staff ratio is roughly the same as those of Eindhoven and Twente too. Only the amount of government funding Wageningen gets is clearly lower, so the government should do something about that.' **® AS**

### Science Cafe Wageningen

www.sciencecafe.wageningen.nl

Music by: **Catch-22**

**Dr. Paul Vogt**  
(Tilburg Centre for Cognition and Communication)

**Roy de Kleijn, MSc.**  
(Leiden University)

Thursday, March 30  
19:45 - live music  
20:15 - Science Café Loburg  
**FREE ENTRANCE**

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# NEW EXPLANATION FOR BENDS IN STREAMS

**Bends in peatland streams such as the Drentsche Aa are almost right-angled. PhD candidate Jasper Candel of the Soil Geography and Landscape chair group investigated how these bends arose and has come up with an elegant theory.**

Many streams and brooks in the Netherlands were straightened out and channelled in the second half of the 20th century so that surplus water could be rapidly removed. In the past couple of decades, many of those streams have had their bends restored for reasons of water quality and ecological management. Old maps often serve as a guide. But how did the streams acquire those bends? To answer this question, Candel went far back in time.

The PhD candidate focused on the Drentsche Aa, one of the few streams in the Netherlands that escaped the channelling process. The stream meanders through the peaty landscape in a pattern rather like a square wave. The usual explanation for the formation of bends in sandy soil is that the fast-moving water erodes the soil away. But that explanation doesn't work for peatland streams. Candel: 'Peat is a tough material, and the water in the Drentsche Aa is slow-moving. As a result, the stream hardly changes course at all.'

Candel started drilling to get a picture of the old stream sediments. He was able to use the drilling, soil radar, carbon-14 dating and optically stimulated luminescence to reconstruct the stream's course and the age of the sediments. It turns out that the flat area through which the Drentsche Aa runs has changed dramatically since the last Ice Age, around 12,000 years ago.

According to Candel, the Drentsche Aa started out in one of the deep valleys left behind by the Ice Age. Those valleys gradually filled up



Jasper Candel at work beside the Drentsche Aa.

with peat due to the warmer, wetter climate. Candel found peat down to a depth of eight metres. 'The stream rose up as the peat accumulated. All that time, the stream followed the contours of the hillside. That sand eroded more easily than the peat. So the peat was actually pushing the stream upwards against the hillside.' One part of the stream 'walked' along one hillside, another part 'walked' along the opposite

hillside and at certain points, the stream crossed over from one side to the other. Which is why the Drentsche Aa has almost right-angled bends.

Candel says that as the layer of peat grew thicker, successive bends were pushed increasingly far apart — until the peat and the stream rose above the level of the hilltops. The stream has not changed course since then. **© RK**

## HARD FOOD IS MORE FILLING

**The hardness of food is a much bigger factor in the feeling of fullness, or satiety, than its sweetness, discovered Marlou Lasschuijt, a PhD candidate at Human Nutrition. By changing the texture of foods, producers could therefore induce people to eat less of them.**

'We know from previous studies that satiety is affected by the sweetness of food and how much you chew it,' says Lasschuijt. 'But the separate influence of these two factors wasn't clear.'

To find this out, the researcher served 58 test subjects four different gels with different textures and degrees of sweetness. 'The participants had fasted beforehand and then they were given a measured quantity of food that matched their body size, so they were all equally full at the start of the test. Then they were each given one of the gels, and they could eat as much of it as they wanted. The number of chewing movements they made was recorded too.'

The participants ate 21 percent less of the hard food than of the soft food, whereas they all reported feeling equally full. Strikingly, the sweetness of the gels had no influence on how much people ate. Possibly the sweetness did not vary enough, speculates Lasschuijt. In earlier tests people proved not to like ultra sweet gels as much. 'For our study it was important that participants liked the taste of the four gels more or less equally.' **© TL**



# SOIL IS INFLUENTIAL IN TREE ROOT GROWTH

**The way trees put down roots is different in rich clay soil compared with poor sandy soil. Research by PhD candidate Monique Weemstra shows that they have more roots in poor soil, but the roots are not thinner.**

Weemstra used studies of tree rings to relate tree growth to the climate and water supply. The conclusion was as expected: 'All species grow less if there is less rain. A much more interesting finding is that some species respond strongly to ground-water levels while others do not. They grow less if the groundwater level is low.'

Weemstra concluded that this must have something to do with the roots. Next, she compared the root growth of two species — Norway spruce and beech — in two completely different soils: thick clay soil in the Flevopolder and poor sandy soil in the Veluwe.

As expected, Weemstra found that both species put down more roots in the poor soil of the Veluwe than in the polder. The poorer the soil, the greater the root surface area that the tree creates to obtain its nutrients. Weemstra also expected to see thinner roots in the Veluwe for the same reason — a greater surface area. But that

turned out not to be the case. 'What I did find is that the Norway spruce invests more in the symbiosis with mycorrhiza fungi in poor soil. Beech trees don't do that.'

All in all, it is difficult to figure out the relationship between roots and growth. The relationship above ground between leaves and growth is simpler. You have short-lived trees that grow fast with thin leaves that fix a lot of carbon and trees that take things at a more relaxed pace, live longer and have thicker leaves. These are the two extremes on the spectrum. Such a straightforward spectrum does not exist for roots, concludes Weemstra. She thinks that is because the underground world is more complex than the one above ground. 'Leaves absorb carbon dioxide and light. There are far more nutrients underground, and they are also found in different forms. A completely different kind of root is needed for a mobile element like nitrogen compared with an immobile one like phosphate.'

'What is more, mycorrhiza fungi have a big influence on the root system,' she continues. 'We also don't know nearly enough to work out the link between the properties of roots and their function. That has hardly been tested at all.' **✎ RK**



PHOTO: SHUTTERSTOCK

## VISION <<

### 'Rescuing a puppy abroad can be dangerous'

**Vets recently established that a few dogs in the Netherlands which came from eastern Europe are infected with *Brucella canis*. This bacterium can make humans ill too. Although the risk is small, the government should take steps to prevent more infected dogs from entering the country, says Hendrik-Jan Roest of Wageningen Bioveterinary Research.**



#### *What kind of disease is this?*

'*Brucella* is a class of bacteria which does a lot of damage in the form of fertility problems, especially in farm animals. The Netherlands has been free of *Brucella* in farm animals for years now. *Brucella canis*, the dog variant, has now been identified in the Netherlands for the first time, in a few dogs from eastern Europe. The bacterium causes fertility problems in dogs too, and when it becomes chronic, inflammation of the joints. Sometimes the first symptoms only appear four or five years after the infection.'

#### *Is it dangerous for humans?*

'Dogs can infect humans during premature births of infected puppies, and via saliva, urine and faeces. There have not been any human cases recorded in the Netherlands yet and the risk of infection is not huge. But it is not easy to assess that, because it can take a long time before symptoms show up. That is one of the things that make *Brucella* hard to diagnose.'

#### *Should steps be taken?*

'We shall raise this subject at the monthly consultation on zoonoses (animal diseases transmittable to humans), SO-Z. Through this consultation, experts in veterinary and human health, among them Wageningen Bioveterinary Research, advise the government on the basis of a risk analysis. We must prevent more infected and sick dogs from entering the Netherlands. One option could be to put in extra import controls, as was done in the case of rabies. Antibiotic treatments are not 100 percent effective. The government could also consider having imported animals castrated and sterilized, because the bacterium occurs in sperm and you don't want it spreading through the breeding population. People who are tempted to take a puppy home with them from another country should realise that they might be importing all kinds of diseases. It is well-intentioned but without knowing it you put people and animals in the Netherlands at risk.' **✎ TL**



# MEAT SUBSTITUTE 2.0 COMING SOON

**WUR is going to be part of a four-year research project together with food companies to develop a production line for the large-scale production of high-quality meat substitutes. The shear-cell technology developed in Wageningen is central to the process.**

This technology turns plant proteins into fibrous structures which can compete with that of meat in terms of appearance and texture. Plant proteins from soya and wheat go into a machine in which they are heated to 100 to 140 degrees Celsius for 20 minutes, explains Atze Jan van der Goot, personal professor of Sustainable Protein Structuring. The flows of liquid in the machine cause the proteins to line up in a row, creating a fibrous structure. 'The water does not evaporate because the machine

works like a kind of pressure cooker,' says the researcher.

WUR developed this process in the past six years and presented it one and a half years ago as an alternative to standard production methods for making meat substitutes. An advantage of the shear cell technology is that it is simpler and more sustainable: the gentle processing keeps the nutritional value high and the energy costs lower. Van der Goot's group has developed a prototype over the past few years which can make seven kilos of meat substitute at a time.

In the new project Plant Meat Matters, funded by the Agri&Food top sector, the researchers will be working with eight food companies on the use of this technology on an industrial scale. 'In four years' time we'll have a first version of a production line with which companies can produce tasty meat substitutes in large volumes,'

says Van der Goot. 'A 100 percent plant-based beefsteak, for example. With that we can achieve further growth in the market for meat substitutes – which is currently only two percent of the meat market.'

The participating companies are multinationals such as Unilever, Mejn Food Processing and Avril Group, and the Vegetarian Butcher. They are covering half of the total budget of nearly six million euros.

For the next four years WUR can spend one million euros per year on further research on meat substitutes. There will be five new PhD researchers whose research topics will include new plant materials for meat substitutes, a sustainability analysis, and improvements to soya as a raw material. One researcher will also be exploring the potential for vegan dog and cat food. **AS**

# AMAZON DWELLERS PRACTISED FORESTRY

**The idea that the Amazon region of South America was largely untouched before the arrival of Columbus can be consigned to the dustbin. Indigenous people had domesticated at least 85 tree species before 1492.**

So says a study by WUR, Dutch natural history institute Naturalis and the National Institute for Amazon Research (INPA) in Brazil. With this finding, lead author Carolina Levis, a PhD candidate at WUR and the INPA, puts paid to a common prejudice among ecologists that the Amazon region was pristine until the arrival of the Spanish. 'For years ecological studies have ignored the influence of pre-Columbian peoples on the forest,' she says. 'Our results show clearly that the flora in the Amazon is to some extent a legacy of its vanished inhabitants.'

The researchers combined about 1000 forest inventories belonging to the Amazon Tree Diversity Network with maps of more than 3000 archaeological sites in the Amazon region. This enabled them to analyse the composition of the forest at varying distances from past settlements. They concentrated on 85 tree species of which it was known that they were domesticated by Amazon dwellers over the past millennia for food, shelter or medicines. These trees include commercial species such as cocoa, acai and Brazil nut. Such species occurred significantly more often close to the archaeological sites, reported the researchers last week in *Science*.

The researchers also stumbled upon areas of



Carolina Levis (right) during her fieldwork in the Amazon region.

the Amazon with both a high level of biodiversity and large populations of domesticated trees. As an example they cite an area in the southwestern Amazon where the Brazil nut is still the basis of the local people's livelihoods. But they also found areas where the relationship between domesticated plant species and archaeological sites is less clear. That would require more archaeological research.

The researchers focused on 85 tree species in this study, but indicate that pre-Columbian peoples managed hundreds more of the total of 16,000 tree species in the Amazon. The researchers, including the Wageningen Forest Ecology and Forest Management chair group, are therefore carrying on with research on the ecological footprint of the Amazon-dwellers of the past. **AS**



Blogs, vlogs, videos, photo series and reports of meetings. Not everything produced by the editors of *Resource* fits into or gets into this print version. See it all on [resource-online.nl](http://resource-online.nl). You can have your say there too.

MEANWHILE ON...



# RESOURCE-ONLINE.NL

## KNOTSBALL

The Knotsball national championships of 2017 were held in De Bongerd Sports Centre on Saturday 4 March. This typical student sport is a bit like hockey, using foam rubber clubs instead of hockey sticks. The competition was won by De Berijders from the Wageningen study association Nicolas Appert.

## CHILDREN IN THE CAMP

WUR student Hedzer Roodenburg Vermaat has recently started vlogging for *Resource* from the Baqa'a refugee camp in Jordan. In the second installment Hedzer shows how children play in the camp.

Watch Hedzer's vlogs  
on [resource-online.nl](http://resource-online.nl).



## WOMEN AND FOOD

'A woman's place is in the kitchen'. Not such a popular saying these days. Actually, women had to fight for that place in the kitchen, it was suggested at the presentation of the Yearbook of Women's History on 22 January. The book has been coming out since 1980. The 36th edition focuses on food and was edited by Bettina Bock and Jessica Duncan of the Wageningen Rural Sociology group.

## ELECTION FEVER

Blogger Carina is focusing on the elections. During a conversation with a friend, the special voting guide for PhD candidates catches her eye. 'I normally have my reservations about voting guides, because they are so unsubtle, but as a student I am certainly interested in this one.' In her latest blog Carina laments the traineeship trend in the world of employment.

Look at the photo series  
on [resource-online.nl](http://resource-online.nl).



PHOTO: SVEN MENSCHER

## PIGGY BANK CAMPAIGN

With a light-hearted fundraising campaign the University Fund Wageningen (UFW) collected 2000 euros for the Anne van den Ban fund. During the AID in August, the UFW handed out more than 300 heart-shaped piggy banks for students and staff to save their small change in until Valentine's Day. The motto was 'Small change for a big change' and the money will help students from developing countries who are in financial difficulty.

## RECTIFICATION

The article *ACT remains a challenge* in Resource 13 contains several inaccuracies. The ACT academic coordinator Valentina Tassone is misquoted throughout the article. She did not respond to questions asked specifically for this article. Instead, answers she provided in another context were used in this article. Secondly, the comments by the student of Food Technology quoted in the article should be considered invalid. This Food Technology student is not an ACT student. Thirdly, the article mentions the ACT workshop Communication and Personality Development. The correct name of the workshop is Communication and Personal Development (CPD). Finally, the recommendation at the end of the article that CPD should include intercultural communication was made without the author knowing that for several years now an intercultural communication toolkit has been provided in one full session of CPD. ACT teams that want to foster their intercultural communication skills can choose this toolkit to do so during CPD.

## PROPOSITION

*Competitive research does not  
accelerate advances in knowledge,  
but slows them down.*

Proposition in the thesis of Anika  
Oppermann, who graduated with a PhD  
on 3 March.





The chicken is frequently used in animal experiments in Wageningen. In this experiment at Carus, PhD candidate Bahadır Can Güz is studying the link between feet problems in broiler chickens and the kind of feed they get.



# Animal testing going down

Wageningen researchers are using fewer and fewer lab animals. The number of animals used for research purposes has been halved in five years, mainly due to stricter rules and research budget cuts. And WUR is working on new technologies which can replace animal testing.

text Roelof Kleis photo Guy Ackermans

**T**he latest figures, for 2015, show that a total of 33,631 animals were used for Wageningen research and teaching (see page 15). Roughly one quarter of these were used at the university; the rest were used by Wageningen Research institutes.

Besides these animals, 20,526 fish were caught by Wageningen Marine Research in order to study fish stocks and the make-up of fish populations in the North Sea. This figure is reported separately because this fisheries monitoring has only been included in Dutch animal testing legislation since 2014, and these high numbers could hide the downward trend in animal testing.

## Nearly 34,000 lab animals were used in Wageningen in 2015

These figures do not include every animal used by scientists for research. The law only counts vertebrates and cephalopods as lab animals, explains university animal testing expert Rob Steenmans. 'So using insects does not count as animal testing. It also only counts if the animal is being used for particular research goals. Consumption does not count, for instance. And there has to be a certain level of distress for the animal in question. A lot of nutrition experiments do not come under the law because the animal is not disturbed by them.'

### DOWNWARD TREND

At both Wageningen Research and the university, according to annual reports, animal testing was halved between 2011 and 2015. A closer analysis gives rather a different picture, though. Much the biggest drop in numbers took place in 2015, the last year included in

the report. According to Steenmans and animal testing expert Jan van der Meulen of Wageningen Research, this 'dip' is a result of the new animal testing legislation which came into force at the end of 2014. This legislation made the licensing process lengthier, and more complicated and expensive. Researchers had to get used to the new way of working. These changes distort the picture considerably, says Steenmans. 'The figures for 2016 should be submitted to the ministry next month. I am pretty sure the numbers will have gone up again.' Van der Meulen expects the same. So the 'dip' in 2015 will remain an exception in what is nevertheless a clear downward trend.

That downward trend is partly the result of the wish of the general public and the government to reduce the use of animals in research. The government's aim is for legally required safety tests on chemicals and allergy tests for new products, food ingredients, pesticides and vaccinations to be free of animal testing by 2025. Applications to use animals for experiments are therefore being assessed increasingly critically.

But the financial side of this is at least as important a factor, says Van der Meulen. 'There is simply less money for testing on animals. The Ministry of Economic Affairs, in particular, is commissioning less research in the areas of animal welfare and health. Animal experiments are expensive so that is one of the first things to be cut when savings have to be made. The abolition of the product boards has also led to a drop in assignments.' Steenmans also points out that scientists are going about their research differently. 'There is a shift from experiments in animal testing facilities to observations in the field. That is a very different way of doing research, which doesn't usually involve anything that counts as an animal experiment in the eyes of the law.'



## TESTING MUSSELS WITHOUT RATS

Mussels can contain toxic substances from algae which can give people diarrhoea. During the mussel season, Rikilt gets weekly deliveries of mussels for testing. Until 2011 this was done on rats or mice. Then PhD candidate Arjen Gerssen came up with an analytical method which did not use any animals. Instead it made use of LC-MS, a combination of liquid chromatography and mass spectrometry. The first technique separates the various substances in a sample, and the second then identifies them by comparing them with known substances.

Gerssen's method was officially approved by the European Union in 2011. Rikilt researcher Toine Bovee estimates that this means 300,000 fewer lab mice. But that can be improved on. The Gerssen method only works for known toxins, so a number of EU countries are still testing toxins on mice. Bovee thinks he has found a solution to this by developing a new bioassay. 'An assay with neurons, which reveals unknown toxins as well through an effect that is easy to spot with coloration.' The method will be published shortly. Bovee has high hopes that it will become standard in Europe.



PHOTO: SHUTTERSTOCK

## DISTRESS

The bare figures on animal testing only tell part of the story, however. More important, perhaps, is the suffering caused by an animal experiment. Taking blood from a mouse is a very different thing to inserting a rumen cannula – a hole with a lid on it – into a cow's stomach. So experiments are rated according to the level of distress – fear or pain – caused to the animal. The scale ranges from terminal through light and moderate to severe distress. Terminal is seen as the mildest form of distress. This may sound illogical but it is not, says Van der Meulen. 'This category covers animals which are experimented on under general anaesthetic and never regain consciousness. So they do not suffer.'

The distress scores show that far and away the most Wageningen lab animals suffer slight distress (see pie chart below). This may include killing an animal for its organs, taking limited amounts of blood or injecting it with substances that only affect it mildly. Inserting a rumen cannula in a cow comes under moderate distress, while emptying the stomach through the cannula only counts as slight distress. Two examples of severe distress are toxicity testing which ends in death, and total isolation of a sociable animal.

## GUT-ON-A-CHIP

If you want to know how the human gut works, you shouldn't really settle for results based on animal testing. And thanks to the latest technology, you soon won't need to. With their gut-on-a-chip project, scientists from Wageningen and Twente are seeking to simulate the microworld of intestinal cells.

'*In vitro* research on gut cells is not new in itself,' explains Hans Bouwmeester of the Toxicology chair group. 'The classic approach is to grow cells on a membrane with a medium on both sides. With this static apparatus you can measure the permeability of the intestinal epithelium. What is new about the gut-on-a-chip is that it is a dynamic model. The contents of the gut flow over the top of the gut cells, and the bloodstream over the bottom. This produces a much more realistic approach to the gut.'

The gut-on-a-chip looks simple enough: two glass slides with a layer of intestinal cells between them which are almost invisible to the naked eye. There are connections on the chip for the inflow and outflow of the simulated gut content and bloodstream. So does a bunch of cells like this work like a real intestine? 'No, of course not,' responds Bouwmeester. 'But in some cases that makes no difference at all. It just depends on which question you want to answer. You can make the system as complex and realistic as you like. For example, you can add mucus cells which simulate the slimy layer on the gut side. Or you can add gut microbiota.'

At the end of last year Bouwmeester and his colleagues gained NWO funding to elaborate on the system. Rikilt is involved in the project too.



PHOTO: RIKILT

## NUMBER OF TESTS

The number of animals used for experiments tells us nothing about the number of animal experiments carried out by WUR. The research institutes between them conducted 90 animal experiments in 2015. The university conducted 60 animal experiments, with the smallest involving just two animals and the largest almost 1000. And some animals are used in several different experiments.

Another striking point is that besides university research, teaching at the university makes use of a significant number of animals – 1567, one sixth of the total. These are tests which only cause slight distress, says Steenmans. 'For example, students learn to measure the recirculation system in a fish tank. Officially that is an animal experiment. In theory the water quality could deteriorate so much that the fish suffer from it.'

Whether the drop in animal testing will continue in future depends partly on the new WUR policy on animal testing. This new vision was announced in the annual report on animal testing in 2015. The executive board wants to 'go further than the legislative framework'. Quite how the board wants to do that is not clear, however. But there is certainly innovative research going on in various WUR departments on alternatives to animal testing (see boxes). **B**

## DIGITAL HUMAN REPLACES LAB ANIMAL

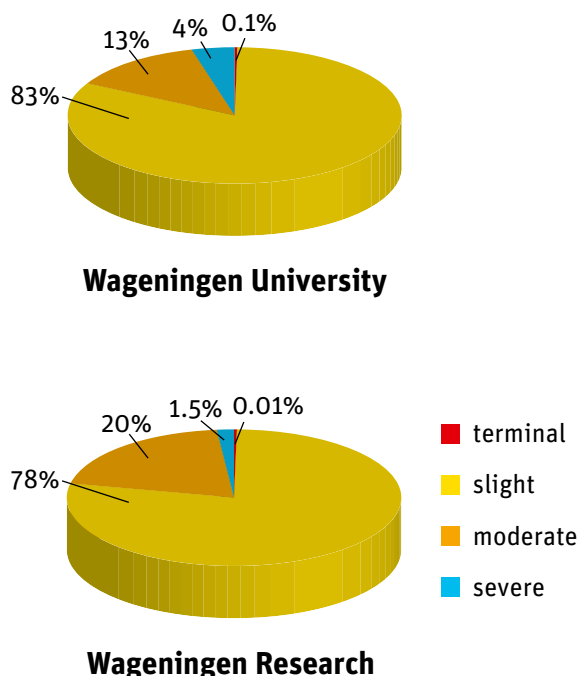
WUR toxicologist Jochem Louisse developed a 'digital lab animal' for his PhD in 2012. This is a computer model which describes what happens to a substance in the body. The model can be used to forecast precisely where the substance collects and the dilution rate in the blood or in an organ. It works the other way round as well. Once you know how much a cell can cope with, you can calculate what dose has had a particular effect. Louisse is now refining the digital lab animal, with the help of a group of PhD researchers. But his real aim is to go one step further and develop a digital test human: a computer model of human physiology combined with *in vitro* tests on human material. Louisse: 'The digital lab animal predicts a safe dose in animals based on *in vitro* tests on animal cells. A safe dose for humans can be worked out on that basis, but it gives a false sense of security. Lab animals are not humans.' One of the things Louisse is now working on is human heart cells, so as to predict the toxic effects of substances on the heart.

Meanwhile, the digital lab animal is proving its worth. 'We are working with BASF, for example, on using our model as a toxicological test prior to developing new substances. This gives them a cheap way of ruling out substances at an early stage because they are high-risk toxicologically.'

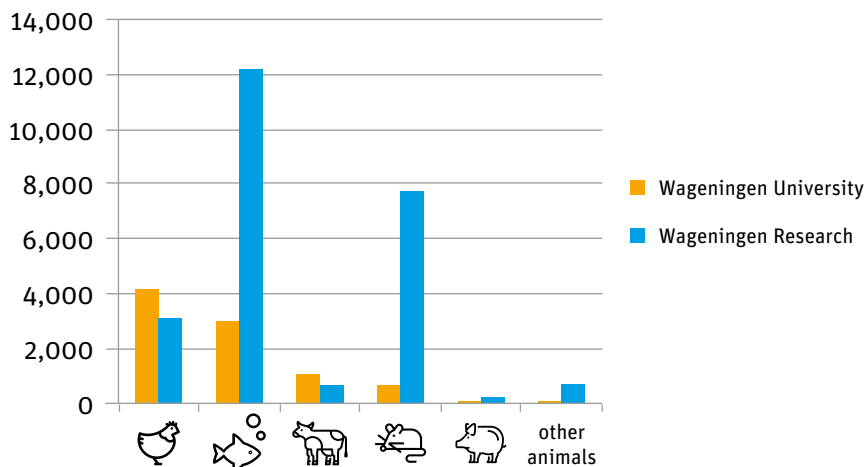


ILLUSTRATION: ROB DE WINTER

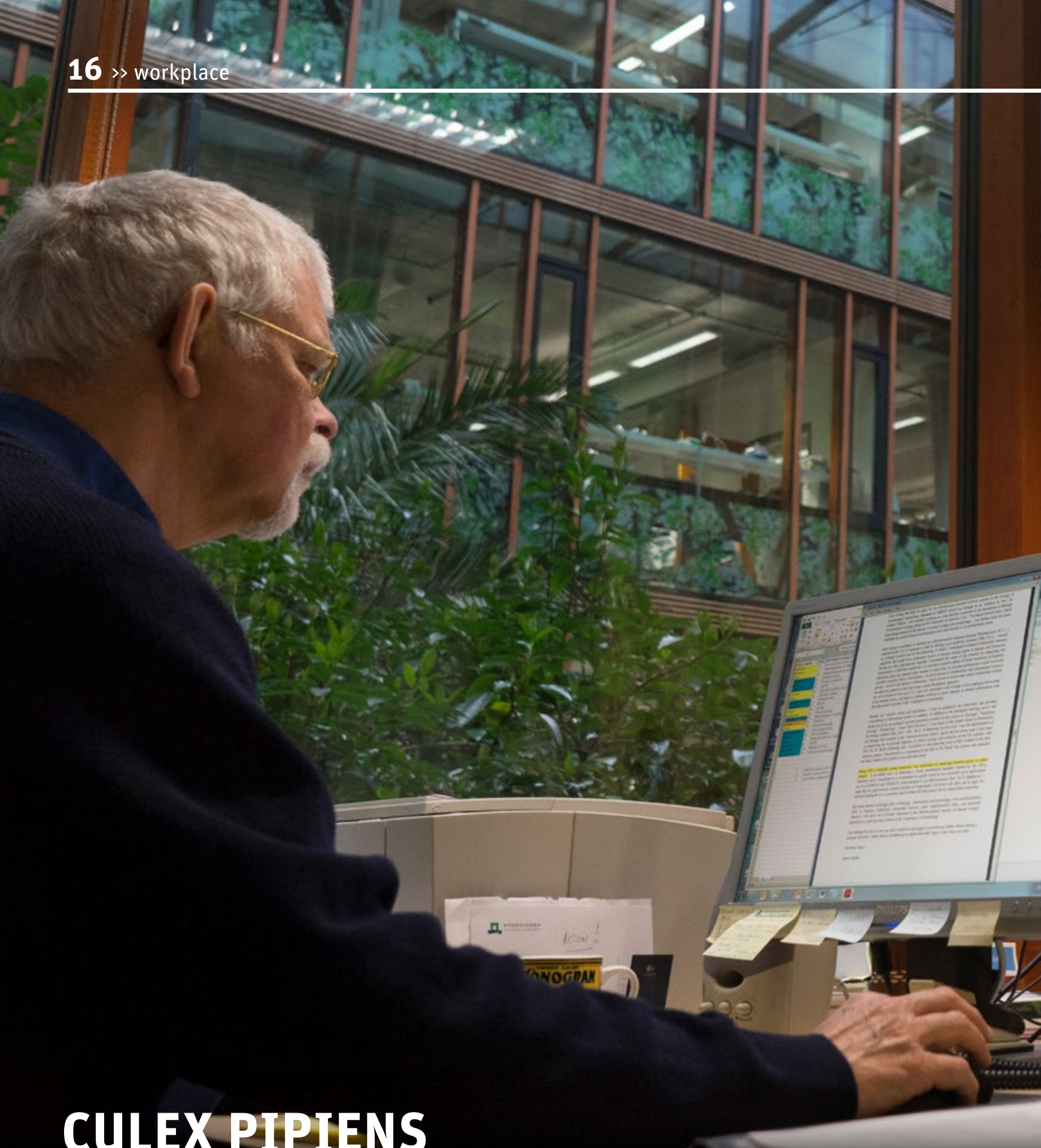
THE LEVEL OF DISTRESS IN LAB ANIMALS IN 2015



THE NUMBER OF ANIMALS USED IN EXPERIMENTS IN 2015







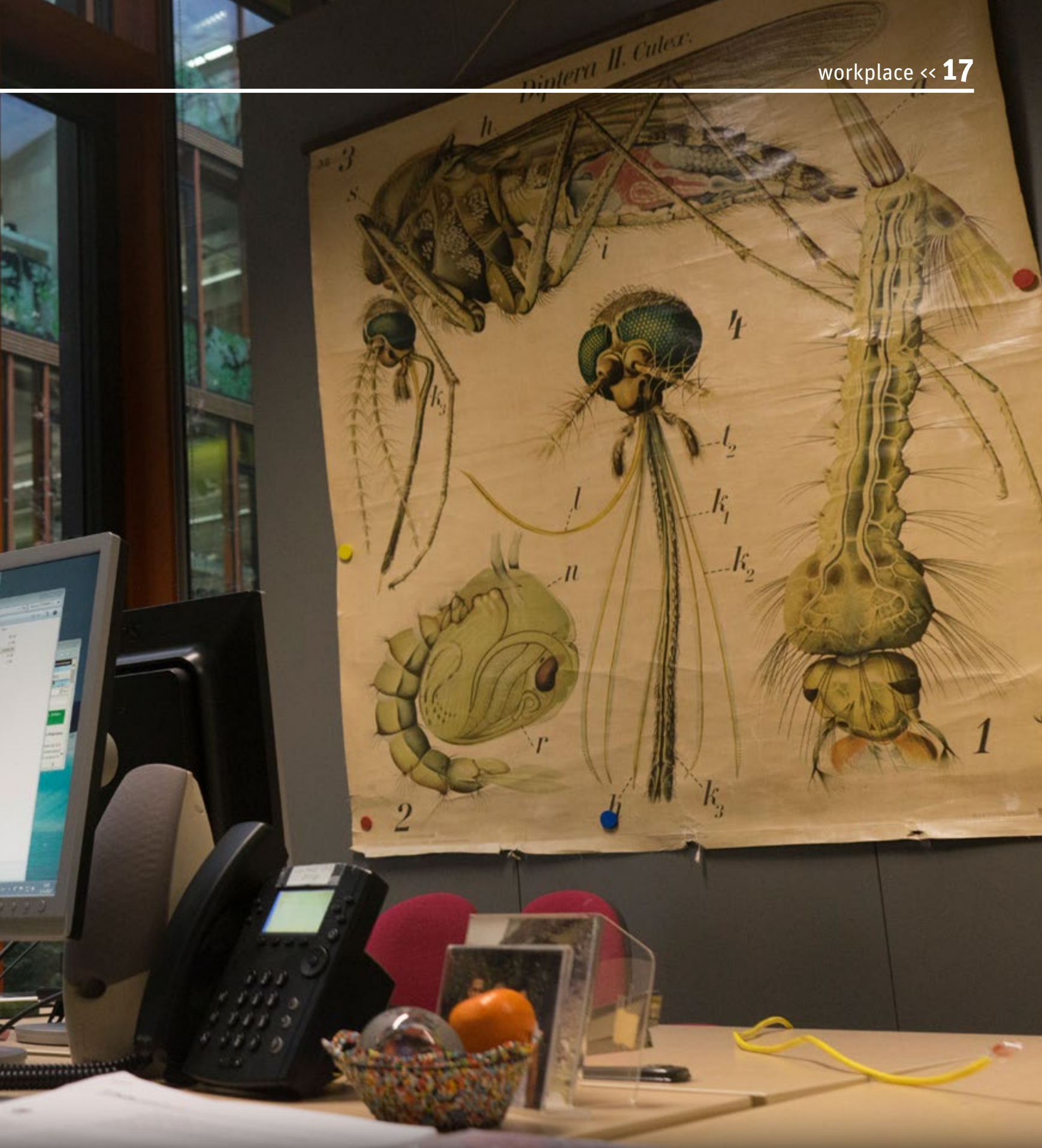
# CULEX PIPIENS

You really can't miss that poster looming over Professor Willem Takken's desk in Radix. Which is exactly what he wants. This is the most treasured item in the room. It's a scientific drawing of *Culex pipiens*, the common house mosquito. Paper on

linen, yellowing nicely and slightly torn in a few places. The picture was produced by Martinus Nijhoff publishing house in The Hague. There is no date on it but Takken thinks it dates from the 1930s. When the Laboratory for Entomology

moved from the Binnenhaven to the campus in 2009, a whole collection of these pictures was discovered in the attic. 'The collection went to the library but I was allowed to put this one up here. The beauty of a mosquito in full detail.' In former





times these posters were used for teaching purposes. 'When I started on my degree in the 1960s, the professors could lower these kinds of pictures from an opening in the ceiling. You could day-dream away, looking at them.' Takken dreamed of

ridding the world of insect-borne diseases. 'The picture is symbolic of that.' He came to Wageningen to 'do something in the area of development aid.' Via Phytopathology he ended up in Medical Entomology. Everything in Takken's room has to

do with mosquitoes and the battle against malaria and other scary diseases. The room looks out over the green courtyard at Radix. Above which hovers a giant metal beetle. That came from the Binnenhaven too. **© RK, photo Margriet van Vianen**



# Healthy humans and animals

'Global One Health' is the theme of Wageningen University & Research's 99th Foundation Day celebrations on Thursday 9 March. The keynote speaker is the British professor of epidemiology Sir Roy Anderson. He came up with the model for the spread of infectious diseases that is now used by experts worldwide.

text Albert Sikkema photo Hollandse Hoogte

**T**he increased movement of people, animals and goods around the world has also helped the spread of infectious diseases. The Ebola virus, which probably originated with bats, caused a major epidemic in West Africa; the Zika virus, which is transmitted by mosquitoes, is spreading like wild-fire throughout Latin America; and migrating birds from Asia are bringing bird flu to Europe. The dividing line between human and animal health is becoming blurred, leading to the birth of a new research topic: Global One Health.

Roy Anderson, the keynote speaker at Wageningen University's 99th Foundation Day event on 9 March, is considered to be one of the world's leading authorities on this subject. In 1992, the British epidemiologist published *Infectious Diseases of Humans*, the 'bible' for researchers and policy-makers who seek to combat dangerous infectious diseases. Experts around the world still use the book's mathematical formulas for predicting the spread and quantifying infectious diseases. 'A breakthrough in epidemiological thinking,' says Willem Takken, professor of Medical Entomology in Wageningen.

## MAD COW DISEASE

Anderson used his formulas to predict the spread of HIV. His model also turned out to be good at predicting how many other infectious

diseases would develop. Takken: 'You always have a critical parameter, the weakest link in an infectious disease. You need to tackle that for the epidemic to die out.'

When Mad Cow Disease (BSE) broke out in Britain in the 1980s, leading to Creutzfeldt-Jacob disease in humans, Anderson advised the UK government to introduce a ban on the sale of beef on the bone and the processing of bone meal in animal feed. He argued that this would soon cause the fatal brain disease in humans to disappear. That optimistic assessment was controversial at the time but Anderson was proved right.

## IN TROUBLE

Roy Anderson had the same status in Britain as the Rotterdam virologist Ab Osterhaus had for a long time in the Netherlands – the most important scientific advisor on infectious diseases. But like Osterhaus, this got him into trouble in 2009. At that point, a new kind of flu was spreading — influenza A(H1N1), better known as swine flu. The World Health Organization (WHO) said there was a threat of a pandemic. Anderson advised the British government to order millions of vaccines. One year later, the threat had passed and the vaccines had not been needed.

Anderson was roundly condemned, like Osterhaus in the Netherlands. Anderson was suspect because he was also an advisor to the pharmaceutical company GlaxoSmithKline

(GSK), which paid him an annual fee of 116,000 pounds. He was depicted as a 'false prophet' who had exaggerated the danger of a pandemic in order to help GSK win a mega-contract. However, these accusations were rebuffed by the WHO and the British government. Takken thinks it is all very well to criticize him after the event. 'Imagine if he had advised against a vaccine and the pandemic had taken effect with thousands of fatalities. Fortunately we can afford the costs of such a vaccine.'

## NEGLECTED DISEASES

What is more, in the past decade Anderson has been focusing on neglected tropical diseases that companies like GSK barely look at. Takken: 'A lot of attention is paid to the major infectious diseases such as malaria, HIV and tuberculosis. But there are also about 15 tropical infectious diseases that claim large numbers of victims in a particular area but that we don't know much about. Take *Leishmania*, a parasite that is spread by sand flies, and sleeping sickness, river blindness, dengue fever and (until recently) Ebola. These are diseases that the pharmaceutical industry does not develop medicines or vaccines for because the people who suffer from them cannot afford the medication. And it is precisely those diseases that Anderson is working on.'

The main priority for Anderson and Takken is that if an epidemic develops, the international community should rapidly be in a posi-



tion to figure out the disease and develop a vaccine. Takken: 'Take Ebola. It took six months before the world acknowledged the seriousness of the epidemic. After that, measures were soon in place and now there is even a vaccine that is being tested in Africa. But you have to realize that Sierra Leone lost one third of its doctors to Ebola – one third. Rapid intervention saves lives.'

damage to maize harvests, thus affecting food security. 'Global One Health is also about hunger and obesity, food safety, deforestation and the climate, intensive livestock farming and fine particles, in other words all the processes that threaten health in our society.' <sup>®</sup>

## FLU

Even so, it is not Ebola that concerns scientists most, or Zika. The greatest threat to human health is the flu. Not the run-of-the-mill flu we get every winter but the Asian influenza of type H5N1. A virus with a mortality rate of between 50 and 60 percent that has taken hold in bat and bird populations in Southeast Asia and that sooner or later will be brought to Europe. Anderson pointed to the danger posed by this virus back in 2005. He advocates setting up an international organization with the mandate to take swift action to combat a flu epidemic or pandemic by developing a vaccine with the pharmaceutical industry.

But Takken stresses that Global One Health is broader than fighting diseases that are harmful to humans. For example, the Usutu virus that is gaining ground in Europe is claiming many victims among blackbirds. 'That virus is threatening our ecosystem.' Last year, armyworm caterpillars from North America ended up in Africa, where they caused enormous



PHOTO: GSK

## ROY ANDERSON

Sir Roy Anderson is professor of Infectious Disease Epidemiology at Imperial College London, the university where he did his degree and obtained his doctorate. Before that he was professor of Zoology at Oxford and scientific advisor to the UK Ministry of Defence. Anderson chairs the science advisory board of WHO's Neglected Tropical Diseases programme and he is director of the London Centre for Neglected Tropical Disease Research. He is also on the scientific advisory board of the Netherlands Centre for One Health (NCOH), a collaborative venture between WUR, Utrecht University and four university medical centres. Anderson received a knighthood in 2006.



# Phosphate recovery

Phosphate mines are becoming exhausted on the one hand, whereas on the other too much phosphate is leaching from manure into the soil and water. Scientists are working hard on techniques to recover the mineral and reuse it.

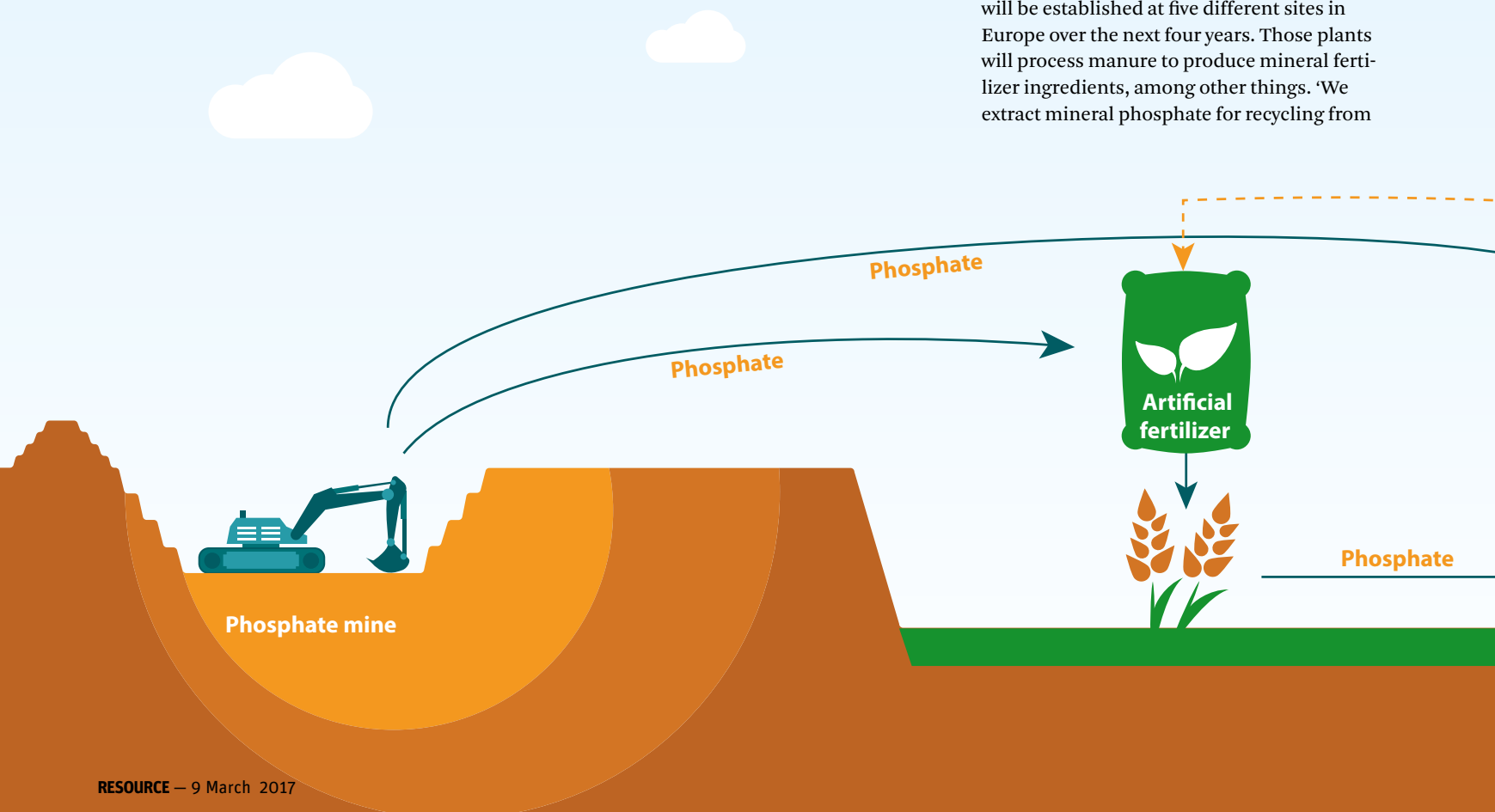
*text Didi de Vries illustration Rob de Winter*

Phosphate is a dilemma for scientists because we have both too little of it and too much. On the one hand, reserves of mineral phosphate in mines are becoming depleted, which may cause problems for the production of fertilizer and animal feed. Phosphate is an important component as it helps plants grow well and gives animals strong bones. On the other hand, some regions are struggling with excess phosphate in the soil. Surpluses generally accumulate when too much manure is used on the land, as was the case in the Netherlands for a long time. The soil then becomes saturated with phosphate and the mineral leaches into the surface water. This can lead to eutrophication: an excess of nutrients in the water that may result in certain species — such as algae — becoming dominant.

To prevent things from getting worse, some of the animal manure in the Netherlands is now being processed in fermentation reactors or incinerators. But it would of course be much better if phosphate could be recovered from the manure — or the surface water — and reused in fertilizer and cattle feed. Researchers are hard at work developing techniques and systems for this. Scientists at Wageningen University & Research are involved in three promising research projects.

## MINERAL POWER PLANTS

First, WUR is coordinating a major European project in which 'green mineral power plants' will be established at five different sites in Europe over the next four years. Those plants will process manure to produce mineral fertilizer ingredients, among other things. 'We extract mineral phosphate for recycling from



the solid fraction in animal manure, for instance,' explains Oscar Schoumans, coordinator of the top-sector project '*Meerwaarde Mest en Mineralen*' (added value from manure and minerals) and a researcher at Wageningen Environmental Research. 'That can be exported to places with a shortage of phosphate.' Schoumans cannot disclose any information about the technology used in the plants as Wageningen Environmental Research is currently negotiating with private sector parties about the future use of the plants.

Researchers at the scientific institute Wetsus have also developed a technique for separating out phosphate. They are able to use this to recover iron-bonded phosphate from water. Wastewater purification plants around the world add iron in the purification process as a way of filtering phosphate out of the water. The difficulty lies in the step that follows: separating the iron and phosphate again so that both can be reused. The scientists at Wetsus have found a solution.

In future it may also be possible to use that solution to recover phosphate from ecosystems that are affected by eutrophication. To this end, researchers at Wetsus have developed a way of suspending iron as a granular solid in surface water, like a tea bag. The researchers withdraw that 'tea bag' from the water once the phosphate has been adsorbed; then they apply their separation technique to isolate the phosphate again from the iron. This separation technique is also shrouded in mystery as it is the subject of a patent application. The Wetsus researchers are currently concentrating on making the process financially viable.

## POLYMERS

A third project, run by Louis de Smet of the Laboratory of Organic Chemistry, is still in the early stages. He is taking a completely different approach to the phosphate problem, investigating how you can selectively fish certain nutrients out of wastewater using polymers. These polymers have a structure that can bind ions in a very targeted way with the aid of an electrical field. The theory is there; now lab tests will have to show whether it can work in practice.

One method that is already being used to recover phosphate from poultry manure is combustion. This drives the nitrogen compounds off, leaving the phosphate behind in the ash. The ash is then exported to areas that have a deficiency of phosphate. However, the combustion of manure from cattle and pigs is not viable. Their manure contains large amounts of water, making transport expensive while combustion produces little energy.

Another existing approach is to incorporate phosphate in struvite, that can then be used as a fertilizer ingredient. That is done in a number of sites, such as the sewage purification plants in Amersfoort and Amsterdam. Struvite is composed of ammonium, magnesium and phosphate, and is obtained simply by adding magnesium to the waste water. However, there is not much demand for struvite, in part because of the strict regulations governing its reuse, so its production is barely viable.

## INVESTMENTS

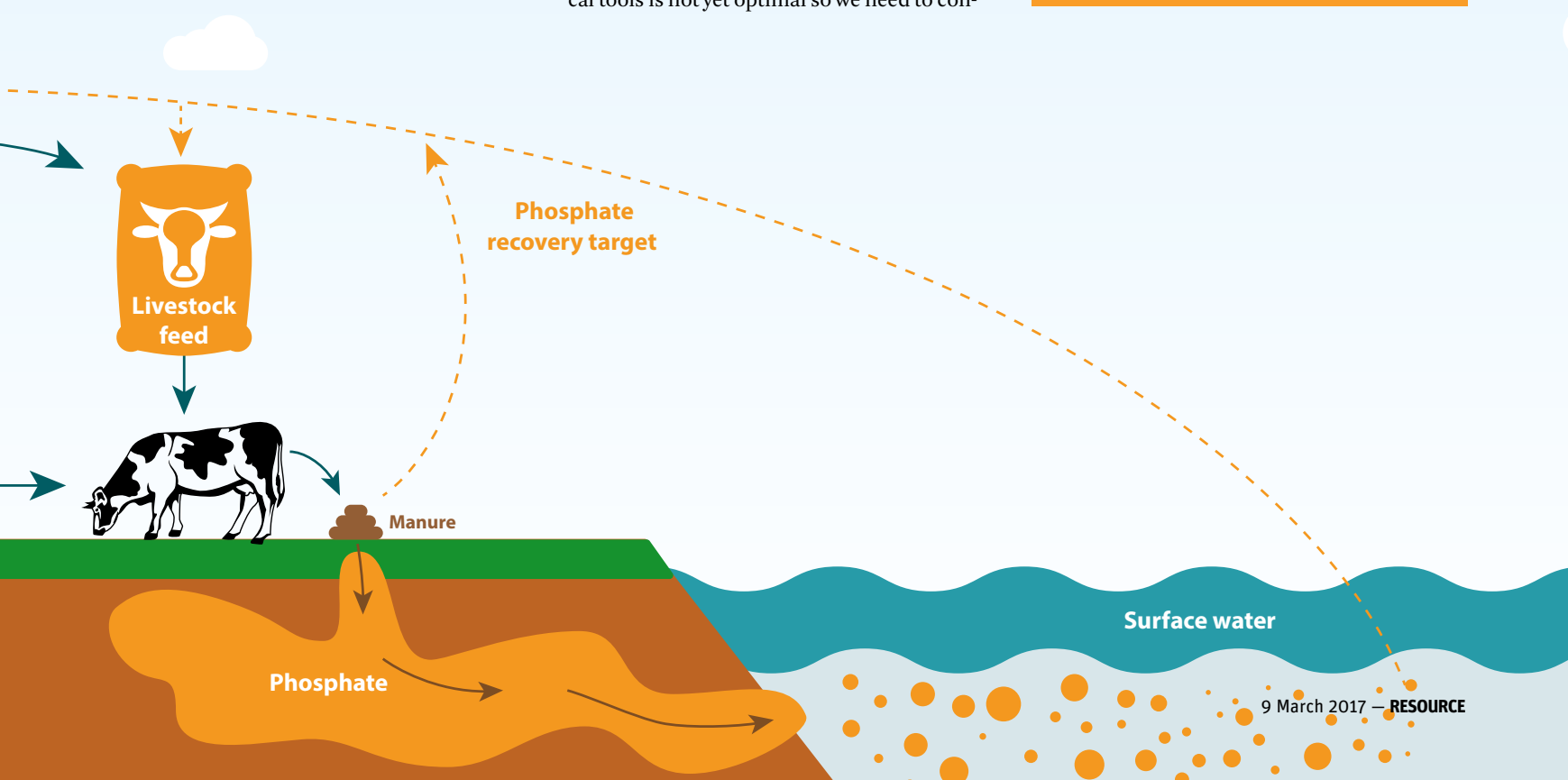
In short, there is plenty still for phosphate researchers to work on. 'Our set of technological tools is not yet optimal so we need to con-

tinue working on improvements,' explains Leon Korving, project manager for the reuse of phosphate at Wetsus. According to him, one problem is that few organizations in the manure processing industry want to invest in fundamental research. 'They prefer to look at new ways of linking the existing techniques. That then turns out to be too expensive. We need fundamental research to achieve new breakthroughs.'

Schoumans, at Wageningen Environmental Research, disagrees with Korving. He says the industry has actually shown a lot of interest in collaborating on projects for recovering phosphate. The European Commission gave eight million euros in funding for the green mineral power plants and the participating companies have added 20 million to that, says Schoumans. **R**

## WETSUS

Wetsus is a leading European research centre for sustainable water technology in Leeuwarden. It is a cooperative venture between companies, government bodies and research institutes, including WUR. PhD candidates from the affiliated institutes carry out research for both the public sector and the private sector. Cees Buisman, professor of Biological Recovery and Reuse Technology at WUR, is the scientific director at Wetsus. Louis de Smet of Wageningen's Laboratory of Organic Chemistry works for the institute as an advisor.





# ACADEMIC FREEDOM UNDER THREAT?

Last month, the rectors of the Netherlands' universities wrote in a letter to the *NRC Handelsblad* newspaper that the unrest in the world was affecting academic freedom. They called on governments around the world to stand up to this threat. Rightly so, say Wageningen researchers, but scientists have to take some of the blame as well.

text Tessa Louwerens illustration Henk van Ruitenbeek

## Edwin Foekema



Researcher and project manager at Wageningen Marine Research

'I think we certainly need to be on our guard against science becoming fettered by higher authorities. **But I think that as scientists, we ourselves also need to make sure science stays unbiased.** Sometimes scientists' statements seem to be motivated by commercial considerations, for example when they paint catastrophic scenarios in order to get more research funding. They make the news with spectacular reports in which scientific nuance is of secondary importance. So the threats to our freedom as scientists are internal as well as external. The combination of commercial or PR considerations on the one hand and political interests on the other are endangering academic freedom.

## Joop Schaminee



Professor of Nature Conservation and Plant Ecology

'Of course scientists need to be able to work and write reports in freedom but that is not all. If science is being brought into disrepute, we can get angry about it but we can also ask ourselves why that is. **We need to find out why people have different ideas by listening to them and taking them seriously.** There is a huge gulf between the general public and the scientific community. I would like to call on scientists to reach out more, engage with the general public and get involved in the debate.

## Marie Garnier Ortiz



PhD candidate in the Strategic Communication chair group

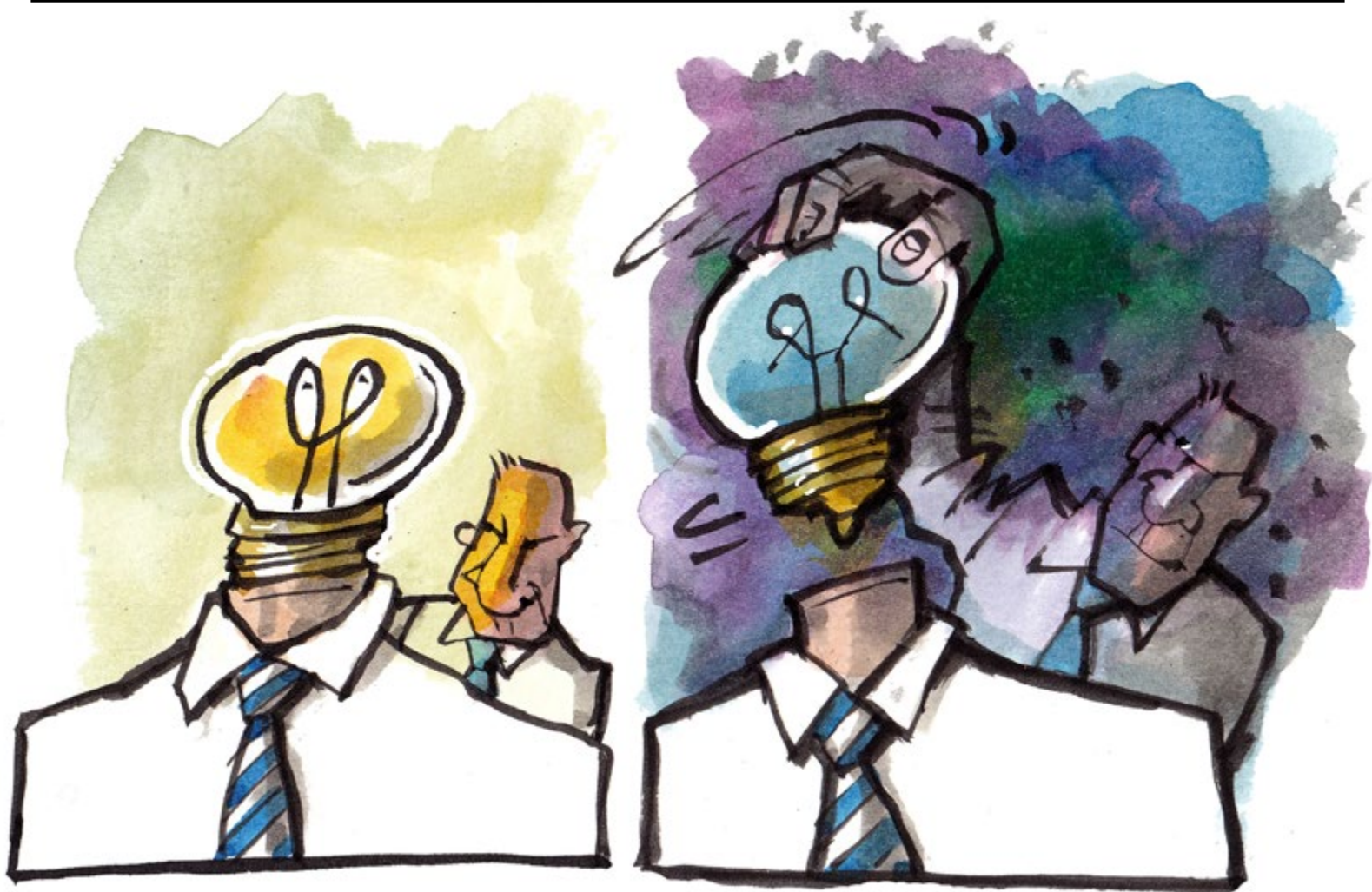
'I worry about the rise of the so-called post-truth world where "alternative facts" have just as much weight as scientific knowledge. But we have to ask ourselves what contribution we are making to this polarization as scientists and how we can bridge this gap. If we present science as an impartial quest for truth, people rightly take offence at that. **We need to climb down from our ivory tower and embrace science as profoundly political.** We also need to acknowledge our privileges, preconceptions and limitations if we want open, honest communication, with respect and empathy for the people we are talking to. I think there is much more at stake than academic freedom; human rights are being violated and lives threatened. I think it's awful that people are still being condemned to death in the 21st century, whether or not they are scientists.'

## Joop Spijker



Senior researcher in Nature and Society at Wageningen Environmental Research

'**This is a recognizable issue for me and I'm pleased it is getting attention. It's important to stress the need for the autonomy of science in the public debate.** This is an issue everywhere, not just in Iran and the US but also in Europe. For example, at the moment there is pressure on climate research in the US. In the Netherlands, I experienced



a mild version of this in my own field in 2010, when state secretary Henk Bleker in the first Rutte government made major cuts in the budgets for nature policy. Science is highly dependent on the political climate and research is often funded with public money. I therefore think it's good that something is being said now.'

## Marloes van Splunter-Berg



PhD candidate in the Cell Biology and Immunology chair group

**'Something that isn't mentioned in the letter but which I see as a bit of a threat to academic freedom is the private sector's share in funding.'**

This is limiting fundamental research in particular and I find that worrying. I work a lot with companies for my research and I find that fine, but it does affect what direction the research takes. On top of that, the general public often wonders how independent this research is. The letter also voices concerns about science being brought into disrepute, especially on social media. As a scientist you are trained to think in nuances, but people like to read sensational articles. I get the impression that journalists sometimes spice up results for that reason. It's difficult to find a balance, but science loses its credibility if you keep having to correct statements.'

## Michel Nielen



Professor by special appointment of Analytical Chemistry

'I think there are a number of threats to the autonomy of science, whereby three factors play a role. First the political developments, the main issue mentioned by the rectors in the letter.

Societal developments also play a part — take the example of public-private partnerships in the top sectors; does industry have the final say? Another threat to the autonomy of science is the reduction in funding for curiosity-driven research and the way in which this funding is allocated. It is good that the alarm is being sounded but I think action is also required from the researchers themselves. There is room for improvement in terms of communication in particular. **The scientific community finds it difficult to do something about the general public's gut feeling and to strike the right chord.** I feel much more attention should be paid to communicating scientific ideas. Communication is already getting attention, but at present the focus is on communication with other scientists. Every member of staff should get media training, for example to learn how to deal with critical media and be trained in explaining in 30 seconds what your research is about and why it is ultimately in everyone's interest.' ®



# ‘Nutritionist should be a protected title’

The title of nutritionist should be protected, say students of Nutrition and Health. These days all sorts of self-proclaimed experts are confusing consumers, say the students. So they have launched a petition.

Nutrition is a hot topic and the number of ‘experts’ in the field is rapidly increasing. People cannot see the woods for the trees anymore, says Bachelor’s student Brenda Narinx, who drew up the petition together with Master’s students Nathalie Wilmsen and Jelle de Jong. ‘All the opinions of all those experts get people talking a lot about diet and at some point people start questioning the credibility of all these nutritionists, regardless what level of education they have had.’ Brenda notices this in her own social circles. ‘My aunt reads on the internet that it’s good to eat two eggs a day, and someone else declares that you mustn’t eat any eggs at all because of the cholesterol in the yolk.’

## SONJA BAKKER

This annoys Brenda. ‘During our degree course we learn to carry out scientific nutrition research which provides the basis for dietary advice. I think it’s a pity that this information doesn’t reach everybody, and that it is hard for people to differentiate between advice based on scientific evidence, and mere opinions. If it was my word against that of diet gurus Sonja Bakker or Rens Kroes, I know whose advice my aunt would follow. And it is not just in the Netherlands that this is a problem: they are working on the same petition in the UK. If the profession of ‘nutritionist’ is acknowledged with a protected title, hopefully it will be easier for people to gauge the validity of information.’ The Dutch Academy of Nutritionists (NAV) already has an accreditation for Master’s graduates. Brenda: ‘That is certainly good for your CV, but it doesn’t mean much to the general public.’ The NAV supports the students’ idea, says Brenda.



PHOTO: JET VAN BALLEGOOIJ

Brenda Narinx, Jelle de Jong and Nathalie Wilmsen want to give consumers something to go by in distinguishing between facts and opinions on food.

## THINKING

The petition has already been signed by about 1500 people. ‘We need 40,000 signatures before we can present the petition to the Lower House of Parliament. Whether we’ll manage that, and what they will do with it, I don’t know. The main thing for me is that we

get people thinking, and realizing that you have to approach dietary information critically and bear in mind who is saying what.’ **®**

**TL**

*You can find a link to the petition under this report on resource-online.nl*

## ‘GOOD INITIATIVE’

‘I think the petition is a good initiative,’ says Rolf Marteiijn, programme director at Nutrition and Health. ‘It needs to be clear that a person has studied their subject and hopefully that will make people more aware that nutrition science is not simple and clear-cut.’

There is interest in this issue in government circles too, claims Marteiijn. ‘The government is going to develop an app, for instance, which gives people information about a healthier diet. So it is a good idea to draw attention to the discussion about the difference between scientific knowledge and experience-based knowledge. Marteiijn declines to speculate as to whether parliament can act on the call to make nutritionist a protected title. ‘The government has a list of recognized, precisely defined professions such as pest controller or diver. It is a bit trickier for nutritionists because the professional field and the range of qualifications are broader. In health care there are more broadly formulated professions, such as doctor, dentist, physiotherapist and dietician. But a nutritionist does not directly come under health care professions.’ The programme director is going to talk to the initiators to see how WUR can support them.

**Watch the Soundbites video on resource-online.nl.**



# WUR plans to do more for refugees

**Wageningen University & Research is going to invest in refugee students and researchers. This decision by the executive board was prompted by an initiative by the Christian Student Party (CSF).**

Student Council party CSF believes the university has a role to play in society, which should include contributing to the future prospects of refugees. 'The university is more than just an educational institution,' says ex-Student Council member Wiard Ligterink of the CSF. 'That is why last year we urged the university to develop a policy on this.' The executive board was receptive to the CSF members' view and a working group was set up. Just a year later there is a policy on the table which goes beyond their wildest dreams, says current CSF Student Council member Ties Terlouw.

## DONATION

'The university is resuming its annual donation of 5000 euros to the UAF fund for refugee students. This was stopped for no clear reason in 2010,' says Terlouw. The university is also going to offer more places to refugees with a higher education. There are currently five refugee students at WUR, and the university wants to double that number. It also has plans for a pilot to see whether following a limited number of standard courses is feasible for refugees, both with and without asylum seeker status – which gives them a temporary residence permit. Finally, the university wants to make use of Studium Generale, WURTalks, Science talks, and One-WorldWeek to promote WUR among refugees.

One of the inspirations for this pilot is the InclUusion programme at Utrecht University. On the initiative of two PhD students, more than 70 course coordinators opened up English-language Bachelor's courses to refugees. Eighty students have signed up for these courses so far, and the first 20 started taking classes this semester. The refugees are registered as contract students and will receive a certificate on completion of their courses.

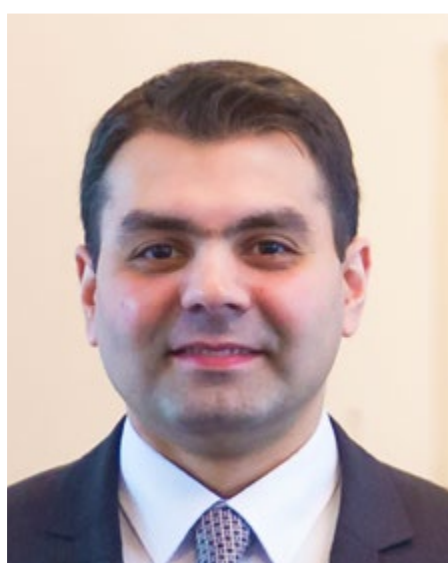


PHOTO: SVEN MENSCHER

Ammar Rubayi from Iraq got his MSc in Food Quality Management last year at Wageningen University.

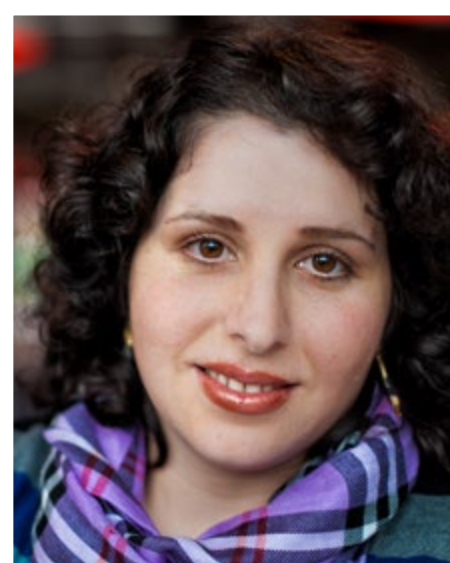


PHOTO: GUY ACKERMANS

Maryam Amini from Iran got her MSc in Plant Biotechnology at Wageningen University in 2011.

## NOTHING BUT PRAISE

Through membership of the international programme Scholars at Risk, the university is also going to release funding to give two refugee researchers a place in Wageningen chair groups. The university will also be communicating more directly with the Human Resources department (HR) and municipalities about internships or traineeships for status holders.

'We have nothing but praise for the plan that is on the table now,' says Ligterink. 'We set the ball rolling in 2016 but we never imagined the university would come up with such a broad plan. It's really great.' Terlouw has just one small criticism. 'Nothing has been said about when the university is going to start implementing this policy. There is a nice role for the Student Council there, to keep on asking the board how it's going.' **Lvd**

## AMMAR AND MARYAM

Ammar Rubayi from Iraq and Maryam Amini from Iran are two refugee students who were able to take degrees in Wageningen thanks to the UAF. Maryam graduated with an MSc in Plant Biotechnology in 2011, and Ammar graduated the following year with an MSc in Food Quality Management. In an interview with Resource at the time, Maryam said: 'The day I heard that I could come to this university was the most important day in my life. It meant I could start working on my future here in the Netherlands.'

**Read the interviews with Ammar and Maryam on [resource-online.nl](http://resource-online.nl).**



**SUICIDE**

Psychologists at Florida State University have developed a calculation method with which they can predict suicides. The algorithm can predict with 80 percent accuracy whether someone will attempt suicide in the next two years. The method was developed by analysing the medical history of a large number of suicides in search of the right predictive variables.

**PEE**

Just how much urine is there in a swimming pool? Researchers at the University of Alberta have developed a method of finding out, making use of a common artificial sweetener. Concentrations of this substance are up to 570 times stronger in swimming pools than in clean water. This is equivalent to one litre of pee in a small pool of four by four by one metre. What about a paddling pool, then?

**SADDLE**

Children who ride horses are smarter. That is to say: they are better at doing certain behavioural tests. The results comes from research at the Agricultural University of Tokyo. The researchers suspect that the learning effect is due to the stimulation of the sympathetic nervous system by the three-dimensional movement of the horse.

**PUPIL**

If people are doubtful about a decision they've made, their pupils enlarge, shows research by the University of Amsterdam. Unfortunately, there is nothing you can do about this. It is an effect caused by neurotransmitters in the brain. But what makes pupils narrow is strong light. So switch on the light next time you are feeling unsure of yourself.



PHOTO: SVEN MENSCHER

Anne Walther: 'Everyone is welcome to join the Facebook group.'

## Student starts book-sharing group

**As screens continue to replace paper books at high speed, some people feel the need to keep the magic of real books alive. One of them is Anne Walther, a Bachelor's student of Molecular life sciences. She started a book sharing group on Facebook.**

*What made you start?*

'I've always liked reading and have a lot of books. I'm German, so it would be normal for me to read in German, but I figured it's nicer to buy books in English because then I can share them with housemates and friends. Eventually, I started taking pictures of the books' covers and putting them on Facebook with a short synopsis for my friends to choose

from. My friends started reciprocating by putting up their collection. That's how I figured that there would be more people in Wageningen who would be interested in sharing books.'

*How does Booksharing Wageningen work?*

'Everyone is welcome to join the Facebook group. They can choose from the titles by messaging the person who posted it. It is not an exchange but it would be ideal if people shared and borrowed with the same enthusiasm.'

*What kind of books can we expect to find?*

'I didn't really take a stand on that because I felt like it's a per-

sonal choice. Quality over quantity is my motto, so I'm open to books in various formats, genres, and languages.'

*Are you worried about people mishandling or not returning your books?*

'I'm a very trustful person. In fact, some time back I forgot that I had lent a book to this one person. After he moved out, his housemates called me to say that he left behind a book of mine. That's how nice and close-knit Wageningen's student community is. However, I've started writing down names now. I ask the borrower to text me after they're done reading. Over all, I'm very optimistic and I hope the group turns out to be a success.' **MR**

## Prizes for excellent theses

**Annemerel Mol, Jorieke Vaanhold, Joëlle Janssen and Justin Tauber are the recipients of the thesis award presented during the WUR Dies Natalis on 9 March.**

The students receive this award because they achieved a grade of nine

or higher for their Master's thesis. At a symposium preceding the *Dies* ceremony they will be presented with 500 euros and a bronze sculpture. One of them will be announced the overall winner and come in for some extra attention. The best final theses per subject

area are selected every year by University Fund Wageningen and the alumni association. **LvdN**

**Read who the overall winner is on [resource-online.nl](http://resource-online.nl).**

# Celebrating seven 'green' lecturers

On Wednesday 1 March, Green Office Wageningen gave the seven most sustainable lecturers at Wageningen University & Research their moment in the limelight.

Ignas Heitkönig, Nynke Hofstra, Kris van Koppen, Edith Lammermerts van Bueren, Tjeerd-Jan Stomph, Kees van Veluw and Arjen Wals were all on stage at Forum to receive a Green Teacher Award. According to Green Office Wageningen, the seven lecturers inspire their students to think and act more sustainably, for example by serving as a role model, developing digital teaching materials or encouraging students to bring about change themselves.

For example Ignas Heitkönig, a lecturer in the Resource Ecology group, set up the Future for Nature Academy, a Wageningen programme that he hopes will



PHOTO: SVEN MENSCHER

motivate young people to get actively involved in nature conservation. Tjeerd Jan Stomph encouraged students doing Academic Consultancy Training, which he coordinated until last August, to always keep the bigger picture in mind: is what seems to be the most sustainable solution actually the most sustainable in practice?

Laura Sloot of Green Office Wageningen says the award is in recognition of the effort that Green Teachers put into sustainable education. The award is also a way of bringing sustainable education to people's attention. 'The Green Teachers set an example to their colleagues and show that you don't necessarily have to give an environmental course to

teach students about sustainability. Students will also see this and start looking at their classes more critically.'

This was the second year that the award was conferred. Last year, Green Office Wageningen decided who the greenest lecturers were but this time students were able to nominate lecturers.

® LvdN

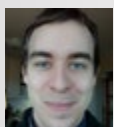
## MEANWHILE IN... SWEDEN

### 'False stories about Sweden could affect our image'

President Donald Trump of the USA recently evoked confusion and ridicule with his phrase 'you look at what happened last night in Sweden'. He later said he was referring to a Fox News story about immigration in the Scandinavian country. Student Erik Palmgren illustrates how the discussion was perceived by Swedes.

'As far as I know, the Fox News coverage of Sweden is no exception. This was not the first time Sweden was in the spotlight for its policies, especially in the United States. Our country is seen by the Democrats as an example that shows that a strong government and a flourishing economy do go together. In response, conservatives have been looking for stories of failure in Sweden, and they found them in immigration.

Of course, the reality is that, relative to its population, Sweden has accepted a lot of immigrants.



Erik Palmgren, a Swedish MSc student of Applied Communication Sciences, explains the (absence of) news events in his home country.

However, I think there are few problems with them, especially compared to other countries. In my opinion it's mostly socio-economic factors which determine crime



PHOTO: STOCK\_PHOTO\_WORLD / SHUTTERSTOCK.COM

rates, not ethnicity. The Sweden Democrats, our right-wing party, does not think so and did try to capitalize on the words of Trump by confirming the story to the American media.

Personally, I do not think this kind of thing should be taken lightly. Considering the developments in right-wing politics in the USA and the EU, we should take fake news and misinformation seriously. Also, if these types of stories about Sweden circulate systematically, it could affect the image of our country negatively. At least I have something new in common with my Mexican girlfriend: our countries are now both in Trump's rhetoric.' ® TF



# YOU ON CAMPUS

**Wageningen University is host to many different types of student from all kinds of backgrounds. One such type is the temporary minor student. Olivia Shaw (22) is one of those, although she is thinking of extending her stay considerably.**

Olivia started her minor in Animal Sciences at WUR two weeks ago. Even though the minor is only for half a year, she is planning on staying longer. 'I would love to do my Master's here.' But her goal is set even higher: 'I feel at home here. Even after I'm done studying I would love to settle in Wageningen.'

She is half Danish, half British and was raised in Belgium. 'But I feel Dutch.' After living in the Netherlands for four years for her studies (Applied Animal Science at Van Hall Larenstein), she decided she loved the country. To become officially Dutch, she would have to pass an integration exam. 'I'm not worried about that. I like to learn everything I can

about my new nationality. My Dutch friends and my boyfriend help me to speak Dutch daily, and I have slowly evolved from an international student into a Dutch student.'

## 'After I'm done studying I would love to settle in Wageningen'

Wageningen is the ideal town for Olivia. 'I grew up in Brussels, where my mother works for the European Commission. I liked the international atmosphere there, but I never really liked the big city life. I love the slow pace of life in the countryside; it reminds me of my summer jobs on farms and the Icelandic horses I grew up with.' Those horses were a big part of her past, because Olivia and her horse competed in and won the Belgian Championship in

2012. 'Wageningen has an international community like Brussels, but it is still a small agricultural town — the best of both worlds.'

Olivia has several hobbies besides horse-riding, such as painting and playing rugby. She also takes an interest in smaller animals: she will soon be getting her first ant farm. 'I went to a WUR talk about ants, knowing nothing about them. There I discovered they are complex superorganisms that I wanted to study up close in my own bedroom.'

If all of Olivia's plans work out, she will not just be a temporary minor student in Wageningen; she and her ants will be around for quite a while. **AvdH**

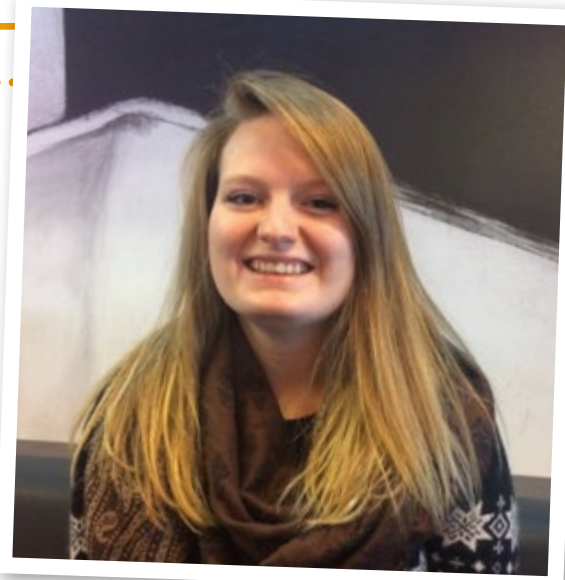


PHOTO: ANNE VAN DER HEIJDEN

## PARTIES

**In the party mood? Wageningen Party Promotion (WUP) tells you where to find one. See too [www.wageningenup.nl](http://www.wageningenup.nl).**



### CAFÉ LOBURG - QUE BELEZA FAREWELL

**Saturday 11 March from 22:00 to 04:00**

Dance one last time to the beats of the Brazilian band Que Beliza at this farewell bash: some of the musicians are going home. Come move it to the South American music

### LUCA - HELEMAAL KNETTER: ONE YEAR NYX

**Saturday 11 March from 23:00 to 04:00**

Let your hair down at a seriously loud party in LUCA. Buying tickets in advance saves you a couple of euros, though the cheapest tickets are already sold out. So one thing is certain: there'll be no lack of company.

### LUCA - PRIMAL DREAMS

**Saturday 18 March from 22:00 to 04:00**

Go back to basics and live your primal dreams on this special night. We gather from the description that the idea is to make this party an annual fixture. **B**

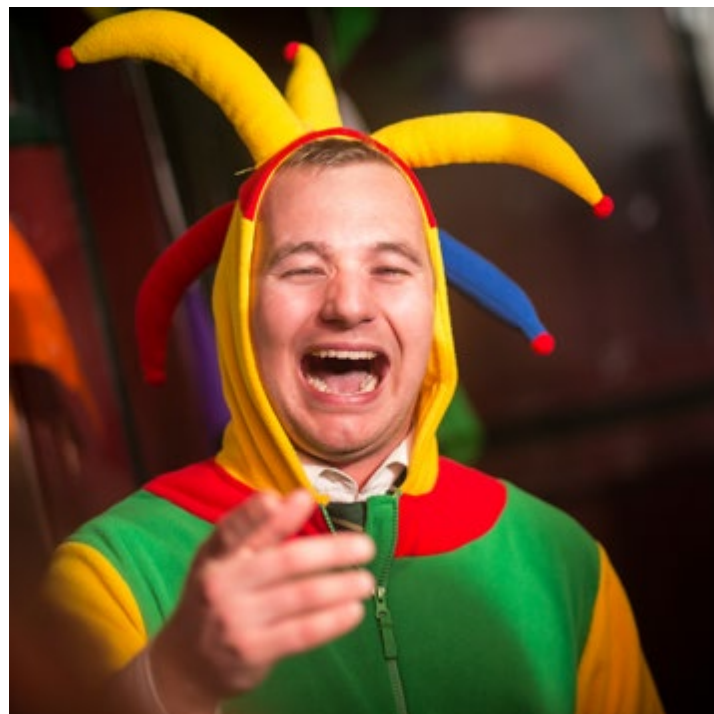


PHOTO: SVEN MENSCHER

Carnival at Nji-Sri student society.

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.

# Pubs, ruins and incomprehensible farmers

'I wanted to go to an English-speaking country for my internship so that I wouldn't suddenly have to learn a new language. So I chose Ireland! But in practice they speak Gaelic as well as English. All the town and street signs are in both languages. The farmers I met spoke English but with such a strong Irish accent that I couldn't understand a word when they were talking to one another. Fortunately they tried to speak 'BBC' English when talking to me.

## TEA

Ireland lived up to its stereotypes. Like the British, the Irish love tea and scones, and there is a pub in every street. You get in your car and barely have to drive five minutes before you see a castle or ruin. "In your car" because Ireland is not cycling country. Fortunately I was able to borrow a bike from someone so I did actually cycle everywhere. If the weather was bad, I had a backup system: car-pooling with someone else from Teagasc. For

the public transport system isn't nearly as good as in the Netherlands.


## GRASS

My research was on the effect of feed restrictions on the behaviour of cows. The Irish climate is ideal for livestock farming as grass grows really well there. But in practice you can also get food shortages. That is particularly likely in the spring, when the cows have just calved. The weather plays a role, as well as the natural growth cycle of the grass — growth has to get going again after the winter. It is particularly important to monitor the effects on the cows' welfare because the cows are outdoors nearly all year round, unlike in the Netherlands. In addition to the data analysis, I found helping out at the institute very interesting. Weighing calves or giving secondary-school children guided tours.

I didn't notice Brexit much, except that the value of the pound was favourable. You do

## THE WORKS

**Who?** Iris Nonhebel, Master's student in Animal Sciences  
**What?** Four-month internship at Moorepark Animal & Grassland Research and Innovation Centre (Teagasc)  
**Where?** Fermoy, Ireland

clearly see how interwoven religion and politics are because of Ireland's history. Fortunately there is less and less tension these days between the descendants of the Catholic Irish and Protestant British. The country's flag with its green and orange stripes refers back to this time, with the white stripe representing the peace between the two sides.' 

Read all interviews  
on [resource-online.nl](https://resource-online.nl).





# Forum Irregular Opening Hours April 2017

	2017	The Building	The Library	Student Desk	IT Service Point	WURshop	Restaurant	Grand Café	Wageningen in'to Languages
Good Friday	14 April	8 am - 11 pm	8.30 am - 5.30 pm	Closed	Closed	Closed	Closed	Closed	Closed
Saturday	15 April	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Easter Sunday	16 April	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Easter Monday	17 April	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Monday	24 April	8 am - 11 pm	8 am - 10 pm	11 am - 2 pm	9 am - 4 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Tuesday	25 April	8 am - 11 pm	8 am - 10 pm	11 am - 2 pm	9 am - 4 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Wednesday	26 April	8 am - 11 pm	8 am - 10 pm	11 am - 2 pm	9 am - 4 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Thursday King's Day	27 April	10 am - 6 pm	10 am - 6 pm	Closed	Closed	9 am - 4.30 pm	Closed	Closed	Closed
Friday	28 April	8 am - 11 pm	8.30 am - 5.30 pm	Closed	Closed	Closed	8 am - 2 pm	8 am - 5 pm	9 am - 5 pm
Saturday	29 April	10 am - 6 pm	8 am - 10 pm	Closed	Closed	Closed	Closed	Closed	Closed
Sunday	30 April	10 am - 6 pm	8 am - 10 pm	Closed	Closed	Closed	Closed	Closed	Closed



## Orion Irregular Opening Hours April 2017

	2017	The Building	Bike basement	Restaurant	The Spot
Good Friday	14 April	Closed	Closed	Closed	Closed
Saturday	15 April	Closed	Closed	Closed	Closed
Easter Sunday	16 April	Closed	Closed	Closed	Closed
Easter Monday	17 April	Closed	Closed	Closed	Closed
Monday	24 April	8 am - 6 pm	8 am - 8 pm	11.30 am - 1.30 pm	8 am - 8 pm
Tuesday	25 April	8 am - 6 pm	8 am - 8 pm	11.30 am - 1.30 pm	8 am - 8 pm
Wednesday	26 April	8 am - 6 pm	8 am - 8 pm	11.30 am - 1.30 pm	8 am - 8 pm
Thursday King's Day	27 April	Closed	Closed	Closed	Closed
Friday	28 April	8 am - 6 pm	8 am - 8 pm	11.30 am - 1.30 pm	8 am - 8 pm
Saturday	29 April	Closed	Closed	Closed	Closed
Sunday	30 April	Closed	Closed	Closed	Closed



## Leeuwenborch Irregular Opening Hours April 2017

	2017	The Building	Coffee Bar/ Restaurant	The Library
Good Friday	14 April	7 am - 6 pm	9.30 am - 3 pm	Closed
Saturday	15 April	8 am - 5.30 pm	Closed	Closed
Easter Sunday	16 April	Closed	Closed	Closed
Easter Monday	17 April	Closed	Closed	Closed
Monday	24 April	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 6 pm
Tuesday	25 April	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 6 pm
Wednesday	26 April	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 6 pm
Thursday King's Day	27 April	Closed	Closed	Closed
Friday	28 April	7 am - 10.30 pm	8 am - 5 pm	Closed
Saturday	29 April	8 am - 5.30 pm	Closed	Closed
Sunday	30 April	Closed	Closed	Closed

After 6 pm entrance is only possible after registration at the reception desk.



## announcements

### STUDENT COUNCIL 2017/2018 ELECTION: THE ELECTORAL REGISTER

In preparation for the Student Council 2017/2018 election – 29 May up to and including 1 June 2017 – the Student Council Election Committee published the electoral register on 9 March 2017. All students registered as regular WU students on the reference date, 6 March 2017, are entitled to vote and eligible for election, and should be included in the electoral register. Persons concerned are requested to verify that they have been registered correctly, by checking whether they received an email on 9 March to inform them about their voting rights or by checking the electoral register that is available from 9 March up to and including 16 March 2017 at the Student Council secretariat, Droevendaalsesteeg 4 (Room B.103), P.O. Box 9101, 6700 HB Wageningen. Any person concerned may lodge a notice of objection to the electoral register up to and including 16 March 2017, with the Secretary of the Student Council, Hermijn Speelman, Droevendaalsesteeg 4 (Room B.103), P.O. Box 9101, 6700 HB Wageningen.

### REGISTRATION OPEN: WAGENINGEN PHD SYMPOSIUM 2017

WPS 2017 is a full-day event on 3 May curated by the Wageningen PhD Council. Our goal is to bring together early career researchers from across the Wageningen Graduate School network to give idea-focused talks that inspire. This year's theme is

'Science: From Local to Global'. Interested PhD candidates can submit abstracts for an oral presentation or poster. Info: [tinyurl.com/WPS2017](http://tinyurl.com/WPS2017).

### LIBRARY RETURNS SPARE COPIES

Changes to WUR PhD regulations came into effect from 1 January this year. From now on the library will only store one print copy of the dissertation, as well as the digital version. The full texts of all dissertations are available through the library website. If you are interested in having the spare copies of your dissertation returned to you, contact [gerrie.holmer@wur.nl](mailto:gerrie.holmer@wur.nl) before 1 April. Note: this only applies if you graduated after 28 October 2013.

### SHOUT STARTS AN 'OUT NOW GROUP'

Do you think you might not be hetero or cisgender? Or do you know it for sure? Shout will be starting an Out Now group in March, with a series of ten meetings at which group members can talk about what you might run up against if you are LGBTQ+. Email [info@shoutwageningen.nl](mailto:info@shoutwageningen.nl) for information.

## agenda

Thursday 9 March to Wednesday  
22 April

### 5 FILMS FOR STUDENTS

*A Street Cat Named Bob*: A true life feel-good movie about a homeless drug addict singer-songwriter whose life changes thanks to Bob, a cat. *Neruda*: an unusual biopic about the Chilean poet and communist politician Pablo Neruda. *Down by Law*: an

unconventional escape film by Jim Jarmusch, one of the greatest independent American filmmakers. *Zaatar* *Djinn*: a rare, intimate portrait showing the resilience of children in a refugee camp. *Dead Man*: Jarmusch's masterly mystical western about a man (Johnny Depp) who is running away from a bounty hunter. Venue: Wilhelminaweg 3A, Wageningen.

[WWW.MOVIE-W.NL](http://WWW.MOVIE-W.NL)

Friday 10 March, 20.15

### CONCERT BY THE WAGENINGEN SYMPHONY ORCHESTRA AND HET ANDERE KOOR (HWSO/HAK)

Music knows no borders and no Brexit. Come and enjoy a British programme with the promising soloist Deirdre Angenent. Venue: Johannes de Doperkerk in Wageningen. Information and ticket sales:

[WWW.HWSOHAK.NL](http://WWW.HWSOHAK.NL)

Thursday 16 March

### KICK-OFF FOR STUDENT ALPHA: PUB QUIZ

The next Student Alpha course starts in Wageningen on 6 April. Ten evenings to reflect on the Christian faith together in a relaxed, inviting way. There is a pub quiz as a kick-off. Come and sample the atmosphere and see whether the Student Alpha is your thing. For time and venue see [www.facebook.com/studentalphawageningen](http://www.facebook.com/studentalphawageningen) or email [alphawageningen@gmail.com](mailto:alphawageningen@gmail.com).

Thursday 16 March, 16.00

### WEES SEMINAR

'The impact of human activity on wild great apes in non-protected forests: implications for conservation and co-existence' by Dr Nikki Tagg, Project Director of *Projet Grands Singes* (Antwerp Zoo CRC, Belgium). Dr Tagg will discuss great ape conservation efforts in areas heavily used by people. Prior to the seminar: a workshop for BSc, MSc and PhD students. Afterwards drinks and discussion! Venue: Orion C2035.

[WWW.WEESWAGENINGEN.NL](http://WWW.WEESWAGENINGEN.NL)



Laan der Verenigde Naties 150, Ede  
[www.cinemec.nl](http://www.cinemec.nl) / 0900 - 321 0 321

FILM	FILM	THEATRE ON SCREEN
		
<b>NOW SHOWING</b> <b>Logan</b> Hugh Jackman returns as Wolverine!	<b>NOW SHOWING</b> <b>Kong Skull Island 3D</b> Action spectacle with the biggest King Kong in history!	<b>14 MARCH</b> <b>Amadeus</b> The National Theatre in London presents the incredible story of Mozart.

**€2 STUDENT DISCOUNT ON FILMS & EVENTS**

Deadline for submissions: one week before publication date (max. 75 words)  
Email: [resource@wur.nl](mailto:resource@wur.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



## ‘Are you a refugee?’

Since arriving in the Dutch ‘city of life sciences’, life has not ceased to entertain me. One incident, or rather a chain of events, particularly intrigued me. Several Dutch people in and outside of Wageningen have asked me: ‘Are you a refugee?’ When I replied: ‘No, I am a student from India’, they said: ‘Okay! Then it’s cool!’

At first, I didn’t understand this, but when I probed deeper, I realized that many Dutch people have a morbid fear of having refugees around them. ‘They are different, man!’, they said to me. ‘Come on’, I said, ‘they are not so bad.’ ‘Well, one cannot say what they might do.’

Apparently people in the Netherlands, Germany and other European nations experience the coming of refugees from Syria, among other countries, as a social problem. Although most Dutch people will never say anything bad, their anxiety is apparent. And since I have somewhat similar features as the people from refugee camps – or so my Dutch friends think – I find myself in a difficult predicament, for I am also categorised as ‘problematic’.

I cannot comment on whether this new situation in the Netherlands is good or bad and I don’t know whether the anxiety of the Dutch is justifiable. As a rule, they are friendly and forthcoming and I just hope this stays the same. Anyhow, I prefer not to be mistaken for a refugee. **Pranav Kulkarni, Master’s student of Animal Sciences, from India**

**I realized many Dutch people have a morbid fear of refugees**

*Have you had an interesting encounter with Dutch culture? Send your anecdote (in 250 to 350 words) to [resource@wur.nl](mailto: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.*