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Utrecht University

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Our alumni have the biggest impact

This issue of Vetscience International is about creating impact. How can we contribute to important themes in the world? We do that in many different ways: with our education programme, research, the healthcare in our clinics and at our teaching and research farm the Tolakker. However, the biggest impact that we make as a faculty is through our alumni. By working in the field, they exert influence on the veterinary profession and the animal sector in the Netherlands or further afield if they work abroad. Our lecturers, para-veterinary staff and animal carers make an important contribution to the next generation of veterinarians. We should not forget to remember this.

The impact of research carried out at the Faculty of Veterinary Medicine is also highly visible. The era of ivory towers really is a thing of the past. Take, for example, the story about woodsmoke in this issue. I think this is a fantastic example of research with a lot of impact, which was realised in collaboration with citizens. The research into short-muzzled dogs by our Expertise Centre Genetics of Companion Animals has been brought to the attention of the Minister for Agriculture, Nature and Food Quality and the Dutch House of Representatives. Now, there is even a policy in place to prevent dogs from being bred in the future with traits that cause unnecessary suffering. That has a genuinely high impact on animal welfare and animal health!

Or read the article about the transition to animal-friendly livestock farming in which we play an important role. And partly through our research into the health effects of microplastics, the European Union recently banned glitter and other microplastics from cosmetics.

The great thing about impact is that it gives many people in our faculty a sense of purpose. The realisation that with our education programme, research and animal healthcare, we get society moving. These are very worthwhile things to be able to participate in.

What I find very special about the stories in this issue is that we are not afraid to tackle complexity. And that, together, we are capable of comprehending complex issues and the constant compromises that the interests of people, animals and the environment require. That is a suitable role for an academic institution. We should thoroughly prepare our students for this so that they can develop into strong discussion partners. If we manage to enable our alumni to hold their ground in this complex society, we are really doing something right.

I hope you enjoy reading this issue. ■

Debbie Jaarsma
Dean of the Faculty of Veterinary Medicine, Utrecht University

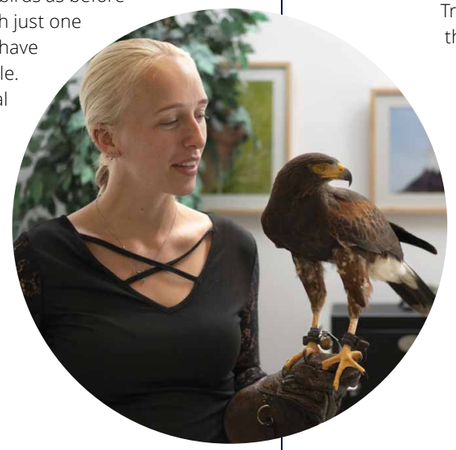
IMAGE: BAS NIEMANS

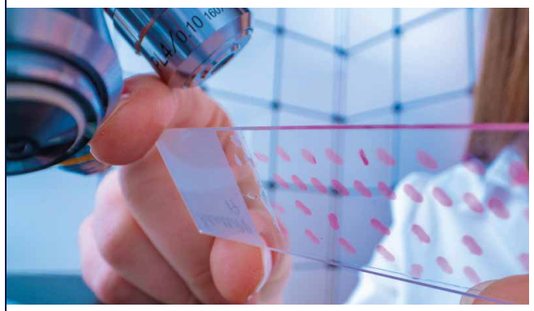
Contents

A one-eyed Harris's hawk

"Arya is doing really well", says Zoë van der Plaats, avian veterinarian at the Academic Veterinary Hospital. Harris's Hawk Arya works at a waste disposal site in the Port of Rotterdam, chasing away birds that cause a nuisance. Last year, her right eye was removed because it had become damaged due to raised eye pressure (glaucoma). Now, Arya once again chases away just as many birds as before her operation. "For birds with just one bad eye, euthanasia does not have to be the only option available. We also consider the individual patient's character before deciding whether we should operate or not."

Read the entire story here:





125 million set aside for animal-free innovation

The National Growth Fund, established by the Dutch government, has decided to reserve 125 million euros for a new Center for Animal-Free Biomedical Translation (CPBT). Over the next ten years, this will accelerate the transition to animal-free research. This should result in safer, more effective, and better treatments with less animal suffering. The Faculty of Veterinary Medicine is one of the initiators of the CPBT.

Tense weeks during North American accreditation

Last May, the Faculty of Veterinary Medicine was busy with the North American accreditation by the American Veterinary Medical Association (AVMA), which takes place every seven years. The AVMA quality mark is important, so these were tense weeks for students and staff. The official report was received in October and the committee has evaluated the assessment very positive.

Merel Ritskes-Hoitinga receives Pioneer Medal

In recognition of her work, the British research institution Animal Free Research UK has granted the Pioneer Medal 2023 to Professor Merel Ritskes-Hoitinga. The prize is awarded to groundbreaking researchers who do medical research without the use of animal experiments. In her work, Ritskes-Hoitinga calls for the replacement of animal experiments and the drastic acceleration of this process.

More places for master's students veterinary medicine

The Netherlands has a shortage of practising vets. In September 2022, the number of places on the master's course was therefore increased from 190 to 240. These extra students will enter the job market from 2025 onwards. Research by the Dutch government revealed demonstrable shortages in specific parts of the labour market, for example, livestock and regulatory veterinarians at the Netherlands Food and Consumer Product Safety Authority (NVWA). More than half of practising vets indicate that they experience work pressure and stress due to understaffing. We now have more places for master's students to prevent further shortages in the future.

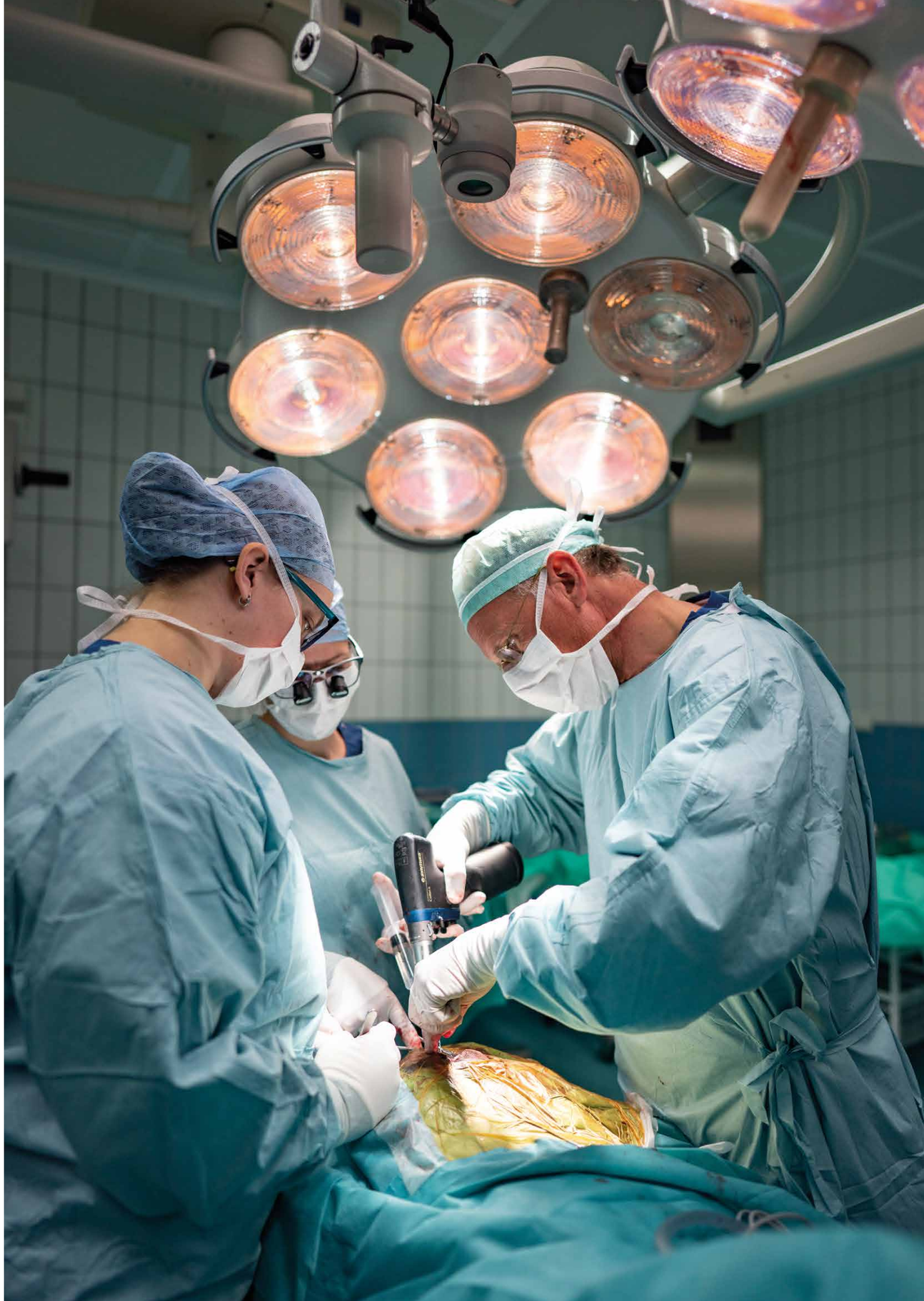
Online marketplace for buildings

The Martinus G. de Bruin building is well-known to veterinary medicine students in Utrecht. It houses offices, a lecture theatre, a stable, laboratories and operating theatres. In the context of large-scale renovations, the 58-year-old building will be dismantled in a circular manner. This means that the building's materials and complete construction units will be offered for sale on a buildings marketplace: a platform that connects project developers, architects and circular demolition companies with each other. In this way, the building will receive a different function in another form and at a new location.

Hospital care for companion animals

Behind the scenes at the Academic Veterinary Hospital

Today, companion animals are a full member of our family. So, if they become ill, their owners want to give them the best care possible, which they receive in Utrecht at one of the largest animal hospitals in Europe. It offers pretty much the same range of services as a hospital for people. This article was previously published in Quest Magazine.



Eos, named after the goddess of the dawn, had a problem. The rodent could not breathe properly through her nose. All animals find this annoying, but it can quickly become life-threatening if you are a degu. Because if degus cannot breathe while eating, this spells disaster for them.
Fortunately, Eos has an owner who is not easily pigeonholed. Or at least not quite. Because, after the operation to the tear ducts (rhinotomy) that she underwent, the degu now has an extra nostril. An implant ensures that she can breathe via a metal tube above the nose, which functions as a sort of internal snorkel.
Such an operation on an animal as big as a rat is difficult. And this is the third operation that Eos has undergone in a short period because on two previous occasions, the implant fell out after a while. This time, however, the surgeon fixed the tube in place with two stitches through holes in the bone.
After three operations, the bill has amounted to more than 1500 euros, whereas you can buy a new degu for a few tens of euros. Nevertheless, the owner Iwan, from the Dutch village Broek op Langedijk, did not hesitate at all. "If you buy an animal, you must also care for it." He tenderly looks at the dazed Eos in her basket, where she lies recovering from the anaesthetic. "Do you have the hiccups, dear? Come on, let's go home now. It's time to spoil you."

Everything for animals

We are at the Academic Veterinary Hospital, one of the largest animal hospitals in Europe, where more than 150 vets with different areas of specialisation treat over 17,000 horses, dogs and cats, birds and small mammals each year. The owners, who are referred to as the patient owners here, can find care for their two-footed or four-footed animal that was previously only available for humans. Besides an Emergency Clinic, the hospital also has a Behaviour Clinic, Cancer Centre, Blood Bank, an Intensive Care Unit and an Expertise Centre Genetics of Companion Animals. Furthermore, animals can be brought for ophthalmology, cardiology, a reproductive clinic and animal physiotherapy. Or for an MRI, CT scan or nuclear research, to give but a few examples.

Like a grape through a straw

It is all hands on deck in operating theatre 1. But then, it is not every day that the pituitary gland [gland that produces hormones, ed.] is removed from a dog. For this so-called hypophysectomy, the already large medical team has been supplemented with five students training to become specialists. They stand on tiptoe and film how surgeon Björn Meij carries out his work with utmost precision. This is a really serious operation, as can be clearly seen from the enormous quantity of operating equipment, peripheral equipment, intravenous drips and sensors. A 3D model of the patient's skull is visible on a monitor in the background.
The patient is a nine-year-old Australian Shepherd called June. She is completely wrapped in sterile green surgical drapes. Only part of a furry tail full of intravenous drips reveals that the patient being operated on is not a person. Meij is one of the few veterinarians in the world who can perform this operation. June's owners made the trip from Belgium with her for it.
"This dog suffers from Cushing's disease due to a considerable tumour in the pituitary gland that disrupts the hormone production", explains the surgeon. "Due to the tumour, the adrenal glands produce cortisol non-stop, as a result of which she continuously eats, drinks and urinates."
The patient lies on her stomach with her mouth held wide open. 'For the next two hours, the surgeon works very carefully towards the dura mater via an incision at the rear of the palate. If he touches a blood vessel, then that's the end of the story. Eventually, with a tiny drill, he makes a really small hole through the bone at the base of the skull through which he can reach the pituitary gland and subsequently remove it. "It is a bit like sucking a grape through a straw", expounds Meij.

Learning from animals

A large icebox stands in the operating theatre, ready to rapidly transport the organ, just like during a transplantation. The tissue is transported as quickly as possible to a laboratory that will culture organoids from it': mini tumours on which researchers can test drugs. Drugs that can possibly help to control Cushing's disease in humans as well. This is the so-called principle of

"Veterinary medicine increasingly looks like human medicine"

One Health, where research into the health of people, animals and the environment is the focus. Meij: "Human and veterinary medicine no longer work as two separate islands but learn from each other and exchange knowledge. I could never have performed this operation on dogs if Cushing had not developed it for people a century ago."
Meij was taught this operation by a neurosurgeon who operates on people. However, Meij has become far more experienced in the meantime. The vet has already performed the operation more than four hundred times on dogs. That is because Cushing's disease is rare in people but occurs one thousand times more often in dogs. That is a shame for dogs but a piece of good fortune for the medical sciences geared towards humans.

Fully-fledged family member

Just like in people, cancer is the number one cause of death in companion animals too. And like people, animals can be operated at the cancer centre as well, or treated with radiation or chemotherapy. And because it is possible, it happens a lot. "In recent years, we have witnessed a real shift in how people relate to their companion animals", says oncologist Laurien Feenstra. "Animals have increasingly become part of the family. Therefore, we also treat them as a real family

member, and owners want the best care for them." The aim of these treatments is to extend an animal's life, but not at any cost. Feenstra: "A good quality of life is the priority. And chemotherapy for a dog might sound intensive, but companion animals experience considerably fewer side effects than people."
The costs for such a course of treatment quickly add up. Radiation treatment for your dog or cat? Then expect a bill for 3600 euros. For a complex operation, such as a hypophysectomy, the bill is even higher at circa 6000 euros. "That is a lot of money. But people are prepared to pay that for their animal's well-being." Of course, the animal's age sometimes influences the course of treatment chosen, but at other times, this is not the case at all. "Naturally, not everybody has the same budget, but money is nevertheless only one part of the equation in deciding to pursue a treatment." You can also take out an insurance for your companion animal. However, that does often not cover all treatments and all animals.
Feenstra now has to meet the owners of cat Jessy (11), who has lymphoma. They are here to discuss the scenarios and possible treatments. In the end, they opt for a treatment with enzyme injections with a substance that attacks the tumour. This means that Jessy's owners will have to make the trip from Amstelveen to Utrecht every two weeks for a longer period of time. But they decide to do that without a complaint.

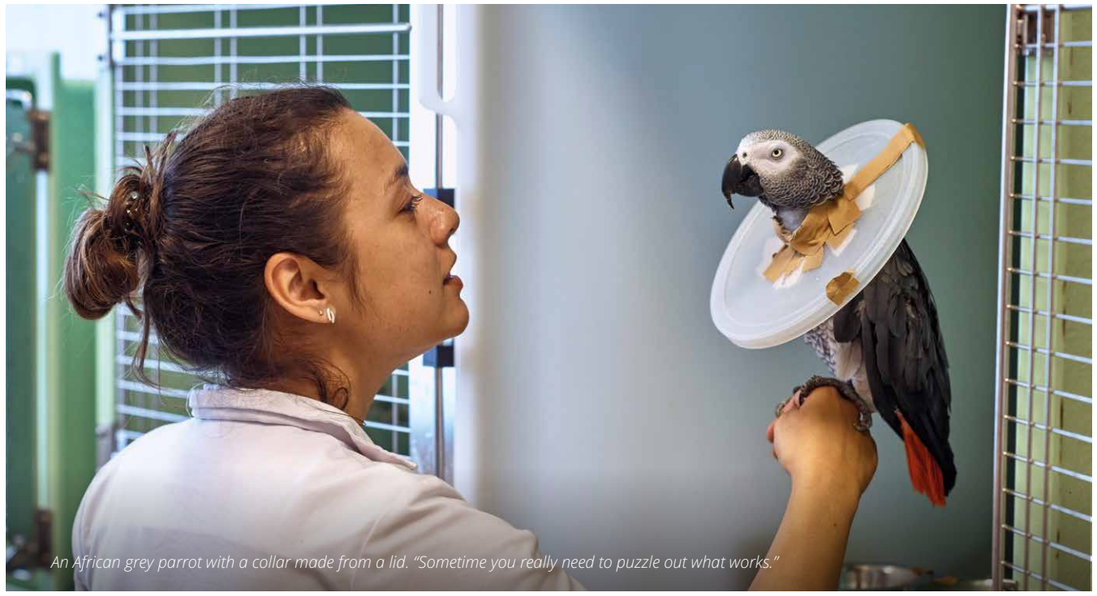
"Many owners, who are called patient owners here, will do and pay everything possible for their animal"

Improvising with parrots

Almost all creatures that are not a dog, cat or horse end up at the Department of Zoological Medicine. Para-veterinary animal carer Patricia de Wit is just doing her rounds among her admitted patients. This morning, these are a canary with lice, two African grey parrots with a fungal infection and a chicken with a gizzard that functions slowly. And, of course, degu Eos.
'De Wit has cared for quite a few interesting animals. "Last week, we had a greater rhea and two chinchillas. The week before that, we looked after a bearded dragon. In the past, we've also taken care of a silver fox, a serval cat and even a penguin." But the highlight was the leopard from a zoo. "We were given the express instruction not to stroke him as he then would become too tame. Not that I felt the urge to stroke him once I had seen his teeth...."
Special animals require specialised knowledge and care. And often, the team simply needs to improvise. It took quite a bit of ingenuity to make sure that one of the two African grey parrots did not peck itself any more. With the help of a lid from a tub of Dutch potato salad and some tape, the staff managed to make a collar for the bird. De Wit: "Sometimes you really need to puzzle out what works."
At this department too, the owners are willing to make quite considerable sacrifices for their animals. The owner of the other African grey parrot is not confident enough to administer the medicines themselves. So the bird is staying here for a couple of months because that's how long the treatment takes. And yes, that does considerably add to the bill'. However, it doesn't surprise De Wit. "Don't forget that some animals are very expensive. We occasionally get animals here, such as a macaw costing 10,000 euros or a tortoise more than one hundred years old."

Intensive care

After days of 100% occupancy, it is at last a bit quieter in the intensive care unit (ICU). The tiled room has a total of eight places, which, dependent on the patient, can be changed in terms of setup and pen size. Now, there are only three patients. The dog June lies recovering from her hypophysectomy operation this morning. A cat with renal failure is sleeping in pen number seven. In pen number eight, two employees use a tube to rinse the pus from the chest of a cat with a bacterial infection.
Joris Robben is a veterinary specialist and the head of the Department of Emergency and Intensive Care Medicine. "Human intensive care units elicit images of doctors running back and forth and patients full of tubes who find themselves on the brink of death. At our department, the animals are often less sick and are treated less intensively. If these patients were humans, they would not all be lying in an ICU. These animals mainly stay with us because they need expert personnel present for 24 hours per day, 365 days per year, to take care of them." As part of the service, a camera has been positioned above each pen so that the owners can watch their animals online from home at any time. What is the biggest difference between human and animal patients? Robben replies with some sense of humour: "The biggest difference is that people do not try to get rid of their catheter with their teeth."



An African grey parrot with a collar made from a lid. "Sometime you really need to puzzle out what works."

Dealing with emotions

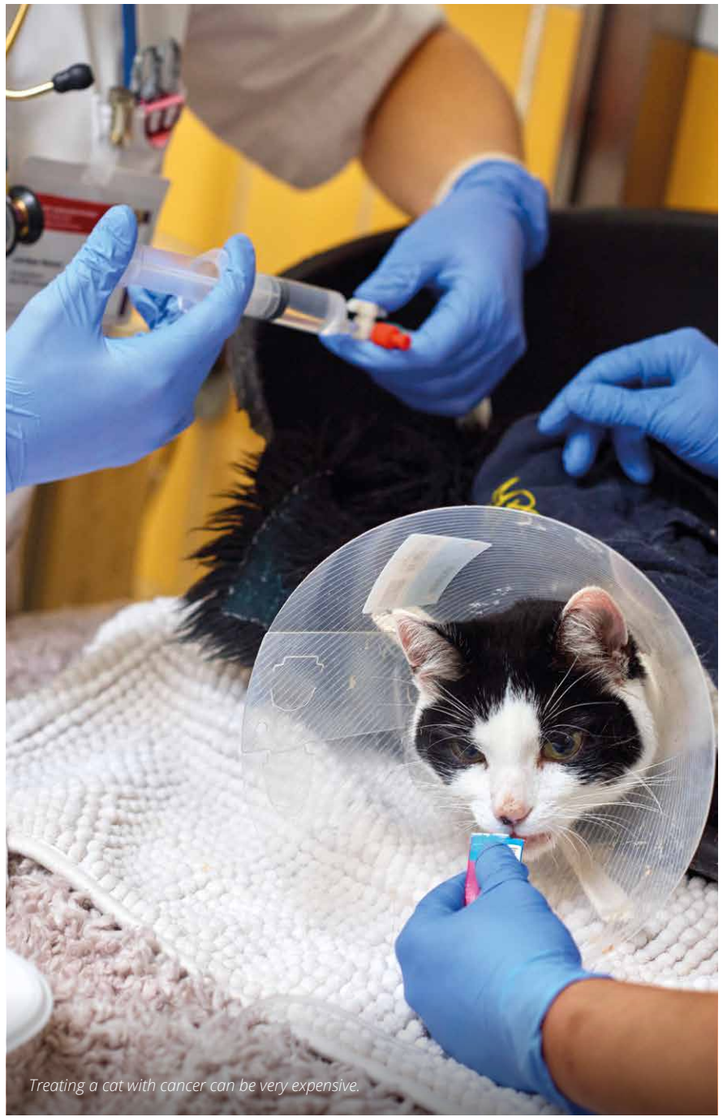
This hospital is also an academic training institute. Therefore besides treating animals, research and education about these animals are really important too'. Each year, 225 new students start their course in veterinary medicine and part of their training takes place in the hospital. Hans Kooistra is one of the lecturers. He is head of the Department of Internal Medicine of Companion Animals, one of the five departments of Clinical Sciences where about 50 researchers work. Kooistra has seen many changes in the 33 years that he has worked here. "Of course, the care for patients. This department increasingly looks like a hospital for people. But what has especially changed is the focus on communication with the owners. They are not here for a dog or a cat but for a member of their family who they love. And that often involves intense emotions. That demands something of us and the manner in which we train students."
What can these future veterinarians expect? According to Kooistra, it will be a world in which we have a different view on animals and where the boundaries between human and veterinary medicine will become increasingly blurred. "There are so many things we can do nowadays and young veterinarians need to weigh up the pros and cons of these possibilities carefully and render this open to discussion. Recently, the Faculty of Veterinary Medicine has appointed a professor who focuses entirely on

the ethical issues in the relationship between people and animals. This relationship is set to become more and more interesting in the future." ■

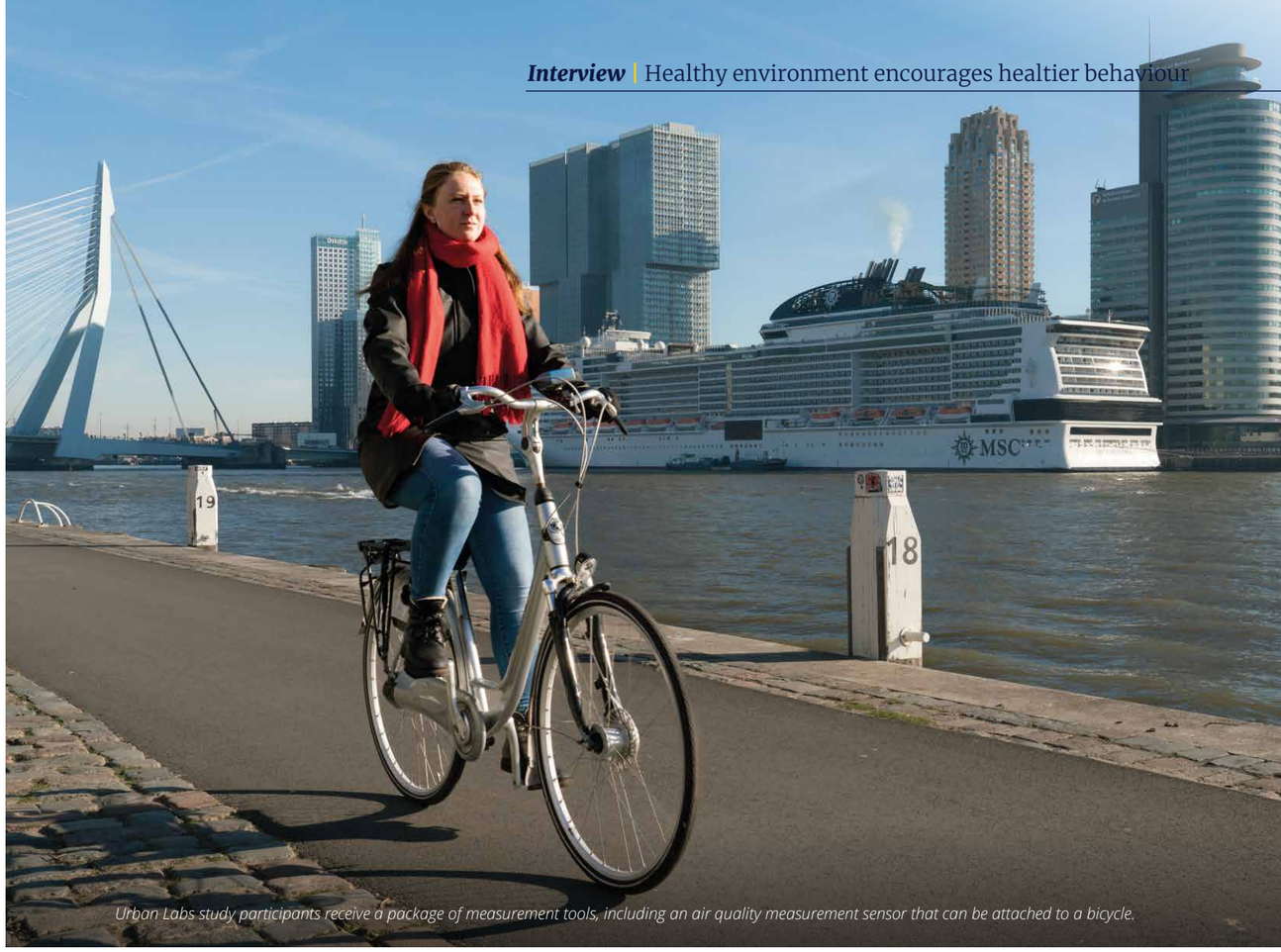
TEXT: JOOST BOS | IMAGE: BAS NIEMANS AND MARCEL BAKKER

BREEDING WITHOUT DEFECTS

Shortness of breath, hip problems, heart failure, eyes that bulge out of their sockets. These are all examples of harmful breed traits in dogs and cats. They arise due to the selective breeding of animals to give them a specific appearance. That breeding leads not just to visible, but also to invisible abnormalities. For example, there are dog breeds where most animals die from hereditary forms of cancer at an early age. The Academic Veterinary Hospital also plays a role here. The Expertise Centre Genetics of Companion Animals does research into genetic diseases and harmful breed traits in dogs and cats. With the knowledge that they collect, breeders can breed healthier animals.



Treating a cat with cancer can be very expensive.



Urban Labs study participants receive a package of measurement tools, including an air quality measurement sensor that can be attached to a bicycle.

A healthy environment encourages people to adopt healthier behaviour

Our living environment affects our health. The place we live, what we eat, how much we exercise, the kind of work we do and the people we interact with – all these environmental factors play a role. But how important are they in terms of our health and how are they all connected? We still haven't really answered any of these questions. The Urban Labs study aims to do just that through a large-scale survey in five European countries: Greece, the Netherlands, Poland, Spain and Switzerland. A conversation with researchers Anke Huss and Ayoung Jeong.

"This European study should help us gather as much data as possible in different countries and environments over the next few years. Northern, central and southern Europe," explains Anke Huss, researcher at the Faculty of Veterinary Medicine of Utrecht University (Institute for Risk Assessment Sciences) and responsible for coordinating the Dutch leg of the Urban Labs study, the 'Exposome Panel Study'.

"We've already gained a lot of knowledge from previous studies. For example, air pollution and excessive noise aren't good for our health, but exercise and a green environment are," Huss continues. "However, we still have a lot to learn about the complexities. Out of all the environmental factors, what are the most important health determinants? To what extent does the environment determine our behaviour and which factors are you exposed to in which social settings? We're currently conducting this long-term study to identify all those factors."

Recruiting participants

A total of around four thousand people – eight hundred per location – are taking part in the Urban Labs study. They started earlier in Barcelona and have already signed up about a thousand participants, but the Netherlands is still in the early stages of the study. The other countries are also still working to recruit participants. Huss: "It's still too early to say anything about the results. We were able to take a first look at the questionnaire results at the end of last year, but that only gave us a broad idea of the situation. We're using various tools during the study, including sensors, GPS trackers and sports watches, but it will be some time before we can analyse those measurements."

The blue sensor on this so-called "snuffelfiets" (sniffer bike) measures the air quality in the area.

Our environment determines our lifestyle

"We want to understand how people behave in specific environments," explains Ayoung Jeong, coordinator of the Urban Labs study and working at Swiss TPH in Basel, which is coordinating the research under the direction of professor Nicole Probst-Hensch. "We're measuring subjective factors as well as objective ones, so that also includes the way people perceive their environment," Jeong explains. "The results could ultimately help policymakers, architects and engineers design healthier environments."

Motivating people to cycle

"Let me give an example," Huss says. "We want people to cycle more because exercise is good for your health. You need bike lanes in order to cycle safely. But if people perceive cycling as dangerous, they might not do it even if there is a bike lane. That's why it's important to know what the environment is like and figure out how people experience their environment and how that perception affects them. In terms of prevention, you could design an environment that prevents people from developing unhealthy lifestyles, but perhaps there are also factors that actually help people make healthier choices."

Walking or exercising

As Jeong knows from personal experience, a healthy living environment helps you adopt healthier behaviours. "I've lived in Korea and Switzerland. My behaviour here in Basel is completely different from the way it was in Seoul, both in terms of my diet and the amount of steps I walk each day. But I'm still the same person. My lifestyle is really shaped by the way in which the city is structured. In Seoul, nothing was within walking distance, so you'd inevitably end up taking the bus or metro. Basel is very pedestrian friendly, so I go everywhere on foot. In other words, my behaviour is all connected to my circumstances."

"People's behaviour is important to health, so how can we build our environment to encourage people adopting healthy habits?"

Do you have any tips for our readers?

"It's hard to give any general advice, but a healthy lifestyle is the one factor that really stands out," Huss says. How can our built environment encourage people to adopt healthier habits? This is what this work is about."

Jeong also believes we should be more focused on the living environment. "If people live in a green environment, that automatically encourages them to go for walks or exercise. That's nothing like living in an environment without any green spaces. Obesity in the US would be a good example. You can't just blame it all on people's behaviour, because Americans really aren't that different from Europeans at the end of the day. Just try finding a local supermarket with fresh produce in the US: that's actually quite hard. It's easy to blame people's behaviour, but the environment also plays an important role in determining our health."

So designers and policymakers can make a real difference?

"Exactly!", Huss replies. "But they can only do that if they know which dials to turn. And that's where our study comes in." ■

TEXT: MYRNA TINBERGEN | IMAGE: BAS NIEMANS

“We’re aiming for a world where people no longer get sick as a result of their work”

Diesel, pesticides, paint, or composites. Researchers Susan Peters and Sirwan Darweesh envision a future where people no longer get sick from occupational exposure to hazardous substances. We now have a lot of knowledge about the chemicals that cause specific diseases – e.g. pesticides that trigger Parkinson’s – but the list is far from complete. The researchers are working hard to address that situation. “Everyone deserves a safe workplace, and we want to make sure people don’t get sick because of their work.”

“Occupational diseases caused by hazardous substances are preventable”, explains Susan Peters. Peters is an Associate Professor at the Faculty of Veterinary Medicine (Institute for Risk Assessment Sciences) and a member of the Occupational Disease List Advisory Committee (see box on page 22). “We know a lot about hazardous substances, but we need to figure out which kinds of occupational exposures lead to which diseases. We can then start focusing on prevention so that people don’t get sick as a result of their work.”

The onset of Parkinson's disease

Sirwan Darweesh couldn’t agree more. The neurologist at Nijmegen’s Radboudumc is studying Parkinson’s. “I’m mainly focused on the onset of the disease, the period before people actually develop Parkinson’s. There are clear indications that this period could last as long as ten years or even longer. Environmental factors play a major role in that process.”

Which professions expose people to occupational diseases?

“When it comes to pesticides, that’s mainly the agricultural sector”, Peters explains. “In the construction industry, you’re exposed to a lot of silica, which are the hazardous particles released when you saw, cut or grind bricks, for example. People working in the construction and transport sectors are exposed to diesel emissions. However, there are also plenty of examples of occupational diseases in the food industry, like bakers contracting allergic asthma from substances in flour. It affects people in all kinds of industries.”

Has the number of occupational diseases increased?

“From the 1960s and 1970s onwards, workplace exposure to most substances has clearly been declining”, Peters replies. “But that downward trend isn’t enough and we know that people are still being exposed to substances that can make you sick. There’s definitely room for improvement.”

“Parkinson’s is actually significantly more common than it was fifty years ago”, Darweesh adds. “We’ve seen a rapid increase in the number of cases worldwide, but we don’t know whether it’s because people are getting Parkinson’s at an earlier age or whether it’s a result of an ageing population. Parkinson’s mainly affects middle-aged and elderly people.”

Could that be due to worsening air pollution?

“It’s possible yes”, Darweesh replies. “But it could also be because people are exposed for longer periods of time as they are living longer. Someone who gets Parkinson’s today might not have lived to be 75 thirty years ago.”

Isn't it a bit of a pipe dream to think we can stop people getting sick from occupational exposure?

Peters nods in agreement. “That’s a valid question. We now know quite a bit about carcinogens these days, but we still expose people to them. Diesel increases the risk of lung cancer, but

there are still lots of diesel engines and trucks. The same goes for pesticides. There are a lot of interests at stake. Completely eliminating hazardous substances might be a pipe dream, but we need to minimise exposure levels as much as we can."

What will that involve?

Darweesh: "As a first step, we need to accurately identify the external factors that contribute to the development of diseases like Parkinson's. Next, we'll need to significantly reduce exposure to those substances in conjunction with policymakers. That's not as easy as you might think. For example, farmers have a relatively greater incidence of Parkinson's than people in other occupational groups, which may be related to high pesticide exposure. I think they're victims of the current situation because they don't have any good alternative income sources."

But surely manufacturers don't want to sell products that make people sick?

"Does that also apply to the tobacco industry?", Peters asks. "Money is an important factor. The harmful effects of tobacco had been known for a long time, but the tobacco industry lobbied a lot to delay regulation. That happens a lot, and it's very frustrating. Still, changes also have to be feasible; you can't suddenly replace all the diesel engines in the world, for example. I agree with Sirwan that it ultimately comes down to prevention policies."

What's the biggest challenge you're facing?

Peters: "Diesel is the biggest issue, as far as I'm concerned. We know it causes lung cancer, but there's still so much to be done worldwide if we want to replace diesel engines. Silica increases the risk of lung cancer, but construction workers are still exposed to it. Another example would be composite kitchen worktops: silica gets released every time you cut them to size. Those particles end up deep in your lungs and can make people sick years after the fact."

And what about Parkinson's?

Darweesh: "There are three main environmental factors involved: the pesticides we still use in the Netherlands, fine particulate air pollution and solvents."

So what are you ultimately aiming for?

Darweesh: "We hope prevention will ultimately reduce the incidence of diseases like Parkinson's. If we can achieve that through our research, we'll be making a real impact." Peters agrees. "I hope we can eventually prevent all preventable diseases. All diseases caused by occupational exposure." ■

TEXT: MYRNA TINBERGEN | IMAGE: ISTOCK, BAS NIEMANS AND HUBAER KUSTERS

Susan Peters, occupational epidemiologist at Utrecht University

Sirwan Darweesh, neurologist at Radboudumc

WHAT DOES LEXCES DO?

The national Expertise Centre for Substance-Related Occupational Diseases (Lexces) pools knowledge and expertise on hazardous substances and occupational health risks. Board members include Dick Heederik, Professor of Health Risk Analysis at Utrecht University (chairman) and Roel Vermeulen, Professor of Environmental Epidemiology and Exposome Analysis (Utrecht University and UMC Utrecht). Susan Peters is deputy board member and, like Heederik, was appointed a member of the Occupational Disease List Advisory Committee by the Minister.

Also see: www.lexcel.nl/en

Working sustainably on the health of animals, people and the environment

How do we transition to sustainable, more animal-friendly and circular agriculture? How do we play our part in helping to resolve the shortage of practising veterinarians? What can we do to tackle avian flu? How can you treat back pain in animals and people? And what can we do to ensure people no longer get sick due to their work?

Together with 1,000 colleagues, we work on the challenges of today and tomorrow. One of these challenges is to provide education and conduct research in the field of health risks posed to humans by exposure to pathogens and possible hazardous substances in the environment, at work or in the food chain.

Susan Peters, occupational epidemiologist at the Institute for Risk Assessment Science (IRAS), is currently researching occupational diseases caused by hazardous substances: “We know a lot about hazardous substances, but we need to figure out which kinds of occupational exposures lead to which diseases. We can then start focusing on prevention so that people don’t get sick due to their work.”

You can contribute to Susan’s research and work together with an international team and partners all over the world. Or are you more interested in other challenges in the area of animal, human and environmental health? Find out the possibilities for working at the Faculty of Veterinary Medicine at Utrecht University.

“There’s a world of difference between being a student and being a vet”

Student Bart Veenstra and veterinarian Ruby den Besten talk about their experiences with the new junior internships outside of the Faculty of Veterinary Medicine

Since September 2022, new classes of veterinary students dive into the professional field at the start of their master’s training as well, once they have completed their basic internships. By doing this, the future vets can gain practical experience earlier in their training. How do students and vets view this? Student veterinary medicine Bart Veenstra and veterinarian Ruby den Besten share their experiences.

Student Bart Veenstra

Veterinarian Ruby den Besten

"When I grow up, I want to become a vet", many children say. Yet only a select group realises the dream, and only after years of hard work. Unfortunately, the reality does not always meet their expectations: as a vet, you are often also an entrepreneur, you work together with other companies and you often have to hold difficult conversations with animal owners. Therefore, the content of the master's programme has been revised to better prepare students for the realities of the profession: students now do internships at veterinary clinics at the start of their master's and not just at the end.

"Some of my fellow students had already taken the initiative to work at a veterinary practice, but this was my first time", says Bart Veenstra. Before he started to work in the practice, he received support from the Faculty of Veterinary Medicine to ensure he was well prepared. "We received a plan for the internship period, for example. I spent my first week at the practice observing, and after that, I conducted an easy consultation, such as a vaccination consultation. Later, I did a consultation about a sick animal, which is more difficult. With this approach, I gradually learnt more and more and became less dependent on my colleagues." The students also returned to the faculty each week to discuss their experiences.

Puzzle things out together

"I was particularly curious about what sort of patients I would see", says Veenstra. "At the Academic Veterinary Hospital, we mainly see complex cases, whereas at the veterinary clinic, I saw simpler problems: ear infections, vomiting and diarrhoea." However, occasionally there are patients with complex problems for which it is not easy to provide a diagnosis. "I can, for instance, remember a hormonal problem in a patient where the symptoms were visible externally. Together with the vet, I puzzled out what it could be and, fortunately, the blood tests confirmed our suspicions. That was really cool!"

"Being a vet doesn't mean you know everything. You're always allowd to ask things or look them up"

From student to vet

Together with two other colleagues, Ruby den Besten has now been working as a vet at the animal clinic in the Dutch town of Culemborg for three years. Just a few years ago, she was in Bart's shoes. "I think it is good that students see that as a young vet, I do not know everything either. That you are allowed to ask things or look them up", explains Den Besten. She can still vividly recall her own master's. "I really wanted to graduate, but I also found it nerve-racking. There's a world of difference between being a student and being a vet." Looking back at her time as a student, she says she would have liked to have had internships at a veterinary clinic earlier during her training. "Your head is full of theory, but being able to act quickly during simple consultations and to establish contact with the client is something I only learned during the first months of working as a vet."

Quite a switch between patients

Some things surprised Veenstra during the transition from studying to working as a vet. "At the Academic Veterinary Hospital, you are less concerned about time as many different tasks are allocated across a large team of vets, lecturers and students. During the internship in Culemborg, that was very different because we try to work as efficiently as possible in a small team", he says. "Everything has to happen quickly and that also applies to euthanasia. So then Ruby and I first of all administer a sedative, and meanwhile, while the sedative is taking effect, we go to see another patient", he explains. "So the one moment you're standing between crying adults and the next moment between lively puppies; that's quite a switch." In addition to that, he found the social aspect of the work surprisingly pleasant: "I hadn't imagined that I would enjoy a friendly chat with animal owners so much."

"Veterinarians who have just graduated need to have a realistic idea about what the profession involves"

A lot of freedom with the intake

Every five weeks, a new master's student starts with the junior internships at Culemborg Animal Clinic. "We enjoy a lot of freedom in selecting the students who come to us for an internship: for example, we will soon welcome a student from abroad, and we can equally decide not to receive students from the faculty for a while. We really appreciate that flexibility."

Vets who want to supervise students follow a training at the university. In two half days, Van Besten was informed about the educational philosophy, providing feedback and assessing the students.

There are plenty of reasons to have students in your practice. "It is important that vets who have just graduated gain a realistic idea of what the profession involves to prevent their early exit from it; in other words, that alumni enter the profession with a good feeling. I am very happy to contribute to that ", she says. "Besides, an extra pair of hands is always welcome." ■

TEXT: JULIET JOOSTEN AND JELLE BOONTJE | IMAGE: OWN COLLECTION AND ISTOCK

Do you have any questions after reading this article? Please contact Annemarie Revet, the coordinator extramural education, via a.j.revet@uu.nl.

Utrecht University

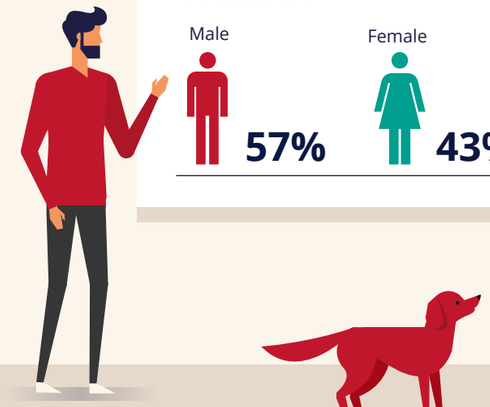
Veterinary Medicine

Facts & Figures

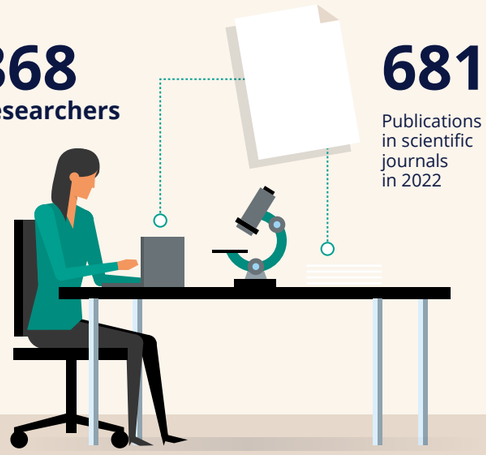
35
Professors

Male **57%**

Female **43%**



368
Researchers



681
Publications in scientific journals in 2022

The only veterinary faculty in the Netherlands

Accredited in:

Veterinary Medicine

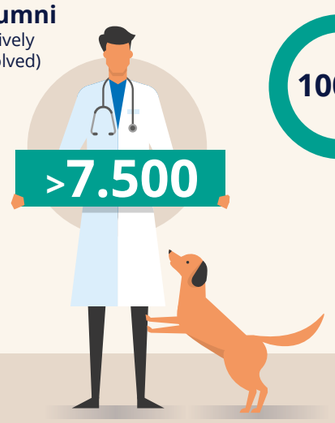
Bachelor's students **797**

Master's students **669**

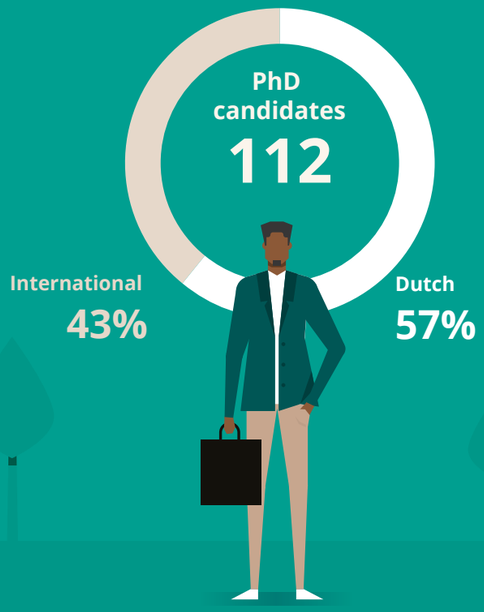
Clinical Sciences

Bachelor's students **86**

Alumni
(Actively involved)



100% of Master's alumni employed within a year after graduation (based on sampling of 2022 graduates)



Friends of VetMed

€4.9
million raised to date

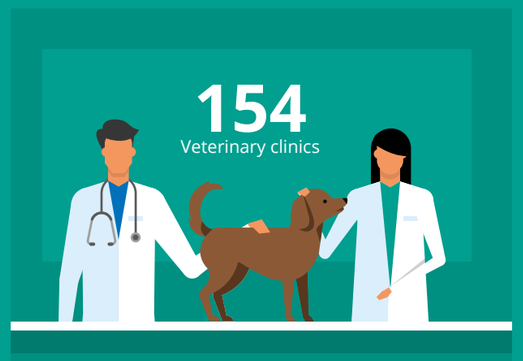
University animal hospital

Companion animals:
>22.000
consultations annually

Working with
400 **livestock farms**
through the University Farm Animal Health Practice

Equine:
>8.500
consultations annually

Veterinary education partners



Disclaimer: this numbers are indicative and intended to give an impression of our faculty

Aren’t you the scientist here?!

Fleur Froeling turns citizens into co-researchers

Researcher Fleur Froeling walks through a residential neighbourhood with measuring equipment.

Researcher Fleur Froeling is a strong advocate for citizen science. She involved non-scientists in every stage of her research, including choosing a topic. The result: wood smoke.

Four years ago, Fleur Froeling started for a PhD track in citizen science without knowing exactly what her research project would be about. She was, however, certain that it would promote three things: the societal interest, the environment and human health. The common thread uniting these aspects is citizen science.
“Before I started the study, the team had explored which environment-related topics were getting a lot of attention in the media,” she says. “Wood smoke kept popping up, for instance in connection with barbecues, fireplaces and burning biomass. When I started in 2019, I put out a call online for people to send me their questions about wood smoke.” Once again, the topic turned out to be a hot issue. Froeling herself never expected it to be the centre of so much heated debate. She received no less than 130 unique questions, ranging from ‘What will the ash from my neighbour's wood-burning stove do to my tomatoes?’ to ‘Does my car cause more pollution than my wood-burning stove?’. “In order to pick just one research question from the many, I talked to study participants, RIVM, the Public Health Service of Amsterdam and the Netherlands Organisation for Applied Scientific Research. That brought me to the research question: How does wood smoke affect health?

Participants sceptical at first

“The first meeting was a really nerve-racking experience, because I had no idea how many people were going to show up”, Froeling recalls. Luckily the turnout was greater than expected, although attendees were sceptical.
“The reception was suspicious; people were wondering: ‘What do you want from us? Why do you need us, anyway? Aren’t you the scientist here?!’ Then I explained that we weren’t doing a study about them, but with them.”
According to Froeling, her study benefited from involving the residents.
“They know the area and know where you can smell wood smoke; they were also helpful for things like finding a good location for the measuring station. Using all that input, my colleagues and I drew up a plan for the research. I told the group that it wasn't possible for us to study every single aspect, such as the individual health effects, for instance. What we could do was install a measuring station at the neighbourhood level and use it to quantify the health effects on a specific group. At first, I saw that as a drawback, but the participants pointed out the advantage. By doing so, we had shifted the perspective from an individual issue to a nuisance affecting the entire neighbourhood.

Not only did the surrounding residents help with decision-making, but they helped conduct the research as well.

“Wood smoke causes problems for healthy people too”

They kept diaries of wood smoke-related symptoms for a period of three months, measured their lung function twice a day and collected saliva samples.

More and more confidence

At the first meeting, people were mostly concerned with expressing their frustrations and concerns. Starting with the second meeting, however, there was more room for conversations about the content of the research.
“And so the citizens became true co-researchers,” Froeling says. “Later in the process, when a newcomer would enter the discussion with a heated or un-nuanced stance, the other participants would correct them. They’d say, ‘We understand your frustration, but we're here to do research’.” The people’s trust in the research grew; they were quite committed and remained involved with the study from start to finish. A bond formed between the researcher and the participants. Froeling: “I know the name of every participant and have even visited some of them at home.”
The cooperation with citizens could also be complicated at times. “I ran into all manner of challenges,” Froeling says. “For instance, I had to make sure they stayed involved as the study went on. That was quite difficult, because this kind of research takes years to complete. On top of which, the outcomes were not always in line with their expectations.” Transparency was

"Any research stands to benefit from citizen involvement"

Froeling's chosen tactic. "I was open with them about the research process and the challenges that go along with it. That built a lot of trust. And problems more or less resolved themselves."

Arguments to support their gut feelings

The research showed that short-term exposure to wood smoke causes shortness of breath without physical exertion. People also tend to take more medicines as their wood smoke exposure increases, even if they do not suffer from asthma or COPD. The symptoms disappear when the wood smoke levels decrease. These results came as no surprise to the participants. Froeling explains that for them, the results merely confirmed what their gut told them. They were relieved – now they had evidence in the form of the research report and therefore arguments to support their gut feelings. There was one remark that has stuck in Froeling's mind: "'Apparently I'm not the only person bothered by wood smoke; it causes problems for healthy people, too.'"

Once again working in cooperation with citizens, Froeling wrote a policy summary about the results, which she shared with the Dutch House of Representatives. "That was the first study to be conducted in the Netherlands on the health effects of wood smoke, using the substance known as 'levoglucosan' as a metric for the quantity of wood smoke (see text box). The research results helped advance the dialogue between policymakers and people who experience health problems as a result of wood smoke. The study benefited the participants on a personal level as well. People felt like their voices were heard and that they are now part of a larger community. Others learned something new about scientific research."

Achieving greater impact

According to Froeling, any research stands to benefit from the involvement of non-scientists, in all kinds of ways. "You achieve greater impact, the questions are better aligned to the needs, people feel seen and heard and are more inclined to participate. Scientists tend to focus on the obstacles and not the fantastic things on the other side of those obstacles. Be open to citizen science and allow yourself to be pleasantly surprised!" ■

TEXT: JULIET JOOSTEN AND ROSAN REUSKEN | IMAGE: BAS NIEMANS

Researcher Fleur Froeling installs equipment for measuring air quality.

EVIDENCE OF WOOD SMOKE

Scientists can use a substance called levoglucosan to determine exposure to wood smoke. Previous research has shown that this substance is a good metric for measuring wood smoke. Levoglucosan is found in fine particulate matter and is emitted when biomass, such as wood or corn, is burned.

Fine particulates, ultrafine particulates and carbon monoxide are also released by burning wood. Taken individually, these substances cannot be used to show the presence of wood smoke because they also come from other sources, such as traffic.

Porpoises in the necropsy room

As a marine biologist and head of Strandings Investigation, Lonneke IJsseldijk regularly shares photos and videos about her research on Instagram with more than 2800 followers. Recently, she shared a series of photos about the necropsy of a porpoise, with each photo showing different organs.

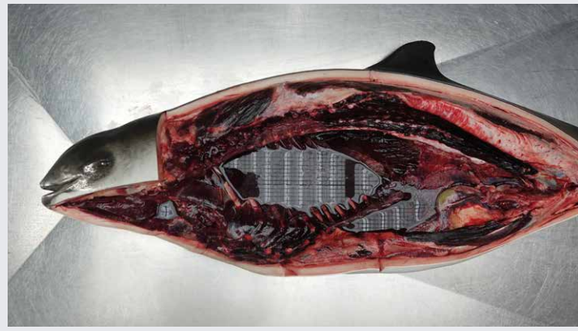
Take a look inside, where the anatomy and pathology of all organ systems are revealed layer by layer.

The first layer, called blubber, has been removed. This is the energy reserve of these animals; their insulation layer to stay warm in an often cold environment. The dark red colour of the skeletal muscles is visible in this photo. This is because cetaceans have higher concentrations of myoglobin in their muscles than terrestrial mammals. Myoglobin is a red protein that transports and stores oxygen. The high concentration of oxygen in the muscles of cetaceans is one of the many physiological adaptations to living in water.

In the next photo, the lungs are visible on the left, while the diaphragm covers the abdominal organs. After the removal of the diaphragm, the abdominal organs, such as the liver, stomachs, intestines and reproductive organs can be seen in the third photo. In the last photo, all of the organs have been removed, exposing the spine (top) and inside of the ribs (under).

Follow IJsseldijk and the strandings research projects on Instagram: @strandingresearch ■

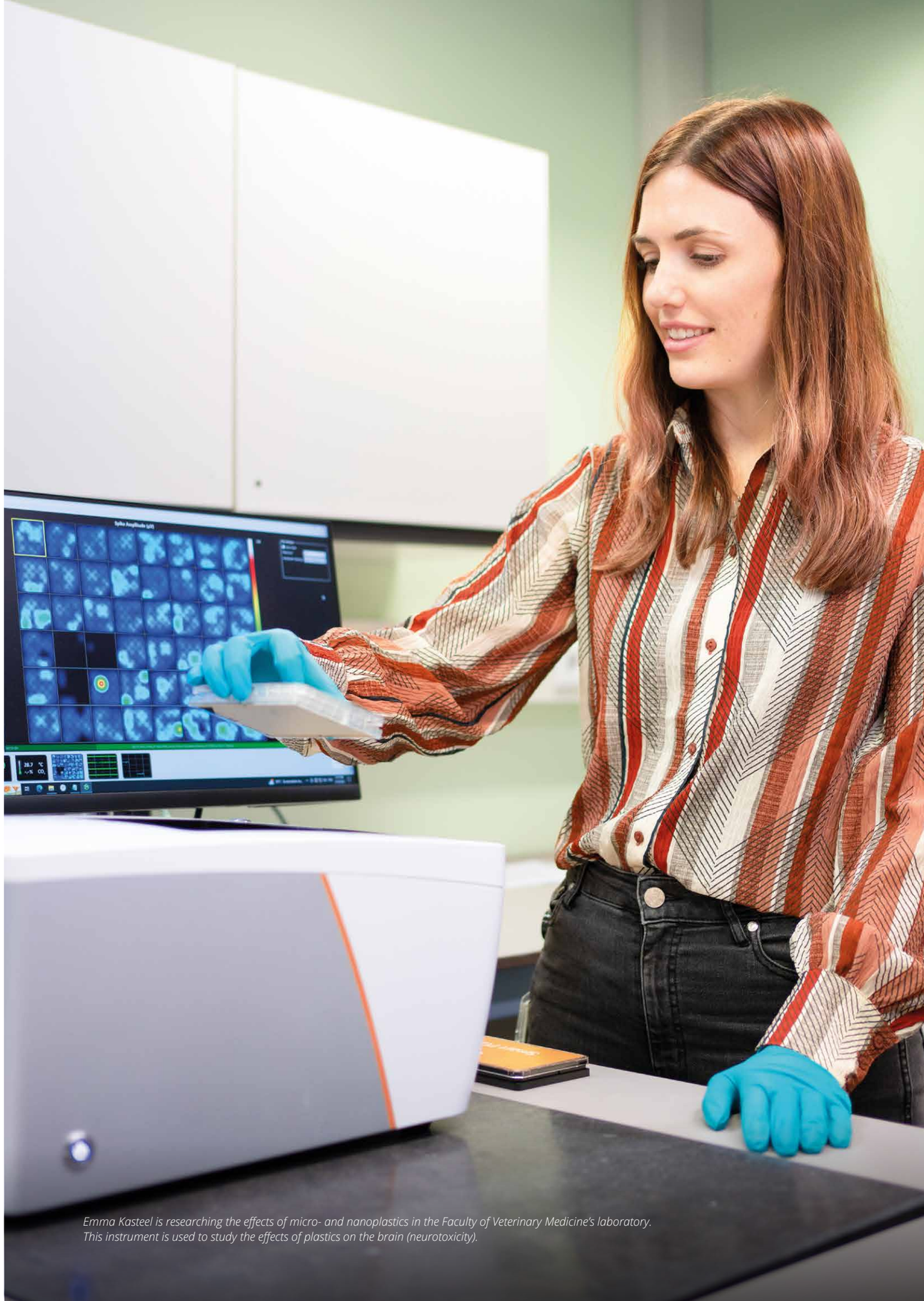
TEXT: JELLE BOONTJE | IMAGE: LONNEKE IJSSELDIJK



“We’re producing more and more plastic even though it’s hard to remove from the environment”

How harmful are microplastics to our health?

Plastics are everywhere. In our soil, air, water and food. Plastic decomposes into small and even tinier particles – micro and nanoplastics – that aren’t visible to the naked eye. These particles end up in our organs and blood. So just how harmful are they? A conversation with three experts.



Emma Kasteel is researching the effects of micro- and nanoplastics in the Faculty of Veterinary Medicine’s laboratory. This instrument is used to study the effects of plastics on the brain (neurotoxicity).

"We want to determine the effects of micro- and nanoplastics on human health," explains Emma Kasteel, researcher at the Faculty of Veterinary Medicine (Institute for Risk Assessment Sciences) and at MOMENTUM, a consortium researching the effects of micro- and nanoplastics (see box). "We know that we're being exposed to tiny plastic particles in every possible way, but we don't know whether that's harmful yet or – if so – just how bad it really is. That's what we're researching."

Getting a grip on plastics

"It is important to understand the entire production chain: from the sources of plastic to their release into the environment and exposure to flora and fauna – as well as humans," explains Susanne Waaijers, researcher at the National Institute for Public Health and the Environment (RIVM). "Plastics are highly complex, they have physical, chemical and biological properties. We want to find out which of its effects are critical to our health. We can't possibly test every type of plastic in the short term – there are more than six thousand varieties – but we are working to gather all that information."

Pre-washing our clothes

Environmental organisation Plastic Soup Foundation advocates tackling plastic pollution at the source. The question is, how do we go about it? "That depends on the product," replies Maria Westerbos, founder of the Plastic Soup Foundation. "When it comes to clothing, you could go about it in several ways. That could involve washing machine filters, but – most importantly – producing clothes that don't wear out as quickly. We need to stop producing fast and ultrafast fashion anyway. You can also wash new clothes preventively, which involves washing them five times before they reach the retailer, but that still leaves you with plastic waste in the filters."


Maria Westerbos


Susanne Waaijers

Will five washes be enough to 'remove' individual plastic particles from the clothing?

"If the quality is reasonable, the weakest threads will have broken off after five washes and hopefully ended up in the filters," Westerbos reckons. "Unfortunately, 69% of all clothing is synthetic. Ultra-fast fashion is particularly devastating to the environment. It's also bad for our health, because we breathe in those fibres."

There must be more sources besides clothing?

"Cosmetics are also a source of microplastics, but they're a minor one," the environmental organisation founder continues. "We believe their tiniest particles can penetrate the skin. Grindings from rubber car tyres are also an important source, as is paint. Basically all the synthetic stuff in your home: carpets, curtains, beds, pillows, a lot of it is made of plastic. That eventually ends up in the environment.

"Don't buy any plastic toys that will fall apart quickly"

Single-use plastics should be banned anyway."

"Let's not forget litter," Waaijers adds. To which Westerbos responds: "That's not a big problem here in the Netherlands, although there is a lot of invisible waste at the bottom of our rivers and sea. The use of mulch [shredded organic and inorganic waste, ed.] to cover young crops in the fields is also problematic. That can contain plastic, which isn't biodegradable. The world is full of plastic; it's in our soil, ground and drinking water, the air, our bodies."

"Land-borne plastics are a major problem," Waaijers agrees. "The Netherlands does handle the litter problem more effectively than other countries, where plastics end up in landfills or sites where people burn plastic themselves. That can also release microplastics and other harmful substances."

Still, the Netherlands is one of the biggest exporters of plastic waste, according to the Plastic Soup Foundation. "The Netherlands imports waste from Germany and England and ships eighty per cent of it to poor countries," Westerbos explains. "They can't process it, so they just burn it out in the open. Our own incinerators also generate a lot of pollution; if you opened their valves, you wouldn't be able to eat any locally produced eggs."

So the Netherlands isn't exactly top of the class?

"We're a bunch of scoundrels, we're now one of the worst behaved boys in the whole class," Westerbos sighs.

"If you opened the valves of an incinerator, you wouldn't be able to eat any locally produced eggs."

"We're also diverting a lot of 'paper waste' through Rotterdam, but it actually contains a lot of plastic. That's illegal trade."

"I should qualify that a bit," Waaijers adds. "We don't know exactly how plastic is affecting our health yet, that's something we're currently researching. However, we do know that production volumes are still rising and we're aware how difficult it is to remove plastics from the environment. That's more than enough reason to crack down on the volume of production."

What's the main challenge when it comes to reducing plastic waste worldwide?

Waaijers: "The fact that manufacturers aren't required to disclose the composition of their products, e.g. the polymers they contain and the relevant quantities," she explains. We need that information. There is some European legislation on chemicals in the form of REACH, but that doesn't cover polymers. They're working to address that at the moment. That's important because it will help us understand how plastics are made and what they are used for. Manufacturers currently aren't required to provide any transparency about those things."

Are any plastic manufacturers willing to cooperate?

"Definitely," Kasteel replies. "LyondellBasell, for example, one of the world's leading manufacturers of plastics and chemicals is currently participating in the MOMENTUM research project. They're willing to contribute and learn from our research. Having said that, I'm sure there are other manufacturers who are less willing to cooperate."

Westerbos doesn't have much faith in the idea. "Our 'Beat the Microbeat' app allows you to scan cosmetic products for microplastics. The app has been downloaded half a million times in 180 countries, so people are clearly becoming more aware. However, an aggressive lobbying effort in the European Union, led by L'Oréal, is attempting to overturn the laws on plastics. The same goes for the fashion lobby. As long as the European Union and European Commission are under pressure from industries threatening to withdraw jobs, governments will kowtow to manufacturers. It doesn't matter that we have all sorts of wonderful plans for better legislation: if you strip away their substance, we won't get anywhere."

"Bring your own bag when you go to the supermarket and buy unpackaged fruit and vegetables"

Do you have any tips for environmentally conscious consumers?

Westerbos: "Bring your own bag when you go to the supermarket and buy unpackaged fruit and vegetables. France is doing a good job in that respect; major supermarkets there have already reduced plastic packaging by a third. Single-use plastics should be banned anyway."

Waaijers also has a useful tip: "Don't buy any toys that will fall apart quickly. Only buy products that will last or can be reused. Focus on good quality and quality labels." "And avoid having any plastics in your home, especially near the floor," Westerbos recommends. "Children up to the age of six inhale six times as many tiny plastic particles in the home as adults. Children are smaller and dust, which is full of these plastics, tends to be on the floor."

Is that also affecting pets?

"There hasn't been much research on that yet," Waaijers points out. Last year, the Plastic Soup Foundation commissioned a study on plastic in animal feed, in cow and pig meat and blood, and cow's milk, Westerbos explains. "Plastic was found in almost all the samples. So that also finds its way into our burgers."

Kasteel believes pets may be ingesting plastics through plastic toys. "The regulations aren't as strict as the ones for things like children's toys. Dogs and cats also live closer to the floor and lick up all sorts of things. We should actually be vacuuming on a daily basis. Proper ventilation is also important, and it's less work than vacuuming."

The problem is, that just funnels all the pollution outside, Waaijers points out. "That was also confirmed by an RIVM study on microplastics in the ambient air."

"As researchers, we have an explicit duty to communicate clearly about our research"

What role are researchers playing in the effort to raise awareness about microplastics?

"As researchers, we have an explicit duty to communicate effectively about our research," project manager Kasteel stresses. "Science communication has always been a bit overlooked, and researchers mainly tend to communicate with fellow researchers rather than the general public. That's something we need to focus on more." ■

TEXT: MYRNA TINBERGEN | IMAGE: BAS NIEMANS, UNMASKPHOTOGRAPHY AND OWN COLLECTION

The blue panel with electrodes on the base goes in the device on page 33 and measures electrical signals between brain cells.

MOMENTUM: LARGE-SCALE STUDY ON THE HEALTH EFFECTS OF MICROPLASTICS

MOMENTUM is a Dutch consortium researching the potentially harmful effects of micro- and nanoplastics on human health. The initiative involves 32 partners from different knowledge institutions and industries. MOMENTUM is being funded by organisations including ZonMw and Health~Holland.

Visit momentummicroplastics.co.uk for a full list of participating partners.

Professors Juliette Legler and Dick Vethaak of Utrecht University (Faculty of Veterinary Medicine) are coordinating the project. Recently, the project received an extra boost thanks to additional funding from ZonMw (MOMENTUM 2.0).

Biology students, from left to right: Julia Jegers, Kristel Visser & Puck Luijken (with dog Pip) count herb and insect species in the grass in a pasture at the teaching farm De Tolakker.

Veterinary Medicine's farm works to increase biodiversity

At De Tolakker, ten hectares of grassland is making way for ecological corridors and ditches with nature-friendly banks. This is possible because the Faculty has reduced the size of its dairy herd and will therefore need less cattle feed. Farmer Jorn Vernooij ploughs less deeply, sows herb mixtures in some fields and uses a drone to check for lapwing eggs before he mows. Meanwhile, biologists are studying how such measures benefit biodiversity.

It is a gloriously sunny spring day in June. Some 250 Biology students are on their hands and knees, crawling through the pastures at De Tolakker, the teaching farm belonging to the Faculty of Veterinary Medicine. They are counting herb and insect species in the grass. "They will do this every year, going forward," says Merel Soons.
Soons is Professor of Land Use and Biodiversity at Utrecht University and chair of the Biodiversity Council that explores potential ways to increase the biodiversity at Utrecht Science Park. "Together with the students and a new PhD candidate, and using wildlife cameras, we are studying whether it is possible to reverse the decline in species found at Utrecht Science Park. We are looking at plants, insects and other animals.
That is important for two reasons, according to Soons. First, because biodiversity is a key factor in determining the resilience of an ecosystem, i.e. how easily it will recover from extreme drought or flooding. And in light of climate change, such resilience is a vital necessity. "Wild plants and animals are more than just useful: they have intrinsic value as well. They are living organisms with whom we share this planet."

Biodiversity thrives better in arid soil

The same goes for De Tolakker, a farm at the Faculty of Veterinary Medicine that is used for research and education programmes for veterinary students. The farm is home to pigs, sheep and dairy cows. "The fact that the dairy farm is organic is a big help, actually," says Raaimakers. "It seems counterintuitive, but biodiversity actually thrives better in arid soil. In organic farming, the farmer uses fertiliser (manure) that is much lower in nitrogen. But we wanted to do more. And that's what we went to talk to the Faculty about."
During preparations for the new construction at De Tolakker, for instance, the Faculty Board took a critical look at how many animals were needed for its education and research. By arranging more opportunities for students to gain experience at other farms, and by having them work with model cows in a Skills Lab at the Faculty instead of living animals, De Tolakker was able to decrease the size of its dairy herd. "That decreased the amount of cattle feed we needed, too, and enabled us to literally make space for biodiversity."

"Think of the dry June we had this year. It's urgent that we make the ecosystem more resilient."

Cooperating with nature

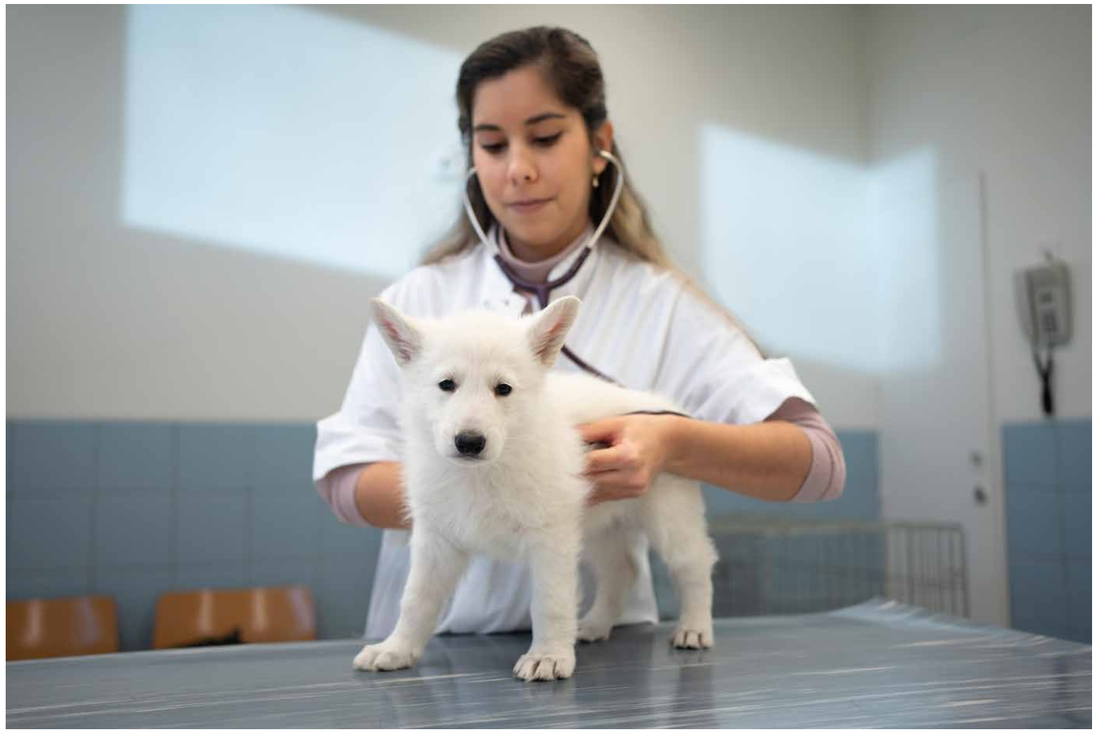
Vernooij is quite pleased with the attention for biodiversity. "But," he says, "I don't want to give you the impression it's all hardship and heartache. I'm often here early in the morning when everyone else is still in bed, or late in the evening.
You wouldn't believe what I see: deer, hares, a pine marten, grass snakes, lapwing nests. I often see foxes walking by, and badgers, too. That is amazing. But we definitely can – and must – keep striving for improvement. We have to cooperate with nature. Especially now that the climate is changing. Think of the dry June we had this year. It's urgent that we make the ecosystem more resilient."
If you ask Vernooij, those efforts should start with the soil. "To me, biodiversity starts underground, with the fungi, bacteria and worms. I started working here at De Tolakker when I was sixteen – that's nineteen years ago – as a holiday worker. A lot has changed since then. At the time, no one was talking about biodiversity. It was rye-grass here, there and everywhere. If you had said then: 'We're going to sow herbs without using artificial fertiliser', everyone would have told you you were nuts. And now look!"
Vernooij points out a field of peas. "Peas are a fantastic crop. They are high in protein, which we need for the cows. Because we grow our own supplemental feed, we don't have to import any. Peas can also capture nitrogen from the air and sequester it in their roots. When we mow the peas, the roots die and release that nitrogen so that it can be used by the next crop. Another benefit is that pea plants have flowers, which means you attract more insects."
In the next phase of the biodiversity plans, another ten hectares of pasture will be freed. When that happens, there will not only be natural borders edging the pastures, but eco corridors in the pastures as well. Is that convenient for him as a farmer? "Well, no," Vernooij laughs. "It does mean extra work for me. But I'm more than happy to do it." ■

TEXT: MAARTEN POST | IMAGE: BAS NIEMANS

“A tough pill to swallow”

Finding the genetic cause of congenital oesophageal dysmotility in dogs

Some dogs are born with a hereditary condition that disrupts the movements (peristalsis) of the oesophagus. The defect is particularly common in certain breeds, such as the white Swiss shepherd dog, German shepherd, Weimaraner and Irish setter. Its severity can range from a mild disruption of peristalsis with virtually no discernible symptoms to full oesophageal paralysis (mega-oesophagus). The Academic Veterinary Hospital now offers screening programmes for breeding animals and puppies aimed at detecting the disorder.

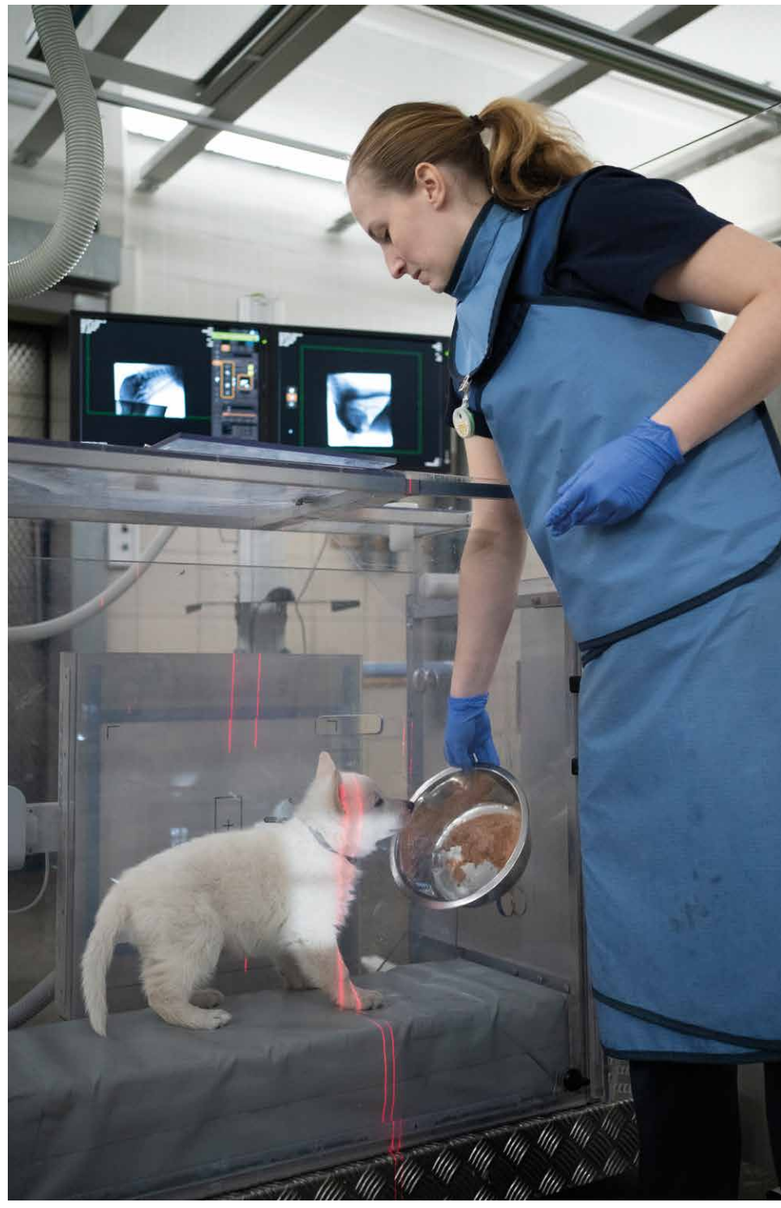


The Expertise Centre Genetics of Companion Animals of the Veterinary Faculty studies the genetic causes of this disorder. “While congenital mega-oesophagus gives severe clinical symptoms, dogs with a less severe oesophageal dysmotility show no or mild symptoms, like excessive burping, refusing to eat dry food or stretching the neck while eating”, explains Hille Fieten, associate professor in clinical genetics and internal medicine specialist. “Owners may not recognise these symptoms and affected dogs may be used for breeding. In this way, the disease can spread through the population undetected. A barium contrast fluoroscopy of the oesophagus is now used at the Academic Veterinary Hospital to detect milder forms of oesophageal dysmotility. Together with the radiologists, we developed a scoring system to help classify the severity of the dysmotility. In addition, we collect DNA samples from the dogs to investigate the DNA mutations that cause this disorder. We aim to contribute to developing effective breeding strategies to decrease the frequency of the disorder in current dog populations.”

The veterinarian takes a standardised history from the dog owner, asking about the type of food and any clinical symptoms the dog may have, and performs a physical examination. Researchers later compare the reported clinical signs with the severity score of oesophageal dysmotility to study whether there is an association.

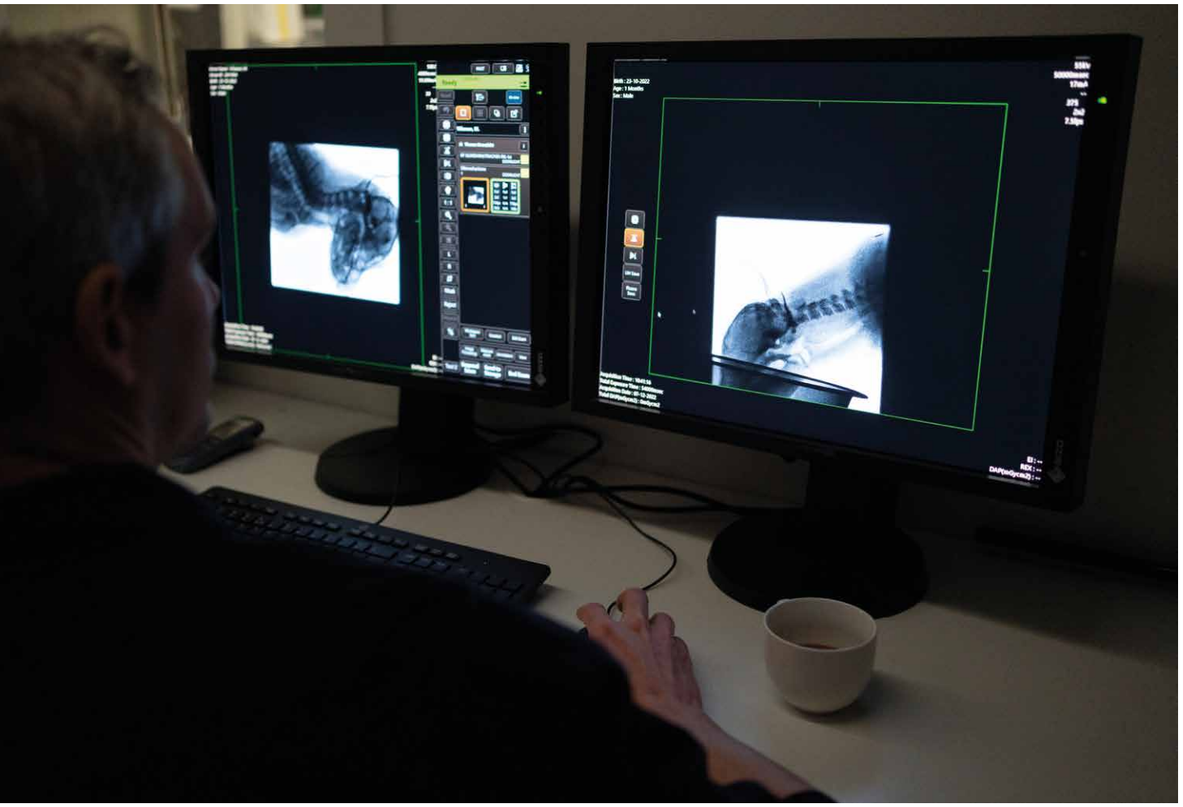
The Expertise Centre Genetics of Companion Animals of Utrecht University leads the research project on congenital oesophageal dysmotility in dogs. For questions about this study, please contact us at ecgg@uu.nl Researchers: Hille Fieten (diplomate ECVIM-CA internal medicine), Else den Boer (PhD student) and Stefanie Veraa (diplomate ECVDI)

First, a chest X-ray is taken to exclude congenital mega-oesophagus. If there are no indications for a mega-oesophagus, a barium contrast fluoroscopy of the oesophagus is performed.



The radiologist evaluates the swallowing motion and movement of food from the mouth through the oesophagus to the stomach. The test is taken in the most natural position by placing the dog in a transparent cage and subsequently feeding it soft food and kibble mixed with barium contrast.

As the dog eats, the X-ray technician traces the position of the food using a movable X-ray tube (grey cube with yellow sticker). The monitor reveals real-time images of the food travelling from the mouth to the stomach.



Friends of VetMed support the project ‘Healthy Breeding’, where scientific research is performed to develop innovations for sustainable breeding strategies of companion animals. Would you like to support this research? Please scan the QR code.

Screening for abnormalities helps to breed healthy dogs.

“As a breeder, you obviously want to breed healthy dogs”, breeder Mark Wisman explains. “It’s really sad to see puppies with congenital mega-oesophagus. In many cases, you'll need to euthanise them. The parents of puppies with congenital mega-oesophagus often do not show any visible abnormalities, which makes it difficult to select a breeding dog based on pedigree information. That made us hesitant to breed another litter. We wanted to do something for the health of the breed. We decided to take part in the screening programme at the Academic Veterinary Hospital and the research project at the Expertise Centre Genetics of Companion Animals in Utrecht.”

What did you learn from the screening?

“We used to believe the condition was quite clear-cut. As breeders, we only recognised pups with congenital mega-oesophagus and those that did not show any signs. The researchers discovered that the condition actually has different degrees of severity. In some cases, dogs without clinical symptoms also turned out to have impaired oesophageal function. That came as quite a shock, but it was definitely an eye-opener.”

How is this helping you as a breeder?

“Screening breeding animals’ oesophageal function with fluoroscopy allows more subtle abnormalities to be identified. That taught us that breeders should select on the basis of the primary trait rather than relying on pedigrees. That way, you do not need to exclude dogs from breeding unnecessarily, which is a good thing in terms of maintaining genetic diversity. We were surprised when one of our dogs turned out to have a perfectly functioning oesophagus, even though we assumed it would be genetically compromised on the basis of its pedigree.”

Have there been any tangible results yet?

“We get the screening results in the form of a colour-coded score. That makes it easier for us to mate dogs with weaker results with ones with good results when we breed. And screening all the puppies in a litter gives us insight into the variety of abnormalities. We keep the puppies with the best scores for breeding. Since we started screening our breeding dogs with fluoroscopy, we haven’t bred a single puppy with congenital mega-oesophagus. That allowed us to lower the average score of our breeding stock quite quickly, even though we’re still breeding with the same lines.”

What are your hopes for the future?

“I hope more breeders will join the study so that we can breed healthier generations of white Swiss shepherd dogs in the future and identify the condition’s genetic causes. One breeder only has a limited influence on the breed as a whole. You can obviously achieve a much bigger impact if you work together.” ■

TEXT: NICOLE VAN HOORN | IMAGE: BAS NIEMANS

“There’s no such thing as kind of animal-friendly”

Bas Rodenburg and Jeannette van de Ven talk about the unavoidable road to animal-friendly livestock farming

In 2021, at the behest of the Minister for Agriculture, Nature and Food Quality, the Council on Animal Affairs formulated six leading principles for animal-friendly livestock farming. Bas Rodenburg and Jeannette van de Ven were involved in drafting the resulting covenant. What does an animal-friendly livestock farm look like? And what does it take to achieve that? “We still have a long way to go, but there is no avoiding the road ahead of us.”

Bas Rodenburg, Professor of Animal Welfare, speaks with Jeannette van de Ven, a dairy goat farmer and Netherlands Horticultural and Agricultural Organisation board member, about animal-friendly livestock farming.

What does animal-friendly livestock farming mean to the two of you?
"Ah, you're starting off with the toughest question," Jeannette van Ven says with a laugh. She owns a dairy goat farm in the province of North-Brabant and sits on the board of the Netherlands Horticultural and Agricultural Organisation. "The Council on Animal Affairs has written a great vision statement about that, but if you were to ask average citizens, it would mean something different to everyone. Some people think it's animal-friendly to give chickens ten centimetres more space per bird, while others would aim for free range and an organic-dynamic system. That makes it hard to determine what counts as 'animal-friendly'."

"It would be easier if we only had to take animal welfare into account," the goat farmer continues. "Instead, farmers find themselves dealing with many challenges at the same time. They have to weigh aspects like the environment and climate, emissions and food safety as well. If animal-friendly livestock farming were just about the welfare of the animals, we'd all be able to figure it out pretty easily – right, Bas?"

"Yes, I think so," Bas Rodenburg, Professor of Animal Welfare at UU's Faculty of Veterinary Medicine, answers with a grin. "The Council on Animal Affairs operates from the standpoint of the animal's needs. That means looking for ways to integrate their natural behaviours into the way you keep that animal. This approach is vital in order to support animals' capacity to adapt. An animal must be able to exert some degree of control over its environment, both in terms of the social group and the physical environment. Research has shown us that this enhances an animal's well-being. But at the same time, I see the challenges with regard to sustainability and climate. When you let chickens run around outside, for example, more nitrogen ends up in the environment than when they just stay in the shed. Ultimately, all those factors will have to be brought together."

In your opinion, what needs to be done first?
Van de Ven says: "Most of all, we need clarity about the principles guiding our actions. The Council on Animal Affairs' report is a good place to start, but we still need to reach consensus about it. If we operate based on the animals' interest, what concessions will we have to make in the area of environment and climate? This needs to be clear before we can start thinking about what animal-friendly livestock farming will mean for individual cows, chickens or pigs."

Van de Ven wonders: will our goal for 2040 be the 'modest home', with a minimum standard of animal welfare, or the animal-friendly 'villa'. "That's an actual discussion at the moment. Some farmers want to take big steps to achieve animal-friendly livestock farming by 2040, while others are wondering who's going to pay for all of it."

Rodenburg adds: "If you act purely based on an animal's interests, there's really no such thing as 'kind of' animal-friendly. The intrinsic value of an animal, no physical modifications and keeping the calf with the cow are major topics right now. Then the question becomes: does the 'modest home' even exist, or should you work toward the villa? And if so, what road do you take to get there?"

Van de Ven continues: "The entire farm operation then needs to meet higher standards of animal welfare. Many farmers would like to do that, but they have to be able to recoup the investment it will take. So how do we do that?"

Rodenburg: "Yeah, that's something I'm still trying to figure out as well. But you can't sort-of stop docking piglets' tails, or sort-

"You can't sort-of stop docking piglets' tails, or sort-of leave calves with their mothers"

of leave calves with their mothers. The exact same discussion is taking place at the European level, too. In some countries – like Spain or Eastern European countries – it's normal for chickens to be kept in cages (called batteries), but that's no longer allowed in the Netherlands. So how does the EU move forward as a whole?"

What are the major challenges?
Van de Ven: "By choosing the 'modest house' scenario, you leave room in the market for additional characteristics and offer the consumers freedom of choice. On top of which, we're dealing with a European market. If we set the bar too high in the Netherlands, I worry that retailers will simply go abroad to buy their products. This is where the tension lies: how far can we stretch?"

Van de Ven continues: "If we fail to integrate all these challenges, the farmers will wind up having to face each one separately. This has obviously happened many times in the past, but is no longer a viable approach. We need to seek out a workable system that lets us achieve animal-friendly livestock farming while also enabling farmers to meet their other obligations, such as those arising from the Climate Act. Integral consideration is needed and we won't be able to earn a perfect score in every area."

Does that mean an animal-friendly livestock industry is just a dream?
Rodenburg: "I think it is absolutely possible to take steps in that direction. But we can't achieve every single part of the ideal scenario. The Netherlands is good at developing and marketing innovative systems. If it can happen anywhere, it's here. But we need to think carefully about the larger whole: animal welfare, the environment, food safety and a good earnings model for the livestock farmer."

How do you measure animal well-being?
"Animal well-being begins with behaviour," the Professor says. "We know, for each kind of animal we raise, what its natural

behaviour looks like. Chickens, for instance, spend a lot of time scurrying around and cows want to graze and chew their cud. We know how they would normally spend their time. Does a chicken spend all day lying motionless on the ground, or does it run about like mad? On a farm, you can systematically monitor this using cameras or sensors such as step-counters. There are also more and more ways to tell how an animal is feeling and how it perceives its environment. Take body language for example: how the animal is standing or lying down. Animals often let their ears or tails droop when they aren't feeling well. It is even possible to discern emotions from the facial expressions of pigs. There are also physical metrics, such as blood pressure or hormone levels. We can also tell a lot from the noises animals make. More and more research is being done into the positive well-being of animals."

Are we not biased by the human perspective?

Rodenburg: "We genuinely try to 'ask' the animal how it is feeling. What choices will an animal make, if you let it choose? You can even conduct psychological testing on animals, as in 'is the glass half-full or half-empty?' In such tests, the animal itself 'tells' you whether it is feeling at ease or not through the choices it makes. While this method is too laborious for on the farm, it is very useful for research purposes."

"That is why scientific study is so important!" interjects Van de Ven. "We want to avoid going to extremes in anthropomorphising animals; a cow doesn't need a TV to watch in the evening. But animal-friendly livestock farming shouldn't become a checklist saying this many water troughs, this much space, this much light."

Bas, knowing what you do about animal welfare, could you ever be a farmer?

He laughs: "Yes, I could be a farmer. But my farm would be organic, with circular concepts and a strong focus on animal welfare. That would reflect the principles that I think are important for the animals."

What kind of livestock would you want to have?

"I think laying hens, they're what I know the most about. And I already have a small herd of sheep as a hobby – five Zwartbles sheep, that I also breed."

"We want to avoid going to extremes in anthropomorphising animals; a cow doesn't need a TV to watch in the evening"

And Jeannette, if you could start again, would you still be a dairy goat farmer?

"Yes, I think so! I really enjoy working with animals. I feel it balances nicely with my work on the Horticultural and Agricultural Organisation board. It's also important to me to be personally active in the agricultural sector, so the farmers see I am one of them. When a scientist says 'we're going to stop dehorning cows and goats', everyone flies off the handle. But when I say it, they know I am familiar with real-world practice. That's important to farmers."

Are you feeling optimistic about our chances for an animal-friendly future?

Rodenburg: "I think it's remarkable that, in the Netherlands, we are all going through this process (and having a dialogue about it) together. We no doubt have a long journey ahead, but I do think we're moving in the right direction."

Van de Ven: "I think so, too, but we shouldn't get ahead of ourselves. We need to support those in the vanguard as effectively as possible, holding them up as a good example, but we should also make more of an effort to get the middle group onboard. That happens in increments. The road to animal-friendly livestock farming is unavoidable, at both the Dutch and European level – I'm sure of it. The market will have to adjust quickly to keep up. Otherwise it'll be a war of attrition." ■

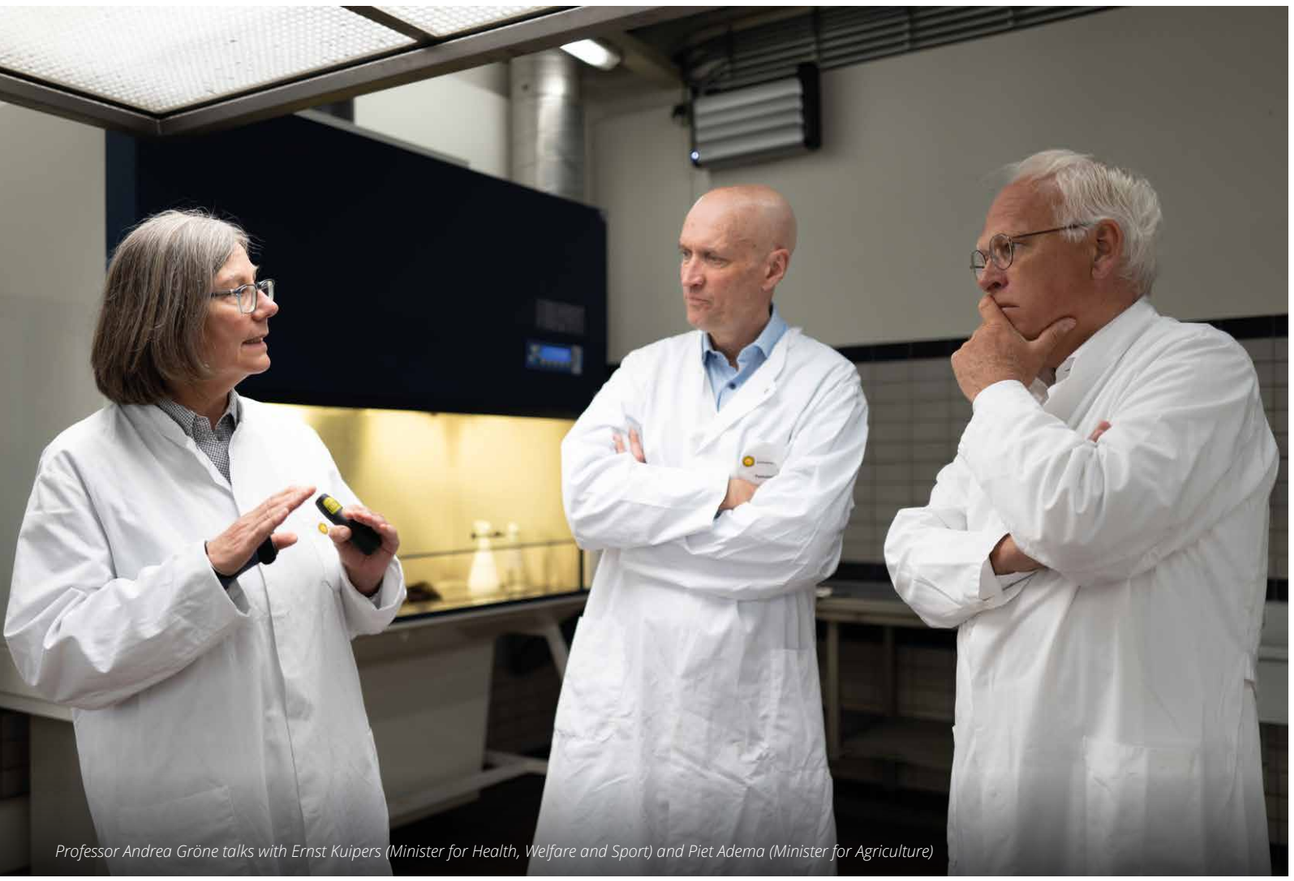
TEXT: MYRNA TINBERGEN | IMAGE: BAS NIEMANS

As a centre of veterinary expertise, we want to maximise our impact in connection with important societal themes. To that end, we are eager for chances to speak with those around us, such as in the dialogues we organise. On 2 October, we organised a dialogue on animal-friendly livestock farming. In that discussion, we jumped forward to 2040: a time when all farm animals are kept in animal-friendly conditions. We then asked ourselves how we got there. Researchers, livestock farmers, veterinarians, animal rights advocates, civil servants and other professionals exchanged perspectives on the issue.

If you would like to be invited to take part in our dialogues, send an email to vetscience@uu.nl.

“Collaboration is vital to keep people and animals healthy”

Veterinary medicine plays a major role in interdisciplinary approach to avian flu



Professor Andrea Gröne talks with Ernst Kuipers (Minister for Health, Welfare and Sport) and Piet Adema (Minister for Agriculture)

It is not that often that the Dutch Minister for Health, Welfare and Sport and the Dutch Minister for Agriculture, Nature and Food Quality jointly go on a work visit. Nevertheless, they jointly visited our faculty last year with a delegation of top civil servants. The subject was the approach to avian flu. Minister of Health, Welfare and Sport Ernst Kuipers: “The Faculty of Veterinary Medicine plays a major role in this.”

Since 2021, Europe has faced the largest pandemic of avian flu since 2003. In the Netherlands, almost Seven million birds from poultry farmers and hobby farmers were killed between January 2020 and 1 May 2023 to stop the spread of the avian flu virus. The current avian flu is also affecting wild birds. In 2022, wild birds were infected throughout the year for the first time. That generated a lot of attention in the media and also from politicians.

Collaboration is vital

“Within Europe, the Netherlands leads the way in the prevention and monitoring of avian flu”, said Kuipers, following the visit to Utrecht. “The Faculty of Veterinary Medicine of Utrecht University plays a major role in this.” Kuipers pointed out that the faculty is the veterinary knowledge centre of the Netherlands and that it closely works together on avian flu with other organisations such as the National Institute for Public Health and the Environment, the Netherlands Food and Consumer Product Safety Authority and Wageningen Bioveterinary Research.
“The different organisations have a lot of knowledge and expertise and work closely together to keep people and animals healthy”, said Kuipers. “Collaboration is vital in the control of diseases such as avian flu to be able to ensure a healthy future for people and animals. Within these efforts, the One Health approach – the awareness that the health of people, animals and the environment are linked with each other – can provide solutions. For avian flu crosses the boundaries of sectors, disciplines and countries.”

Knowledge about wild animals, epidemiology and poultry

“At the Faculty of Veterinary Medicine, we are working on solutions at various levels”, says Professor of Farm Animal Health, Arjan Stegeman. “We possess knowledge about the pathology of birds and mammals, conduct environmental-epidemiological research and collaborate in research into vaccination and biosecurity in poultry.”

One example of methodological research is a report from a group of scientists led by Dick Heederik, about the distribution of poultry farms in the Netherlands. This research revealed that in parts of the Gelderse Vallei region, the density of poultry farms is too high to stop the spread of the disease without preventive culling at the farms.
The Dutch Wildlife Health Centre of the faculty investigates diseases in wild animals in the Netherlands. Citizens and involved organisations report dead birds and mammals to the centre. The scientists investigate some of the animals in their own laboratory or send them for specific research to other labs, such as Wageningen Bioveterinary Research. “Screening for avian flu is a high priority”, says Professor of Pathology Andrea Gröne. “In July 2023, the Dutch government introduced a reporting requirement for mammals with avian flu. Fortunately, the number of reports is not that high this year.
In the Netherlands, it has been established that at least 40 mammals have died due to avian flu since 2020; mainly foxes and polecats.”

First vaccinations against avian flu

“It is vital that we carefully monitor avian flu and other zoonoses”, says Stegeman. “We must prepare ourselves for scenarios in which the pathogen of avian flu mutates.” Most importantly, he wants to continue with research into the possibilities to prevent the spread of avian flu. Together with his fellow researchers, Stegeman has identified the knowledge gaps, and he wants to ensure that the knowledge acquired already is applied as quickly as possible in practice. “I am pleased that we recently started with a field experiment to test vaccination against avian flu. It works in the laboratory and now we are testing whether it also works on the farm.” Stegeman is hopeful and expects it will be possible to widely use the vaccinations after the field tests have been completed. He has already been calling for vaccination against avian flu since he gave his oration in 2003. “Now, at last, the first vaccinations will be given. That could be the start of a huge step forward.” ■

TEXT: MAARTEN POST | IMAGE: BAS NIEMANS

A dead marten was investigated by the Dutch Wildlife Health Centre, which amongst other things, established that it was infected with avian flu.

"I want to make the conditions as good as possible for the millions of animals involved"

Efforts to increase sustainability of livestock farming also offer opportunities for improving animal welfare

Using the transition to sustainable livestock farming to simultaneously make animals happier as well. That is what Vivian Witjes hopes to achieve through her research at the Faculty of Veterinary Medicine. She is exploring ways to measure the happiness of pigs and whether the circular animal feed we give pigs can contribute to their well-being.

AVIAN FLU

Avian influenza is an umbrella term for different flu viruses. Both a mild and a severe form of avian flu exist. Most viruses belong to the mild variant: Low Pathogenic Avian Influenza (LPAI). Chickens infected with LPAI viruses suffer mild disease symptoms. Some types can adapt into a highly pathogenic variant: High Pathogenic Avian Influenza (HPAI). This occurs in both chickens and turkeys and this variant can also be transmitted to waterfowl.

Some variants of avian influenza can be transmitted to mammals and people. Fortunately, the chance of a human being infected is small. It is nevertheless important to prevent the infection of people as far as possible. That is because the virus could adapt and subsequently spread among people too.

Vivian Witjes' favourite days at work start in the dressing room of the pig barn, where she pulls on coveralls and boots. As soon as she enters the barn, several pigs immediately come up to her. She brushes some straw from their rear ends and greets them by stroking their snouts or bellies. "They love being petted," explains Witjes, whose doctoral research project centres on the happiness of pigs. "The best part is when we have some time to just chill together at the end of the day. Then the pigs become calmer and more curious. Sometimes they seem endlessly fascinated by a button on my shirt or a shoelace.

Her research is part of the Regio Deal Foodvalley programme, in which researchers collaborate with partners including livestock farmers and policymakers to work on the transition to a sustainable and healthy food system. Witjes participates specifically in the aspect involving the agricultural transition. "Due to climate change, we must make the livestock industry more sustainable. This presents an opportunity to improve animal well-being at the same time – for instance, in terms of group size, how the barn is designed and the way we provide food. But to do that, we first need to know what makes pigs happy." Laughing, she adds: "Simply put, we want to find out how to really make a pig's day."

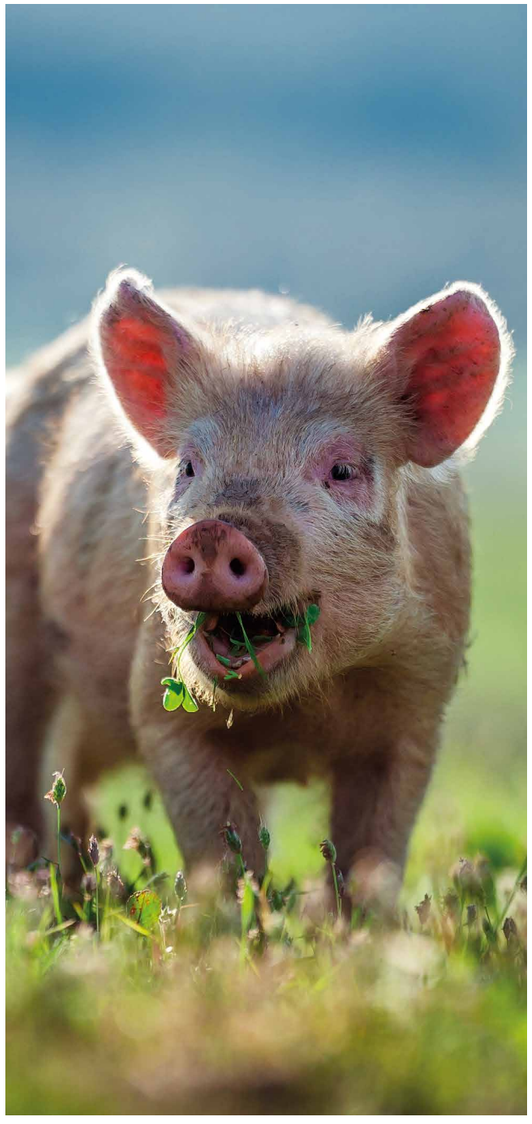
Don't we already know when pigs are happy?

"Until now, scientific research has focused mainly on preventing stress and disease. We know, for example, that pigs' pulse and respiration rates go up during transport and when farmers take away their piglets. That's a stress response. Which is important information, but it would be nice if we looked at positive emotions as well. Right now, we don't really know how to tell if a pig is truly happy."

So how can you find out?

"We look for signs of happiness, such as particular chemicals in the blood or certain behaviours. Pigs are active and curious; they run, jump, spin around and play with toys. They also use their snouts to root around in search of food. I'm studying whether there is a link between this behaviour and the well-being of pigs. The same goes for the chemicals in their blood. By the way: I measure happiness using a test developed by psychologists, which has to do with whether a person is happy or depressed. It works on pigs, too."

"I measure happiness using a test developed by psychologists – it works on pigs, too"



Do you think that pigs are happy in the current conditions on livestock farms?

"No, I don't think they're very happy. They are intelligent and need to experience variety in their living environment. An ant spends its whole day walking back and forth carrying sprigs of grass to the anthill, which is probably enough for an ant. Because they are highly intelligent, pigs need more variety and challenges in order to feel happy. Yet in the livestock industry, they are often kept on hard surfaces such as a concrete or poured epoxy floor, surrounded by bare walls. They have little room to move about and the toys available to them are often only mildly interesting because the pigs cannot manipulate or eat them."

You are also studying whether sustainable livestock feed can contribute to happier pigs. What does that involve?

"I'm looking at how pigs respond to mealworms. They're raised on waste from the production of human food – like breadcrumbs – which makes them sustainable. We hang a big barrel of mealworms above the pigsty and then, throughout the day, the mealworms fall out one by one. I'm studying whether this use of mealworms enriches the pigs' living environment and has a positive effect on their happiness."

It seems like the media and politicians are always talking about livestock farming. How do you feel about the fact that your research topic is getting so much attention?

"I'm excited and a little nervous. I hope that we in the scientific community can contribute to solutions for a sustainable and animal-friendly livestock industry. These two goals can be hard to combine. But I'm glad that society is paying more and more attention to animal welfare. My dream is that in the future, everyone in the world eats less meat, so that the animals – pigs, but other animals, too – can have a good quality of life. More research is needed to learn what exactly a 'good life' entails. How much indoor and outdoor space do the animals need? What is a comfortable substrate for them to lie on? What do they need to build good social bonds? And so on. We need to figure out what conditions make animals happy."

"I hope that we in the scientific community can contribute to a sustainable and animal-friendly livestock industry"

Aren't we running out of time to research this subject?

"There are some measures, like eating less meat, that we need to take right away. That will buy us enough time to study how to organise our food production with a smaller livestock population."

Do you eat meat?

"No, I became a vegetarian at the age of ten and for the past several years, I've been vegan as well."

And yet your research deals with livestock farming?

"I may not be part of the system as a consumer, but many other people are. I want to make the conditions in that system as good as possible for the millions of animals involved."

Why did you choose to focus on pigs?

"During the research, these animals just stole my heart. They are incredibly intelligent, learn quickly and have unique personalities. One is calm, while another is hyper, and a third might prefer to snuggle all day. On top of that, they always surprise me by doing unexpected things. Suddenly they'll have figured out how to open a barn door or bite through something – stuff you never would have thought they could manage. Pigs are fantastic creatures." ■

TEXT: ROSAN REUSKEN | IMAGE: BAS NIEMANS AND ISTOCK

Building bridges between science and society

Franck Meijboom appointed Professor of Sustainable Animal Stewardship

With effect from 15 June 2023, the Executive Board has appointed Franck Meijboom as Professor of Sustainable Animal Stewardship at Utrecht University's Faculty of Veterinary Medicine. This Chair connects all research themes at the Faculty of Veterinary Medicine and builds a bridge between science and society.

How do we interact with animals in society in a sustainable and responsible way? That is the theme of the Chair for Sustainable Animal Stewardship, a relatively new subject that intersects with all research themes at the Faculty of Veterinary Medicine. The theme wants to build a bridge between academic knowledge of animals, and the needs of societal groups and organisations in dealing with (often ethical) issues in the complex relationship between humans and animals.

What does Franck Meijboom see as the most important goal of the Chair?

"There are two goals: to connect and to learn more. Connecting is about bringing together the various academic disciplines and external parties needed to make current social and ethical issues regarding our interaction with animals discussable. The interaction with society is also important for this, for example through dialogue. The second goal is to learn more. By means of research and education, we want to gain a better insight into and control over the underlying questions and assumptions about humans and animals living together. By combining these two goals, it becomes possible to work in an interdisciplinary way and to contribute from science to current issues, such as changes in keeping livestock, animal breeding and the transition to research free from animal testing."

What does this appointment mean to you?

"I see it as a special recognition that ethics are essential questions on how we as a society deal with animals and the role of Veterinary Medicine. This attention is not new. Since the 1990s, students of Veterinary Medicine have been taught about ethics. This Chair continues to build on that foundation but also has the goal to place ethical reflection in research and education in a broader context. For this, we closely collaborate with other disciplines and interested parties outside the university."

The Chair is unique in the world. That is an honour, but is it also a big responsibility?

"Sustainable Animal Stewardship is indeed a unique Chair, but it deals with issues that play a role in society on a broad scale and that also concern other groups within Utrecht University, within the Netherlands and internationally. So it is unique but not lonely. We will continue to collaborate with other groups. In this collaboration, we can do justice to the complexity of the issues on human-animal interactions and contribute to sustainable interaction with animals." ■

TEXT: MYRNA TINBERGEN | IMAGE: BAS NIEMANS

Don’t forget to have a laugh at work

Chris Polanen is a companion animal vet in Amsterdam. He has written many columns, short stories and two novels: Waterjager (2017) and Centaur (2021).

My practice for companion animals has become busier over the last few years. Since then, a young vet has held consultations on Wednesday mornings in the room next to me. Our patients cross each other’s paths in the waiting room and that requires alertness from both the vets and the assistants. It was a busy Wednesday morning and I noticed that the flow of patients was becoming pretty chaotic. “Let’s focus”, I said. “Pay proper attention to who goes where.”
With the lunch break in sight, the chaos was not diminishing and I cast an eye at the other consultation room. My colleague and assistant were happily eating a sandwich together. “You still have patients!”, I said and they responded with rather surprised looks. “We thought we had finished”, said my colleague and he put down his sandwich with a guilty look on his face. I reminded them that I said “Focus more!”, not “Eat more!”. We looked at each other and burst out laughing. Then I realised that everybody always assumes that you enjoy your work if you like it and do it well – with efficiency, planning, consultation and further training. But how much is that worth if you cannot have a laugh during your work? That means we sometimes need to let go of the reins and laugh at ourselves. How would you look back at a career in which you were a perfect professional but never enjoyed a laugh with your colleagues and clients? On that chaotic Wednesday morning, I realised that laughing during your work is vital and that we often forget that. ■

IMAGE: JAN WILLEM KALDENBACH AND OWN COLLECTION