

# Vetscience

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**Utrecht  
University**

## Vetscience international n° 4 - January 2023

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# Diversity broadens your view

We are proud to present you with the fourth edition of our magazine Vetscience International, in which we share highlights from our work over the past year and our vision for the future. In line with our slogan “sharing science, shaping tomorrow”, we hope that this edition engages you in what we are doing in Utrecht and creates new sparks for possible future teamwork.

This magazine is full of interviews with great researchers and teachers who have made significant achievements for our faculty. Behind all these people are teams because impactful performance usually comes from collaboration. When we work together from different disciplines and (cultural) contexts, we move forward faster and more meaningfully.

We know that diversity is crucial for teams and organisations: it broadens your outlook, makes you more creative and innovative, and ultimately promotes positive results. Personally, I enjoy working with all kinds of different people and have learned so much from international colleagues in recent years!

We are committed to increasing our diversity and have set up a faculty committee for Equality, Diversity & Inclusion. We want to put a lot of effort into increasing a sense of equality and inclusion. Because if you are different from the majority, you might not feel so at home. That’s why, for example, our university launched the community-building project “One book, one campus”, which encourages everyone to read the book “Girl, Woman, Other” by Bernadine Evaristo, the first black female author to win the prestigious Booker Prize in 2019. We need to make everyone feel included, regardless of age, gender, background, skin colour or sexual orientation. As part of this effort, we recently invited Frans de Waal to

our faculty to talk about his new book: ‘Different – Gender Through the Eyes of a Primatologist’.

In this magazine, we show you some glimpses of our ‘veterinary kitchen’. I recently visited the veterinary faculty in Vienna, and I’m off to Pretoria soon to visit other “kitchens” so we can learn from each other. I advise everyone to do the same because it broadens your view and understanding and is really enjoyable too. Which is why I warmly invite you to visit us in Utrecht!

For now, enjoy reading this magazine. Hopefully, it will help you to feel as connected to our faculty as we are and ignite the Utrecht spark in you. ■

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



IMAGE: BAS NIEMANS

# One question can change the world

Science starts with questions. That is why we talked to Utrecht residents of all ages and backgrounds about themes and issues that matter to them, in many places in the city. What keeps you busy and why? What amazes you and what are you curious about? This input is priceless – one question can change the world.

All questions have been collected and sorted by subject. The questions are reviewed by a group of researchers, employees of the municipality of Utrecht, people from civil society organizations, and people from the business community. The questions serve as a foundation for our own Utrecht Research Agenda. This agenda could lead to new research or twists to existing research. Here we highlight one question and answer.

## Could rats cause another plague epidemic?

“That is highly unlikely. The plague was caused by the bacterium *Yersinia Pestis*. Today, the infections caused by this bacterium can be treated very well with antibiotics. So a major epidemic - or even a pandemic - is unlikely. However, we still regularly hear of local outbreaks of these infections, such as in India. That does not alter the fact that rats can also cause other nasty diseases. That is why the municipality of Utrecht does well to limit the nuisance caused by rats.” ■

Answer by: Prof Dr Marc Bonten, professor of Medical Microbiology, University Medical Centre Utrecht

IMAGE: LIZE KRAAN



Scientists and citizens in conversation at the library in Utrecht.

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## Counting pigeons for science

Secondary school students and scientists are jointly researching the image of the urban pigeon.

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## A beached orca on the examination table

A photo series of the orca that ran aground, died and ended up on the autopsy table at the Faculty of Veterinary Medicine.

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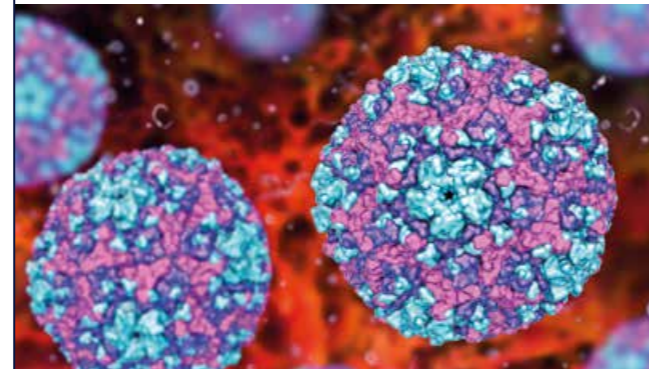
## Ventilation and air cleaning to reduce SARS-CoV-2 in the air

What are the effects of ventilation and air cleaning on aerosols and the transmission of SARS-CoV-2? We are investigating this in primary schools and nursing homes in the CLAIRE consortium: Clean Air for Everyone. Professor Lidwien Smit from Utrecht University is leading the consortium, which has received 4.3 million euros in funding. Besides three other knowledge institutions (Eindhoven University of Technology, TNO and Leiden University), fifteen companies and other partners are participating.



## Tackle lower back pain at its origin

Hundreds of millions of people and animals suffer from lower back pain due to worn out intervertebral discs. Dogs sometimes have to be euthanised for this reason. Both animals and people could benefit from a treatment for back pain. Professor of Regenerative Orthopaedics Marianna Tryfonidou, who suffered from back pain as a young girl, is investigating the potential of a rejuvenation treatment for worn out intervertebral discs. She was awarded a 1.5 million euros Vici Grant by the Dutch Research Council (NWO) in March 2022.



## ERC Advanced Grant for Frank van Kuppeveld

Frank van Kuppeveld, Professor of Molecular Virology, has been awarded an ERC Advanced Grant, the highest and most prestigious individual research grant awarded by the European Research Council. He will use this grant of 2.5 million euros to investigate the replication of enteroviruses, such as poliovirus, coxsackievirus and rhinovirus.

## Funding for implementation and acceptance of animal-free research

Several innovative, non-animal testing models for testing endocrine-disrupting chemicals (EDCs) have been developed. However, these are not always accepted by science, regulatory authorities and society at large. The main question remains: how do we achieve legal and societal acceptance of non-animal models? Professor of Toxicology Juliette Legler and her team have received a grant of approximately 1 million euros for a five-year research project to bridge the gap between science and regulation. Their main goal: the implementation and acceptance of existing non-animal test research to ensure it is covered by legislation. Legler is therefore working with scientific experts from different knowledge institutions, as well as various stakeholders from industry, regulatory authorities and NGOs.



## Put the animal at center of the transition to a more sustainable livestock industry

The public debate on nitrogen measures seems to be mainly about seemingly conflicting interests around economics and nature. While measures to reduce nitrogen in livestock farming, in addition to the consequences for the livestock farmers themselves, can also have a major impact on the health and welfare of their animals.

The existing policy - aimed at nitrogen reduction - looks mainly at reducing the livestock population. However, this does not guarantee good health and welfare of the remaining animals. The KNMvD (professional association of veterinarians) and the Faculty of Veterinary Medicine would have liked to see more emphasis on the impact of policy on animal health and welfare. Therefore, they call on the government to put the animal at the center when reviewing policy and to use the knowledge and expertise of the veterinary sector.



# Foals from a Petri dish

Artificial insemination of horses and humans

At Utrecht University, all kinds of things are happening in the field of artificial insemination of horses. For instance, there is a clinic where horses from all over Europe come for treatments and where a team of scientists work every day. They look for solutions to current problems in the artificial insemination of horses and humans. Clinician Anthony Claes and scientist Marta de Ruijter talk about their work, in which they collaborate a lot. De Ruijter says: “If we make a discovery in research, we immediately think about how to apply it in the clinic.”



Clinical embryologist Marta de Ruijter selects the egg cells to be injected with sperm cells.

Claes and De Ruijter's foreign accents immediately reveal that neither of them are from the Netherlands. Claes has the cosy accent of our southern neighbours. "I'm indeed from Belgium", Claes says while smiling. De Ruijter's accent is more difficult to identify. "As a little girl, I lived in Milan", she explains. "I already loved horses back then, but my parents were not so keen on horse riding as a hobby. Of course, that's not easy in a big city. Fortunately, my

grandfather lived outside the city, so I could start horse riding after all when I turned eight. That was inevitable because my passion for horses was so great." Since then, both of them have moved to the Netherlands and they work in the same team in Utrecht.

#### **Embryos from the lab**

The reasons for the artificial insemination of horses and humans are not the same. For humans, it is usually

done when the normal way of getting pregnant does not succeed. For horses, the reason is often that a mare is old or participating in sports competitions. Claes says: "We remove egg cells from the mare, make embryos out of them in the lab and then place them in surrogate mares." The technique they use for that in horses is called Intracytoplasmic Sperm Injection (ICSI). That looks like the more well-known method IVF, which is often used for

humans. But there is one important difference. "In IVF, a sperm cell in a Petri dish fertilises a ripe egg cell by itself, while we inject the sperm cell in the egg cell in ICSI."

#### **Successfully making foals**

Claes proudly answers the question of why many international customers come to Utrecht. "We have a strong team. In Utrecht, we're good at two things. For instance, we often succeed in making multiple embryos in one go." Claes explains that making embryos does not always succeed, but if it does - about sixty to seventy percent - the result is something to be proud of. "2.4 embryos on average. Occasionally, it can even go as high as ten embryos. However, with such successes, you're not there yet. You also need to place these embryos in surrogates, and that can go wrong too. However, we also excel in that and the percentage of mares that become pregnant after the insertion of an embryo is one of the highest in the world here." According to Claes, we do not have to worry about the well-being of the surrogate mares. "We place the embryos in the surrogates in an early stage, and after birth, the foal stays with the surrogate for about six months. That's not very different from the normal situation."

#### **Foal of a deceased mare**

There is one customer Claes will never forget. "I've seen many customers over the years, each with their own stories. But I'll never forget this mare. She suddenly died during a ride about two years ago, probably because of

a ruptured blood vessel. The owner immediately called in a vet, but he could no longer save her. The owner really wanted another foal. That vet then called us with the question whether or not, if he were to extract the ovaries from the mare, we could still extract egg cells from them in Utrecht. That's possible, but only if it's done very quickly, preferably within six hours. It was in the weekend, so everyone had the day off. We immediately called our team. Within three hours, all the people required were at the faculty, and we extracted the egg cells from the ovaries. We succeeded in making two embryos, which we placed in surrogates. This finally resulted in one foal. The owner was very happy." De Ruijter continues: "The biological mother was a good sports horse. The bloodline can be continued this way. On top of that, the mare had a big emotional value for the owner."

#### **Expensive embryos**

A lot of money is involved in the trade of horse embryos. Claes says: "If horse owners sell embryos from successful mares, then these are very expensive." De Ruijter adds: "I once thawed out an embryo for an embryo transfer, and my hands were shaking. The owner had sold the embryo for tens of thousands of euros." Smiling, she says: "That makes you feel the pressure. Fortunately, it went well."

#### **Embryo does not implant**

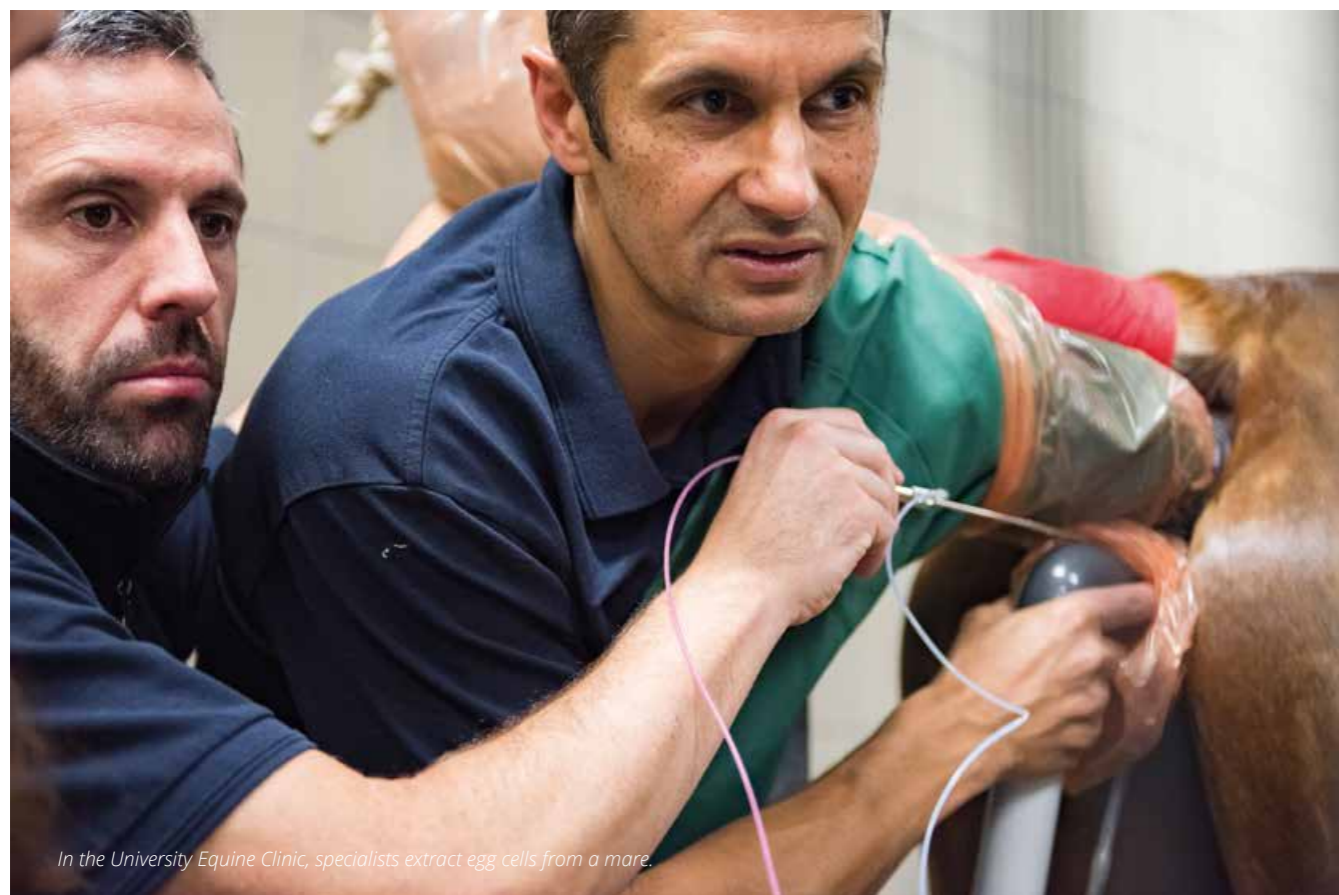
The scientists in the team unravel the process of artificial insemination. More knowledge is needed so that,

**"The percentage of mares that become pregnant after the insertion of an embryo is one of the highest in the world here"**

eventually, more mares and women can become pregnant by means of artificial insemination. "The problems differ between humans and horses", De Ruijter explains. "In horses, the process often fails in the development from egg cells to embryos, while in humans, the difficulty lies more in the development of the embryo after it's been reinserted into the uterus." In humans, only 35 percent of the reinserted embryos result in babies. In horses, that's sixty percent. "In both humans and horses, this is caused by the embryo failing to implant. That's usually due to a problem during cell division. We want to know what exactly goes wrong. Together with scientists from the European Molecular Biology Laboratory in Heidelberg, we've developed a new technique that allows us to make certain proteins of the embryos fluorescent. With this technique, we became the first in the world to follow the cell division and development of live embryos under the microscope." If De Ruijter and her colleagues can find the reason for the failed cell division, then that could result in advantages for the artificial insemination of horses and humans.

#### **Improving fertility in humans**

De Ruijter says that some scientists in human fields are keen to collaborate



*In the University Equine Clinic, specialists extract egg cells from a mare.*

**“Just like humans, old mares become pregnant less easily and have miscarriages more often”**

with them. “As you can imagine, research on human embryos quickly comes up against ethical boundaries. In many countries, also in the Netherlands, you can’t inseminate human egg cells for research purposes. This is why research on animals is ahead of research on humans. Therefore some researchers on humans are keen to collaborate with us. Horses and cows are good models for humans. By collaborating, we can also contribute to artificial insemination of humans.”

#### **Pregnant at an older age**

Furthermore, the scientists in Utrecht also focus on the ageing of egg cells. Just like humans, old mares become pregnant less easily and have miscarriages more often. On top of that, older women’s babies have an elevated risk of Down’s syndrome. Claes says: ‘From the sixteenth year of their lives onwards, horses’ fertility decreases. From twenty years onwards, it can be really difficult to get these mares pregnant.’ De Ruijter continues:

“Miscarriage and Down’s syndrome are caused by problems in cell division. The egg cell has to divide its chromosomes twice in order to become ripe, which often goes wrong. We’re trying to figure out why that goes wrong.”

#### **To customers’ foals in the weekend**

Just like De Ruijter, Claes spent much time around horses as a small child. “No one rode horses within our family, but my uncle had horses. That’s why as a small boy, I spent all my free time at my uncle’s place.” When we ask Claes whether or not he also spends time with horses besides his work, he laughs. Claes says: “I sometimes go to customers to look at their foals in the weekend or go on a walk with a horse together with my children. However, horses continue to be a real passion.” Claes and De Ruijter no longer ride themselves. De Ruijter says: “It costs a lot of time and is therefore hard to combine with a busy job and a family. Fortunately, our passion for horses is interwoven with our work.” ■

TEXT: ROSAN REUSKEN | IMAGE: BAS NIEMANS



*Maaïke van den Berg, Coordinating advisor Political-administrative affairs at Netherlands Food and Consumer Product Safety Authority - NVWA.*

## Vet with political antennae

She shined as a vet in the Groningen countryside in the documentary ‘Vet Maaïke’. Now she works for the Netherlands Food and Consumer Product Safety Authority (NVWA), and she makes talking points for the Dutch Minister of Agriculture, Nature and Food Quality (LNV).

Maaïke van den Berg is not afraid to go off the beaten paths.

**You are about to board the train to The Hague, what are you going to do?**

"I'm going to a court case about animal welfare. The Netherlands Food and Consumer Product Safety Authority (NVWA) is a party in it, but I don't have an active role in this case myself. I'll only be present there as a spectator. Why? Pure curiosity into what's going on exactly and how such a case proceeds. During the hearing and in the corridors, you really hear the most. These are sensitive subjects that can end up on the news later, which we'll have to be prepared for as the NVWA."

Is preparation an important part of your current job as a political-governance advisor at the NVWA?

"Certainly, together with my colleagues, I ensure that Minister Adema of Agriculture, Nature and Food Quality (LNV) has the right information to answer questions. Like in debates with the Dutch House of Representatives and sometimes also the Dutch Senate. We do that on behalf of the Netherlands Food and Consumer Product Safety Authority. We put out our antennae for that. For instance, we keep track of the media, see what MPs think is important and what they tweet about. Besides that, a big part of my work consists of coordinating the answering of Parliamentary Questions."

**"Vets can weigh interests like no one else can. That's useful in countless jobs"**

**How do you like your job at the NVWA?**

"It's a lot of fun AND very diverse. Every day is different. An example is that these weeks, we're considering the transport of cattle to Ukraine because organisations are requesting permission to move cattle there. Are we going to grant that under these circumstances? Can we - legally speaking - refuse to grant that? These are the questions that play a part in that. We also help the Minister in the answering of Parliamentary Questions, such as about a nasty subject that RTL Nieuws presented: pigs who ended up in a scalding tank at a slaughterhouse while they were still alive. I think it's good that the press and MPs are on top of these kinds of animal welfare issues."

**You don't make decisions yourself as an advisor, how do you experience that?**

"I indeed asked myself that beforehand: can I take on a serving, advising role? During my job interview, I warned

my interviewers: I'm a constructive opponent. You get ALL perspectives from me, whether you like it or not. They actually appreciate that. Of course, I sometimes grind my teeth from the sidelines if the Minister makes another decision than what I advised, but that comes with the job. The point is that someone can make a well-considered decision. On top of that: I enjoy it if I hear the Minister follow our talking point. This is not just about the technical details. Everyone has to be able to understand a talking point. Including someone who is watching television and doesn't know anything about the subject."

**How does your background as a vet help in this line of work?**

"As vets, we're very good at looking at issues from various perspectives. In policy language: we examine things integrally. We learn to do that during our degree programmes. That's our job, also if you're a practising vet. You understand the animal's interests, the owner's and society's as a whole."

**So vets can very well enter politics or the corporate world?**

"Absolutely, I think few vets realise that we're good at this. However, you have to want to do that, of course. I can still remember Professor Van Knapen's voice very well: "Every self-respecting municipal health service employs a vet." I didn't understand very well what he meant exactly back then, but I do now, of course. Vets have great added value because of the way in which they are educated. Or, as we say in the north: "It's not making it lesser."

**You also had a temporary film career in the documentary 'Veearts Maaikje'.**

"That already seems such a long time ago. The filmmakers indeed followed me around for a couple of years as a vet of the group practice Van Stad tot Wad in Loppersum, Groningen. In my role as a vet, I could not only provide a nice view into Dutch farm life, but also show what European and global politics mean for the cattle farmers and the vets in the North Groningen countryside."

**How do you look back at that?**

"It's a beautiful document of the thirteen years I spent working

**"The faculty and the students really have a place in my heart"**

as a practising vet and I really liked doing it. You're also working on your profession in another way. For instance, I also learned something about how an image is created. That experience then turned out to be very valuable for my current job. For me, one of the finest moments in that period was the documentary's première at the faculty."

**Tell me about it, what was that like?**

"I remember it very well: the film was shown in the evening in the lecture hall. I sneaked in later, because I didn't want to keep looking at my own head. It already became somewhat noisy when the students figured out I was in the back of the hall. After the film was over, I walked down via the stairs. They applauded. I really got goosebumps from that and the tears almost welled up in my eyes."

**Where did that feeling come from?**

"It was the same lecture hall in which I once attended my first classes. You suddenly realise what has happened in the meantime. To be honest, I found that first academic year quite tough. I sometimes really had to pull myself together in order to continue. I even got a negative study advice."

**Oh dear, that doesn't sound good.**

"It turned out to be an automated letter afterwards, that softens the blow a little. You received such a letter if you had not obtained enough credits. With the help of a good Study Advisor, I then made a plan. And it all turned out all right. I'm very indebted to Veterinary Medicine. The faculty and the students really have a place in my heart."

**Is it already time for a next step in your career?**

"No, I'm not working on that. I'm enjoying what I'm doing now. Although I'm not afraid to take risks, to do things that are not obvious. That's when you'll experience something. The worst that can happen, is that it doesn't succeed. So what? Dare to stand out from the crowd, that's when things come about!" ■

TEXT: TON VOGELS | IMAGE: BAS NIEMANS, MICHAEL FOUSERT (UNSPLASH)



Parliament buildings in The Hague.

# Counting pigeons for science

In Utrecht, secondary school students and scientists are jointly researching the image of the urban pigeon. Together with the University Museum and a secondary school, scientist Vivian Goerlich created a teaching programme for secondary school students so that they can help her with her research. During the teaching programme, students become researchers themselves. They draft a research question about pigeons and try to answer it by counting and observing pigeons. Some 300 students are involved.

Goerlich, scientist at the Faculty of Veterinary Medicine: “The information from pigeon counts helps us with biological questions, such as how pigeons survive in the city. Like humans, they are exposed to environmental pollution. The degree of pollution can be measured in their feathers and eggs. This allows us to study the effects of environmental pollution on pigeons and their offspring.” ■

TEXT: ROSAN REUSKEN | IMAGE: LIZE KRAAN



*These two students become researchers themselves and help Vivian Goerlich with counting and observing pigeons in the streets of Amsterdam.*



Scientists Lidwien Smit and Franck Meijboom at teaching farm the Tolakker of the Faculty of Veterinary Medicine.

# Healthy, sustainable coexistence

She studies the relationship between health and the living environment, while his work focuses on the ethical issues surrounding the relationships between people and animals. Scientists Lidwien Smit and Franck Meijboom spoke to one another about the large-scale culling of mink, battery cages and a mandatory course when purchasing a pet.

Lidwien Smit,  
Professor of One Health and Environmental Epidemiology  
Franck Meijboom,  
Associate Professor of Ethics of Human-Animal Interactions

Meijboom: So the idea is that we interview one another, right?  
Smit: Right; I've never done this before but I'm sure it'll be fine.

**M:** Lidwien, your research deals with One Health. What exactly does that entail?

**S:** One Health is a way of looking at health in which humans, animals and the living environment are inextricably connected with one another. In recent years, for instance, I've studied the health of people who live near livestock farms.

**“Humans, animals and the living environment are inextricably connected with one another”**

**M:** That's a fascinating topic.

**S:** The interests of people, animals and the environment are sometimes in conflict with one another. While the ban on battery cages [in 2012, ed.] gave chickens more room to move and engage in their natural behaviours, it also led to a tremendous increase in particulate matter. Which is not good for the environment or public health.

**M:** There are plenty of examples like that. Pig farmers hung air scrubbers in their barns to purify the air and reduce ammonia emissions. Then we learned that if there's a fire, air scrubbers cause the flames to blaze out of control. The consequences were horrendous. This makes the need to integrate the health of humans, animals and the environment painfully clear. What do you think it will take to achieve sustainable livestock farming?

**S:** Most people agree that it is not possible to solve the problem of sustainability while maintaining the current livestock populations and conditions. But I want to avoid blunt pronouncements about reducing the number of animals, because that would lack any nuance. Whether we have one million or 15 million pigs in the Netherlands, it's my job to explore how that impacts public health. More than that, reducing the livestock population isn't a simple solution to the problem. What matters is how we organise the remaining livestock farms. Do we want organic farming with lots of room for the animals, or do we want mega-farms that concentrate all agricultural activity into a single area? How can we safeguard both the environment and public health?

**M:** If we decide to raise fewer animals, there is also the question of what to do with all of the pastures, farms and barns. Do we turn them into nature preserves? Fill up the space with new residential construction? You then have the issue of spatial planning in rural areas.

**S:** Franck, your research focuses on ethical questions about the relationships between people and animals.

The coalition agreement of the new Dutch government says we strive for animal-friendly livestock farming that is in balance with public health. While there is growing attention for animal welfare, public health is often seen as the main goal. What do you think about this?

**M:** With a grin: We still tend to think of animals as four-legged health hazards. Or two-legged, if we're talking about chickens and poultry. Then, in a more serious tone: I'm happy to see animal-friendly livestock farming in the coalition agreement at all; it was a blind spot for a long time. But if things get really tricky, we have good arguments for attaching greater importance to public health.

**S:** One such situation was deciding whether or not to cull mink due to COVID-19, a drastic choice for both the animals and the mink farmers. I was involved in the decision thanks to my expertise on infectious diseases in livestock farming. The risks to public health weighed heavily, and animal welfare was a subordinate concern.

**M:** A contributing factor, of course, was the Dutch House of Representatives' previous decision to shut down Dutch mink farms in 2024.

**S:** Ultimately, the risk of new mutations tipped the scales in favour of the cull. We didn't take the chance, but it's quite possible that a delta or omicron variant could have emerged here in the Netherlands. Especially because people, mink, dogs and cats all live in close proximity to one another on mink farms.

**M:** In the Netherlands, we have the luxury of addressing and monitoring this.

**S:** Yes, that is a benefit of the One Health approach. What do you think it will take to achieve sustainable and animal-friendly livestock farming?

**“Do we feel that meat, dairy and eggs are important enough to justify raising and slaughtering animals?”**

**M:** We must ask ourselves whether we feel that meat, dairy and eggs are important enough to justify raising and slaughtering animals. That's something we should be clear on. The discussion regarding ideal livestock farming practices is important as well. We need a dot on the horizon. Once we have that, we can realistically consider the incremental steps we need to take in order to reach that ultimate goal.

**S:** Do you think that, at a certain point, consensus will emerge regarding that ideal?

**M:** It is quiet for a moment as Meijboom considers his answer. Then, slightly hesitantly: Yes, the overall inclination is shifting. This is evident in the 'End the Cage Age' project, an initiative from citizens and NGOs to ban the use of cages in livestock farming. The European Parliament has adopted the ambition and new animal welfare legislation is being introduced in Europe. That would have been unthinkable twenty years ago. Back then, only a handful of animal welfare organisations were concerned with this topic.

**S:** We can see that same shift in the ban on battery cages and the push to decrease the use of antibiotics. No one – including farmers – wants to return to the old days. A huge amount has been gained. Yet we are encountering ethical dilemmas as well. Because of public health concerns, we now use a minimum of antibiotics in livestock farming – which means that some sick animals no longer receive optimum treatment. What's your take on that?

**M:** Those are complex considerations. Animals have intrinsic value, but we also still consider them things. A Labrador is property that can be owned and then sold to someone else when you don't want it anymore. The law is very different for people: you can't sell your child on eBay; that would be illegal. More and more, we are asking ourselves if animals should be given a stronger legal position. People see an animal as more of a partner.

**S:** I'm curious to know what you consider to be ideal in terms of the treatment of animals. In a perfect world, would we have animals in captivity at all?

**M:** That's a tough question. It can be acceptable to keep a

**“There are 30 million pets in the Netherlands, but nowhere near every owner knows how to take care of their pet”**

pet, ride a horse or slaughter an animal. But we're often wrong in our assessments of what is good for animals. We have trouble looking beyond our own, human interests. In the world of purebred dogs – despite over 30 years of debate – there are still breeding lines that include unhealthy animals. Livestock farmers dock pigs' tails to keep them from biting each other's tails due to boredom, insufficient stimulation and frustration. If you ask me, that is what needs to change: we need to consider the animals' interests and prevent problems such as boredom and frustration. That would be an ideal situation, in my opinion.

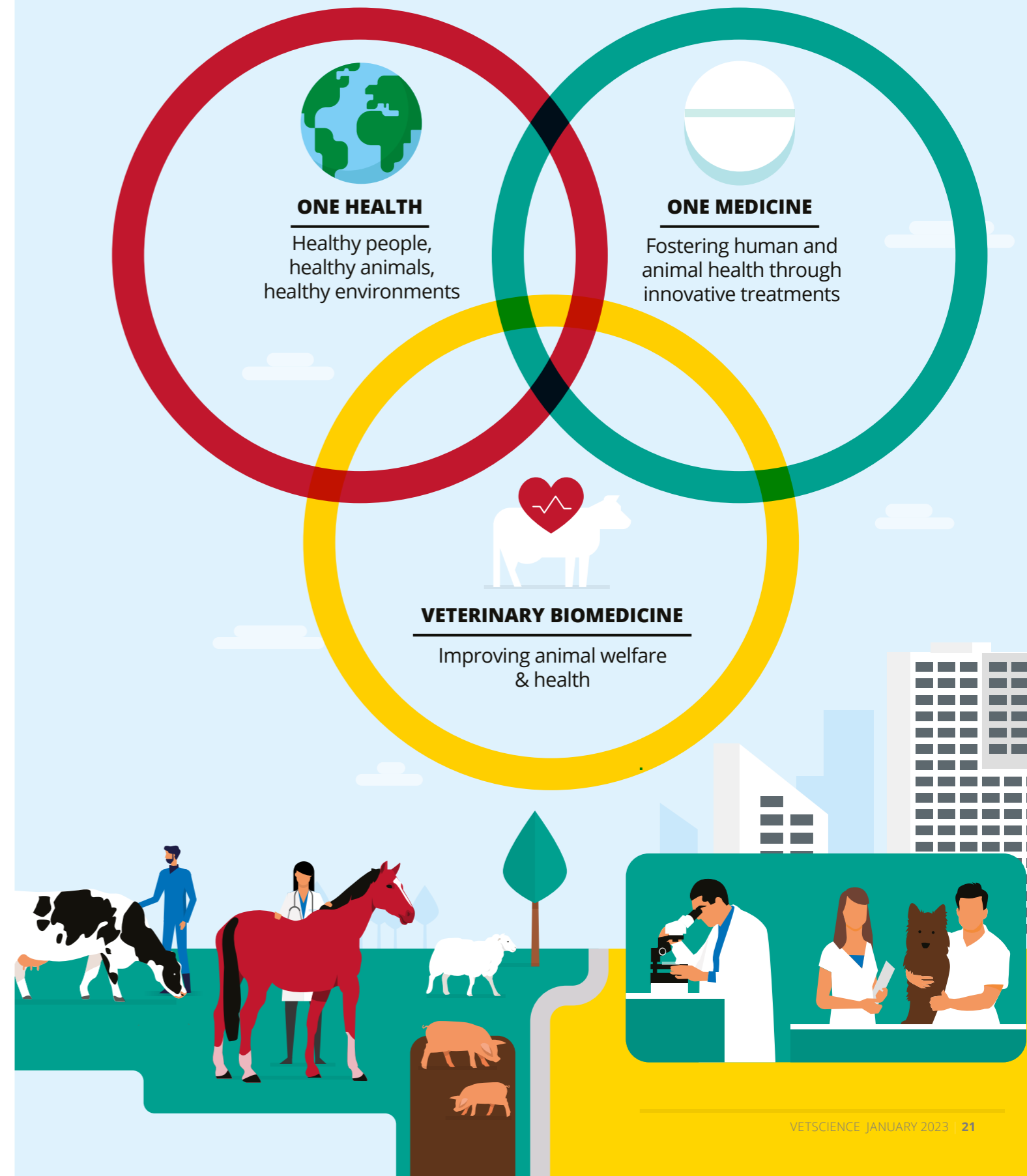
**S:** So it's OK to keep animals, as long as we put their interests before our own convenience or desires?

**M:** Exactly. In the Netherlands, you often have to demonstrate ability or understanding before being allowed to do something. Like taking driving lessons and passing your driving test before you can drive a car. But if you want a pet, you can just go out and get one. There are around 30 million pets in the Netherlands, but nowhere near every owner knows how to take care of their pet. Rabbits, for instance, aren't happy living alone. Many people don't know this and they buy one rabbit. Maybe there should be a mandatory course for people who want to get a pet.

Although the interview was scheduled to take an hour, Smit and Meijboom have been talking for over 90 minutes and are now in their lunch break. Meijboom concludes by noting how much their fields of study overlap. “While we don't work together on a daily basis, we each have our own office and our own group, it wouldn't be such a crazy idea for us to write a research proposal together.” Smit nods in agreement. “Maybe that's something we should pursue, yes.” ■

TEXT: ROSAN REUSKEN | IMAGE: ED VAN RIJSWIJK

## OUR RESEARCH FOCUS





*Veterinary medicine student Michelle Hendriks takes care of the sick newborn foal while the mare keeps a close eye on her foal in the adjacent stall.*

# Care for sick foals

Every year from 1 March, the faculty's foal brigade is on standby. They provide sick, newborn foals with the best treatment and intensive care as soon as possible, 24 hours a day, seven days a week.

The foal brigade is unique in the Netherlands. A team of specialists, animal care workers and students has been caring for sick foals since 1991. The students receive special training as foal brigadiers every year starting in December.



*Veterinary medicine student Michelle Hendriks and Mathijs Theelen, internal diseases specialist and coordinator of the foal brigade, examine the sick foal.*



Student Michelle Hendriks: "Being part of the foal brigade is a great and educational experience. I learned how to insert a tube, administer medication, take blood, and I was allowed to attend an operation in the operating room. The work can also be tough, the foals are often very sick. The foal in the pictures was born way too early but fortunately did well. Here she was allowed to stand by the mare already, which is always a wonderful moment." ■

TEXT: ROSAN REUSKEN | IMAGE: BAS NIEMANS

# “I want a DNA database for all dogs and cats in the Netherlands”

Eliminate hereditary diseases and harmful traits in dogs and cats. That is the mission of researcher and specialist Hille Fieten, also coordinator of the Expertise Centre Genetics of Companion Animals in Utrecht. According to her, more than half of the diseases in these animals can be prevented by a better breeding policy.



Hille Fieten, examines a dog in the polyclinic of the Academic Animal Hospital of the Faculty of Veterinary Medicine.

Fieten's interest in hereditary diseases arose during her PhD research. That focused on the genetic origin of copper stacking, an inherited metabolic disease in Labrador retrievers. “Gradually, I became more and more captivated by my research”, Fieten says. “I discovered that with research, you can also have a real impact on society. That became my main goal.” That impact extends beyond dogs: copper accumulation also occurs in humans.

## Making a difference for animals and people

“I presented my research at a congress in Baltimore”, says Fieten. “There I got talking to patients who told me about psychiatric disorders and liver cirrhosis caused by copper stacking. There were also people whose babies had died due to copper metabolic disease. That impressed me a lot.” Fieten explains that purebred dogs and humans share the same disease-causing genes. “But because people are genetically very diverse, it is difficult to detect these kinds of genes in them. In purebred dogs, it is much easier. This is because they are highly inbred and have mostly the same genes. That makes it much easier to find out which genes in dogs cause hereditary diseases.” This enabled Fieten to identify the disease gene for copper stacking and created a valuable genetic dataset of inbred dogs. “Such a dataset is a treasure trove for veterinary and human researchers. At the same time, it is incredibly harsh that this high level of inbreeding is the cause of a lot of avoidable animal suffering.”

## DNA database for dogs and cats

Specialist training came after the PhD. In addition to her research, Fieten works as a specialist at the University Animal Hospital. “At the outpatient clinic, I see animals with hereditary diseases and harmful external features, such as short snouts, every day. Problems that are difficult to treat and could have been prevented with responsible breeding. That is why at the Genetics Expertise Centre we not only do research, but also develop practical tools for vets and breeders. Examples are a PET scan for monitoring disorders and Fit2Breed for creating healthy breeding combinations based on genetic data.” As far as Fieten is concerned, it doesn't stop there. “I eventually want a DNA database for all dogs and cats in the Netherlands. Animals are already chipped and get a passport. So it's not such a big step to collect DNA data as well.”

## Concrete breeding standards

It is up to the government to create such a database. Fieten is optimistic about society's commitment to animal welfare and healthy breeding: “I admire the fact that the then agriculture minister Carola Schouten took the step to let us draw up concrete breeding standards that made enforcement of existing legislation possible. Also, more and more vets are stopping fertility counselling for unhealthy animals. In the early days of the Genetics Expertise Centre, it was not always easy to explain why our work was necessary. Meanwhile, together with a growing

group of colleagues, we managed to find parties outside the university willing to support us. Thanks to research grants, including a Veni grant, government grants and donations from social partners through the Friends of Veterinary Medicine fund, the Genetics Expertise Centre has now grown into a solid team of fantastic people with one shared mission: healthy and social animals.”

## Always encouraged by others

Not a bad result for someone who previously did not believe she could become a veterinarian. “In a career choice test at secondary school, I entered that I wanted to become a veterinary assistant. Then came the question: why not become a vet? I thought: I can't do that at all, can I?” She could. Later in her academic career, too, there were always people encouraging Fieten. For example, to sign up for the Leadership Programme at Cornell. Or to also take a master's in Genetic Epidemiology in Rotterdam during her PhD. Without all that knowledge, she would never have been able to find the gene that causes copper stacking in Labrador retrievers. Now Fieten likes to encourage young people herself. “There are so many talented people here at the faculty. I give them the advice I was also given so often: you can do more than you think, grab your chance and go for it!” ■

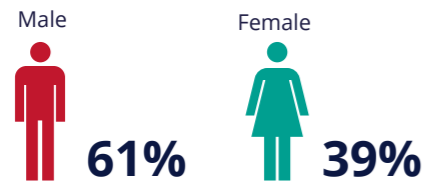
TEXT: CARIEN DUISTERWINKEL | IMAGE: BAS NIEMANS



Veterinary Medicine

Facts & Figures

44 Professors



420 Researchers

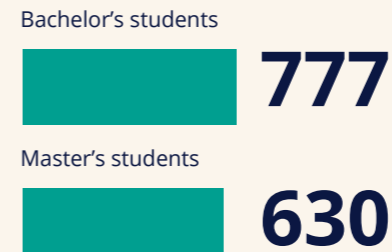
571 Publications in scientific journals in 2021

The only veterinary faculty in the Netherlands

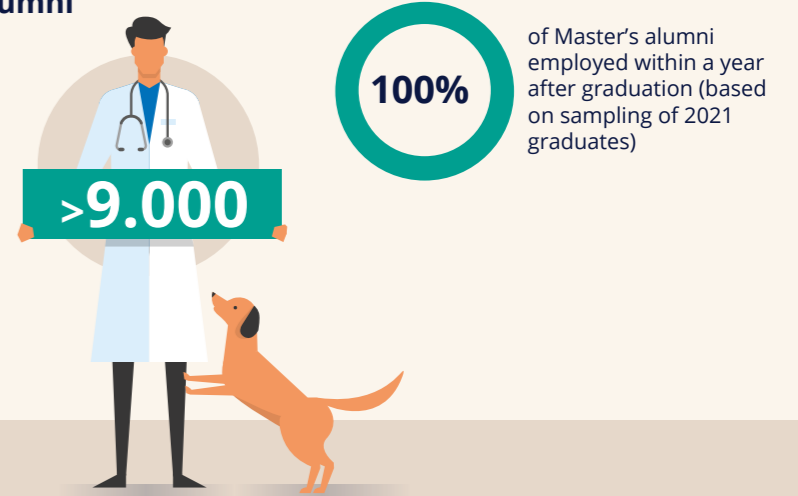
Accredited in:



Students



Alumni



PhD candidates

221

International 47%

Dutch 53%

QS World University Rankings Veterinary Science 2022

3

Ranked #3

Friends of VetMed



€4.8 million raised to date

University animal hospital

Companion animals: >12.800 cases treated annually

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

Equine: >7.900 cases treated annually

Veterinary education partners

88 Veterinary clinics

Lifelong learning

650+ participants

60+ courses in 2022

# “Full publication not only saves research money but also the unnecessary use of animals”

Scientists call for better articles on animal testing



**Animal research on repairing cartilage damage in joints is often incompletely reported in scientific journals. As long as we are conducting animal experiments, they should be better described, scientists insist. “Only then can others really do something with the results.”**

Almost one and a half million people in the Netherlands suffer from wear and tear of the cartilage in the joints, or osteoarthritis. Osteoarthritis is also common in animals. Unfortunately, there is still no good treatment for this painful condition. What is also lacking are suitable non-animal methods to research possible treatments that stimulate cartilage repair. This is now partly done with laboratory animals, such as pigs, goats, sheep, dogs and horses.

## **Incomplete information**

Researchers from the Faculty of Veterinary Medicine, Maria Fugazzola, Janny de Grauw and Daniela Salvatori, Professor of Comparative Anatomy and Physiology, together with colleagues at Radboudumc, analysed 223 studies with large laboratory animals published worldwide between 2015 and 2020. They found that more than 90% (220 publications) provide incomplete information on anaesthesia and pain management. This does not mean that there was no good

pain management, but it is problematic for three reasons: it does not account for how animal welfare was best protected, the study is less repeatable (reproducible), and it is more difficult for other researchers to build on the knowledge from the study. The review appeared in June in the professional journal *Osteoarthritis and Cartilage Open*.

To study the repair of damaged cartilage, researchers often have to operate on the experimental animals. As in human surgery, anaesthesia and pain control are then crucial, even after surgery. In addition, details about the drugs used are important: to account for optimal animal welfare, to make the study repeatable for other researchers, and to build on the knowledge gained. After all, which anaesthetics and analgesics laboratory animals receive and how much, also affects the results of the study.

## **No details on anaesthesia and pain management**

“The majority of publications did not mention which analgesics and anaesthetics were used before, during and after surgery”, says Fugazzola. “Of the 176 studies that reported animals undergoing general anaesthesia, 30% gave

**“The majority of publications did not mention which analgesics and anaesthetics were used before, during and after surgery”**

no details about that anaesthesia. Also, very few gave details about analgesics and pain monitoring. By the way, this does not necessarily mean that there was not any analgesia or pain monitoring, but rather that you do not know which and how much.”

Scientists are deeply concerned about this limited reporting. De Grauw gives an example. “If an animal has pain in a paw after surgery, and therefore puts less strain on that paw, the recovery of the joint in that paw may be different. So you can only interpret that recovery properly with the right information about pain relief. Without that information, other scientists cannot determine whether the research findings are correct.”

## **Proper compliance with ARRIVE guideline**

The limited reporting of details of animal research has long been recognised. That is why in 2010, a guideline for consistent reporting of scientific animal research was drawn up, called ARRIVE (Animal Research: Reporting of In Vivo Experiments). However, compliance with the guideline is still limited. This new study now shows that most joint wear studies with large laboratory animals also fail to meet the reporting requirements of the guideline.

“One of the quick wins is proper compliance with the ARRIVE guideline for publishing animal research”, says Henk

Smid, chair of the Netherlands National Committee for the protection of animals used for scientific purposes (NCad). “Fully publishing helps refine and reduce animal research. In this case, for anaesthesia and pain control in cartilage damage research. This can reduce or even prevent the repetition of research. And that not only saves research money, but also the unnecessary use of animals, as researcher De Grauw points out. All relevant information is then shared and follow-up studies can build on it.”

## **Important role for editors**

The review covered publications from 2015 onwards, Smid continues: “The NCad regrets that the ARRIVE guideline has not yet been fully followed more than five years after publication. We see an important role for editors of scientific journals in this matter; stricter assessment of the points in the ARRIVE guideline is desirable and when a publication does not comply with this guideline, a strong comment should be made.”

Daniela Salvatori also stresses the urgent need for improvement. Researchers must report fully on their experiments so that others can actually use the results. It is high time that researchers and editors of journals became aware of this.” De Grauw adds: “That will not only save a lot of research money, but also the unnecessary use of animals, as the knowledge gathered is now of limited use.” ■

TEXT: MONIQUE JANSSENS AND MYRNA TINBERGEN | IMAGE: ISTOCK



Researchers push the orca – which weighs over 2,000 kg – in the right direction so that it can be examined on the autopsy table.

## A beached orca on the examination table

The orca that ran aground and died near Cadzand on 15 October 2022 ended up on the autopsy table at the Faculty of Veterinary Medicine. Initial results of the examination – conducted by Utrecht University in collaboration with Wageningen Marine Research – revealed a case of severe gum disease. The animal was also suffering from multiple inflammations to its internal organs and had not eaten for a long time. As biologist Lonneke IJsseldijk of Utrecht University explains, the orca was emaciated: “All the orca’s teeth were loose and had started rotting. It must have been in a lot of pain, especially when it was eating.”

### A familiar orca in Spanish waters

The Spanish animal welfare organisation Proyecto O.R.CA - Cádiz is dedicated to the conservation of endangered orcas and recognised the orca from video footage. The whale had never been sighted this far north until she was spotted off the Dutch coast last October. She may have strayed from her normal environment due to illness. ■

TEXT: QUEENIE SCHOLTES | IMAGE: BAS NIEMANS



Further examinations are needed to determine the causes of inflammations in its various internal organs. The researchers gather samples of organs and take blood samples. These samples are then examined under a microscope in various laboratories.



The orca section was followed under great (inter)national interest. Want to learn more about our research on beached marine animals? Visit: [www.uu.nl/strandings](http://www.uu.nl/strandings)



As biologist Lonneke IJsseldijk explains, the examination also revealed muscle damage. "Marine mammals are fully adapted to life underwater. Their bodies come under a lot of pressure from gravity when they run aground. That has all kinds of effects on their circulation, breathing and overall chances of survival. Unfortunately, the orca died as a result when it ran aground."

# A fresh impetus for educational innovation

Beerend Hierck and Marco de Carvalho Filho discuss their passion for education

Beerend Hierck and Marco de Carvalho Filho are both experts on educational innovation in human medicine. They joined forces to give a fresh impetus to rethinking our education, each from their own individual areas of expertise and experience. They both share a passion for education, the importance of research and the evaluation of teaching methods.

While Hierck and Carvalho both have extensive experience in the field of educational innovation in human medicine, they operate from very different perspectives and cultural backgrounds. Hierck's approach to educational innovation draws on the ever-increasing potential of digital technology. He has been teaching anatomy for over 30 years and is an assistant professor with teaching and research duties. He also developed virtual reality (VR) applications as a teaching aid for human anatomy at Leiden University Medical Center. Hierck: "The virtual environment allows students to practise their skills and anatomical knowledge before they start applying these in their practical training. We're currently developing an environment that will allow students to explore animal anatomy. The students will be practising in the virtual environment so that they are fully prepared when they start working with real animals. This will help lecturers to save time and build students' confidence by preparing them for real-world practice."

**"It's better to be happy on Mondays!"**

Hierck: "Depending on their level of spatial awareness, students can struggle to translate 2D anatomy from the teaching materials into a 3D representation in their minds. For example, it can be difficult to imagine what a circulatory system looks like when it's rotated. It can then be very effective to practice in a virtual 3D learning environment: Leiden University students with low spatial awareness scored just as high using VR as others with good spatial awareness."

## Harnessing digital potential

Originally from Brazil, Carvalho spent over twenty-five years working as an internist, emergency physician and clinical instructor in a São Paulo hospital. He greatly enjoyed his time there, and enthusiastically managed a major educational innovation programme. This sparked his passion for innovative and empowering teaching methods and research



Beerend Hierck, Assistant Professor.

**"Personal emotions play an important role in decision making and it's good to be aware of that as a professional"**

on effective education. He joined the University Medical Center Groningen in 2017 to oversee the modernisation of medical education. He is currently focussing on the development of students' personal identities and their evolution as professionals, applying creative activities such as theatre, music and painting.

## Empowered by theatre

Close cooperation with students is crucial to both sides during the trialling of new teaching methods. Carvalho: "It's important that the students contribute their own topics. That allows teachers to give them genuinely personalised education in the areas in which they want to grow. In Brazil, we developed something called Medical Education Empowered by Theatre. The students write short plays about their own case study. Actors then re-enact these, the lecturer and students discuss what could have been approached differently, and the play is performed again. This allows them to practise handling difficult situations or talking to patient owners. It's a really effective method that's already being used at Yale and will be used at University Medical Center Groningen from this year onwards."

## Reflecting on emotions

The emotions we feel as people and professionals can also be in direct conflict with each other. Carvalho: "Personal emotions play an important role in decision making and it's good to be aware of them as a professional. We explore that through various methods, like painting a situation from the day-to-day practice. We discuss the situation and the associated emotional responses with the group: which values clashed and which arguments did they apply to reach their



Marco de Carvalho Filho, clinical teacher and an internal medicine specialist.

**“A virtual environment will help build students’ confidence by preparing them for the real world”**

decision. Students often tend to relive their feelings during the actual situation. That makes the whole exercise even more meaningful and profound. Practising and reflecting together helps the students develop an inner compass. It’s great to watch them develop their identities in the process. Seeing your students evolve as people and capable professionals is a real joy.”

Carvalho: “In order to become a successful professional, you need to find meaning and joy in your daily professional activities. It’s better to be happy on Mondays!” Hierck adds: “It’s really important to enjoy what you do, and it’s fun to see students working in a seemingly empty room with VR goggles on, or exploring a VR environment on their own.”

#### Effective teaching methods

Hierck: “Obviously, those kinds of methods do need to offer proven added value and be effective. For example, which teaching methods are more time-efficient or compatible with the latest educational insights? Which learning strategies do our students use? We’re gradually building up a portfolio of effective teaching methods through thoughtful selection and evaluation.” ■

TEXT: JUUL COUPERUS | IMAGE: BAS NIEMANS



Maurice Zandvliet, Specialist in Medical Oncology, prepares a dog patient for radiation therapy at the Academic Animal Hospital of the Faculty of Veterinary Medicine.

**“My motivation is to better understand where cancer comes from”**

Maurice Zandvliet studied Veterinary Medicine because he wanted to mean something for animals. Now, he is a Specialist in Medical Oncology and he treats animals from all over Europe in the UU Animal Cancer Centre in the Academic Veterinary Hospital. “We’re the only centre in the whole region that can provide radiotherapy on this level.”

We start the interview while Zandvliet is looking through a microscope. "I'm briefly helping out with cell research of biopsies to make diagnoses. But I can easily talk at the same time."

#### **Are you still happy you chose Veterinary Medicine back then?**

Zandvliet looks up and does not return to his microscope anymore. "Yes... but as an oncology specialist, I deal with more limitations in veterinary medicine than I would have had in medicine for humans. Oncology is a very technical specialisation in which an awful lot is possible in human medicine. We can also do much with animals, but we do hit the limits earlier. On the other hand, it also seems very difficult to me to have these kinds of conversations with human patients."

#### **Do you often collaborate with doctors?**

"Not in patient care, but I do in research. Like with researchers from the Hubrecht Institute, UMC Utrecht and the Princess Máxima Center for pediatric oncology. Bone cancer in dogs looks very much like bone cancer in children. For children, the intervention is early and saving the arms or legs is tried as much as possible. For dogs, that almost never works and we amputate faster. So the dog no longer

has any pain. We help the doctors with the amputated dog paws. They were wondering: what do we see on MRI scans? Now they can compare an entire paw to a scan of that paw. That provides them with new insights for treating children. And, conversely, we learn from them too.

We also develop tumoroids from bone-tumour material together, and we want to test new medications on those. That's what I like about this place. It's the veterinary medicine I love on the one hand, and I get the latest developments from human medicine on the other."

#### **Is that why you like to work at the Academic Veterinary Hospital?**

"Definitely, I can do research here where medicine for animals and humans intersect. And the patient care is very interesting and challenging. The animal owners who come here want to use all possible treatments that are realistic to help their animals. We are the only centre in the whole region that can provide radiotherapy on this level. The closest after us is in Lille in France. We get animals from all over Europe. Besides that, I contribute to education, and hope to inspire and teach future vets that an animal with cancer doesn't



*Maurice Zandvliet, specialist in Medical Oncology, and a colleague review a radiological image.*

**"The closest other radio-therapeutic centre at this level is in France in Lille"**

**"Of course, we only resort to treatment if the strain on the animal is acceptable and proportional to the expected gains"**

have to be euthanised immediately. We can still mean a lot to the animals and their owners."

#### **I understood that a new radiation machine was recently installed?**

"That's right, that's a new linear accelerator, an instrument that's also used to irradiate humans. The old machine needed replacing, but that's an enormous expense. Our charity fund Friends of VetMed helped to fund the installation together with supplier Elekta and a number of other partners. With this machine, we can irradiate tumours very accurately and the animals require fewer radiation sessions. We're very happy with it!"

#### **Can you tell us something about the treatments you carry out here?**

"In the UU Animal Cancer Centre, we work in a group of colleagues who each have their own expertise. It's not realistic to think one vet can do the entire treatment track of a cancer patient. The treatments consist of oncological surgery, radiotherapy and medical therapy, such as chemotherapy. Besides that, we can't do without the colleagues from other departments. You need imaging with

X-ray photos, CT and MRI in order to see the tumours. The biopsies, tissue samples, are investigated by Pathology. During radiation sessions, we need Anaesthesiology because the animal mustn't move.

#### **What are the latest developments?**

"The latest are resources that inhibit or stimulate the immune system to get a tumour under control. The treatment of hormone-producing tissues in the body is another major development. The research into that lies at the intersection of veterinary medicine and medicine. The genetics of cancer are also fascinating. For instance, some dog breeds have an increased risk of cancer. This is the domain of the Expertise Centre Genetics of Companion Animals. They chart the genetics of companion animals. That makes a big difference for the breeding and health of companion animals in the future."

#### **The treatments are expensive, how do pet owners pay for them?**

"For oncological treatments, you're indeed quickly talking along the lines of several thousands of euros. I don't have the impression that many patients are insured, so people have to pay for it themselves. It's a lot of money, but pets are often also very important to people. They sacrifice holidays or other big purchases for them. These days, they also occasionally do crowdfunding. For instance, we treated a dog belonging to a lady from Latvia for a brain tumour. That dog had his own Instagram account and his image later became

the logo for a coffee manufacturer. Afterwards, I was sent packs of coffee featuring that dog's head, a big Bullmastiff."

#### **What's it like for animals to undergo cancer treatment?**

"That varies per type of tumour, but the side effects are usually not insurmountable. For instance, after radiation, even the more serious side effects heal well after a couple of weeks. Of course, we only resort to treatment if the strain on the animal is acceptable and proportional to the expected gains in lifespan." Such a consideration is an ethical dilemma. "We do that very methodically based on objective data from science. But emotion also comes into play, of course. You're dealing with people for whom the animals are important parts of the families. The conversations with owners can sometimes be difficult."

#### **What inspires you in this line of work?**

"I gain a lot of satisfaction from being able to help both animals and humans. In the research field, my motivation is to gain a better understanding of where cancer comes from. And I still enjoy it if students ask me very smart questions. Because then I think: I hadn't looked at it like that yet, how am I going to explain that?" ■

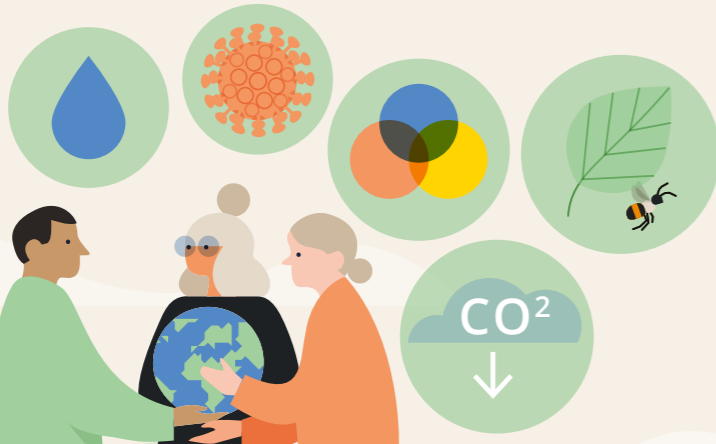
TEXT: NICOLE VAN HOORN | IMAGES: BAS NIEMANS AND IVAR PEL

# WORKING TOGETHER SUSTAINABLY ON THE HEALTH OF ANIMALS, PEOPLE AND THE ENVIRONMENT

Administrative agenda of the Faculty of Veterinary Medicine 2023-2025:  
three ambitions and six goals

## AMBITIONS

To increase social impact



To promote sustainability



To create an attractive work and learning environment for everyone



## GOALS

Strengthen strategic research partnerships



Develop study programmes with professional practice and knowledge institutions



Long-term financial stability



Sustainable employability and satisfaction for staff and students



Focus and innovation in our veterinary hospital



Green actions to make the Faculty sustainable

New Professor of Evidence-Based Transition to Animal-free Innovation

## Merel Ritskes-Hoitinga focuses on collaboration and jointly contributing to the pursuit of an animal-testing-free world

Merel Ritskes-Hoitinga has been appointed Professor of Evidence-Based Transition to Animal-free Innovations at the Faculty of Veterinary Medicine with effect from 1 June 2022. In her research and teaching, Ritskes-Hoitinga focuses on collaboration between academia, industry and regulatory authorities to jointly produce guidelines and (faster) acceptance of alternatives to animal testing.

In the Netherlands and worldwide, there is a clear movement toward animal-free innovations: improving research into medicine, food safety and toxicology without the use of animals. New technologies, such as organs-on-a-chip, artificial intelligence and virtual reality, make this possible. Research and education in these areas are taking off, making the new professorship even more relevant.

**“I want to provide evidence that we can and must accelerate the transition to animal-free innovations”**

### Collaborating with non-governmental organisations

“I want to provide evidence that accelerating the transition to animal-free innovations is possible and must be done”, Ritskes-Hoitinga says when asked about her goal with this professorship. “That scientific foundation is crucial. But it is just as important that we then actually use these new methods in practice, and that legislative bodies accept them for both humans and animals. This requires transdisciplinary research and education: we must also work with non-governmental organisations in addition to cooperating with other scientific disciplines.”



Merel Ritskes-Hoitinga, Professor of Evidence-Based Transition to Animal-free Innovations.

### Openness to other forms of research

With the programme Transition to Animal-free Innovation (TPI Utrecht), Utrecht is a frontrunner in the development of animal-free innovations. What can be done (even) better in Utrecht, according to Ritskes-Hoitinga? “It is important to create openness in education for other ways of doing research. For example, by asking questions like: how do you formulate the relevant research question? What is already known about the subject? How can you investigate this without animal testing? What steps should I take and who should I involve in this? Not every scientific question requires an animal test. Systematic literature reviews, veterinary patients, stakeholder analyses, interviews and epidemiological data can also provide answers. Fortunately, the SYRCLE centre of expertise will be continued at Utrecht University, offering great opportunities to apply systematic reviews to the challenge of transitioning to animal-free innovations.”

### The pursuit of an animal-free world

“This professorship is the icing on the cake for me”, Ritskes-Hoitinga says enthusiastically. “I started at the department

of Laboratory Animal Science at the Faculty of Veterinary Medicine and now I am going to work on animal-free innovations within the same faculty. I am very much looking forward to setting up trans- and interdisciplinary education and research. Action learning – which refers to a continuous cycle of making inventories of hurdles and opportunities, (re)formulating research questions, initiating actions and evaluating those – by lecturers and students together, plays a major role, also because lecturers can learn from students introducing new ideas.”

“In my experience, involving motivated students from various faculties quickly leads to fruitful and stimulating new teaching and research ideas. Therefore, I look forward to tapping into the motivation and potential of students and fellow teachers. In this way, we can jointly contribute to the pursuit of an animal-testing-free world.” ■

TEXT: IRIS KRUIJEN | IMAGE: BAS NIEMANS

# Continuing education in Veterinary Medicine

The rapidly changing world of veterinary medicine demands that veterinary professionals keep on developing themselves. That equips them with the right knowledge and skills to practice their profession or take the next step in their career. The Faculty of Veterinary Medicine offers high-quality post-academic courses for professionals in the field of veterinary medicine.

Scan the QR code for more information and registration



Grand Prix dressage rider Jolanda de Pijper and researcher Filipe Serra Bragança have been analysing the movements of horse Bombay.

## Poultry Health Science

Poultry production is a global, fast-growing industry that is the biggest supplier of animal protein and eggs worldwide. This course offers in-depth knowledge on poultry health, diagnostics, clinical reasoning, evidence-based medicine, disease management, animal welfare, food safety and related matters that will help address local and global challenges in sustainable poultry healthcare.

### For whom

Veterinarians and postgraduates in the life sciences working in poultry in a scientific or management position, now or in the near future.

### Date

The total programme consists of separate modules of two to four weeks. Modules can be followed separately, for example for postgraduate continuing education and training of residents of ECPVS or other colleges.

Next module: 6-23 February 2023  
Antibiotics and Resistance

## Equine Gait Analysis Society course

In 2023, the Equine Gait Analysis Society will launch its first course. This postgraduate course for equine veterinarians is a collaborative effort between Utrecht University and DataHorse and will approach all aspects related to the clinical application of quantitative gait analysis in horses. The programme is taught by academic and clinical experts from around the world and is based on evidence-based content.

### For whom

Equine veterinarians, veterinary specialists (ECVS, ACVS, ECVSMR, ACVSMR) and PhD students.

### Dates

- 10-11 February 2023 Module I - Utrecht University (NL)
- 14-15 April 2023 Module II - Sporthorse Medical Diagnostic Centre (NL)
- 16-17 June 2023 Module III - Dierenkliniek Bosdreef (BE)
- 6-7 October 2023 Module IV - Swedish University of Agricultural Sciences (SE)
- 17-18 November 2023 Module V - Tierklinik Lüsche (DE)

## Postgraduate Education in Toxicology

The Postgraduate Education in Toxicology (PET) is the Dutch national programme for vocational postgraduate training in toxicology. The modular PET curriculum is designed for participants who wish to receive the training required for the register of professional toxicologists by the Netherlands Society of Toxicology (NVT). In addition, the separate PET courses provide in-depth knowledge in specific areas of toxicology for professionals from the private as well as the public sector and are also suitable for PhD students.

### For whom

Graduates with a university degree in the biomedical, natural, veterinary or agricultural sciences and who have a sufficient background in biology or chemistry.

### Dates

- 23-27 January 2023 - Ecotoxicology part 1
- 30 January-3 February 2023 - Ecotoxicology part 2
- 6-10 March 2023 - Toxicogenomics
- 11-14 April 2023 - Cell toxicology
- 8-12 May 2023 - Risk communication
- 13-16 June 2023 - Immunotoxicology



## “The less interference the better?”

*Annemieke Muller (MSc Veterinary Medicine, 2011) emigrated for her PhD at the University of Western Australia. Her fieldwork took place in Lapalala Wilderness, South Africa. Here, she studied the reproduction of white rhinos in the wild. Since 2015, she has been working as Veterinary & Research Manager in Lapalala.*

“Before I left to work in Africa, I was under the impression that in large nature reserves, you can let nature take its course, and a balance will emerge automatically. The less interference, the better. I was wrong. Because in today’s climate of sustainably conserving wild plant and animal species for the future, active management is an absolute necessity. So wildlife management plays a crucial role in maintaining fenced wildlife reserves, which applies to most reserves in South Africa, regardless of how big the reserve is. Two animal species that require intensive management are elephants, because of the high impact on vegetation, and lions, because of rapid reproduction and prey pressure. In the nature reserve where I work, both lions and elephants were reintroduced in 2018. Our first step in

responsible management was to introduce the right number of animals, considering population growth in subsequent years. That’s why we use advanced veterinary developments. For example, a large proportion of elephant females receive contraception. This temporarily active drug can be infused via a dart shot from a helicopter and ensures that ovulated eggs cannot be fertilised. Lion females undergo surgical removal of one of their uterine horns. These interventions aim to prevent an irreversible negative spiral in the natural balance and instead achieve ecological sustainability. I have learned that it is crucial to responsibly try to maintain the natural balance of ecosystems. The underlying aim is to keep the diversity of plant and animal communities intact in the long term.” ■

TEXT: SARA POT | IMAGE: ISTOCK, OWN PHOTO