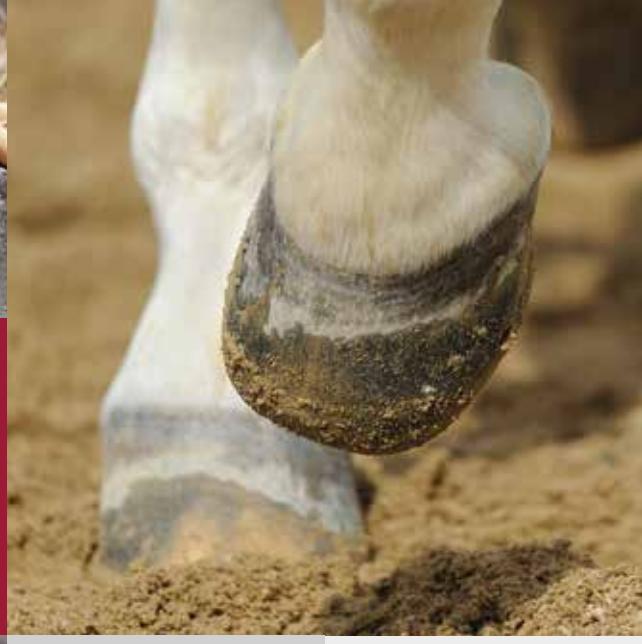
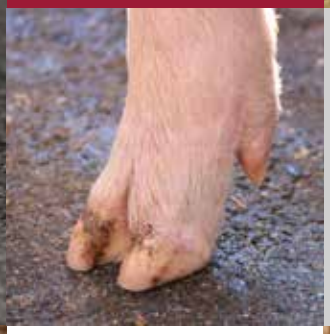
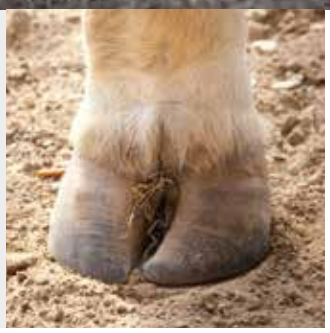
2015

Annual Report

vetmeduni vienna

University of Veterinary Medicine, Vienna


Locomotion is the motto of this annual report, thus the feet of six animals will guide you through the following pages. They stand for the patients at the University Clinics, as well as for research and teaching at the Vetmeduni Vienna.

vetmeduni vienna

University of Veterinary Medicine, Vienna

Content

Forewords

Photo: © Daniela Beranek/Vetmeduni Vienna

Sonja Hammerschmid

Rector

Animal health, food safety and animal welfare constituted our University's core themes in 2015. In this way, we are staying true to the vision of Empress Maria Theresia 250 years after the University's founding. With pride we look back at a multi-faceted jubilee year that included exciting highlights like the Jubilee Ball, the Ceremonial Act with Federal President Heinz Fischer and international guests, and the well-attended Open House. Our scientists used the event to share their knowledge with interested visitors and members of the press. The motto of the jubilee year "Responsibility for Animals and People" will remain relevant for us. As the only university of veterinary medicine in Austria, we will continue to give our all in order to meet our objectives in teaching, research, clinical and scientific services in a responsible and dedicated manner.

Otto Doblhoff-Dier

Vice-Rector for Research and International Relations

Photo: © Daniel Gebhart de Koekkoek/Vetmeduni Vienna

With their achievements in basic as well as applied research, the scientists at our University are not only generating new insights for prevention, diagnosis and therapy in animals and humans, but also contributing to fundamental knowledge in other realms of the life sciences. Interdisciplinary research, for example with the humanities, opens new perspectives with regard to the interaction between humans, animals and the environment. In 2015 our researchers have once again acquired funding for numerous projects, been published in top journals and received many awards for their achievements. We are particularly interested in educating the next generation of scientists, so that future progress is ensured and our University remains attractive internationally.

Photo: © Daniel Gebhart de Koekkoek/Vetmeduni Vienna

Christian Mathes

Vice-Rector for Resources

An important theme for our University in 2015 was the negotiations with the Federal Ministry of Science, Research and Economy about the performance agreement and goals for the 2016 to 2018 timeframe. Considering the generally difficult parameters of the federal budget, we can be satisfied with the outcome of the negotiations. Our resources are the foundation for a progressive and competitive University. We had numerous opportunities to prove this in 2015; this annual report provides a glimpse into the exciting topic areas that we were engaged in last year.

Photo: © Johannes Zinner/Vetmeduni Vienna

Photo: © Daniel Gebhart de Koekkoek/Vetmeduni Vienna

Petra Winter

Vice-Rector for Study Affairs and Clinical Veterinary Medicine

Our goal is to do the best possible job of preparing students for the challenges of veterinary practice. Our educators concentrate on conveying competencies, since not only knowledge, but also skills are required for learning to be applied. In 2015 we were able to implement further quality assurance measures for teaching. A significant component of veterinary education is the University Clinics, which offer animal owners round-the-clock care and represent the heart of clinical research. Our patient intake continued to increase during the reporting year: The Clinics provided medical care to nearly 50,000 patients.

Anja Joachim

Chairperson of the Senate

Photo: © Michael Bernkopf/Vetmeduni Vienna

William of Ockham, a medieval philosopher and science theorist (Umberto Eco named a character in one of his novels after him), marshalled the parsimony principle for heuristic hypotheses and theories. When faced with several possibilities for explaining an observation, the simplest ought to be favoured, since its few variables are in logical correspondence with one another. This rule was later dubbed Ockham's Razor. With the blade of the razor one slices off that which is unnecessarily complicated and thus, in a simple way, attains new insights in science and research. Surely this principle can also be used for administrative tasks. My resolution for 2016 is to reach for Ockham's Razor more often.

Photo: © LudwigRusch/aws

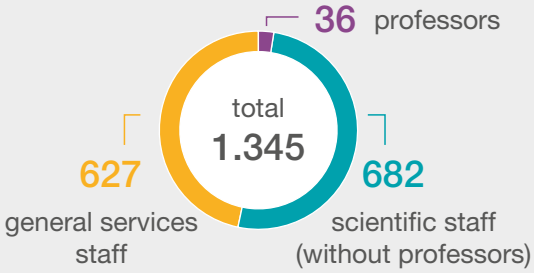
Edeltraud Stiftinger

Head of the University Council

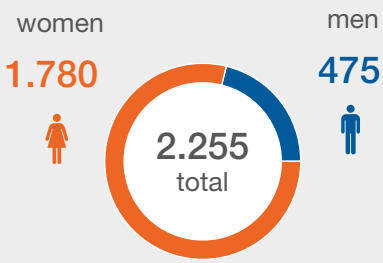
Manifold performance achievements, as well as quality in teaching, research and clinical services, were once again impressive this year. The 250th anniversary jubilee attracted a lot of attention to veterinary medicine, which forms the basis for animal and human health – catchphrase "One Health, One Medicine." On behalf of the University Council, I am grateful to all of the University's staff members, who dedicate themselves to their tasks with such commitment and such a high degree of responsibility. Only in this way can the Vetmeduni Vienna maintain the high standard of its qualitatively exceptional education, its scientific expertise and its Clinic operations and stay on a successful course.

Facts & Figures

Staff



Students



Academic portfolio

- Diploma and doctoral programmes in veterinary medicine
- Bachelor's in biomedicine and biotechnology
- Bachelor's in equine sciences[1]
- Master's in biomedicine and biotechnology (comparative medicine)
- Interdisciplinary master's in human-animal interactions
- Master's programme in wildlife ecology and wildlife management[1]
- Master's in evolutionary systems biology[2]
- European master's in comparative vertebrate morphology (EUCOMOR)[3]
- PhD programme

[1] In cooperation with the University of Natural Resources and Life Sciences, Vienna
[2] In cooperation with the University of Vienna, starting winter semester 2016/17)
[3] In cooperation with the Universities of Antwerp (Belgium), Giessen (Germany), Poznań (Poland) and Naples (Italy)

Animal patients

2015

49.254 animal visitors

were cared for in five species-specific University Clinics.

University Clinics

- Poultry and Fish
- Small Animals
- Horses
- Swine
- Ruminants

Research focus

The research activities of the Vetmeduni Vienna are concentrated around the following core topics:

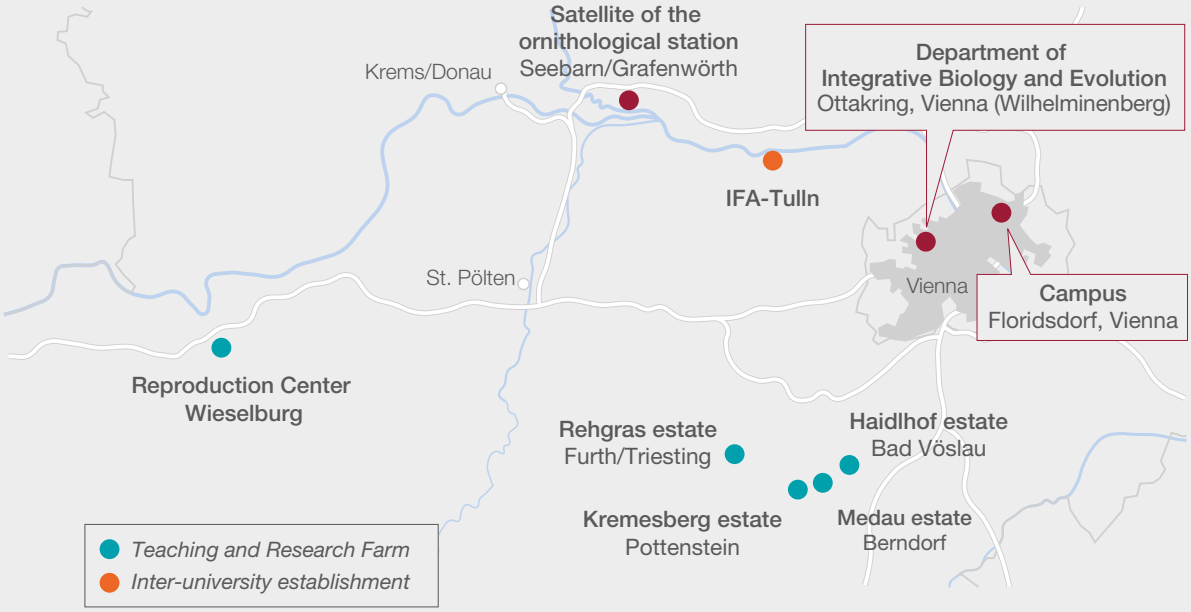
- Endocrinology
- Nutrition physiology
- Infectious diseases (fish, poultry, swine)
- Food microbiology and risk analysis of animal-based food products
- Population genomics
- Translational medicine (transgenic models) in infectious diseases, inflammation and cancer research
- Behavioural biology and behavioural ecology (incl. cognition)
- Wildlife ecology and medicine

Photo: © Johannes Zinner/Vetmeduni Vienna

Unique in Austria – internationally recognized

The Vetmeduni Vienna is the only university for veterinary medicine in Austria. In Europe it counts among the leading veterinary medical research and education institutions; it is also one of the few veterinary universities to have been fully accredited (since 2013) by the quality assurance agency EAEVE, the European Association of Establishments for Veterinary Education.

Sites of the Vetmeduni Vienna



Inter-university and inter-institutional establishments

- Messerli Research Institute
  (together with the Medical University of Vienna and the University of Vienna)
- Graf Lehndorff Institute for Equine Science
  (together with the Brandenburg Stud Farm Foundation in Neustadt (Dosse), Germany)
- Inter-university Department for Agrobiotechnology – IFA Tulln
  (together with the University of Natural Resources and Life Sciences, Vienna and the Technical University of Vienna)

Some of the University's Sites

Photo: © Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

Photo: © Felizitas Steindl/Vetmeduni Vienna

Photo: © Johannes Zinner/Vetmeduni Vienna

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

1. Messerli Research Institute (Vienna, Floridsdorf)
2. Department for Integrative Biology and Evolution (Vienna, Ottakring)
3. Kremesberg Farm (Pottenstein, Lower Austria)
4. Campus (Vienna, Floridsdorf)
5. Satellite of the ornithological station (Seebarn/Grafenwörth, Lower Austria)
6. Reproduction Center Wieselburg (Wieselburg, Lower Austria)

5 Education

Education

Focus on students

Education at the Vetmeduni Vienna is focused on the students and oriented around clearly defined learning objectives. The result is graduates with a comprehensive skill set for meeting their professional challenges.

Veterinarians and scientists

The diploma degree programme in veterinary medicine prepares students for working in veterinary practice, in research or in industry. Thanks to the focus of the curriculum (in effect since 2014) on the essential competencies needed for practical and scientific endeavours, graduates are better prepared to take up their careers. Knowledge and skills are no longer taught separately according to disciplines like physics, biochemistry and anatomy, but in thematic aggregates such as breathing, locomotion or the immune system. Clinical education already starts in the first academic year. In order to deeply incorporate the concept of evidence-based medicine, the scientific education starts with the first semester. Students learn to evaluate publications in professional journals, plan veterinary medical studies and apply the basics of good scientific practice. They work on the University's research projects and thereby practice analysing and processing data.

A degree in veterinary medicine opens many doors to jobs in industry, veterinary practice and research.

Photos: © Öffentlichkeitsarbeit und Kommunikation/Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

Tests with a seal of quality

Interdisciplinary learning modules require new testing modalities. Major written tests are given through the electronic testing platform Q[kju:]-Online, thus warranting quality assurance. Educators teaching different subjects post questions for every learning objective. Every question undergoes a review process before it can be used on tests, whereby formal criteria (such as clear, unambiguous formulation, no trick questions, univocal solutions) as well as technical criteria (relevant questions with correct content, meaningful wrong answers as distractors) are assessed. The centralized platform allows test results to be analysed in a structured way and the pool of questions to be continually improved and developed.

Educators as learners

Changing the curriculum presents challenges for educators, since it calls for new teaching methods and didactic concepts. To ensure that educators – in addition to performing their customary tasks in research, clinical and committee work – stay on the ball as to the latest findings, the University supports them with continuing education offerings. The once-a-month “Impulse Breakfasts”, for example, provide valuable information about university teaching. They are recorded on video, so that interested parties can also watch the presentations at a later time.

First graduate in comparative morphology

In the summer of 2015, Krishna Priya Radhakrishnan of India was the first student to graduate from the Vetmeduni Vienna with a European master’s degree in comparative morphology of vertebrates (EUCOMOR). As foreseen in the international master’s programme validated and financed by the European Commission, she studied at a total of three of the five participating universities. Graduates in the field of comparative morphology are especially in demand in the pharmaceutical industry and at research institutions.

For more information on the master’s programme:

www.eucomor.net

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Researching teaching

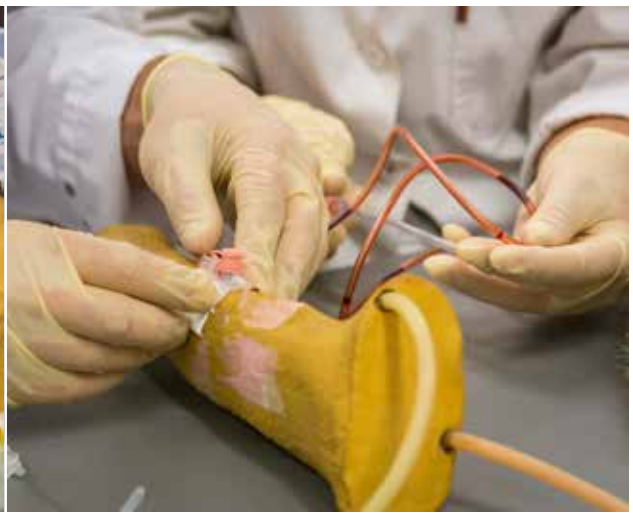
Universities are obligated to put public funds to the best possible use. The Vetmeduni Vienna invests in educational research to boost quality and efficiency in teaching.

With the so-called competence check, the Vetmeduni Vienna, guided by scientific input, established a quality assurance instrument for teaching. Implemented by the Vetmeduni Vienna to increase the competencies of its students, this concept of an annual evaluation has been undergoing further development since September 2015 in an EU-sponsored project. The recipe seems simple: Step 1 – stipulate the desired competency profile for graduates, Step 2 – assess how well these competencies are achieved through the coursework and Step 3 – fine-tune and continually improve. In reality though, the implementation of such a comprehensive quality management system is anything but simple. For this reason the Vetmeduni Vienna has made its experiences with the implementation available to other universities and also to quality assurance agencies through a new Erasmus+ project.

Dry runs with stuffed animals

Simulation-based learning has proven itself in clinical education most of all. Hence, the Vetmeduni Vienna provides its students with the well-equipped VetSim skills lab. At the many stations, prospective veterinarians – either autonomously or as part of a class – can practice their clinical skills, from changing bandages and suturing wounds all the way to intubation and ultrasound. Two scientific studies confirm that the effort is worthwhile: gynaecological exams on horses are more successful on a living animal if students have first practiced on equine dummies. Also, in the case of manual artificial respiration, students gained confidence during training on a canine dummy, before applying the technique in an emergency. Thus, training by means of dry runs brings advantages for people and animals: simulation-based learning is more efficient for students and advantageous in terms of animal welfare.

In the VetSim Skills Lab, students practice on plastic animal models and in this way, expand their practical skills.



Photos: © Michael Bernkopf/Vetmeduni Vienna

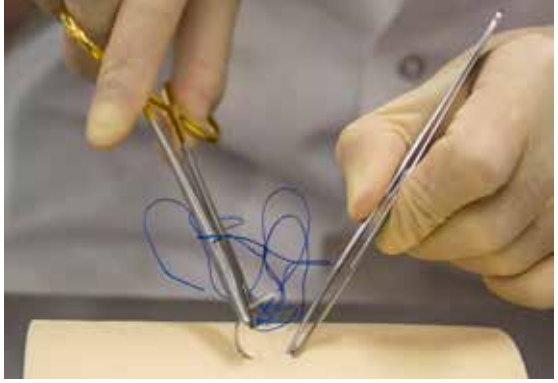


Photo: © Michael Bernkopf/Vetmeduni Vienna

Teaching Vets

When it comes to educating students of veterinary medicine, the Vetmeduni Vienna is supported by practicing veterinarians throughout all of Austria. The University has strengthened its collaboration with these instructors through a new programme. The Vetmeduni Vienna invited these external teaching resources to an education symposium on the campus in June 2015 and also to communications workshops held in Austrian states. On the one hand the aim was to exchange experiences about supervising students, and on the other to develop their teaching and communication skills. In addition, the University recognizes the best instructors with its Instructor of the Year award.

The winners of the 2015 Instructor of the Year award (shown with the Rectorate):

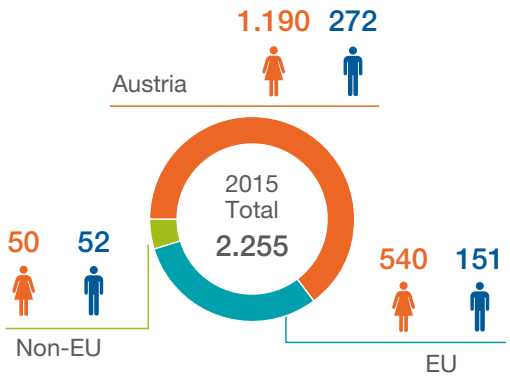
1. *Thomas Schwarzmann, Schwarzmann animal clinic (middle, l.)*
2. *Wolfgang Pasterk, Pasterk horse clinic (middle, r.)*
3. *Karin Rigo, Tierambulatorium Wienerberg (not pictured)*

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Graduates

2015	Women	Men	Total
Diploma programme in veterinary medicine	103	14	117
Bachelor's programme in biomedicine and biotechnology	20	5	25
Bachelor's programme in equine sciences	17	0	17
Master's programme in biomedicine and biotechnology	9	4	13
Doctoral programme	30	10	40
Total	185	33	218

Students by country of origin



Awards for teachers

Modern university teaching is oriented around competencies and centred on students. Educators who teach according to these principles and are particularly dedicated to their work are candidates for the Teacher of the Year award. Every year, out of its pool of over 350 teachers, the Vetmeduni Vienna selects the three most successful Junior Teachers (without habilitation) and Senior Teachers (with habilitation – authorization to teach at the University level). The Department of Cultural Affairs of the City of Vienna supports this awards programme with cash prizes.

Photos: © Ernst Hammerschmid/Vetmeduni Vienna

Photo (top): Junior Teachers of the Year with the Rectorate (from left: Joseph Godoy, Stefanie Gaisbauer, not pictured – Harald Pothmann)

Photo (bottom): Senior Teachers of the Year with the Rectorate (from left: Daniela Fux, Michael Leschnik, Reinhold Erben)

Photo: © Georges Schneider/Vetmeduni Vienna

New curriculum for biomedicine

Beginning in autumn 2016, the Vetmeduni Vienna's erstwhile master's programme in biomedicine and biotechnology will be offered with new content and under a new name. Infectious disease biomedicine and tumour signalling pathways will be the central topics of the master's in comparative biomedicine. Courses are held in English and prepare students for work in the pharmaceutical and biomedical industries, as well as at research organizations in the fields of oncology and immunology.

For more information on the master's programme:

www.vetmeduni.ac.at/en/studies/degree-programmes/masters-programme-comparative-biomedicine/

Awards for the best e-learning projects

The Vetucation® learning platform has been available to students and teachers for nearly a decade. Course materials, interactive teaching modules, videos and other materials can be uploaded onto the platform and used by students to prepare for and follow up on classes. Out of all the e-learning concepts, the best are honoured with the Vetucation® Award, given once a year.

Photo: © Felizitas Steindl/Vetmeduni Vienna

The winners of the 2015 Vetucation® Awards: Barbara Braus (ophthalmology at the Clinical Unit of Small Animal Surgery) and Bettina Wöchtl (University Clinic for Swine) (photo, from left: Mehrzad Hamzelo, Barbara Braus, Bettina Wöchtl, Angelika Falkensteiner)

Courses of study		Applicants			Admissions		
2015	Total	Women	Men		Total	Women	Men
D Diploma programme in veterinary medicine	1.410	1.120	290		215	160	55
B Bachelor's programme in biomedicine and biotechnology	142	105	37		29	23	6
B Bachelor's programme in equine sciences	91	89	2		34	33	1
M Master's programme in human-animal interactions	38	30	8		12	12	0
M Master's programme in biomedicine and biotechnology	56	38	18		13	11	2
Total	1.737	1.382	355		303	239	64

Admissions for the master's programme in wildlife ecology and wildlife management and the master's programme in comparative morphology are not administered by the Vetmeduni Vienna, so no data are available.

Awards for students

Exceptional student achievements deserve special recognition – from the University's management, as well as from external partners.

Students of the Year

Every year the top graduates in the respective course of studies receive the Student of the Year award from the Rectorate of the Vetmeduni Vienna. Assessment criteria are grade point average and duration of studies. In 2015 the winners were (from left): Judith Secklehner – diploma degree programme in veterinary medicine (the photo shows her proxy at the awards ceremony), Katharina Jakob – veterinary medicine, Marie-Theres Bartens – veterinary medicine, Tobias Hochstöger – bachelor's programme in biomedicine and biotechnology, as well as Annika Essigbeck – veterinary medicine

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Vetmeduni Success Scholarships

Graduates of the diploma degree programme in veterinary medicine, who are currently completing doctoral studies at the Vetmeduni Vienna, are eligible to apply for the Vetmeduni Success Scholarship. The selection process evaluates the scientific quality and relevance of the research projects. Particularly outstanding doctoral theses are supported by the University for one year with a sum of 15,000 euros. The winners of the 2015 scholarships are (photo, from left, with the Rectorate): Svenja Springer, Alexandra Schoos, Theresa-Anna Salaberger and Nikolaus Huber.

Photo: © Willy Haslinger/BMWFW

Award of Excellence

Every year the Federal Ministry of Science, Research and Economy honours the best Austrian doctoral and PhD students with its 3,000-euro Award of Excellence. At the Vetmeduni Vienna the award went to Hanna Koinig. She analysed the immune response against two significant pathogens in pigs: porcine circovirus type 2 and swine influenza virus type A. In the photo the awardee is shown with (from left): Alexander Marinovic (Ministry of Science) and her PhD advisers from the Institute for Immunology, Armin Saalmüller and Wilhelm Gerner.

Outstanding student prize

Once a year, the Federal Ministry of Science, Research and Economy recognizes the 50 best graduates of the academic year with its outstanding student prize and 3,000 euros. In 2015 Julia Stefanie Brunner was the top graduate at the Vetmeduni Vienna and was honoured (shown in the photo with Peter Wanka, Deputy Section Head of the Ministry of Science).

Photo: © BMWFW

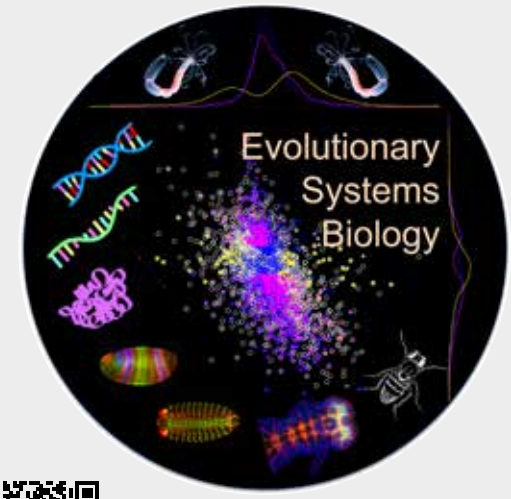
Photo: © David Frank/Vetmeduni Vienna

New master's programme in evolutionary systems biology

Beginning in the fall of 2016, in cooperation with the University of Vienna, the Vetmeduni Vienna will offer a new English-language master's programme in evolutionary systems biology. The emphasis will be on population genetics, quantitative biology and systems biology, as well as evolutionary developmental biology. This curriculum fosters the interdisciplinary linkages between biological disciplines with quantitative educational topics such as mathematics, statistics and information technology.

For further information on the master's programme:

www.vetmeduni.ac.at/en/studium/studien/evolutionaere-systembiologie-master/



Research

Research

Current Research Projects

Research at the Vetmeduni Vienna is wide-ranging. Here is a selection of new projects begun in 2015 drawn from all fields.

The effects of mould in animal feed

Grains are often contaminated with moulds, which can produce mycotoxins. The mycotoxin deoxynivalenol (DON) represents a health risk for people and animals. The effects of the toxin in humans are nausea and vomiting. Farm animals – such as chickens – that have ingested DON-contaminated feed show inhibited growth and changes in their immune systems. DON damages the protective cell layers of the intestines and leads to reduced uptake of nutrients. A longer term exposure to the toxin increases susceptibility to immune system disorders. With support from funding from the Austrian Research Promotion Agency (FFG), **Josef Böhm** of the **Institute of Animal Nutrition and Functional Plant Compounds** is studying the effects of mycotoxins in an experimental model using broiler chickens. In connection with this endeavour, he is examining the impact of feed additives that inhibit the toxin and thus improve the health of chickens.

Photo: © Georg Mair/Vetmeduni Vienna

Genetically decoding sage's quality

Due to their variable genetic make-up, plants of the same type can develop wholly differing compositions of ingredients. Such a composition is called the "chemotype". **Johannes Novak** and his colleagues at the **Institute of Animal Nutrition and Functional Plant Compounds** are tracking down the various chemotypes of common sage (*Salvia officinalis*). Sage is an important medicinal and aromatic plant, whose essential oil exhibits different chemotypes. To discover more about the genetic basis of the various chemotypes, these researchers are engaged in a project sponsored by the Austrian Science Fund (FWF) to find and analyse those DNA mutations that alter the chemotype of the plant. Potentially toxic components in sage oil are also planned to be evaluated using this method. The results of the project ought to make it possible in the future to develop DNA tests allowing the quality of the plant material to be determined without chemical analysis.

Photo: © Georg Mair/Vetmeduni Vienna

Photo: © Heike Hochhauser/Vetmeduni Vienna

A hotspot for change

Listeria (L.) monocytogenes is the pathogen that causes listeriosis, a rare but very serious infectious disease in humans and animals. Most often the bacteria are introduced into the body through contaminated food products. Listeria are very stress resistant and can survive for months or even years at processing facilities. Genome analyses show that listeria have so-called genetic hotspots. These are alterable areas of the genome that endow the bacteria with a survival advantage. However, the function of most of the genes in these hotspots is still unknown. **Kathrin Kober-Rychli** of the **Institute of Milk Hygiene** is investigating these hotspots in the framework of a project supported by the Austrian Science Fund (FWF). Her goal is to clarify what role the genetic hotspot *lmo0443-lmo0449* plays in the pathogen *L. monocytogenes's* survival under extreme stress conditions, in its virulence and its pathogenicity.

Photo: © Heike Hochhauser/Vetmeduni Vienna

The Core Facility for Research at the Vetmeduni Vienna

Expensive capital equipment with long user familiarization periods is essential for the successful realization of many research projects. To optimize the capacity of such equipment, the Vetmeduni Vienna is making state-of-the-art technology centrally available through its VetCore technology platform. In 2015 a latest-generation mass spectrometer for performing more precise and faster protein analyses joined the micro-CT scanner, high-resolution microscopes and others.

For further information on VetCore Core Facility for Research:

www.vetmeduni.ac.at/vetcore

The new mass spectrometer saves one step of the time-consuming sample preparation.

Photo: © Stefan Kummer/Vetmeduni Vienna

Photo: © Konrad-Lorenz-Institut für Vergleichende Verhaltensforschung/Vetmeduni Vienna

I'll sing you a song

Male house mice produce sounds in the ultrasound spectrum that are amazingly complex and similar to birdsong. The evolutionary function of this singing is still unclear. **Dustin Penn** of the Vetmeduni Vienna's **Konrad Lorenz Institute of Ethology** has conducted initial studies about the songs of wild mice and found that males primarily produce these sounds for females. The females are attracted by the calls, especially when the sounds emanate from males they are not related to. Now, in a further project sponsored by the Austrian Science Fund (FWF), Penn and his colleagues are exploring how mice employ these vocalizations. It is possible that females use them to evaluate their potential mating partners. For males, the songs might represent a competitive advantage against other rivals. The experiments on wild mice are important for basic research about sexual selection, neurological illnesses, behavioural disorders, communication and the well-being of animals.

Photo: © ir717/shutterstock.com

Photo: © Georg Mair/Vetmeduni Vienna

The immune system as a defence against cancer

The immune system plays a decisive role in the genesis and treatment of cancer. The newest findings point to a link between the recurrence of leukaemia and the activity of certain immune system cells, the so-called natural killer (NK) cells. In the framework of a project supported by the Austrian Science Fund (FWF), **Veronika Sexl** and her team at the **Institute of Pharmacology and Toxicology** are investigating this possible link. One of the research questions asks whether NK cells actually are capable of detecting and destroying leukaemia stem cells, and thus preventing disease recurrence. Moreover, the researchers want to study whether the CDK8 molecule in natural killer cells could represent a therapeutic target molecule for the treatment of cancer. Previous studies from Sexl's group have demonstrated that CDK8 phosphorylates a STAT protein in NK cells, thereby reducing NK cell activity and blocking tumour defence. Inhibiting CDK8 could significantly improve tumour defences.

Photo: © Andrius Pasukonis

Studying the flexibility of poison frogs

Recognizing changes in the environment and reacting appropriately is fundamental to flexible behaviour. In the framework of a Hertha Firnberg scholarship awarded by the Austrian Science Fund (FWF), **Eva Ringler** of the **Messerli Research Institute** is researching this flexibility in poison frogs. Using the brilliant-thighed poison frog (*Allobates femoralis*) as an example, she is studying which external factors – e.g., the calls of the males – elicit brood care behaviour in females. Studies on mammals, including humans, have shown that stereotypical and flexible behaviour show up in different regions of the brain. Using functional magnetic resonance imaging, Ringler is investigating these differences in brain activity in the frog species *Rana pipiens*. The results should deliver fundamental insights about the neuronal structures in vertebrates that are the prerequisite for the development of flexible behaviour.

Photo: © Alexandru Munteanu

Opening of the BiMM research platform

On 18 November 2015, the Vetmeduni Vienna and the University of Natural Resources and Life Sciences, Vienna (BOKU) launched the joint research platform "Bioactive Microbial Metabolites" – BiMM for short – at the Tulln research site in Lower Austria, where research will be conducted on new active compounds derived from bacteria, fungi, algae and other organisms. Possible applications of these bioactive substances are: antibiotics, medicinal compounds, biocatalysts or substances that can be deployed as plant protection agents and used in environmental biotechnology.

Photo: © Fischer-Media.at

The photo shows the scientific team and the honorary guests – Erwin Pröll, Governor of Lower Austria; (middle, and continuing to the right): Sonja Hammerschmid, Rector of the Vetmeduni Vienna; Martin Gerzabek, Rector of the University of Natural Resources and Life Sciences, Vienna (BOKU); Elmar Pichl, Section Head of the Federal Ministry of Science, Research and Economy; and Josef Glößl, Vice-Rector of the University of Natural Resources and Life Sciences, Vienna (BOKU).

Photo: © Georg Mair/Vetmeduni Vienna

Tests for food safety

Bacillus cereus bacteria are among the pathogens most frequently linked to food-borne infections. Even where good hygiene practices are followed, the complete avoidance of *B. cereus* in foodstuffs is often not possible, hence differential diagnostic methods are often needed to come up with concrete estimations of the health risks. **Monika Ehling-Schulz** of the **Institute of Microbiology** and her colleagues are working to develop highly specific tests for assessing the toxic potential of these bacteria, in order to differentiate between morbid and harmless strains of *B. cereus*. Since enterotoxic *B. cereus* bacteria only form toxins once in the intestines, its toxic potential is dependent upon the interaction of the pathogens with the host cells in the intestines, as well as with the foodstuffs consumed. For this reason, the aim of the research project is to carry out a comprehensive analysis of all risk factors. Only in this way will it be possible in the future to determine whether an affected food product can be sold or not.

Plant power against infectious diseases

Leishmaniasis is an infectious illness caused by a single-celled parasite and transmitted by the sand fly. At this time it occurs in 98 countries, but is expanding its reach globally due to climate change. More and more, leishmaniasis is becoming a global health problem for people and animals. Ascaridol, an active compound derived from the essential oils of certain plants in the *Chenopodium* family, has already been successfully tested in the experimental treatment of leishmaniasis in mice. It is not yet clear how this active substance works, however. **Lars Gille** of the **Institute of Pharmacology and Toxicology**, in a project funded by the Austrian Science Fund (FWF), is studying how ascaridol works at a molecular and a cellular level in single-celled parasites. The mechanism of action ultimately identified should contribute to being able to use ascaridol and new synthetic derivatives as effective remedies against leishmaniasis.

Photo: © Georg Mair/Vetmeduni Vienna

Genetic pest control

Pest control in agriculture is an important factor for safe and sustainable food production. The deployment of natural enemies is an especially sustainable strategy as opposed to the use of pesticides. Moreover, the EU is continually tightening its regulations on the use of chemical agents. To increase the efficiency of these natural enemies, **Christian Schlötterer** of the **Institute of Population Genetics** is working on their genetic optimization. The aim of the BINGO (Breeding Invertebrates for Next Generation BioControl) training network is to educate young researchers in the areas of genome analysis, breeding, monitoring and performance of the deployed organisms. New knowledge, innovative approaches and guidelines for handling natural enemies in pest control endeavours are the anticipated result.

Photo: © Michael Bernkopf/Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

How tendons regenerate

Tendons do not completely regenerate after an injury, but instead form inferior scar tissue with clearly compromised elasticity. This is why the re-injury rate is high exactly in these areas. Therefore, people – just like horses – who have suffered a tendon injury often must end their sports career prematurely. **Florien Jenner** and her colleagues at the **Clinical Unit of Equine Surgery** want to change this and are researching the healing mechanisms of tendons in foetal and adult animal tissue. Foetal tissue is known to be able to regenerate completely and without scarring. Which factors contribute to tendon healing at what time and to what degree is what Jenner and her colleagues want to study in a project funded by the Austrian Agency for International Cooperation in Education and Research (OeAD).

Bundled ornithology

In 2015 Austria, like all other European countries, set up an ornithological station, namely at the Vetmeduni Vienna. Under the supervision of Professor **Leonida Fusani** of the **Konrad Lorenz Institute of Ethology**, the ornithological station centrally documents all data about migratory birds and bundles Austria's avian research. The opening in November 2015 of the satellite in Seebarn/Grafenwörth in the province of Lower Austria has made it possible to implement the planned Citizen Science projects, wherein the public can participate. In banding migratory birds or bird watching – volunteers are the key to success.

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Honorary guests at the opening (from left): Alfred Riedl, mayor of Seebarn/Grafenwörth; Rector Sonja Hammerschmid; Department Speaker Walter Arnold; Leonida Fusani, head of the ornithological station (all three from the Vetmeduni Vienna); Erwin Pröll, Governor of Lower Austria; Otto Doblhoff-Dier, Vice-Rector for Research at the Vetmeduni Vienna; Christian Smoliner, Undersecretary, Federal Ministry of Science, Research and Economy

Restructured doctoral smithy

Any graduate who wants to enter into a research field goes on to get a PhD or a doctorate. The Vetmeduni Vienna uses standardized methods to prepare the next generation of students to take up scientific careers.

Earn a doctorate

A PhD project must be relevant and publishable in order to be positively evaluated. Successful external review of research projects for the doctor of philosophy or the classical doctorate is the prerequisite for getting the green light from the PhD Curricular Commission. In 2015 the Commission approved about 30 project proposals for research topics in veterinary medicine, biomedicine and related disciplines.

After the structured PhD programme, up-and-coming scientists supplement their research work with courses in scientific practice and laboratory methods, develop their soft skills, participate in so-called Journal Clubs, where they engage in discussions about current scientific publications, and assist with teaching. These graduate students are supported by two supervisors for the entire duration of their scientific studies. Completing the degree requires a positively reviewed PhD thesis, as well as at least two publications in peer-reviewed journals.

Infectious disease medicine

In addition to the general topics for the PhD programme, the Vetmeduni Vienna also offers two specialized doctoral colleges. The Graduate School for Pig and Poultry Medicine (PaP) bundles subject-specific expertise about infectious disease medicine in pigs and poultry. Two University Clinics and four Institutes participate in the externally evaluated education of nearly 20 doctoral students. In addition to supervising students, the college regularly organizes seminars with top-notch international lecturers, hosts retreats for members and organizes professional symposia. The unique post-graduate education has been well received across Austria's borders, as evidenced by the international group of dedicated young researchers.

Also sought after are spots in the Vienna Graduate School of Population Genetics, which are co-funded by the Austrian Science Fund (FWF). The Vetmeduni Vienna, in cooperation with the University of Vienna and the Academy of Sciences, offers an interdisciplinary education in theoretical and population genetics.

Photo: © Michael Bernkopf/Vetmeduni Vienna

Dr. or PhD?

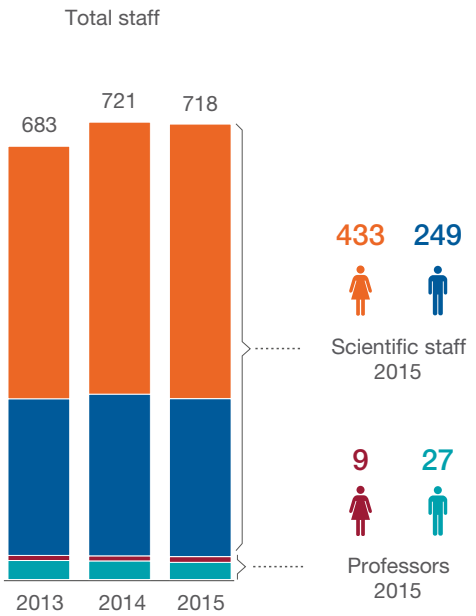
The University offers veterinarians a doctoral and a PhD programme. Those who envision professional careers in veterinary practice often decide on a doctorate. The educational programme is more focussed on clinical practice and bestows the doctor title coveted for daily life as a veterinarian. The PhD programme is more oriented towards research and results in the internationally known Doctor of Philosophy (PhD) title. Both programmes last three years.

For more information about the PhD programme:

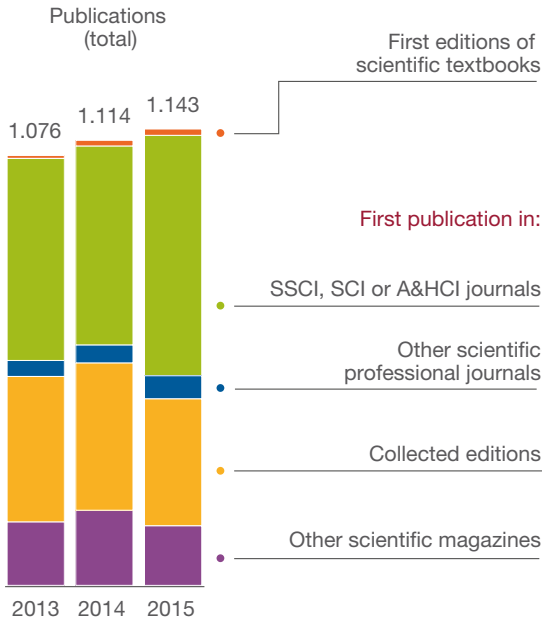
www.vetmeduni.ac.at/phd

Photo: © Felizitas Steindl/Vetmeduni Vienna

Scientific staff



Scientific publications



VETMED – The Magazine

How is surgery performed on a fish? What does the balance sheet look like ten years after the Federal Act on the Protection of Animals was passed? Why does the University operate a veterinary medical tissue database? Who recently graduated? VETMED informs readers about these and many other topics having to do with research, academics, practice and the University. The University magazine is published four times a year (in German only) and, in addition to people affiliated with the University, its readership includes veterinarians and animal owners, as well as alliance partners throughout all of Austria.

Science for all

Researchers share their findings with other scientists through professional journals and conferences. But new insights are also of interest to a lay audience. The Vetmeduni Vienna's PR efforts ensure that all interested parties get glimpses into the University's research endeavours.

The 250th jubilee of the University of Veterinary Medicine, Vienna presented a welcome occasion for redoubling its efforts to make its research endeavours accessible to interested parties in the general public. The Vetmeduni Vienna views itself as an important driver of research and development and defines its role as a responsible social actor in this way. "Responsible Science", meaning the linkage between science and society, has been a leitmotif for 250 years for Austria's only university specializing in veterinary medicine. This was also reflected in the jubilee motto "Responsibility for Animals and People". With a series of new and established events the Vetmeduni Vienna brought together researchers with research enthusiasts.

Encounters with researchers

At the **Science Café** at the Open House in May 2015, visitors could directly confront experts with their questions in a cosy coffeehouse atmosphere. The topics represented by the scientists attending ranged from challenges in equine anaesthesia to the mouse as a model for diseases in humans, killer cells in tumour defence to communication among alpine parrots.

Photo: © Thomas Suchanek/Vetmeduni Vienna

Photo: © Tirza Podzeit/Wirtschaftsagentur Wien

The Vetmeduni Vienna was present again with contributions to the **Vienna Research Festival** at the Naschmarkt. Under the banner "Science to Product", the University's inventors presented their products: for example, a commercially available medicinal paste to combat liver flukes, a parasite affecting lamas and alpacas, as well as a prototype for "The Ball", a simple, innovative tool for testing riding surfaces.

Photo: © Barbara Mair

For children between the ages of seven and twelve, who are already deeply interested in research, the **Children's University**, held in July in Vienna, is the best summer event. The Vetmeduni Vienna again participated in the initiative this year and discussed questions about animals, foodstuffs and research laboratories with around 1,600 inquisitive young students.

At the **Science Slam @Vetmeduni Vienna** in October 2015, young scientists introduced their research areas in engaging, illustrative short presentations of no more than eight minutes. The audience voted for the most entertaining and understandable slam via live voting and chose the winners. For more, see page 56.

Photo: © Thomas Suchanek/Vetmeduni Vienna

Public Relations

2015

59 press releases

Uni-Campus

116 campus tours with a total of **2.400** participants

9 booths at academic fairs or animal shows

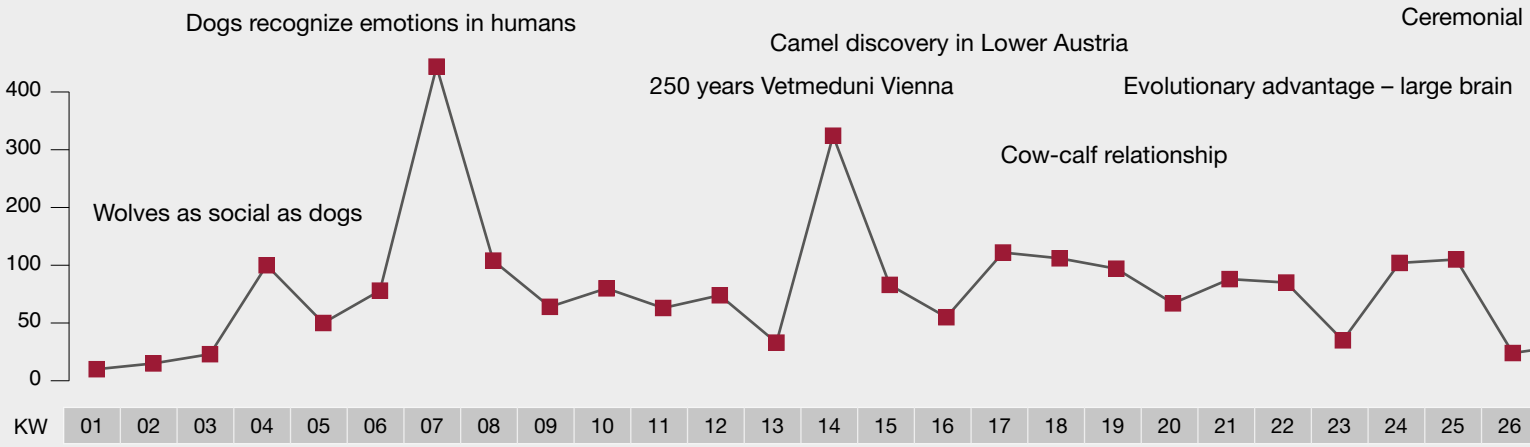
4 editions of the University Magazine VETMED

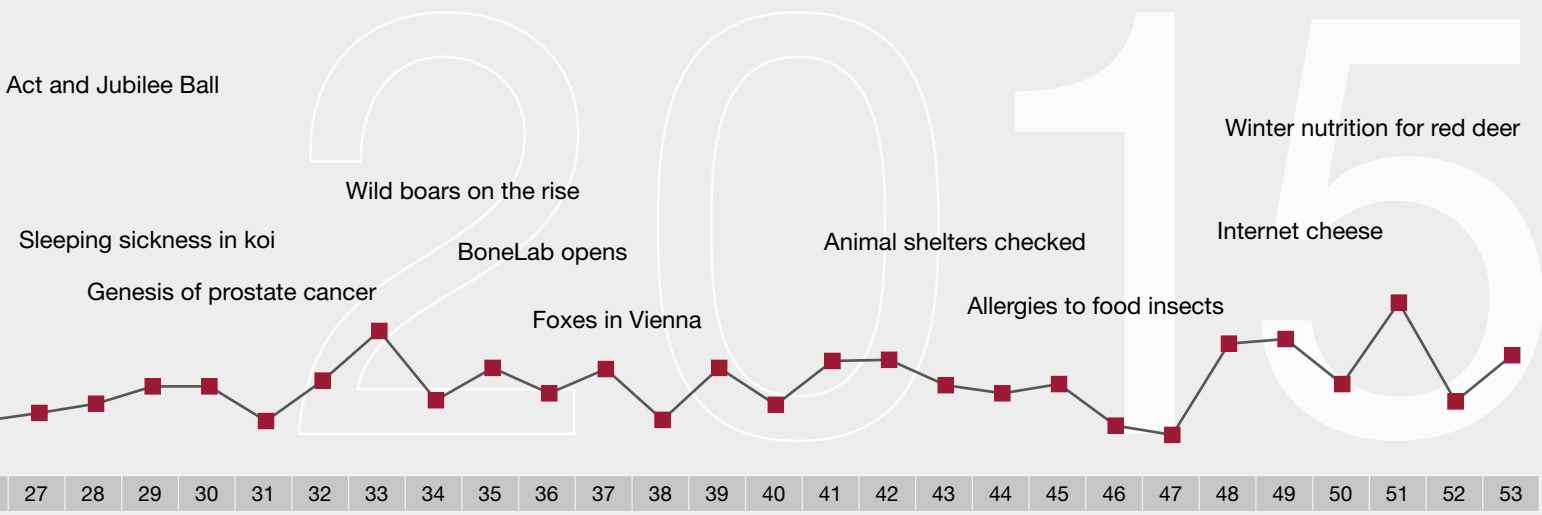
More than **5.000 fans** on Facebook

About **80 folded brochures**

Media presence 2015

In 2015 the Vetmeduni was a continual presence in the international online media.
Press releases about behavioural research on dogs led to peaks, as did reporting about the jubilee year.

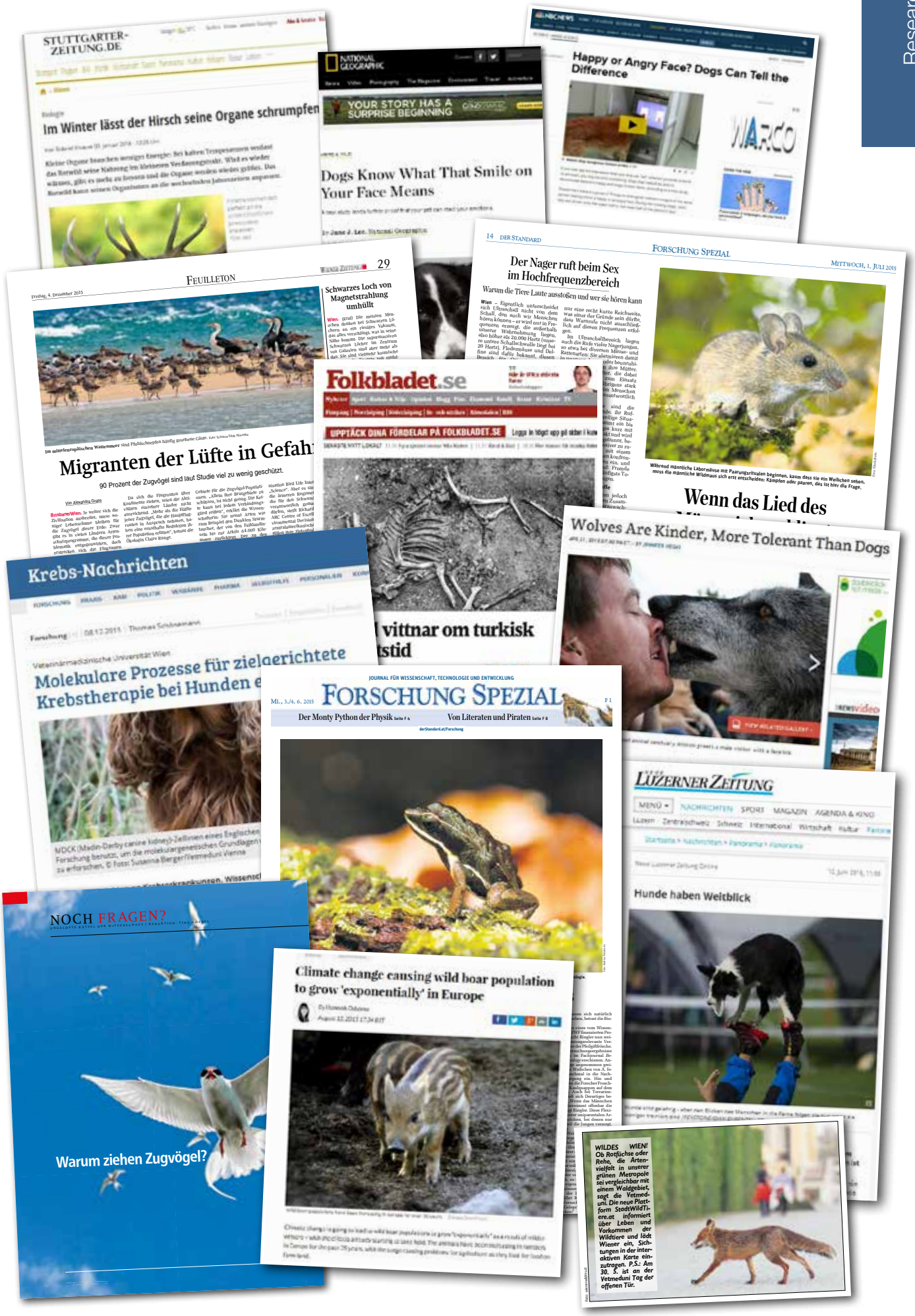




Number of press clippings online, worldwide (Source: Meltwater)

Media resonance

In 2015 newspapers, television and radio stations all over the world reported on the Vetmeduni Vienna. The jubilee year was the main topic giving rise to reporting, but so were the scientific findings of University researchers.


STUTTGARTER-ZEITUNG.DE
Im Winter lässt der Hirsch seine Organe schrumpfen
NATIONAL GEOGRAPHIC
YOUR STORY HAS A SURPRISE BEGINNING
Dogs Know What That Smile on Your Face Means
Happy or Angry Face? Dogs Can Tell the Difference
WARCO
FEUILLETON
Freitag, 4. Dezember 2015
Schwarzes Loch von Magnetstrahlung umhüllt
Migranten der Lüfte in Gefah
90 Prozent der Zugvögel sind laut Studie viel zu wenig geschützt.
14 DER STANDARD
FORSCHUNG SPEZIAL
MITTWOCH, 1. JULI 2015
Der Nager ruft beim Sex im Hochfrequenzbereich
Warum die Tiere Laute ausstoßen und wer sie hören kann
Während männliche Labormäuse mit Paarungsritualen beginnen, kaum dass sie ein Weibchen sehen, muss die männliche Wildmaus sich erst entscheiden: Kämpfen oder paaren, das ist hier die Frage.
Wenn das Lied des
Folkbladet.se
UPPTÄCK DINA FÖRDELAR PÅ FOLKBLADET.SE
vittnar om turkisk
tstid
Krebs-Nachrichten
Molekulare Prozesse für zielgerichtete Krebstherapie bei Hunden e
Wolves Are Kinder, More Tolerant Than Dogs
JOURNAL FÜR WISSENSCHAFT, TECHNOLOGIE UND ENTWICKLUNG
FORSCHUNG SPEZIAL
Der Monty Python der Physik
Von Literaten und Piraten
derStandard.at/Forschung
LUZERNER ZEITUNG
Hunde haben Weitblick
NOCH FRAGEN?
Warum ziehen Zugvögel?
Climate change causing wild boar population to grow 'exponentially' in Europe
WILDES WIEN! Ob Rotfüchse oder Rehe, die Artenvielfalt in unserer grünen Metropole sei vergleichbar mit einem Waldgebiet, sagt die Vetmeduni. Die neue Plattform StadtWildTiere.at informiert über Leben und Vorkommen der Wildtiere und lädt Wiener ein, Sichtungen in der interaktiven Karte einzutragen. P.S.: Am 30. 5. ist an der Vetmeduni Tag der offenen Tür.

Research projects at a glance

In 2015 many project proposals submitted by scientists at the Vetmeduni Vienna received funding. These are the new projects:

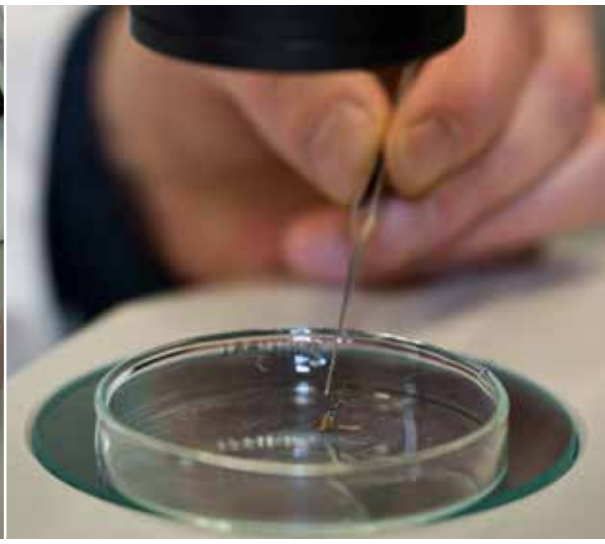
Funding agency	Title	Project leader
Alpaca Association Austria	Effect of different fixation and shearing methods on behavior and stress response in alpacas	Thomas Wittek
Bank Austria	The effects of post learning activity on memory in dogs	Nadja Affenzeller
BMWi	Enteropathogenic *bacillus cereus* in food: Identification and risk assessment	Monika Ehling-Schulz
BMWi	Alpine Nature 2030 – New ways for the next generation	Chris Walzer
Bruns Foundation	Monitoring of heart rate and oxygen saturation in calves during birth, using wireless sensortechnology to reduce rate of stillbirths	Marc Drillich
EU – Horizon 2020	Evolution of the thermal plasticity of gene expression: a reverse evolution using *Drosophila simulans*	Francois Mallard
EU – Horizon 2020	Breeding Invertebrates for next Generation BioControl	Christian Schlötterer
Fellinger Cancer Research	CDK 6 – a novel angle to target FLT3 in Acute myeloid leukemia (AML)	Iris Uras
FFG	Birth-monitoring by use of motion sensor	Marc Drillich
FFG	Development of a chicken model to study the effects of deoxynivalenol and counteracting feed additives	Josef Böhm
FFG	Praise versus punishment. New ways of training police dogs.	Gerhard Loupal
FFG	Integrated sustainable management of wild ungulates in mountain ecosystems	Walter Arnold
FFG	Integrated red deer management: networking strategy among forestry, agriculture, hunting and tourism	Walter Arnold
FWF	Early Determinants of DNA-Virus Lytic or Latent Infection – eDEVILLI	Mathias Müller
FWF	CDK 8 – a weapon to arm NK cells against leukemia	Veronika Sexl
FWF	Triggers and targets of ascaridole action in Leishmania	Lars Gille
FWF	Mimotopes as targets for pathogenic aquaporin 4-specific autoantibodies in neuromyelitis optica	Georg Duscher
FWF	Host factors contributing to *Yersinia ruckeri*`s invasiveness	Simon Menanteau-Ledouble
FWF	Genotype to Chemotype Analysis in Sage (*Salvia officinalis L.*)	Johannes Novak
FWF	Hypervariable genetic hotspots in *Listeria monocytogenes*: The role of the Imo0443-Imo0449 hotspot in stress response and virulence	Kathrin Rychli
FWF	Adaptive functions of ultrasonic vocalizations in male mice	Dustin Penn
FWF (Hertha-Firnberg)	Behavioural flexibility in anuran amphibians	Eva Ringler
FWF (Science Communication Programme)	Camel Science & You-tube	Pamela Burger
Herzfelder´sche Family Foundation	Neuroprotective effects of Phytocannabinoids: Interaction with Mitochondria modulate neuronal heme degradation pathway	Rudolf Moldzio

Photo: © Heike Hochhauser/Vetmeduni Vienna

Funding agency	Title	Project leader
Leibniz-Society	Aquavir: Water as an aquatic viral vector for emerging infectious diseases	Chris Walzer
Lower Austrian Hunting Association	Parasites in free-living game in lower Austria: food safety and food security	Peter Paulsen
OeAD	Tendon injuries – scaring repair and scarless regeneration	Florien Jenner
OeAD	Capacity development in poultry technology, production and health towards improvement of livelihoods in Eastern Africa	Basel Khayal
Styrian Animal Health Service	Study of occurrence of anthelminthic resistance in Austria and identification of the dynamic based on selected sheep farms	Reinhild Krametter-Frötscher
WKW	Microbial safety of ethic foods	Beatrix Stessl
ZIT	Immunotherapy of equine tumours	Sabine Brandt

N.b.: This table shows those research projects that were granted funding in 2015. Due to confidentiality clauses, not all projects can be publicized.

BMWi	German Federal Ministry for Economic Affairs and Energy
FFG	Austrian Research Promotion Agency
FWF	Austrian Science Fund
NÖ	Province of Lower Austria
OeAD	Austrian Agency for International Mobility and Cooperation
WKW	Economic Chamber Vienna
ZIT	Vienna Business Agency



Photos: © Michael Bernkopf/Vetmeduni Vienna

Timeline

A selection of scientific conferences organized in 2015 by researchers of the Vetmeduni Vienna:

13.-14. April: Cell therapy symposium

With the motto “The Fountain of Youth”, the Vetmeduni Vienna set the tone for the annual meeting of the Platform for Advanced Cellular Therapies (PACT), a network for research and knowledge transfer composed of: Vetmeduni Vienna, Medical University of Vienna, University of Natural Resources and Life Sciences, Vienna (BOKU), Ludwig Boltzmann Institute for Experimental and Clinical Traumatology, Danube University Krems and the blood bank of the Red Cross of Linz.

7. May: Animal welfare conference

The annual conference of the Austrian Veterinarians for Animal Welfare (ÖTT), held in the Banquet Hall of the Vetmeduni Vienna, was dedicated to the topic “Suffering caused by unmet needs”.

12.-16. July: Evolution researchers in Vienna

For the first time, the annual meeting of the Society for Molecular Biology and Evolution (SMBE) took place in Vienna. Organized by the Institute for Population Genetics, the symposium – with 1,500 researchers, 340 presentations and 750 scientific posters – was the largest annual meeting of the SMBE thus far.

Scientists from 24 countries, who are active in the field of veterinary immunology, exchanged experiences at the European Veterinary Immunology Workshop (EVIW), held in September on the campus of the Vetmeduni Vienna.

Photo: © Manuel Knoflach-Schrott/Vetmeduni Vienna

Photo: © Felizitas Steindl/Vetmeduni Vienna

2.-4. September: Veterinary immunology conference

240 scientists in the field of veterinary immunology took part in the European Immunology Workshop (EVIW) at the Vetmeduni Vienna; with 40 presentations and 114 poster contributions, it covered more than a dozen kinds of animals.

16.-20. September: Eurasia-Pacific Uninet

150 representatives from universities in Asia and Europe, from Austrian ministries, as well as ambassadors came together at the plenary meeting of the Eurasia-Pacific Uninet (EPU) in Vienna.

17.-18. September: VEthics for Vets

The international conference at the Vetmeduni Vienna was the capstone for a multi-year project on the topic of ethics in public health veterinary practice carried out by the Messerli Research Institute.

24. September: Conference on free-range husbandry

The conference of the International Society of Livestock Husbandry was dedicated to the topic “Better handling of (male) livestock”.

5.-6. November: Meteorologist conference

The annual conference of the Austrian Society for Meteorology took place on the campus of Vetmeduni Vienna for the first time. It was organized by the Climate Change and Infectious Diseases working group of the Institute of Veterinary Public Health.

Photo: © Michael Bernkopf/Vetmeduni Vienna

On the campus of the Vetmeduni Vienna, a weather station feeds data into the monitoring network of the Austrian Centre for Meteorology and Geodynamics (ZAMG) every day.

Prizes for Researchers

Internal Prizes

Prize	Person	Organizational Entity
Highest proportion of third-party funding – Staff of the non-clinical Institutes over 35 years of age	Sabine Brandt	Clinical Unit of Equine Surgery
Highest proportion of third-party funding – Staff of the non-clinical Institutes under 35 years of age	Kathrin Rychli	Institute of Milk Hygiene
Highest proportion of third-party funding – Staff of the Clinics over 35 years of age	Miriam Kleiter	Radiooncology and Nuclear Medicine Platform
Highest proportion of third-party funding – Staff of the Clinics under 35 years of age	Kumar Gokhlesh	Clinical Unit of Fish Medicine
Inventor of the Year – Soft-IP	Johannes Khol	Clinical Unit of Ruminant Medicine
Inventor of the Year – Hard-IP	Monika Ehling-Schulz Tom Grunert	Unit of Functional Microbiology
Major project funding	Martin Wagner	Institute of Milk Hygiene
Scientific citations – Staff of the non-clinical Institutes over 35 years of age	Christian Schlötterer	Institute of Population Genetics
Scientific citations – Staff of the non-clinical Institutes under 35 years of age	Svetlana Slavic	Unit of Physiology, Pathophysiology, and Experimental Endocrinology
Scientific citations – Staff of the Clinics over 35 years of age	Michael Hess	Clinical Unit of Poultry Medicine
Scientific citations – Staff of the Clinics under 35 years of age	Kumar Gokhlesh	Clinical Unit of Fish Medicine

Photo: © Frauke Léjeune/Vetmeduni Vienna

External scientific prizes

Prize	Person	Organizational Entity
Armin Tschermak von Seysenegg Prize of the Society of Friends of the Vetmeduni Vienna	Eva Maria Putz	Institute of Pharmacology and Toxicology
Award of Excellence of the Austrian Federal Ministry of Science, Research and Economy	Hanna Koinig	Institute of Immunology / University Clinic for Swine
Bank Austria Research Prize	Nadja Affenzeller	Clinical Unit of Internal Medicine Small Animals
Best diploma thesis, awarded by the Austrian Buiatric Society (ÖBG)	Regina Wald	University Clinic for Ruminants / Institute of Milk Hygiene
"Best of the Best" Prize of EU-LIFE	Petra Kaczensky, Chris Walzer and Gerhard Fluch	Research Institute of Wildlife Ecology
Best Paper award at the European Conference on Precision Livestock Farming	Maciej Oczak	Institute of Animal Nutrition and Functional Plant Compounds
Honorary Lecture (Avian Pathology Lecture) at the World Veterinary Poultry Association	Dieter Liebhart	Clinical Unit of Poultry Medicine
Immuno Tools Special Award	Alexandra Schoos	Institute of Pharmacology and Toxicology
Junior Scientist Prize of the Veterinary Journals	Karen Wagener	Unit of Functional Microbiology / Clinical Unit of Herd Health Management for Ruminants
Most cited paper in the Journal of Dairy Science	Qendrim Zebeli	Institute of Animal Nutrition and Functional Plant Compounds
Natural sciences award of the City of Vienna	Eva Ringler	Messerli Research Institute
PCV2 Research Prize from Boehringer Ingelheim	Hanna Koinig, Wilhelm Gerner and Armin Saalmüller	University Clinic for Swine and Institute of Immunology
Prize of the German Society for Practicing Veterinarians (BPT), Swine Specialty Section	Anne Kahler	University Clinic for Swine
Research stipend of the Lower Austrian Farmers Alliance	Evelyne Mann-Selberherr Karen Wagener	Institute of Milk Hygiene Clinical Unit of Herd Health Management for Ruminants
Young Investigator Award at the Charles Rodolphe Brupbacher Foundation Symposium	Jan Pencik	Unit of Pathology of Laboratory Animals

Photo: © Felizitas Steindl/Vetmeduni Vienna

A bowling ball as a tool for testing riding surfaces

This invention of the University Equine Clinic looks unspectacular, but has got what it takes: A bowling ball outfitted with sensors is designed to protect horses from overly hard surfaced and thus safeguard them against joint injuries. Its inventors Johannes Schramel and Christian Peham use the ball to measure the elastic properties of riding surfaces. They do this by letting the bowling ball fall to the ground and measuring the forces released upon impact. Dropping the ball from various heights simulates the different gaits of horses. Compared to the measurement instruments available until now, this surface tester is inexpensive and portable due to its low weight.

For more information about “The Ball”, view this video:
https://www.youtube.com/watch?v=ZQ08ZPXObuo

Photo: © Vetmeduni Vienna

University Clinics

University Clinics

State-of-the-art medicine for animals

365 days a year, 24 hours a day the specialists at the University Clinics of the Vetmeduni Vienna care for sick and injured animals. Prevention, diagnostics and treatment are done in accordance with the latest findings in clinical research.

Whether turtle or horse, animals with feathers or scales – whatever type of animal is in need of medical care – the five University Clinics are at the ready. Around 50,000 patient visits were recorded at the University Clinics in 2015. Most of these were small animals, especially cats and dogs. About a third of all patients received inpatient treatment. A specialized service offering is available for emergencies during the night and on weekends and holidays.

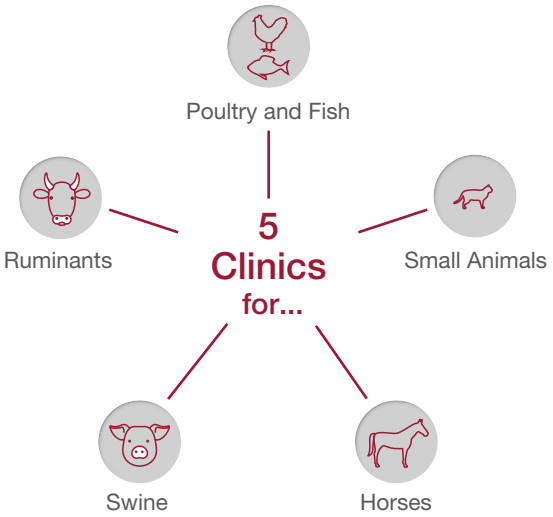
Clinics, Research and Teaching

In addition to their clinical work and research, veterinarians and their assistants at the University Clinics perform important functions in teaching. Since all students of veterinary medicine complete significant parts of their practical education at the University Clinics, they need expert guidance and supervision. The residents too, who focus on a specialty sub-

State-of-the-art medicine for large and small animals is available all year at the University Clinics of the Vetmeduni Vienna.

Photos: © Michael Bernkopf/Vetmeduni Vienna

University Clinics



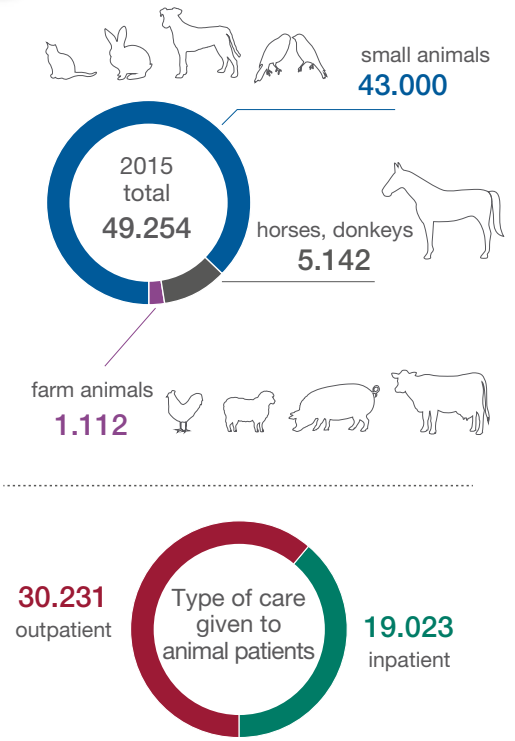
ject in veterinary medicine upon completion of the basic education, find the facilities offered by the University Clinics to be ideal premises for their education. Nowhere else are the infrastructure for patient examinations and the treatment methods so comprehensive, the caseload so diverse and the density of subject matter experts so high as at the University Clinics.

The residents are supervised by internationally recognized professional veterinarians, the so-called diplomates, of whom 70 were employed by the University in 2015. The residency programmes adhere to unified European educational standards defined by the European Colleges for Veterinary Specialisation. The Vetmeduni Vienna offers a residency programme in 14 different subject areas, each accredited by the respective College.

Quality assurance in patient care

The increasing caseload of animal patients requires continuous improvements and more efficient service. Organizational restructuring has improved procedures at the emergency room of the University Clinic for Small Animals; a remodelling of the facilities is planned. In order to guarantee high quality, the University Clinics and diagnostic services of the Vetmeduni Vienna rely on external certification. Numerous service offerings have been certified according to the ISO 9001 quality management standard.

Patient visits 2015



New curriculum for canine physical therapy

In 2015 the first international curriculum for physical therapy and rehabilitation in dogs started at the Vetmeduni Vienna. Fifteen participants registered for the in-service educational programme which lasts three semesters, is recognized by the Austrian Veterinary Chamber and is open to veterinarians, students of veterinary medicine, veterinary assistants and physical therapists working with humans. The curriculum, entitled "Certified Canine Rehabilitation Practitioner (CCRP)", is offered in cooperation with the University of Tennessee (USA).

For more information on the curriculum:
www.vetmeduni.ac.at/en/ccrp

Photos: © Michael Bernkopf/Vetmeduni Vienna

Residency programmes

The Vetmeduni Vienna offers courses of study in 14 areas of specialization.

- ANIMAL REPRODUCTION **ECAR** (European College of Animal Reproduction)
- VETERINARY ANAESTHESIA AND ANALGESIA **ECVAA** (European College of Veterinary Anaesthesia and Analgesia)
- POULTRY VETERINARY SCIENCE **ECPVS** (European College of Poultry Veterinary Science)
- EQUINE INTERNAL MEDICINE **ECEIM** (European College of Equine Internal Medicine)
- CLINICAL PATHOLOGY **ECVCP** (European College of Clinical Pathology)
- PORCINE HEALTH MANAGEMENT **ECPHM** (European College of Porcine Health Management)
- VETERINARY INTERNAL MEDICINE, COMPANION ANIMALS **ECVIM-CA** (European College of Veterinary Internal Medicine, Companion Animals)
- VETERINARY PARASITOLOGY **EVPC** (European Veterinary Parasitology College)
- BOVINE HEALTH MANAGEMENT **ECBHM** (European College of Bovine Health Management)
- VETERINARY SURGERY, LARGE ANIMALS – EQUINE **ECVS** (European College of Veterinary Surgery, Large Animals – Equine)
- VETERINARY PATHOLOGY **ECVP** (European College of Veterinary Pathology)
- VETERINARY INTERNAL MEDICINE, COMPANION ANIMALS, ONCOLOGY **ECVIM-CA, Oncology** (European College of Veterinary Internal Medicine, Companion Animals, Oncology)
- VETERINARY SURGERY, SMALL ANIMALS **ECVS** (European College of Veterinary Surgery, Small Animals)
- VETERINARY OPHTHALMOLOGY **ECVO** (European College of Veterinary Ophthalmology)

In 2015 preparations were made for a residency in diagnostic imaging (Diagnostic Imaging, Small Animal Track), to be offered in the near future.

Knowledge transfer to animal owners and veterinarians

The newest clinical findings are valuable only if they ultimately benefit animals. In addition to research-led care at the University Clinics, of especial importance is the exchange of information between the University and veterinarians in independent practice as well as the University and animal owners.

Well-informed animal owners

Animals spend more time with their owners than with their veterinarians. Hence, the owner's knowledge is vital for the animal's well-being. So that animal owners are up-to-date on the newest information, the Vetmeduni Vienna organizes professional symposia about individual types of animals:

- At the **New World Camelid Symposium** in February 2015, the focus was on illnesses in lamas and alpacas.
- At the first **Reptile Symposium,** held in September 2015, 100 participants learned how to ensure the well-being of their turtles, geckos etc. during the winter months.

Photo: © Felizitas Steindl/Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

- About 700 participants attended the **Equine Symposium**, held in October 2015 on the topic of the most common illnesses in horses.
- At the course **First Aid for Dogs**, held in October 2015, attendees were informed about correct procedures in an emergency and when to contact a veterinarian.
- The **Workshop to Prevent Bites**, held in November 2015, was directed at dog owners with small children. Attendees received tips for fostering a peaceful coexistence between children and dogs.

Photo: © Michael Bernkopf/Vetmeduni Vienna

Continuing education for veterinarians

Communication between the University Clinics and veterinarians in independent practice is of the utmost importance to the Vetmeduni Vienna, which reaches out to this target group with informational events and special services.

- Conference in Kremesberg about herd health management in ruminants on the topic “Veterinarians and Farmers – united for animal health” (February 2015)
- Wiener Wiederkäuer modules about bovine foot surgery (March 2015) and fertility management in milk cow operations (October 2015)
- X-ray seminar focussed on joints and bones for small animal veterinarians (November 2015)
- Continuing education for public health veterinarians on the topic of equine medicine (November 2015)
- Continuing education for farm animal veterinarians at the University Clinic for Ruminants (December 2015)
- Newsletter of the University Clinic for Small Animals with research results relevant to veterinary practice and current cases (published twice a year)

5 Organization

Organization

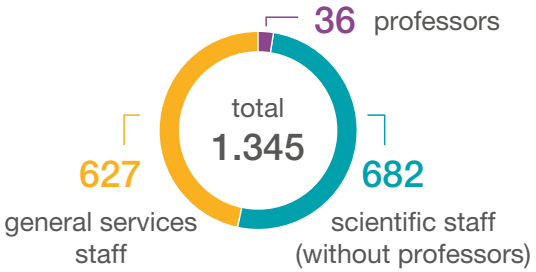
Employment at the Vetmeduni Vienna

Photo: © Michael Bernkopf/Vetmeduni Vienna

New Professor of Anaesthesia and Pain Management

Towards the end of 2015, the internationally renowned veterinary anaesthetist Paula Larenza-Menzies took up the post of professor and head of the Clinical Unit of Anaesthesiology and perioperative Intensive-Care Medicine at the Vetmeduni Vienna. Argentinian by birth, she has conducted research at the University of Pennsylvania in the USA and the University of Helsinki in Finland and has specialized in animal anaesthesia and pain management. She worked, inter alia, on the development of a new type of anaesthetic for horses, cats and dogs that has better anaesthetic properties and is eliminated from the body more quickly than conventional substances. In cooperation with children's anaesthesiologists at Vienna's General Hospital (AKH), she developed new approaches for recognizing pain, especially in patients who – like children and animals – cannot share any information about it.

Staff



Veterinary anaesthetist Paula Larenza-Menzies took up a professorship at the Vetmeduni Vienna.

Photo: © Michael Bernkopf/Vetmeduni Vienna

Photo: © Susanna Berger/Vetmeduni Vienna

Christian Mathes (Vice-Rector for Resources) and Karin Schwertner-Komornyik (Director of Staff and Infrastructure Management) are pleased about the family-friendly university award.

A family-friendly university

For the Vetmeduni Vienna, with 80 per cent female students and a "two-thirds majority" of women on its staff, the topic of combining family and career or curriculum is of even greater import than at other universities. For years the Vetmeduni Vienna has been implementing numerous measures so that children and career may be kept in balance. In 2015 the University received not just one, but two awards in recognition of its commitment to this issue.

In the context of the Viennese state-wide competition "Most family-friendly enterprise 2015", the Vetmeduni Vienna achieved third place in the category "Public Companies" and thus was nominated for the Austrian State Prize "Companies for Families", to be awarded in 2016.

The University was also successful in the University and Family Audit and was presented with the concomitant certificate by Federal Minister of Family and Youth, Sophie Karmasin, in November 2015. Already in 2010 the Vetmeduni Vienna became the first university in Austria to receive this award for family-friendly organizations. The palette of family-friendly measures ranges from a kindergarten on campus to childcare during the summer months to flex-time and special support for parents as they work towards their degrees.

Four-legged assistants

Dogs support handicapped people in their daily lives. A required test introduced at the beginning of the year vouchsafes that these so-called canine companions or pet-assisted therapy dogs can meet the high demands placed on them. Tests are administered by the Vetmeduni Vienna's Messerli Research Institute (under contract to the Federal Ministry of Labour, Social Affairs and Consumer Protection since 1 January 2015) at their newly established testing authority. Scientific insights are fed from the University's own Clever Dog Lab into the evaluation methodology of dogs and their owners. Comprehensive studies about the behaviour and the social and cognitive abilities of dogs provide information about the needs of the four-legged companions and how these might be fulfilled in the best possible way.

In June 2015 Karl Weissenbacher, representative of the testing authority, together with Minister for Social Affairs Rudolf Hundstorfer und Rector Sonja Hammerschmid, awarded the first certificates to successful teams of humans and dogs. The certificate confirms that the dog is healthy and good-natured enough for its special assignment and that the human-dog team functions well.

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Organisational chart of the University of Veterinary Medicine, Vienna

Governing Bodies of the University

- Senate
- Rectorate
- University Council

Research and Teaching

Department 1

Department of Biomedical Sciences

- Institute of Laboratory Animal Science
- Institute of Medical Biochemistry
- Institute of Pharmacology and Toxicology
  - Clinical Pharmacology
- Institute of Physiology, Pathophysiology and Biophysics
  - Physiology, Pathophysiology, and Experimental Endocrinology
  - Physiology und Biophysics
- Institute of Population Genetics
- Institute of Animal Breeding and Genetics
  - Molecular Genetics
  - Reproductive Biology
  - Functional Cancer Genomics
- Bioinformatics and Biostatistics Platform
- Biomodels Austria Platform

Department 2

Department of Pathobiology

- Institute of Anatomy, Histology and Embryology
- Institute of Microbiology
  - Functional Microbiology
- Institute of Immunology
- Institute of Parasitology
- Institute of Pathology and Forensic Veterinary Medicine
  - Pathology of Laboratory Animals
- Institute of Virology
- Clinical Pathology Platform

Department 3

Department/University Clinic for Farm Animals and Veterinary Public Health

- Institute of Meat Hygiene, Meat Technology and Food Science
- Institute of Milk Hygiene, Milk Technology and Food Science
- Institute of Veterinary Public Health
- Institute of Animal Nutrition and Functional Plant Compounds
- Institute of Animal Husbandry and Animal Welfare
- University Clinic* for Poultry and Fish Medicine
  - Fish Medicine
  - Poultry Medicine
- University Clinic* for Swine
- University Clinic* for Ruminants
  - Herd Health Management for Ruminants
  - Ruminant Medicine

Department 4

Department/University Clinic for Companion Animals and Horses

- University Clinic* for Small Animals
  - Anaesthesiology and perioperative Intensive-Care Medicine
  - Diagnostic Imaging
  - Obstetrics, Gynaecology and Andrology
  - Internal Medicine Small Animals
  - Small Animal Surgery
- Equine University Clinic*
  - Equine Internal Medicine
  - Equine Surgery
- Insemination and Embryotransfer Platform
- Radiooncology and Nuclear Medicine Platform

Department 5

Department of Integrative Biology and Evolution

- Research Institute of Wildlife Ecology
  - Conservation Medicine
- Konrad Lorenz Institute of Ethology
  - Ornithology

Holdings

- **VetWIDI Forschungsholding GmbH**

Interuniversity Institutions

- **Messerli Research Institute**
- **Department for Agrobiotechnology (IFA Tulln)**

Interinstitutional Establishments

- **Graf Lehndorff Institute for Equine Science**

Service and Administratives

Rector

Prevention Specialists:

- University Doctor
- Security Officer

Service and Administratives:

- Corporate Communications
- Legal Services
- Office of the Rectorate

Staff Positions:

- Reporting and Development Planning
- Internal Revision

Vice-Rector for Research and International Relations

Service and Administratives:

- Research Support and Innovation
- International Relations

Staff Position:

- Quality Management

Central Special Facility:

- VetCore

Vice-Rector for Resources

- Human Resources and Infrastructure Management
  - Campus Management
  - Information- and Knowledge Management
  - IT Services
  - Human Resources
  - Staff Development
  - University Library
  - Administration of University Clinics
- Finance and Business Operations
  - Controlling
  - Financial Services

Staff Position:

- Fundraising
- Strategic Controlling

Vice-Rector for Study Affairs and Clinical Veterinary Medicine

Service and Administratives:

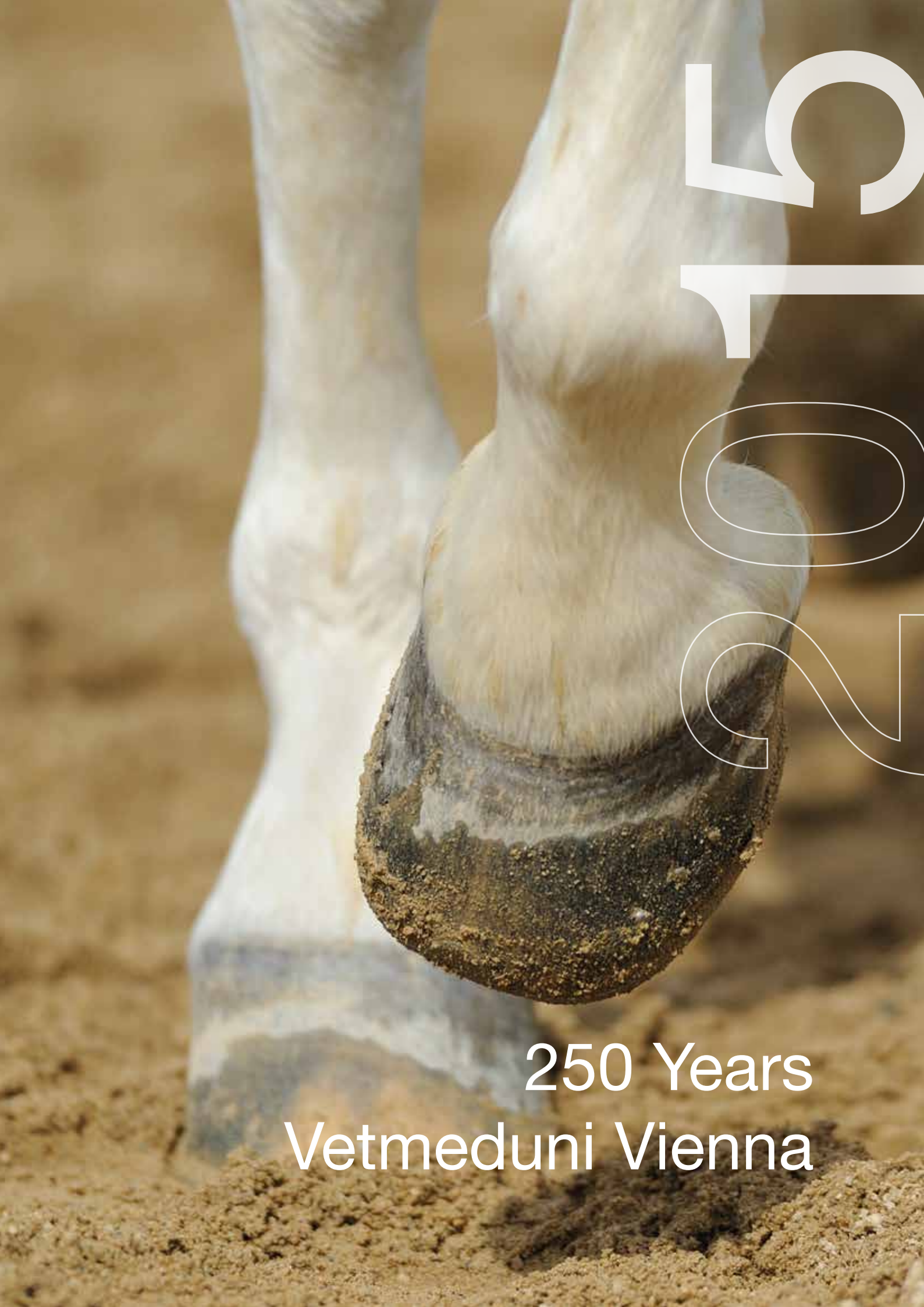
- Pharmacy
- Student Services
- Centre for Study Affairs

Central Special Facility:

- Teaching and Research Farm

* In accordance with § 36 and § 20(5) of the 2002 Universities Act, the University Clinics do not represent organizational units

January 11th, 2016



250 Years Vetmeduni Vienna

250 Years Vetmeduni Vienna

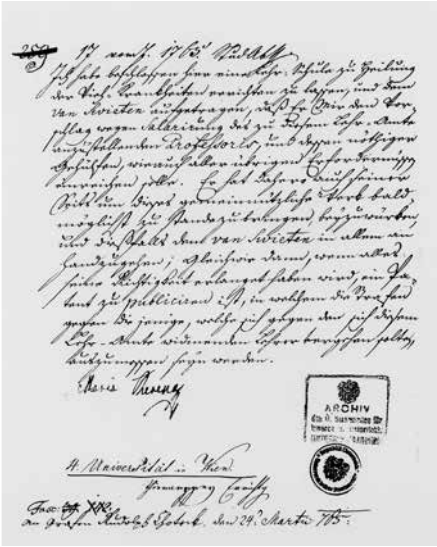
The Jubilee Year

Responsibility for Animals and People – this was the motto for the jubilee year in 2015. The University celebrated the 250th anniversary of its founding with a glance back as well as a look ahead.

The end of quacksalvers

The story of today's University of Veterinary Medicine, Vienna began with Empress Maria Theresia's declaration on 24 March 1765 to establish a "teaching school for healing livestock diseases". As the third school of its kind worldwide, its mission was to finally get control of epizootic livestock diseases and maintain the health of military horses. From this start in Vienna, schools of veterinary medicine were established throughout the entire Habsburg monarchy in order to ensure that education and veterinary practice were of consistent quality and to displace the "quacksalvers", who until that time had been plying their trade in the area of animal health. But it was only in the second half of the 19th century that the field of veterinary medicine got a handle on the problem of epizootic illnesses, thanks to the development of new disciplines such as bacteriology and the establishment of hygiene standards.

The Viennese veterinary school was already operating an animal hospital towards the end of the 18th century. The Clinics were available for animal owners to bring their sick animals for treatment, at the same time that they served as teaching hospitals and veterinary medical research facilities. Initially they almost exclusively treated horses and livestock. It was only with the burgeoning of the middle class that pets, and primarily dogs, joined the patient spectrum in the first half of the 19th century.



Photos: © Vetmeduni Vienna

Beginning in 1919 women were admitted as students to the former College of Veterinary Medicine, today's University of Veterinary Medicine, Vienna; with the 1921/22 academic year the first female students took up studies in veterinary medicine. But it would take until 1939 before the first woman also graduated, and until 1962 before Gertrud Keck became the first woman to gain a professorship.

1765–2015 RESPONSIBILITY FOR ANIMALS AND PEOPLE

Duly celebrated

The successful progression from a teaching school for healing livestock diseases to an internationally established specialized university was duly celebrated. The most important events are listed here:

Birthday celebration

Exactly on 24 March 2015, thus 250 years after the Empress issued her founding document, the University invited all staff members and students to the celebration.

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Open House

On 30 May 2015 the Vetmeduni Vienna opened its doors to more than 5,300 visitors, who could stop by countless stations and form an impression of the activities in teaching, research and veterinary medical care.

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Video of the Open House:

https://www.youtube.com/watch?v=HHVQ7eyliYM

Ceremonial Act

On 19 June 2015 high-ranking guests from inside and outside of Austria honoured the Vetmeduni Vienna with their presence at the Ceremonial Act. Federal President Heinz Fischer and Vice Chancellor Reinhold Mitterlehner gave celebratory speeches; Minister of Health Sabine Oberhauser addressed a video greeting at the assembled guests. In addition, the President of the European Association of Establishments for Veterinary Education (EAEVE), Ana Bravo del Moral, gave a speech. The EAEVE is the organization responsible for evaluating the quality of veterinary medical education throughout all of Europe. Academic dignitaries of the Vetmeduni Vienna and other Austrian and international universities were represented, as were many guests from the veterinary practice, political and business sectors.

Video of the Ceremonial Act (in German only):

https://www.youtube.com/watch?v=qbDCX1Zyw5k

Photo: © Ernst Hammerschmid/Vetmeduni Vienna

Ceremonial Act guests (from left): Ana Bravo del Moral (President of the European Association of Establishments for Veterinary Education (EAEVE)), Clara Buxbaum (Chairperson of the Student Union), Petra Winter (Vice-Rector for Study Affairs and Clinical Veterinary Medicine), Otto Doblhoff-Dier (Vice-Rector for Research and International Relations), Reinhold Mitterlehner (Vice Chancellor and Federal Minister of Science, Research and Economy), Heinz Fischer (Federal President), Sonja Hammerschmid (Rector), Edeltraud Stiftinger (Head of the University Council), Christian Mathes (Vice-Rector for Resources), David Frank (Beadle) und Anja Joachim (Chairperson of the Senate).

Symposium Teaching Vets #1

At this international symposium on 20 June 2015, teachers and people in charge of curriculum discussed current developments in university education. In the VetSim Skills Lab of the Vetmeduni Vienna they were able to get an impression of the animal dummy practice stations.

Photo: © Doris Sallaberger/Vetmeduni Vienna

Photo: © Barbara Loschan/Vetmeduni Vienna

Jubilee Ball

On 20 June 2015 around 1,300 guests experienced a festive ball in Vienna's Rathaus. This typical Viennese ball was a highlight, particularly for the international guests who were in town for the jubilee festivities. Whether Viennese dance music, salsa or disco hits – there was something for all dance enthusiasts at the Jubilee Ball.

Video of the Jubilee Ball:

https://www.youtube.com/watch?v=klbwmbe8uaY

Harvest Festival and Open House / Open Barn

The Vetmeduni Vienna also threw open its doors at its Teaching and Research Farm (LFG) in Lower Austria with an invitation to get informed and to celebrate. At the professional symposium on 18 September 2015, the focus was on the health and husbandry of cattle and pigs. At the ensuing ceremonial act, future challenges in veterinary medicine were the central themes. Guest speaker Gebhard Seiwald of the European Commission's Directorate-General for Agriculture and Rural Development contributed a European perspective. Christoph Kainz, a member of the Lower Austrian legislative assembly, gave a keynote speech on behalf of Governor Erwin Pröll. On 19 September 2015 the LFG threw open its portals and offered a multi-faceted programme of tours for the whole family.

Photos: © Ernst Hammerschmid/Vetmeduni Vienna

Photo: © Thomas Suchanek/Vetmeduni Vienna

Science Slam @Vetmeduni Vienna

To round out the jubilee year festivities, on 15 October 2015 the Vetmeduni Vienna held its first ever Science Slam. Seven University researchers competed for the audience's favour in short 8-minute presentations.

The winners were:

1. Place: Raoul Schwing (Messerli Research Institute)
2. Place: Thorsten Rick (Diagnostic Imaging)
3. Place ex aequo: Stephanie Lürzel (Institute of Animal Husbandry and Animal Welfare), Theresa Walter (Research Institute of Wildlife Ecology), Rounik Mazumdar (Clinical Unit of Poultry Medicine)

Video of the presentation in English of the winner Raoul Schwing

https://www.youtube.com/watch?v=Cc8ZdZ8Ip7Y

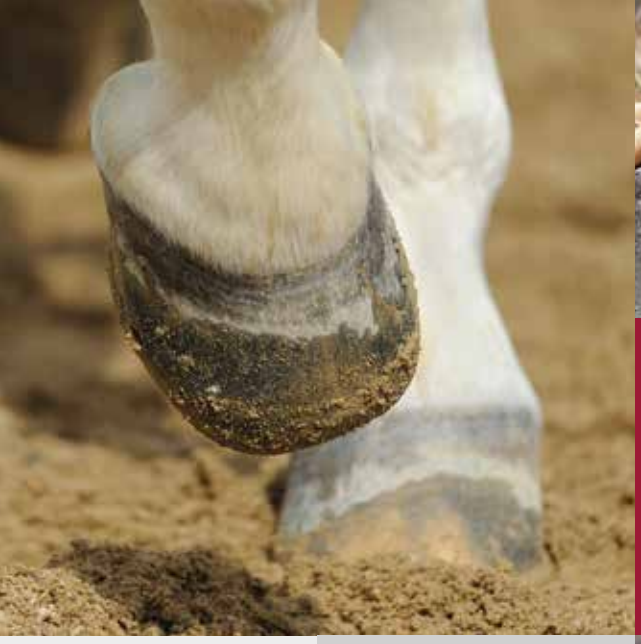
Photo: © Thomas Suchanek/Vetmeduni Vienna

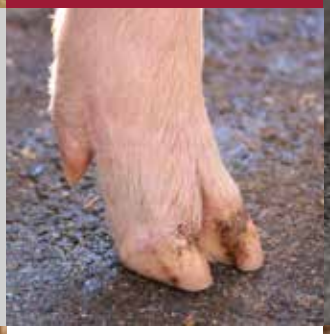
Additional photos, videos and documents of the jubilee year

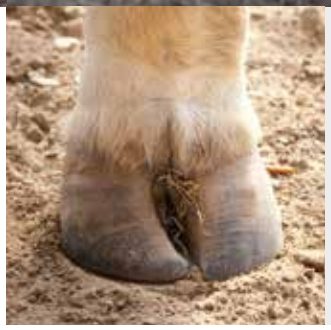
- Film about the history of the University:
  https://www.youtube.com/watch?v=CgKSQNM4DYs

- Photos of the jubilee events:
  http://www.vetmeduni.ac.at/vetmediathek/webgalerien/public/rueckblick_2015/index.html

- Brochure for the exhibition on the history of the Vetmeduni Vienna:
  http://www.vetmeduni.ac.at/fileadmin/v/z/universitaet/Ausstellungsbroschuere_Vetmeduni_Vienna.pdf





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