

messerli Research Institute

Annual Report 2018









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Statements



Heinz Faßmann
Minister of Education, Science and Research

The Messerli Research Institute supports people on a scientific basis in meeting their responsibility towards animals. The focus is on professional competence, interdisciplinary collaboration and a strong international orientation. Thus, the research institute has developed into a central part of the Austrian research landscape since its foundation in 2010. I would like to thank all staff members of the institute who contribute substantially to this success, and I wish you continued pleasure and success in your work.



Petra Winter

Rector of the University of Veterinary Medicine, Vienna

The Messerli Research Institute has become a flagship of our university due to its interdisciplinary breadth from biology and human medicine to psychology and philosophy. Research into the human-animal relationship in all its facets and with its foundations provides important guidance for an ethically justified treatment of animals. That is why it is all the more gratifying that the contract between the three partner universities (Vetmeduni Vienna, Medical University of Vienna, University of Vienna) has been renewed during the reporting period. It is likewise to be welcomed that a new chair for research into the neuroscientific foundations of the human-animal relationship has been advertised, which will further enrich the Messerli Research Institute.



Markus Müller
Rector of the Medical University of Vienna

The Messerli Research Institute is a lively example of how cross-university cooperation can lead to a competence centre with an international reach within a few years. Today, the Messerli Research Institute is an integral part of the Austrian research landscape. It shows a successful bridge across the disciplines between human and veterinary medicine, as well as between humanities and natural sciences.



Heinz W. Engl Rector of the University of Vienna

The cooperation between the three universities – University of Veterinary Medicine, Vienna, Medical University of Vienna and University of Vienna – has proved successful. A new chair for research into the neuroscientific foundations of the human-animal relationship fits to the expansion of cognitive neuroscience at the University of Vienna, which should also lead to joint courses offered by the universities involved. The Messerli Research Institute with its focus on cognition and behavioural science and research into their foundations promotes a responsible treatment of animals.



Heinz Schweizer
President of the Messerli Foundation

Since the foundation of the Messerli Research Institute (2010), interest in human-animal interactions has significantly grown in Europe. Several universities offer courses in this field. This is a gratifying development which reinforces the significance of the Messerli Research Institute. Its broad interdisciplinary research and its wide range of courses, including the option of a Master's degree, are unique and make this institute a centre of excellence with an international reach. Its activities in 2018 reinforce the significance of the institute in research and teaching and, ultimately, the well-being of animals. The Messerli Foundation would like to thank all those who contributed.



Peter Sandøe Chair of the Scientific Advisory Board

I am glad to see that the MRI is developing a strong research reputation, both at home and internationally. The institute is attracting talented young researchers and sending researchers back to their countries to spread the word about the valuable work taking place at the MRI. As each of the units of the MRI integrates itself more deeply into the University of Veterinary Medicine, it will, in coming years, be important for the MRI to focus on maintaining its identity and independence. Another important task is to work on the integration of a new unit focusing on the neurobiology of human-animal relations.

Erika Jensen-Jarolim

Editorial

Spokesperson of the Messerli Research Institute

I may look back with satisfaction on my first year as Messerli spokesperson. You will hopefully share this impression when you read the following report.

Overall, there were three main issues in the past year, all with the objective to further sustain the institute.

One of them was the reform of the Interdisciplinary Master in Human-Animal Interactions (IMHAI), which all units of the MRI and our partner institution ITT carried out with great commitment. In seven intensive workshops, an improved curriculum was designed and presented to the Rectorate. The IMHAI programme shall get an even more interdisciplinary orientation and produce brilliant people who develop the Messerli idea further and carry it into the next generation.

Another issue was the merger of the MRI with the research institutes on Wilhelminenberg, which should result in a joint "Department of Interdisciplinary Life Sciences". By-laws procedures were drawn up by mutual agreement and put forward to the Rectorate of the University of Veterinary Medicine, Vienna.

The third major issue was the announcement of the fourth Messerli chair for the Neurobiolo-



gical Foundations of the Human-Animal Interactions. After considerations about possible applicants in the field and the announcement, 13 international and mostly high-quality applications were received, of which a short list was selected for peer assessment at the end of 2018. We, the three Messerli professors, intend to find a person who complements the institute and shares the interdisciplinary spirit as well as the daily agenda.

Life at the MRI is varied. It was my pleasure to organise four internal Messerli meetings with guest speakers, as well as a visit of the Scientific Advisory Board on May 22. At the beginning of December, however, we managed to square the circle: a combination of Messerli meeting, Messerli Retreat and Christmas party in Hotel Schloss Weikersdorf in Baden bei Wien,

together with the Messerli Foundation councils as our guests who breathed the Messerli spirit with us and were delighted about our team spirit. Find some impressions from this event under "Social Events".

Altogether it was a great year 2018. The team stands together and is ready for new challenges like it has never been before. I would like to take the opportunity for a warm Thank you to all members of the Messerli Research Institute, in administration, laboratories and in technical support. Without you, our achievements had not been possible.

Enjoy reading this report!

Best, Erika Jensen-Jarolim





The Messerli Research Institute at a glance

The Messerli Research Institute was founded in 2010, with support from the Messerli Foundation (Sorenberg, Switzerland), under the management of the University of Veterinary Medicine, Vienna, in cooperation with the Medical University of Vienna and the University of Vienna. The professors for the first three units (Comparative Cognition, Comparative Medicine, Ethics and Human-Animal Studies) were appointed in autumn 2011. In March 2012, the institute was officially opened. The work at the Messerli Research Institute has four cornerstones:

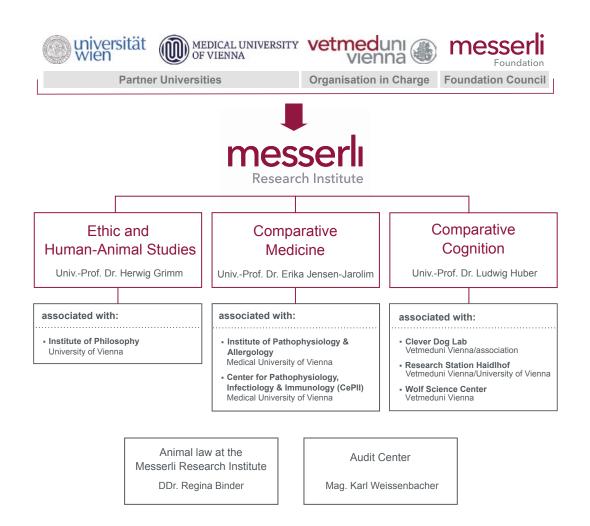
- **Research:** The research is devoted to the interaction between humans and animals, as well as its theoretical principles in animal cognition and behaviour, comparative medicine and ethics.
- **Teaching:** Research findings are an integral part of the academic curriculum in the Master's programme and are also designed to provide guidelines for the responsible and acceptable treatment of animals.
- Interdisciplinarity: The institute's work is characterised by its broad interdisciplinary approach (biology, human medicine, veterinary medicine, philosophy, psychology, law) and strong international focus.
- **Practice:** Thus, the Messerli Research Institute considers providing scientific information to aid people responsible in the field of human-animal interactions one of its main responsibilities.





Organisation chart

The Messerli Research Institute has its headquarters at the University of Veterinary Medicine, Vienna. It is associated with the rectorate and represented by its spokesperson. It comprises three units, each headed by a fully employed professor. The professors have double appointments at the University of Veterinary Medicine and at one of the partner universities (Medical University of Vienna and University of Vienna). Furthermore, the accessory service units Coordinating Office "Dog trainer in accordance with animal welfare" and "Animal Law" are associated with the Messerli Research Institute. Five associated centres work in cooperation with the partner universities.





The Team

Each of the three units of the Messerli Research Institute has one chair, scientific assistant positions, one administrative assistant position and - at the two natural science units - technical posts. Furthermore, there is an IT office and one administrative assistant supporting all three units. The Unit of Comparative Medicine has one administrative position to administrate the part of the unit at the Medical University of Vienna. In 2018, the institute's staff comprises 36.7 positions on a full-time equivalent basis, 17.6 of which were permanently employed, and 19.1 were financed by third-party sources. Further scientists, who are not counted at this point, work at the institute's associated centres.





The Foundation Board



From left to right:

- Heinz Schweizer, President of the Messerli Foundation
- Hans Hengartner
- Dominique Ammann
- Ulrich Fässler
- Adrian von Segesser

The members of the Messerli Foundation Board have been accompanying the Messerli Research Institute since its foundation with great commitment and sympathy. The institute's thriving has thankfully become their personal concern.

The Scientific Advisory Board



From left to right:

- Peter Sandøe (University of Copenhagen, Denmark), Chair of the Scientific Advisory Board
- Nikola Biller-Andorno (University of Zurich, Switzerland)
- Christine Nicol (University of Bristol, UK)
- Sabine Werner (ETH Zurich, Switzerland)*
- Georg Wick (University of Innsbruck, Austria)

The Scientific Advisory Board of the MRI is the external advisory body to assure scientific quality, up-to-date research and focusing of the research at the MRI. The main issues are the strategic orientation of the research, the institute's international position and networking.

^{*} Prof. Sabine Werner is also member of the scientific advisory board of the Messerli Foundation.

Target

Research

The Messerli Research Institute develops and broadens scientific findings for the cohabitation of humans and animals. Current questions about the complex relationship between humans and animals and its principles are investigated from a biological, medical and ethical perspective.

Research in Context

The Messerli Research Institute works at the interface between three universities in Vienna: the University of Veterinary Medicine, the Medical University and the University of Vienna. It integrates the universities' existing knowledge and expertise into its own work. Alternatively, research and teaching at the three universities benefit from the institute's research findings and results.

Interdisciplinary Research

Interdisciplinarity and high specialisation shape the Messerli Research Institute's unique profile. The institute's three units have their own specific research agendas with a considerable number of projects funded by competitive grants. Interdisciplinary research cooperation between the units and with other institutions is strategically important. In the following, selected examples will detail the research topics at each unit.







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Comparative Cognition

Insights into thinking, feeling and acting of animals

These insights contribute substantially to our assessment of animals and the related understanding of different human-animal relationships. With their research in the lab and outdoors, which is exclusively non-invasive, the researchers of the Comparative Cognition unit try to extend the empirical knowledge about cognitive, emotional and social abilities of domestic and wild animals. The main fields of research in 2018 were:

- Emotion and cognition in dogs and wolves
- Domestication (until 30 April 2018)
- Technical and social abilities of keas and cockatoos
- Flexible behaviour and memory in poison dart frogs
- Socio-cognitive abilities of domestic pigs

Staff



http://www.vetmeduni.ac.at/en/messerli/science/cognition/staff/



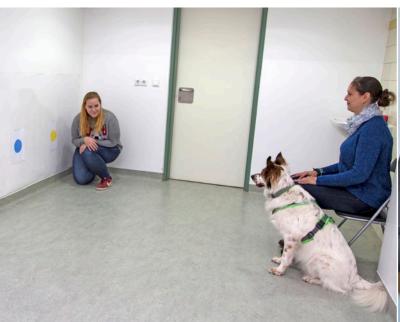
Research projects - highlights

Over-imitation in dogs

Learning through observation as a form of social learning is an important and constant research topic in cognitive biology. In social species, this kind of learning often leads to the establishment of traditions. This is an advantage, not only because the whole group benefits from innovations by individuals, but also the group becomes more homogenous regarding their behaviour. This contrasts with over-imitation. As a special form of social learning, humans often imitate with little efficiency, including actions that seem to be causally irrelevant. Other species tested so far, including apes, completely lack this behaviour. It is assumed

that children think that non-causal actions intentionally shown by adults are necessary for some reason to reach a relevant aim. As this peculiar form of imitation in humans is strongly motivated by social factors such as affiliation or conformity, we hypothesized that dogs as a domesticated species also copy such "irrational" actions, especially when shown by caretakers. The research team's hypothesis was confirmed. Indeed, half of the dogs repeated a causally irrelevant action shown by their caretaker. Similar to children, learning in dogs and copying their caretaker seems to be a profound social process which humans share with their four-legged companions. This surprising finding was awarded the Best Paper Award of the Psychonomic Society (USA).

The dog watches the experimenter's demonstration (Kaja Salobir)



Ludwig Huber gets the Clifford T. Morgan Best Article Award from John Dunlosky, president of the Psychonomic Society

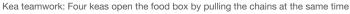


© KajaSalobir © George Long

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Cooperation in mountain parrots

Cooperation is the basis of almost all human achievements. But there is also cooperation in countless animal species - from huge orcas to tiny ants. Comparative cognitive research therefore investigates the ways in which animals can cooperate. Many species were confronted with the "loose-string test" and showed that they can cooperate and coordinate their behaviour. In this task, two individuals must pull on the two ends of a rope, which runs through a board with food, in order to reach the food. If only one individual pulls, the rope slips out and the board remains out of reach. The mountain parrots (keas) on Haidlhof have already solved this problem in a previous study. Now they had to show if they were also able to wait until their partner was there and ready, although they could already pull. This does not only require an understanding of the technical problem but also impulse control and consideration of the partner. Some of the animals were indeed able to wait for minutes and then solve the task together with the partner. In another experiment, in which up to four keas had to cooperate, more than in any cooperation study so far, the social aspect of cooperation was analysed. At the end of a longer series of experiments, four chains (on the four sides of a wooden box) had to be pulled at the same time. After initial difficulties, the dominant birds learned to tolerate subordinate individuals at the box instead of chasing them away. A detailed analysis of the numerous tests showed that the most important factor for success was restraint by the most dominant bird in a group of four.





Poul Schwing / Vetmedu

Comparative Medicine

Urbanisation conflicts with the one-health principle

Pollution, the industrial food chain and changed psychosocial mechanisms in a compact society thwart the one-health concept. The resulting dysregulation of the immune system has serious consequences for human and animal health. The immune system classifies environmental substances as threats – as allergens. Overcrowded agglomerations and long transport routes require strong processing of food, which then turns into threatening allergens. Stress has a reinforcing effect in our fast-

moving world. It paralyses the immune defence against infections or malign tumours.

In this vicious circle, we are today looking for counter-regulating mechanisms which get the immune system out of this agitated state and re-balance it. The Messerli idea to investigate human-animal relationships also in allergology and immunology has proved extremely relevant. Based on our research results, we consider immunologically active components on traditional farms central factors to restore the immune balance in humans and animals.

Staff



http://www.vetmeduni.ac.at/en/messerli/science/comparative-medicine/staff-members/

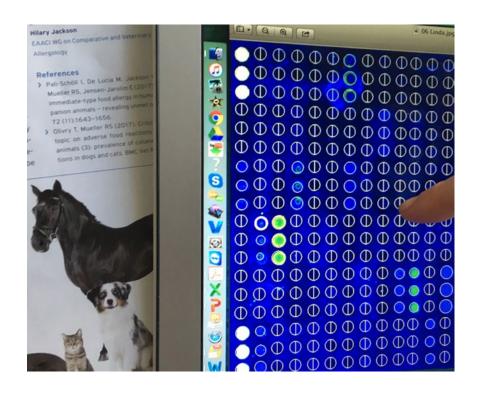


Research projects – highlights

Precision medicine for allergy diagnosis in horses

Environmental factors are often the trigger: Pollen, fungal spores or animal feed, for example, can cause allergies in horses. IgE immune globulins are directed against such environmental toxins and cause specific, disease eliciting hypersensitivity. Only precise diagnosis allows for measures to prevent allergies. In an international collaborative study, a human allergen microarray was expanded and used to test sera of horses from Austria, Switzerland, Island and Japan that showed different allergy

symptoms. The test allowed to identify the animals' IgE profile in detail. Important triggers in horses were pollen of alder and Bermuda grass, further of buckwheat. This high-protein grain is often used for horse cereals, but it contains an allergen of the 2S albumins which cause severe food allergies. The allergen microarray enables an allergy diagnosis against environmental allergens on a molecular basis for the first time in horses (Einhorn L. et al., Allergy, 2018, Jul; 73(7):1436–1446).





IgE, evil in allergy, good in cancer

The natural role of IgE immune globulins is defence against ectoparasites, while allergies are misled immune reactions. The observation that people suffering from allergies develop tumours less frequently was the foundation of Allergo-Oncology. Dogs are excellent model patients because they develop tumours but can also suffer from allergies. In order to apply dog IgE to something beneficial in a model situation, we slightly re-designed it. Using "pipe cloning" technology to quickly generate specific immuno-globulins, a dog IgE was designed which is targeted against tumour antigen EGFR instead of a harmless allergen. With this IgE, both macrophages and mast cells could be used as potent effector cells to kill tumour cells (Fazekas et al., Journal of Allergy and Clinical Immunology; 142(3):973-976.e11).

Subdermal allergen immunotherapy with an allergic dog



Ethics and Human-Animals Studies

How should we act towards animals?

The focus of the Unit of Ethics and Human-Animal Studies' research and teaching is the responsible treatment of animals. The philosophical reflection of common practice and the theoretical foundations of the ethics of human-animal interactions are the main fields of research. We devote ourselves to ethical responsibility in veterinary practice, as well as to questions on the agricultural use of animals, animal testing and keeping of pets. Further, our work is dedicated to fundamental questions such as the ethical relevance of animal cognition or new approaches to ethics in human-animal interactions. In 2018, we could meet the requirement to pass our research results on to future professionals by expanding the e-learning offerings in specialisation modules of the diploma programme Veterinary Medicine.

Staff



http://www.vetmeduni.ac.at/en/messerli/science/ethik/staff/



Research projects - highlights

Moral capacity in animals

PI: Dr. Judith Benz-Schwarzburg, postdoc: Dr. Susana Monsó, doctoral student: Birte Wrage, MA

In 2018, the Austrian Science Funds (FWF) approved the project "Moral capacity in animals" (P31466-G32). Humans have moral capacity. They are able to cooperate and capable of altruism and empathy. They understand fair-play rules, comfort others and have a sense of justice. What if something similar applies to animals, too? Our project contributes to a highly topical field of research, which conceptualises and discusses such competences in animals. We raise two central questions: To which ex-

tent can we meaningfully talk about moral capacity in animals? And why is it relevant, from an ethical point of view, if animals have moral capacity?

In contrast to the current philosophical debate, we will go beyond empathy as a moral emotion and take some other moral emotions such as patience, feeling of guilt or grieve into account, too. At this point, the project draws on our second project approved by FWF (FWF M2518-G32), "Perception and understanding of death in animals" (PI Dr. Susana Monsó), which will go in its first phase in 2019. Both projects will be realised in interwoven periods of time. Our research will also consider negative moral emotions such as cruelty, jealousy



chael Bernkopf / Vetmeduni Vienna

or gloating. Another focus besides the conceptualisation of moral emotions will be on the role of touch in moral interactions.

Since the start of the project in September 2018, we have been working on these conceptual questions and are preparing the first big project workshop, which will bring two of the most important researchers in our field (Prof. Kristin Andrews from Canada and Prof. Maria Botero from the USA) on a panel together with the project researchers.

The first publication within our project applies the capabilities approach to the question of moral capability in animals and was published in the Journal of Ethics in 2018. Three more articles discuss the state of research on moral capacity in animals for the Oxford Handbook of Moral Psychology or take up the topic in its relevance for the human-animal difference in comments for the journal Animal Sentience. Another publication links the idea of stronger consideration of complex socio-cognitive abilities in animals in general and moral capacities in particular with questions on cognition and well-being of livestock. This paper was published in Frontiers in Veterinary Science.

Due to the high socio-political relevance of our research, the daily newspaper Der Standard published a report of the start of our project in its research supplement (6 February 2019).







Examination and Coordination Centre

Assistance and therapy dogs

The Examination Centre at the Messerli Research Institute to implement the Austrian Disability Act including the UN Convention on the Rights of Persons with Disabilities in the field of assistance dogs is unique in Europe and beyond. Meanwhile it is generally accepted. Besides talks by the head of the Centre, Karl Weissenbacher, at international conferences of institutions such as Assistance Dogs International (ADI) or the European Guide Dog Federation (EGDF), also governmental organisations such as the German, the Estonian and the Swedish Ministry of Social Affairs contact the Centre for information. His innovative work in the European Committee for Standardization (CEN) to develop a single European norm in the field of assistance dogs was successfully continued. Furthermore, the head of the Centre was appointed as head of the working group "Lifelong wellbeing of assistance dogs".

In the scientific field, a diploma thesis and a Master's thesis are close to being finalised.

The integrative symposium Kyntegra took place for the third time in November. This series makes a valuable contribution to the mutual understanding of people with disabilities and people without.

In the centre's core field of examinations, 885 therapy dog teams and 44 assistance dogs have been successfully examined.

Dog trainer in accordance with animal welfare

The Examination and Coordination Centre has become an indispensable public information office for all sorts of media – print, online, radio and TV. Likewise, Ombudsperson's offices for animal protection, regional governments and ministries contact the Centre for information

Kira Grünberg, assistance dog handler, presented her new book "Mein Sprung in ein neues Leben" at Kyntegra (17–18 November 2018 in the ceremony hall)

Karl Weissenbacher

Conferment of certificates with Rector Winter, social affairs minister Beate Hartinger-Klein, Karl Weissenbacher, head of the Examination and Coordination Centre, and Larissa Bacher with her mother Carmen Bacher and service dog "Jerry-Lee"







regarding dog-related issues. Therefore, Karl Weissenbacher was co-opted into the permanent work group of the Animal Protection Council.

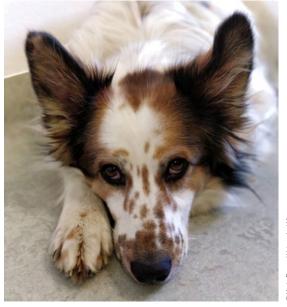
In 2018, 42 new trainers were examined, 16 of which did not pass. More than 13,000 hours of vocational training were approved. This improves the quality and deepens the knowledge of Austria's trainers.

University course Applied Cynology

The university course has started in its sixth edition with 22 students in October 2018. Thirteen students successfully completed the fifth course.

Animal Law at the Messerli Research Institute

Animal Law is an issue in teaching and research at the Messerli Research Institute, particularly focusing on general animal welfare legislation and animal testing legislation. This field is headed by Regina Binder, who also heads the Information and Documentation Office for Animal Welfare and Veterinary Law at the University of Veterinary Medicine, Vienna. The Unit of Ethics and Human-Animal Studies and the Unit of Comparative Medicine have several areas of interdisciplinary collaboration with this field. This collaboration comprises mainly teaching in the Master's programme IMHAI and the scientific discussion of questions arising from current publications and projects. The normative foundations of the various forms of human-animal interaction and their relationship to empirical findings in natural science are central in this cooperation.



n Bayer / Vetmeduni Vienna

Teaching ()

Interdisciplinary Master in Human-Animal Interactions (IMHAI)

Academic training of students in topics closely related to the Messerli Research Institute an important issue for us. The next generation should learn to assess the quality of the human-animal relationship on a scientific basis and in an ethically correct way and be able to contribute to improvements through innovative ideas and concepts. To implement these objectives, the three units of the Messerli Research Institute, together with the Institute of Animal Husbandry and Animal Welfare, designed an international Master's programme in spring 2012 that is taught in English and unique in its broad interdisciplinary approach. Considering the experiences of the first years, a reform process was initiated in 2017, which was intensively continued in seven workshops in 2018 with the involvement of teachers and students. In the course of their studies, students focus on one of the following fields: Animal Behaviour and Cognition, Comparative Medicine - from Pathophysiology to Clinical Trials, Animal Husbandry and Welfare, Legal Framework of Human-Animal Interactions, as well as Ethics and Human-Animal Studies. This Master's degree qualifies graduates for both academic careers and careers in all socially relevant fields of human-animal interaction. To make successful graduates and their careers visible, an alumni section was implemented on our website in 2018.



IMHAI student Helena Manzenreiter with her Master's certificate

Nine graduates completed their studies in 2018:

Helena Manzenreiter, "Validation of the Pet-PaceTM collar as a method to measure heart rate in dogs during eye tracking studies" (supervisors: Ludwig Huber, Lisa Wallis)

Lisa Fischer, "Management practices in Llamas and alpacas and associations with caretakers' attitudes and animal behaviour" (supervisors: Susanne Waiblinger, Sonja Franz)

Teresa Pegger, "Do owners and only owners serve as a secure base to their dogs in a problem-solving task?" (supervisors: Zsófia Virányi, Giulia Cimarelli)

Sabrina Ausserwöger, "Temporal stability of intraspecific relationships in pet dogs" (supervisors: Sarah Marshall-Pescini, Giulia Cimarelli)

Roxanne Berthel, "No Spontaneous Use of Relational Matching in African Grey Parrots (Psittacus erithacus)" (supervisors: Ludwig Huber, Auguste von Bayern) Andrea Häusler, "Influence of owner and household characteristics on provision of toys and activities to cats" (supervisors: Susanne Waiblinger, Jean-Loup Rault)

Katrin Spiesberger, "The effects of play behaviour, feeding and time of day on salivary IgA levels in calves" (supervisors: Susanne Waiblinger, Quendrim Zebeli)

Verena Wesian, "Behavioural responses of heifers towards stroking of the ventral neck or of different head-neck regions" (supervisors: Susanne Waiblinger, Jean-Loup Rault)

Denise Reiter, "Effect of owners presence on object-manipulation in former shelter and family dogs: a sign of different attachment?" (supervisors: Jean-Loup Rault, Susanne Waiblinger)



IMHAI student Max Benatar at audio recordings in the Kea Lab

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Further courses

The Messerli Research Institute does not only organise the Interdisciplinary Master's in Human-Animal Interaction, but staff members also teach in programmes at the University of Veterinary Medicine, Vienna, Medical University of Vienna and other universities and schools. This contributes to the institute's visibility and network, especially with its partner universities. Cooperation for teaching leads to permanent and intense exchange with the partner universities.

Staff of the Comparative Cognition unit taught courses at the University of Veterinary Medicine (veterinary diploma, modules laboratory animal and experimental animal science, uni-

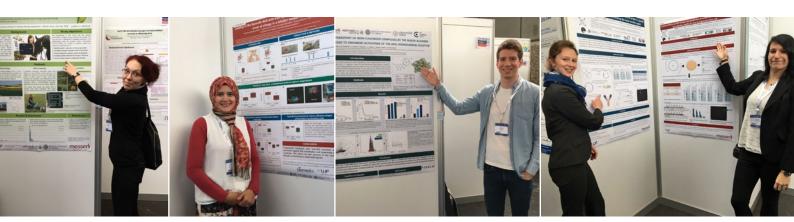
Giulia Cimarelli with her supervisors after her successful PhD Defensio



versity course Applied Cynology), as well as at the University of Vienna (Bachelor's level Biology, Master's level Behaviour, Neurobiology and Cognition Research). Additionally, several Master's and PhD projects were supervised at both universities. Two Bachelor's, 8 diploma, 27 Master's and 15 PhD theses in total were supervised in the Comparative Cognition unit in 2018, 18 of which were successfully completed.

Comparative Medicine: Staff members teach at the Medical University of Vienna in the medical curriculum, in the PhD programmes "Immunology", "MCCA" and "CCHD", as well as at the University of Veterinary Medicine in the IMHAI programme and in courses for veterinarians, including the mentoring programme for first year students. Franziska Roth-Walter and Karin Hufnagl introduced mentee classes to fundamental and translational research in 2018. Our PhD and Master's students receive profound training to present their research data.

Team members from the Ethics and Human-Animal Studies unit taught courses in veterinary ethics at the University of Veterinary Medicine, Vienna, the University of Zagreb (at a summer school in Dubrovnik), the FU Berlin, the Veterinary Faculty of Ljubljana, Vetsuisse Zurich and Bern, and in the training of veterinary officers in Bavaria. At the Department of Philosophy of the University of Vienna, team members taught in the field of practical philosophy. In 2018, 19 Master's and diploma theses in total were supervised at the University of Vienna and at the University of Veterinary Medicine, three of which were successfully completed.



Students of the Comparative Medicine unit proudly presented their posters at international conferences





PhD and doctoral students

DK programme Cognition and Communication 2

In 2018, the doctoral programme "Cognition and Communication" (deputy spokesperson: Huber), which is funded by the Austrian Science Funds (FWF), went in its second year. This multi-disciplinary PhD training programme comprises, among others, projects on comparative brain research in humans and dogs (Karl, Boch), social and motoric imitation in kea (Sebilleau) and eavesdropping in dogs and wolves (Jim).

The Unit of Comparative Cognition supervised 15 PhD projects in 2018, two of which were successfully completed (Giulia Cimarelli, Isabelle Laumer). Further PhD projects focus on domestic dogs (Sabrina Karl, Jim McGetrick, Soon Young Park, Durga Chapagain), wolves and dogs (Martina Lazzaroni, Akshay Rao, Hoi-Lam Jim, Gwen Wirobski), pigs (Marianne Wondrak), keas (Amelia Wein, Melissa Sebilleau),

Goffin's cockatoos (Theresa Rössler) and frogs (Melissa Peignier). The doctoral students were supervised by Ludwig Huber, Friederike Range, Zsófia Virányi, Sarah Marshall, Raoul Schwing, Eva Ringler and Alice Auersperg.

PhD students in the Unit of Comparative Medicine in 2 DK-programmes

Judit Fazekas-Singer was involved in the doctoral programme "Cell Communication in Health and Disease" (CCHD), passed her PhD defence on 14 December and is now working at the Austrian Institute of Technology. CCHD student Jelena Gotovina completed her practical work and is now writing her PhD thesis. Verena Köhler and Christina Pranger worked in the PhD programme "Molecular, Cellular and Clinical Allergologe" (MCCA), as well as Lukas Einhorn, who took a job in the industry. Further, Galateja Jordakieva and Ina Herrmann completed their doctoral studies. Shadan Ghandi Zadeh Dezfouli and Sheriene Moussa Affifi continue their experimental work.

Two PhD students in the FWF doctoral programme "Cognition and Communication": Melissa Sebilleau with kea in the sound isolation chamber, Sabrina Karl with dog in the fMRI scanner





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PhD students in the Unit of Ethics and Human-Animal Studies

In the Unit of Ethics and Human- Animal Studies, seven scientists were supervised in different doctoral programmes in 2018: Kerstin Weich and Samuel Camenzind in the PhD programme of Vetmeduni Vienna, Svenja Springer in the doctoral programme of Vetmeduni Vienna, Andreas Aigner, Jessica Bicking and Sarah Espinosa in the doctoral programme of the Institute of Philosophy of the University of Vienna, Svenja Springer in the PhD programme of the University of Copenhagen in collaboration with Vetmeduni Vienna (double PhD degree), and Matthias Eggel in the PhD programme of the University of Zurich. Kerstin Weich gained her qualification as a veterinary specialist for animal protection. Svenja Springer (doctoral student) and Matthias Eggel (PhD) completed their studies in 2018.

Judit Fazekas-Singer after her PhD defence, f.l.t.r.: Erika Jensen-Jarolim, Heimo Breiteneder, Judit Fazekas-Singer, Maria Sibilla, Johannes Huppa.





Ina Herrmann after her PhD defence, f.l.t.r.: supervisor Erika Jensen-Jarolim, newly appointed PhD Ina Herrmann, examiner Maximilian Pagitz, VR Otto Doblhoff

Matthias Eggel after his doctoral defence in the interdisciplinary PhD programme at the University of Zurich in cooperation with the Unit of Ethics and Human-Animal Studies

Svenja Springer at her doctoral defence on 15 November 2018



Engagement in committees

Highlights

Members of the Unit of Comparative Cognition have been engaged in national and international committees. At the University of Veterinary Medicine, Vienna, Ludwig Huber is a member of the Senate, the Curriculum Commission for several study programmes (including IMHAI), the Scientific Advisory Boards of the Animals for Therapy curriculum and the university course Cynology, and the Coordination Board of the Teaching and Research Farm Kremesberg (Vetfarm). Together with Zsófia Virányi he is a member of the Scientific Commission of the Examination and Coordination Centre for assistance and therapy dogs and

dog trainers in accordance with animal welfare, as well as head of the association Clever Dog Lab. On an inter-national level, Ludwig Huber is a member of the Scientific Advisory Board of the Institute for Advanced Sciences Berlin (WIKO). Eva Ringler is a member of the Council of the European Society of Herpetology.

Engagement in the boards of task forces and interest groups of the European Academy of Allergy and Clinical Immunology (EAACI) are particularly important for the Unit of Comparative Medicine. In these committees, the future of allergology can be shaped in a creative way, also towards comparative allergology. Members of the unit chair, or are board members in





the EAACI interest group for Comparative and Veterinary Allergy, in EAACI task forces, among others Immunopharmacology, AllergoOncology and Adjuvants in Allergen-Immunotherapy, as well as in four task forces of the American Academy of Allergy, Asthma and Immunology (AAAAI). In 2018, this included the organisation of international business meetings and workshops in Munich and Vienna. The most important output were positions papers with the involvement of the Comparative Medicine unit.

The staff of the Ethics and Human-Animal Studies unit were engaged in panels at local, national and international levels in 2018: Committee on Animal Testing (according to § 36 TVG), Committee for Ethics in Science of the Austrian Academy of Sciences, Network Veterinary Ethics, Animal Protection Council of Berlin and European Society for Agricultural and Food Ethics (EurSafe). Members of the unit are also engaged in boards of relevant scientific journals such as Zeitschrift für Praktische Philosophie, Food Ethics, ATLA, Tierstudien and others.

Grants and Awards

- Sarah Marshall-Pescini (12 September 2018) and Alice Auersperg (27 November 2018) got the licence to teach (habilitation) for the subject "Animal Behaviour and Cognition".
- Ludwig Huber and Giulia Cimarelli got the Clifford T. Morgan Best Article Award of the American Psychonomic Society together with three IMHAI students (Popovova, Riener, Salobir) for an article in the journal "Learning & Behavior".
- Ariane Veit got a doctoral grant by the Austrian Academy of Sciences (ÖAW) for the project "Social learning in free-ranging domestic pigs".
- Karin Bayer won the VetIdeas poster challenge by tecnet equity & Accent Gründerservice and Vetmeduni Vienna with the idea "Gehirnjogging für Hunde" (brain jogging for dogs; together with Peter Füreder and Ludwig Huber).



Giulia Cimarelli, Kaja Salobir, Ludwig Huber, Natálie Popovová and Sabine Riener (from left) with the Best Article Award of the Psychonomic Society

■ Sabrina Karl reached second place in the Best Poster Award of Vetmeduni Vienna, category "Science Journalism", with the title "Don't move! – Training dogs to conduct fMRI studies while they are awake".

Karin Bayer and Peter Füreder (middle) at the award ceremony of the VetIdeas poster challenge by tecnet/Accent

Sabrina Karl (middle) at the ceremony of the Best Poster Award of Vetmeduni Vienna





- CCHD student **Jelena Gotovina** got a Japanese Research Scholarship Award and could gain profound insights into the Japanese lab work of this distinguished group for one month. This award also supports the excellent collaboration with Prof. Hiroshi Matsuda, Tokyo Technical and Agricultural University, Division of Animal Life Science.
- Franziska Roth-Walter got a prestigious research award by the company Bencard for her groundbreaking work on the farm protective factor against allergies in the form of a pill.
- Diploma student Johanna Karg from the Unit of Ethics and Human-Animal Studies got the Vonne Lund Award at the international conference of the European Society for Agricultural and Food Ethics (EurSafe) for her contribution "Handle with care. An alternative view on livestock medicine". The prize was awarded to her by the EurSafe president in Vienna's City Hall.



Jelena Gotovina (right) with Japanese colleague in Tokyo

Franziska Roth-Walter works on lipocalins and immune tolerance







Cooperation & International Engagement

The most important partners in 2018

Associated centres

Institute for Pathophysiology and Allergy Research (ipa) at the Center for Pathophysiology, Infectiology and Immunology (CePii) of the Medical University of Vienna

The Unit of Comparative Medicine is an integrated part of the ipa, a successful research centre of the Medical University of Vienna. Running a lab there makes a substantial contribution to the cross-university bridge and to the performance at both universities. The labs

at the ipa with their excellent equipment facilitate the establishment of a research focus "Comparative Allergology". Most partners in the FWF special research programme on allergy (spokesperson R. Valenta) and the doctoral programme MCCA (Molecular, Cellular and Clinical Allergology; spokesperson W. Pickl) are from this centre or contribute to the Immunology Research Cluster (spokesperson W. Ellmeier).

"2018 CePII Summit": Hiking tour with the team of the Center for Pathophysiology, Infectiology and Immunology (CePii), first row f.l.t.r.: Erika Jensen-Jarolim, Barbara Bohle, Wilfried Ellmeier, 2nd row staff members and Hannes Stockinger, head of the CePii, on the far right





Clever Log Lab

The Clever Dog Lab confirmed its role as one of the leading labs on dog cognition and behaviour. Thanks to scientific studies conducted here, it could be shown that dogs are capable of over-imitation, a form of observational learning that was previously thought to be unique to humans; that dogs' personality can be reliably and validly measured with a new test developed at the Clever Dog Lab (the VIDO-PET); that, thanks to an interdisciplinary collaboration with the geneticists of the Semmelweis University (Budapest), dogs' attachment to their owners is associated with the genetic background of both the dog and the owner; that age might not influence dogs' learning of non-complex tasks. Moreover, the Clever Dog Lab remains active in the dissemination of scientific research to the public by providing 21 guided tours in total and being active in official events like the FWF Be Open Science and Society Festival, which was held in Vienna in September 2018.

Research station Haidlhof

In its 8th year, remarkable research results were again achieved at the Research Station Haidlhof. Particularly the finding that kea have special play calls with effects similar to laughing, the comparison of curiosity behaviour in parrots and corvids, the ability to cooperate in kea and the ability to distinguish and generalize human faces in kunekune pigs attracted the attention of experts and the general public. There was fruitful collaboration not only with the University of Vienna but also with British, Dutch and French universities. Extensive media coverage, many visitors and guided tours expressed our intensive public relations.

A dog during training for functional magnetic resonance imaging at the simulator in the Clever Dog Lab



Pig Benjamin distinguishes human faces at the touchscreen





A frog in preparation for magnetic resonance imaging

Goffin's Labs in Goldegg (A) and Tanimbar (Indonesia)

Research into the particularly clever Goffin's cockatoos is done both in the lab and outdoors. The research station in Goldegg (Lower Austria) was founded by Alice Auersperg in 2011. It consists of a large aviary complex with indoor and outdoor areas, richly equipped with a grass floor, branches, an herb garden, refuges and a varied selection of parrot toys. There is a small test room with a touchscreen and video cameras to test the birds' intelligence in a controlled way. To investigate the natural behaviour of these animals and the ecological foundations for their extraordinary intelligence. a research station was established on the island Yamdena (Moluccas, Indonesia) in collaboration with the Indonesian Institute of Sciences in 2018. The station was built with the help of local farmers on their agricultural areas close to the village Lorulun. It consists of a simple accommodation, a meeting room, an observation platform and an aviary.

Frog Lab

The Frog Lab at Biocentre Althanstraße is associated with the Messerli Research Institute through Eva Ringler, scientist in the Comparative Cognition unit. In this lab, frogs of the species Allobates femoralis are kept under species-appropriate conditions, and their brood care behaviour is investigated in special terraria. In 2018, an FWF individual project was approved to analyse the connections between personal characteristics in the behaviour of frogs and sexual selection. During a research stay at UCLA, USA, funded by the Austria Science Funds (FWF), Ringler could use functional MR for research into the cognitive processes in frogs for the first time. The results of this research were also presented to the public at the Be Open festival of the FWF.

Goffin's cockatoo Titus in the outdoors aviary in Goldegg

Mark O'Hara and Berenika Mioduszewska with farmers in front of the research station on the island Yamdena (Indonesia)





lice Auersperg

Wolf Science Center

As a final step of its integration into Vetmeduni Vienna, the WSC moved to Department 5 in 2018. It became a part of the Domestication Unit, which was newly established at the Konrad Lorenz Institute of Ethology and is headed by Friederike Range, who has been appointed associate professor. Along with these organisational changes, it is more visible that a new website for the WSC has been created. The successful research team has started to work in their newly established offices both in Ernstbrunn and at Vetmeduni Vienna. In 2018, the team published several papers showing that wolves, although similar in their food preferences and inhibitory skills, are more persistent than dogs in manipulative tasks and learn more from experienced partners in a cooperation task. Furthermore, wolves tend to reconcile after conflicts, whereas dogs rather avoid each other. Finally, it was found that wolf howling encodes sender- and context-specific information.

Companion Animal Behaviour Working Group

In order to maximise the Vetmeduni Vienna's impact on the development of good practice in companion animal keeping, training and management, colleagues from the Messerli Research Institute (Zsófia Virányi), the Small Animal Clinics and the Institute of Animal Husbandry and Animal Welfare joint their forces this year and established the Working Group "Companion Animal Behaviour". The main goals are to integrate basic and applied research on animal behaviour, welfare and behavioural medicine, to coordinate and optimise the behavioural education provided at Vetmeduni Vienna, to offer expert advice to organisations, official vets and other authori-

ties dealing with the societal impact of companion animals (e.g. dog bites), and to disseminate knowledge to the interested public, for instance by organising seminars and other events. The first such event organised this year focused on the behavioural, medical and dietary management of shelter animals.

Institute of Philosophy of the University of Vienna

The Institute of Philosophy of the University of Vienna is highly visible on the international level. It relies on the many areas of competence of its members, who impart knowledge with a wide range of courses and high standards of specialisation. Due to Herwig Grimm being a honorary professor, his teaching and supervising, cooperation in the FWF project "Forms of Normativity" (doc.funds) and Martin Huth's teaching activities, there is intense exchange and regular cooperation with the Institute of Philosophy of the University of Vienna. In 2018, the EurSafe conference and the conference "Dimensions of Vulnerability" were organised together with the Institute of Philosophy, and a scientific project in the field of applied ethics (Prof. Angela Kallhoff) was started.

Cooperation with our partner universities

University of Veterinary Medicine, Vienna

- Animals for Therapy/Center of Science and Training
- Clinical Unit of Anaesthesiology and Perioperative Intensive-Care Medicine
- Clinical Unit for Diagnostic Imaging
- Institute of Animal Husbandry and Welfare
- Institute of Laboratory Animal Science
- Institute of Medical Biochemistry
- Institute of Population Genetics
- Konrad Lorenz Institute of Ethology
- University Clinic for Horses
- University Clinic for Ruminants
- University Clinic for Small Animals, Dermatology and Oncology
- University Clinic for Swine
- VetCore

University of Vienna

- Cognitive Science Platform
- Department of Behavioural Biology and Human-Animals Relationships Research Group
- Department of Cognitive Biology
- Department of Integrative Zoology
- Department of Philosophy
- Faculty of Psychology

Medical University of Vienna

- Center for Pathophysiology, Infectiology and Immunology, Institute for Applied Immunology
- Center for Biomedical Engineering and Physics
- Comprehensive Cancer Center
- Department of Child and Adolescent Psychiatry
- Department of Dermatology
- Department of Psychiatry und Psychotherapy
- Department of Radiology and Nuclear Medicine
- Department of Surgery
- Immunology Research Cluster
- Medical Imaging Cluster, Preclinical Imaging Cluster

Further national research partners

- Austrian Academy of Sciences
- Catholic-Theological Private University Linz
- Network Berufliche Assistenz, Vienna
- Technical University of Vienna
- University of Natural Resources and Life Sciences, Vienna
- Zoo Schönbrunn
- Zoo Wels

Further international research partners

The Unit of Comparative Cognition continued the collaboration with all their partners in 2018: Belgium (Ghent), Germany (Berlin, Leipzig), France (Rennes, Strasbourg), French Guiana (Saut Pararé), United Kingdom (Bristol, Edinburgh, Exeter, Lincoln, Oxford), Indonesia (Cibinong, West Java), Italy (Milan, Padua, Parma, Rome, Rovereto), Japan (Tokyo), New Zealand (Christchurch, Auckland), Norway (Trondheim), Sweden (Lund), Hungary (Eötvös Loránd and Semmelweis in Budapest) and the USA (Duke, Los Angeles, Minnesota, Nebraska, Atlanta). The cooperation with the Indonesian Academy of Sciences (Institute of Biology) was also continued. New partners were the University of California, Los Angeles (USA), Stanford University (USA) and Goethe University Frankfurt (Germany).

Most research collaboration in the Comparative Medicine unit resulted again from networks in international societies: World Allergy Organization (WAO), European Academy of Allergy and Clinical Immunology (EAACI), as well as American Academy of Allergy, Asthma and Immunology (AAAAI). We were pleased to continue the successful collaboration with the Comparative Oncology Trial Consortium (COTC) of the National Cancer Institute.

The Unit of Ethics and Human-Animal Studies is in cooperation with scientists at university organisations in, among others, Denmark (University of Copenhagen), Germany (Ludwig Maximilian University Munich and FU Berlin – Department of Veterinary Medicine) and Switzerland (University of Zurich), with the main research priority being veterinary ethics. In 2018, cooperation with the universities of Skopje, Zagreb and Ljubljana were particularly intensified to prepare a summer school for animal welfare, veterinary ethics, communication and law (VetNEST Summer School).

Erika Jensen-Jarolim speaking at the annual conference of the EAACI





Sterile and urban cohabitation of humans and animals are a reason for increasing allergies

Cooperation with networks and societies

Members of the Comparative Cognition unit are represented in international societies (Europe: Ethological Society, The Association for the Study of Animal Behaviour, Canine Science Forum; USA: American Psychological Association, Comparative Cognition Society, Psychonomic Society; New Zealand: Kea Conservation Trust) and cross-border networks (Animal Welfare Research Network).

The Comparative Medicine unit has been involved in national allergy networks for many years, focusing on "allergy in humans and animals". These networks are funded by the Austrian Science Funds (FWF), such as the special research programme F4606 as well as the funded doctoral programmes MCCA – Molecular, Cellular and Clinical Allergology W1248

and CCHD – Cell Communication in Health and Disease, W1205. Ideas from the field of comparative allergology have been represented in these networks since the foundation of the Messerli Research Institute.

The Unit of Ethics and Human-Animal Studies collaborates with platforms and associations in the field of ethics and human-animal interaction, including the Research Initiative for Animal Theory (FITT), the Network Veterinary Ethics, the Colloquium of Bündnis Mensch und Tier, the European Society for Agricultural and Food Ethics (EurSafe), the European Academy of Arts and Sciences, the International Society of Livestock Husbandry, the association Tierschutz macht Schule, the Interspecies Rights Initiative, the Forum Animals and History, as well as Minding Animals Germany and Minding Animals International.

Workshop Veterinary Ethics, Animal Welfare and Animal Protection Law in Bern, 15–16 January 2018 VetNEST Summer School Meeting, 17 December 2018, (f.l.t.r.) Kresimir Severin (Zagreb), Herwig Grimm (Vienna), Vlatko Ilieski (Skopje), Otto Doblhoff-Dier (Vienna), Metka Kuhar (Ljubljana), Ursula Schober (Vienna), Viktor Denkovski (Skopje)



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Guest researchers at the Messerli Research Institute

Guests invited by members of the Comparative Cognition unit were welcomed in the Clever Dog Lab, the Wolf Science Center, the Goffin's Lab and at Haidlhof (Kea Lab and Pig Lab). Among other countries, they came from Italy, England, Switzerland, France, the Netherlands, Hungary, the Czech Republic, Germany, Portugal, Sweden, Croatia, Poland, Brazil and the USA. Guest researchers were, among others, Elisabetta Versace, Lucrezia Lonardo and Giulia Basirico.

The following guest researchers visited the Messerli Research Institute on the invitation of the Ethics and Human-Animal Studies unit:

Matthias Eggel (bioethics, University of Zurich): project "Ethics in scientific animal testing"

Georgette Leah Burns, founding member of the Environmental Futures Research Institute and Senior Lecturer at the School of Environment and Science of Griffith University, Australia



Irene Pepperberg (Harvard, USA) as a guest in the Goffin's Lab



Lucrezia Lonardo from the University of Trent at a test on cognitive facilitation with dogs

During her research stay at the Messerli Research Institute, Leah Burns (Australia) worked on a joint publication with Judith Benz-Schwarzburg on the ethical future of wildlife tourism

Alice Crary, Professor of Practical Philosophy in Oxford, at a talk and workshop in Vienna on moral individualism in animal ethics





Society & Public Relations

The institute contributes to the promotion of a scientifically sound and ethically acceptable treatment of animals in our society. Therefore, the Messerli Research Institute is committed to bringing knowledge gained from research to the public debate, in line with the principles defined in its mission statement.

Media highlights

Some publications by the Comparative Cognition unit attracted a lot of media attention in 2018. Among others, there were reports about findings that aging in dogs is slowed down through computer training (100 reports), wolves reconcile after a conflict whereas dogs avoid each other (39 reports), pigs can distinguish human faces (34 reports), flexibility enables poison dart frogs to do successful brood care (16 reports) and over-imitation might not only be a human phenomenon but also occur in dugs (15 reports).

Comparative Medicine: The year started with a successful press release about the publication on the effect of vitamin A in cow milk allergy with 47 media reports. The message that feeding of animals with green fodder immediately influences allergy processes was well understood and continued until June (interview for Konkret with Karin Hufnagl). The annual press release on poll allergy hit the nerve of affected allergy sufferers and resulted in 46 media reports. The release on microchip allergy tests for horses triggered reports, too.

Christian Kugler and his team from Servus TV for shooting with guests Lukas and Jabba in the Clever Dog Lab. In the picture: Lukas Joszeffi, Ludwig Huber, Christian Kugler, Sabrina Karl, Alina Gaugg



Vitamin A for cows could be protective against cow milk allergy



Other highlights were "Krone der Wissenschaft" in Kronenzeitung, "Der Mensch, ein Tier" in Süddeutsche Zeitung, "Leidensdruckausgleich" in Profil and interviews in Ö3, Ö1 (radio stations), Radiodoktor and ORF-Konkret

In 2018, members of the Unit of Ethics and Human-Animal Studies gave many interviews in print media, radio and TV in the German-speaking area on ethics in human-animal interactions. We were particularly pleased about the interest by the Swiss station "NZZ Format", which resulted in a detailed programme under the title "Das Tier und wir: Verehrt oder verzehrt?" (We and the animal – revered or eaten?) comprising an interview with Herwig Grimm.





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Members of the Messerli Research Institute were again involved in several national and international conferences in 2017. They did not only contribute with invited lectures and other presentations but acted as hosts, co-organisers, committee members etc. Thus, they contributed to the institute's visibility in Austria and abroad.

Members of the Comparative Cognition unit were involved in the organisation of international conferences (Southern California Animal Behavior Meeting 2018; International Congress of Neuroethology 2018), workshops (first workshop worldwide on cognition in parrots in Vienna), a student conference (5th European Student Conference on Behavior and Cognition) and a summer school (CoBeNe Summer School on Statistics). At the national level, members of the Clever Dog Lab acted as chairpersons and lecturers at the Vienna Symposium of Animal Shelters.

Comparative Medicine: Besides the organisation of business meetings and workshops, a symposium of the Society of Physicians in Vienna on "Farms, the microbiome and allergies" was a highlight with its excellent speakers from Germany and Switzerland.



The speakers at the symposium "Farms, the microbiome and allergies", at the College of Physicians, Vienna: f.l.t.r. Isabella Pali, Franziska Roth-Walter, Erika von Mutius, Erika Jensen-Jarolim, Helmut Viernstein, Philippe Eigenmann, Markus Ege

Participants in the first workshop on parrots worldwide

Events



As a joint editor-in-chief of the Wold Allergy Organization Journal, Erika Jensen-Jarolim headed editorial board meetings in Munich and in Florence (December) together with Alessandro Fiocchi.

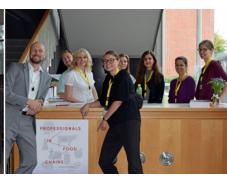
Particularly noteworthy is the four-day international conference of the European Society for Agricultural and Food Ethics (EurSafe), which was organised by the Unit of Ethics and Human-Animal Studies, led by Svenja Springer and Herwig Grimm. Under the title "Professionals in Food Chains: Ethics, Roles and Responsibilities", the focus of the discussions was particularly on veterinary ethics.



Editors-in-chief of the World Allergy Organization Journal

Rector Petra Winter and Ulrich Herzog at the opening of the EurSafe Conference 2018, 13–16 June 2018 (organised by the Unit of Ethics and Human-Animal Studies)

EurSafe Conference 2018, 13–16 June 2018 (organised by the Unit of Ethics and Human-Animal Studies)



"Das vergesellschaftete Tier", 1–2 October 2018, Evangelische Akademie Tutzing (organised by the Unit of Ethics and Human-Animal Studies together with the Institute TTN at LMU Munich)



"Dimensions of Vulnerability", 5–6 April 2018, University of Vienna (organised by Martin Huth from the Unit of Ethics and Human-Animal Studies together with Gerhard Thonhauser from the University of Vienna/FU Berlin

Auditorium of the Minding Animals Symposium 2018 in the seminar room of the MRI (organised by the Unit of Ethics and Human-Animal Studies)

Prof. Martin Ullrich (Nuremberg University of Music) interacting with one of the kea at Haidlhof











Opening address by Rector Winter at the joint dinner





Bowling









Giulia Cimarelli with her supervisors Ludwig Huber and Zsófia Virányi, as well as Daniel Mills (university of Lincoln) as external assessor after her successful PhD defence on 5 March 2018



Life at the research station in Tanimbar (Berenika Mioduszewska and Mark O'Hara)



Seminar "Life is for Learning—are you ready for behavior change" organised by Happy Fellow from 18 to 21 May 2018 in Puchberg am Schneeberg. In the picture: Jesús Rosales-Ruiz, Karin Bayer, Susan Friedman, Viola Färber-Morak, Mary Hunter



Mark O'Hara and Aristide Parisod observing Goffin's cockatoos in Tanimbar





Presentation of research on poison dart frogs (left) and the Clever Dog Labs (right) at the Be Open festival by FWF



Poster presentation of the SAB Meeting of the Messerli Research Institute on 22 May 2018. In the picture: Mark O'Hara, Alice Auersperg, Ludwig Huber, Eva Ringler





Rodolfo Bianchini – just married







Party by the Unit of Ethics and Human-Animal Studies at the Old Danube after the Eursafe Conference on 16 June 2018



University of Veterinary Medicine, Vienna

Veterinaerplatz 1, 1210 Vienna, Austria T +43 1 25077-2681 messerli.office@vetmeduni.ac.at www.vetmeduni.ac.at/messerli







