

The University of Veterinary Medicine Vienna (Vetmeduni) works to safeguard the health of animals in Austria through its teaching and research activities and through the services it offers. These tasks represent our contribution to keeping people and their animal companions healthy and to ensuring the production of healthy food. To meet our objectives,

our University Clinic for Ruminants, Clinical Unit for Herd Health Management in collaboration with the Precision Livestock Farming Hub (Institute of Animal Welfare Science; both at the Department for Farm Animals and Veterinary Public Health) is looking for a

PhD student working on „Image analyses for predicting parturition in cows and pigs”

Grade:	B1
Level of employment:	30 hours
Length of employment:	3 years, beginning from 01.07.2022
Deadline for applications:	15.05.2022

Digitalisation in livestock farming is advancing rapidly. One of the factors contributing to this development is the increasing use of sensor technologies, e.g. for animal monitoring. In this context, Precision Livestock Farming technologies support the management of animals by continuous, automated, real-time monitoring of production/reproduction, health and welfare, integrating a bioengineering approach to human-animal interaction that offers wide-ranging applications and benefits.

This PhD position is organised in collaboration between the Clinical Unit for Herd Health Management in Ruminants and the Precision Livestock Farming HUB of the Vetmeduni Vienna. The project focuses on the development of automated methods for image based monitoring of parturition in cows and pigs. The project will have several phases. In the first phase, the focus will be on a post hoc investigation of videos to develop an algorithm for automated classification of animal posture and behaviour. This will allow establishing the technological foundation and will help to acquire basic knowledge on the relationship between parturition and sensor-captured specific behaviors. In a next step, an algorithm for real-time monitoring of parturition will be developed and tested.

Responsibilities

Practical research activities for data generation are planned on the research farm of the Veterinary University (VetFarm) at Kremesberg in Pottenstein, Lower Austria, but also on contracted (inter)national commercial farms. The project is ideally suited for students with a strong quantitative background in computer science, engineering, or natural sciences who have a passion to conduct high-level and applied research in a very dedicated and ambitious research team. The project will combine behavioural observations on animals, analysis of

dynamic variation of sensor signals, algorithm development and algorithm validation. The work will be conducted in English.

Necessary knowledge and qualifications

- university degree in a relevant field of biology, veterinary medicine, computer science, bio-engineering, engineering or equivalent degree
- Very good German and English language skills in spoken and written (B2)
- Interest in data analysis and programming
- Class B driving licence

Skills and Abilities

- Knowledge in computer programming (MATLAB, Python, R)
- Knowledge in handling of farm animals
- Knowledge in behavioural data analysis
- Experience with sensor use in biology
- Craftsmanship
- Team spirit
- Ability to work under pressure, independent and problem-solving oriented
- Scientific publications would be a plus
- Experience with deep learning frameworks would be a plus

Contact /Further Information

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Minimum salary

The minimum salary for university staff is regulated by the collective contract and at the level given above amounts to EUR 2,293.95 gross per month. The minimum salary may be increased when previous employment and other salary components are taken into account.

Applications

Please submit applications quoting the **reference number 2022/0435** via e-mail (preferably) to bewerbungen@vetmeduni.ac.at or by post to the Personnel Department of the University of Veterinary Medicine, Veterinärplatz 1, 1210 Vienna. Please do not forget to include the reference number or we shall be unable to relate your application to the correct vacancy announcement.

The Vetmeduni Vienna is attempting to increase the proportion of female staff, particularly in senior positions, and in accordance with § 41 of the 2002 Universities Act it is striving to attain a balanced representation of men and women, especially on its scientific staff. Applications from qualified women are thus particularly welcomed. If women are underrepresented (below 50%), female applicants who are as well qualified as the best qualified male applicants will be given preference, provided that there are no strong reasons for favouring a particular male candidate.

Applicants have no entitlement to reimbursement of any travel or accommodation costs they may incur as a result of the application procedure.

The Vetmeduni Vienna is proud to have been awarded the certificate "*hochschuleundfamilie*" (career and family). We should thus be especially pleased to receive applications from people with families. Applications from persons with disabilities are similarly welcome.