PhD Program between Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2026

Department/Institute: [**School of Veterinary Medicine/ Institute of Veterinary Physiology**]

Subject area: [**Intestinal Physiology**]

Name of Supervisor: [**Prof. Dr. Jörg R. Aschenbach**]

Number of open PhD positions: [1]

Type of the PhD Study: [Full time, No Sandwich]

Project title: [**Establishment and application of the Ussing chamber as an ex-vivo model for intestinal heat stress in pigs**]

PhD Project description:

Due to global warming, heat stress in farmed animals is no longer restricted to tropical regions; it gains relevance in countries with more moderate climates too. As a major cause of stress, it significantly impacts animal performance. The intestine is a key target organ where heat stress is known to disturb the epithelial barrier and to impact nutrient absorption. On the other hand, dietary supplements like antioxidants and certain bioactive plant compounds show the potential to alleviate the effects of heat stress. Yet, the high topicality of heat stress investigation contrasts with the difficulty of practical experiments, as heat stress entails significant suffering and a high risk of death during experiments on living animals.
The Ussing Chamber is a long-established model for investigating intestinal barrier properties and transport processes, making it a valuable asset for nutritional physiological research. Advantages of this method include the possibility to exactly control incubation temperature, while recording functional epithelial parameters and the effects of substances added to the incubation system.
Therefore, the proposed PhD project aims to establish an Ussing Chamber model for intestinal heat stress in pigs, including its validation using molecular biological methods like quantitative RT-PCR and Western Blots as well as confocal microscopy. The established model will be used to investigate the effects of bioactive plant compounds on the intestinal porcine epithelium under heat stress conditions.

Language requirements:

IELTS: 6,5 oder TOEFL: 95 ibt

Academic requirements:

The project is suitable for a student with a Master's degree (or comparable) in the field of Veterinary Medicine, Biology or a related field of life sciences.
Practical experience with laboratory work, data acquirement and -evaluation is desirable.

Information of the professor or research group leader (website, awards etc.):

Prof. Jörg Aschenbach is the Acting Head of the Institute of Veterinary Physiology, and Vice President of the German Veterinary Medical Association. He has a solid track record of scientific projects and publications and holds a patent. The members of his research group are very enthusiastic team players. The group's focus is mainly on intestinal epithelial transport and metabolism in pigs, poultry and ruminants in health and disease. We use a wide array of integrative research methods like studies in vivo, Ussing chamber and cell culture techniques, various molecular biological techniques (quantitative RT-PCR, Western blots), immunofluorescence/laser-scanning microscopy and omics. We regularly welcome international students and scientists in our group and integrate them cordially in our team. We guide our national and international PhD students through the structured PhD program, which is embedded in the Dahlem Research School. For more information, follow this website and its links: https://www.vetmed.fu-berlin.de/en/einrichtungen/zfg/we02/forschung/ag-epithelialer-transport-und-stoffwechsel/index.html

Please note:
In a first step, the complete application should be uploaded to the online portal (https://fuberlin.moveon4.de/form/60acfece5d328710e40bdbd5/eng) for evaluation by December 15th, 2025.