The Leibniz Institute for Agricultural Engineering and Bioeconomy is a pioneer and a driver of bioeconomy research. We create the scientific foundation to transform agricultural, food, industrial and energy systems into a comprehensive bio-based circular economy. We develop and integrate techniques, processes and management strategies, effectively converging technologies to intelligently crosslink highly diverse bioeconomic production systems and to control them in a knowledge-based, adaptive and largely automated manner. We conduct research in dialogue with society - knowledge-motivated and application-inspired.

For the project funded by the DFG ‘Modelling of ventilation rate and airflow patterns of naturally ventilated pig barns with outdoor exercise yards (MNVBOYs)’, we are looking for a

**Doctoral Researcher (m/f/d)**

The ventilation rate and airflow pattern in naturally ventilated pig barns with outdoor exercise yards (NVPBOYs) are dependent on the barn design, outdoor climate conditions, animal behaviour, and the interaction between them. The aims of the MNVBOYs research project are to systematically quantitatively determine the interacting influences of different factors on the airflow, as well as to develop a mathematical model of the ventilation rate of a NVPBOY by means of numerical simulations. For this purpose, a three-pillar model consisting of wind tunnel experiments, on-farm measurements and computational fluid dynamics will be used. The results will help to provide good indoor environment for housed animals, and to estimate gaseous emissions for understanding gas and aerosol transport under different boundary conditions.

**Your responsibilities**

- Measurements of airflows and gas concentrations of livestock buildings through physical modelling in the boundary layer wind tunnel
- Planning, execution and evaluation of on-farm measurements of indoor climate parameters and animal behaviour in the pig barn
- Development and validation of numerical models of pig barns
- Deriving a parametric model for the ventilation rate of the pig barn from numerical simulations
- Write and publish scientific articles in peer-reviewed journals

**Your qualifications**

- Successfully completed university degree (diploma / master examination) in the field of agricultural, engineering, environmental sciences or similar
- Deep knowledge and experience in the field of natural ventilation and livestock buildings
- Very good knowledge of fluid mechanics (especially computational fluid dynamics)
- Experience in using common CFD software (preferably ANSYS FLUENT and ICEM, or STAR-CCM+)
- Experience in the field of physical modelling in the wind tunnel is desirable
- Knowledge of statistical data analysis and experience in related software (e.g. R, MATLAB)
- Very good spoken and written English skills
- Command of German language is most welcome
- Independent work, personal commitment, reliability, enjoyment of basic science, solution-oriented action, ability to work in a team and willingness to cooperate
- Willingness to travel, class B driving license is desirable

**We offer**

- Doctorate within a structured program and accompanying training courses
- Opportunities of participating international conferences to support your scientific exchange
- Guest stays at the research institute of the project partner (Christian-Albrechts-Universität zu Kiel)
- Attractive, interdisciplinary working environment and very good conditions for developing your scientific career
- The best prerequisites for independent, interdisciplinary research in an ambitious team and with modern infrastructure
• Access to national and international networks for your scientific development
• Family-friendly working conditions that promote the compatibility of work and family life

This part-time position (65%) is to be employed with start in June 2022 and in accordance with the project duration for a limited period of 3 years. The salary is based on your qualification and professional experience according to TV-L up to salary group 13.

For further information please contact Prof. Dr. Thomas Amon (Tel: 0331/5699-510; E-Mail: tamon@atb-potsdam.de) and visit our website www.atb-potsdam.de.

If you would like to contribute your professional competence to our interdisciplinary research, please apply by the following deadline 16.01.2022 using ATB’s online application form for the job advertisement, code 2021-5-6, at https://www.atb-potsdam.de/en/career/vacancies. Applications received after the application deadline cannot be considered.

Equality of opportunity is part of our personnel policy. Disabled applicants with adequate qualification will be preferentially considered.

By submitting an application, you agree that your job application documents will be stored for a period of six months, even in the case of an unsuccessful application. Further information on the processing, storage and protection of your personal data can be found at https://www.atb-potsdam.de/en/services/data-protection-declaration-for-the-application-process.

Published on 11/04/2021