The Leibniz Institute for Agricultural Engineering and Bioeconomy as a nationally and internationally acting institute is researching at the interface of biological and technical systems. Our research is aimed at sustainable intensification. We analyze, model and evaluate bio-economic production systems. We develop and integrate new technologies and management strategies for a knowledge-based, site-specific production of biomass, and its use for food, as biobased materials and fuels - from basic research to application.

For the research project “Determination of air exchange rates in naturally ventilated barns – Validation of prediction models”, funded by the German Research Foundation (DFG), we intend to employ a

**Research Associate (65%)**

with the possibility of gaining a doctoral degree

The working group investigates flow phenomena as well as particle and energy transport processes in and around naturally ventilated barns. The processes take place in the atmospheric boundary layer and are influenced by different stimuli such as wind speed and direction, temperature gradients and building parameters. The objective of the research project is the systematic investigation of the influence of these stimuli on the flow pattern inside the barn and the statistical analysis of the resulting spatial distribution of tracer gases and their effects on the determination of the air exchange rate.

We use computational fluid dynamics (CFD) as well as the analysis of wind tunnel measurements and long-term measurements in our experimental barn. The results obtained will be cross-validated with each other.

**Your responsibilities include**

- Further development of a CFD model including validation
- Development of a parametric model based on the numerical simulations
- Cluster analysis of the simulated tracer gas distributions and development of a parametric model based on the results
- Participation in the design of validation measurements
- Preparation of scientific publications in peer reviewed journals and project reports

**Our expectations are**

- Completed university studies (diploma / masters degree) in engineering, physics, meteorology or similar
- Very good knowledge of fluid dynamics (especially CFD)
- Experience in handling common CFD software (preferably ANSYS FLUENT and ICEM)
- Very good knowledge of statistical data analysis
- Experience in the field of cluster analysis desirable
- Fundamental programming skills
- Profound English skills, both orally and in writing
- Ability to work independently, personal commitment, reliability, flexibility, team skills, willingness to cooperate

**We offer**

- An excellent infrastructure to research in the field of fluid dynamics, including a large boundary layer wind tunnel and several multi core workstations
- The opportunity to undergo a structured PhD program including optimal support and training courses
- An attractive, interdisciplinary work environment and very good conditions to develop your scientific career and networks

Remuneration, depending on your qualifications and experiences, is at E 13 TV-L (German public ser-
vice salary scale). The position (65%) is limited to the duration of the project (3 years). Further information can be obtained from Prof. Dr. Thomas Amon (E-Mail: tamon@atb-potsdam.de) and on the internet under www.atb-potsdam.de.

If you would like to participate in our interdisciplinary research, please apply until 12.03.2018 by e-mail (if possible one PDF document) quoting the reference number XXX karriere@atb-potsdam.de.

Equal opportunity is part of our personnel policy. Severely disabled applicants with the same suitability will be considered specially.