Leibniz-Institut für Agrartechnik und Bioökonomie e.V. (ATB)

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.

Post Doc (m/f/d) – 100 %
in non-invasive measurement methods for process and quality control

City: Potsdam; Starting date (earliest): 01/09/25; Duration: 3 Years; Remuneration: TV-L 13; Reference number: 2025-SY-WiP-22; Closing date: 30/06/25

Working field

In our Department System Process Engineering, we are seeking for a

Post Doc (m/f/d) – 100 %
in non-invasive measurement methods for process and quality control

During agricultural-related fermentation, conversion and drying processes, information about process parameters and the quality of the processed materials or substrate are very important. While process parameters such as pressure and temperature in reactors are relatively easy to obtain, information on the substances in the reactors can often only be provided after chemical analyses.
Under certain circumstances, non-invasive spectrometric measuring systems offer the possibility to obtain information on the quality properties of the treated substrates in real time. This real-time knowledge can be used for automatic process control.
In order to control agricultural-related processes, knowledge must be gained about the fundamental interactions between process parameters and quality properties of the treated substrates or products and non-invasive measurement methods must be found out and further developed to determine essential parameters of the reactions and the products. The investigations generate fundamentals, which can be used for the development of Smart Process concepts depending on substrate or feedstock properties.
Therefore, we are seeking a highly motivated and future-orientated thinking Postdoc with innovative ideas and visions to control agricultural-related processes with the help of non-invasive measurement systems.

Your responsibilities

- Independent research in the field of non-invasive measurement systems for process control of selected agricultural pre- and post-treatment processes as well as in the context of ATB’s smart biorefinery concept
- Planning and conducting measurement systems and evaluation of data series
- Development of concepts for Digital Twins for different agricultural and biorefinery processes
- Acquisition of third-party funding projects
- Promotion of bachelor, master and PhD thesis
- Preparing and publishing research findings in peer-reviewed scientific journals
- Establishing and maintaining of international scientific cooperation
- Participation in relevant national and international committees
- Active participation in scientific issues and strategic developments of ATB

Requirements

- PhD in the fields of mechanical engineering of agricultural machinery, agricultural processes, food process technology, bio technology or related fields
- In-deep knowledge in the applications of Hyperspectral Imaging, Biospeckle Imaging, Laser-Light Backscattering Imaging, LEDs, and Bandpass Filter-Based Imaging techniques
- Basic knowledge of substrate changes during fermentation and drying processes
- Proficiencies in computational process modelling and statistical data analysis
- Excellent publication record and proven success in attracting third-party funding
- Very good written and spoken English skills (business fluent); German skills are beneficial
- Independent work ability, personal commitment, reliability, flexibility and the ability to work in a team and willingness to cooperate are required
- EU driver license class B is beneficial

What we offer

- The opportunity to work in a particularly innovative area with non-invasive measurement systems
- Working in an interdisciplinary team in an attractive working environment
- Access to national and international networks for your scientific advancement
- Family-friendly working conditions that foster the compatibility of work and family life
- Participation on the VBB company ticket or Deutschland ticket
- Company-owned electric bicycles for business trips
- A work place located on the edge of a picturesque park-like landscape

This full time position (100 %) is initially limited for 3 years, starting on September 1, 2025. The remuneration is dependent on your qualifications and professional experience up to salary group 13 TV-L.

Application

For further information, please contact Dr. Thomas Hoffmann (thoffmann@atb-potsdam.de) or Prof. Dr. Barbara Sturm (bsturm@atb-potsdam.de) and visit our website www.atb-potsdam.de.

If you would like to contribute your expertise to our interdisciplinary research, we look forward to receiving your application documents consisting of a CV without a picture, a three-reference track record and a concept for the establishment and medium-term development of your research field and its integration into the work of the ATB and the Leibniz Innovation Farm for Sustainable Bioeconomy. You are welcome to provide contact details of at least one recommender.

Please apply by the following deadline June 30, 2025 using ATB's online application form for the job advertisement, code 2025-SY-WiP-22, 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.

More information at https://stellenticket.de/195335/TUB/
Offer visible until 30/06/25