

The Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB) as 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 raw materials and fuels - from basic research to application.

Thus we are contributing to food security, animal welfare, the holistic use of biomass, and to protect the climate and environment.

Within the framework of the EC H2020-funded project "Non-thermal physical technologies to preServe HEALTHiness of fresh and minimally processed fruit and vegetables - SHEALTHY" we are seeking for a

### **Postdoctoral researcher (m/f/d)**

SHEALTHY aims to assess and develop an optimal combination of non-thermal sanitization, preservation and stabilization methods to improve the safety (inactivation of pathogens and spoilage microorganisms), while preserving the nutritional quality and prolonging the shelf-life of minimally processed F&V products. By combining and modulating non-thermal technologies with minimally processing operation, we will respond to consumers' demand for fresh, healthy, convenient, sustainable and locally produced and additive-free food. The combined and optimised mild technologies will be demonstrated and validated in 2 business cases: Minimally processed fruits and vegetables and fruit and vegetable-based juices & smoothies. Sanitization during washing will be optimized by applying in combination ultrasound (US), electrolysed water, plasma activated water, high intensity pulsed light and blue light. Bioactive coating, active and intelligent packaging will be applied for quality preservation and shelf life extension of minimally processed F&V. F&V-based juices & smoothies will be stabilized by ultrasound and high pressure processing. For F&V by-product valorisation, US, pulsed electric field and membrane filtration will be used to extract bioactive compounds. Sustainable and flexible processing methods will be transferred and adapted to the need of local F&V micro and SMEs, interconnecting primary producers through novel cooperative business models and new logistics systems, to enhance the traceability and authenticity of raw materials along the F&V value chain. Commercial feasibility will be assessed, including consumer acceptance and regulatory, safety and environmental aspects. SHEALTHY will combine the technology trends and consumer needs to afford the business models, technology transfer and market orientation that will facilitate the transition towards a new collaborative agrifood ecosystem for traditional, local and rural SMEs around EU.

ATB's project work aims on developing a pilot for non-thermal postharvest processing of foods. A modular and product-specific processing line will be established to conduct experiments with local and European companies. Innovation approaches are being developed from proof of principle as lab versions to the proof of concept on pilot scale supporting the future industrial production of healthy and safe foods.

#### **Your responsibilities**

- Development of a pilot for postharvest processing of fruits and vegetables
- Planning and conducting experiments to evaluate process-product interactions considering health and safety aspects of fresh produce
- Determining product quality and safety aspects
- Broadening the spectrum of specific analytical methods
- Project management and dissemination activities

#### **Your qualifications**

- Excellent graduation in food technology, chemical engineering, agricultural engineering
- Advanced level of scientific working experiences
- Experiences in experimental application of non-thermal technologies (high pressure, pulsed electric fields, ultrasound, etc.) for the treatment of plant related food matrices
- Fundamental knowledge in the area of non-thermal processing and health/safety aspects
- High interest in systemic approaches and innovative research topics
- High personal commitment and reliability, self-reliant working, capacity for teamwork
- Excellent communication and writing skills in German and English language

### We offer you

- Excellent facilities, processing units, analytical labs and an interdisciplinary team
- Access to national and international networks to support your scientific exchange
- Support of your career development by qualifying programs (ATB and partner universities)
- Family-friendly working conditions that foster the compatibility of work and family life

This post is remunerated as salary scale 13 TV-L (100 %) and the contract is limited to 3 years, based on the duration of the project. The beginning of employment is scheduled for March 2020. For further information, please contact **Dr.-Ing. habil. Oliver Schlüter** (Tel.: +49(0)331/5699-613, E-Mail: [oschlueter@atb-potsdam.de](mailto:oschlueter@atb-potsdam.de)) or visit our website at [www.atb-potsdam.de](http://www.atb-potsdam.de).

If you wish to participate in our interdisciplinary research with your professional expertise, please apply by **19 January 2020**, by e-mailing [karriere@atb-potsdam.de](mailto:karriere@atb-potsdam.de), quoting the **reference number 2020-6-1**; attachments should preferably be sent as one pdf-file.

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

With your application for employment you declare your agreement to store your application documents for at least three months even in case of an unsuccessful candidacy.

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