Job posting

Type of position
☒ scientific
☐ administrative

Target group
☐ graduates
☒ post docs
☐ other

Title
Scientist (m/f/d) (100 %) PostDoc

Institution
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.

Position
Subject to the approval of funds, as part of the EU project "Soil Quality Analysis Tool (SQAT): Implementing Smart Farming Applications using Earth Observation Data, Soil Sensors & Robotics" the following position is to be filled as of March 1st, 2024

Scientist (m/f/d) (100 %) PostDoc

The objective of the collaborative project is to improve the precision, quality and affordability of soil data so as to address the biggest bottleneck in the agricultural data demand. To this end, the project aims to develop an automated and sensor-based system for high-resolution soil mapping to enable new and improved smart farming applications. This is to be achieved by combining satellite data (Copernicus) and data from proximal soil sensors. The soil sensors are to be integrated on a robot platform and operate autonomously.

The main task of the position advertised here is to develop the soil sensor module for the robotic platform. It will carry out continuous measurements in the field using near-infrared spectroscopy (NIRS). In order to create high-resolution soil parameter maps for smart farming applications, automated workflows for data processing, reference sampling and sensor data calibration are to be developed.

The position is full-time (100 %) and limited to June 30, 2027. Remuneration depends on your qualifications and professional experience according to TV-L up to salary group 13.

Responsibilities
Your responsibilities
Research on NIR spectroscopy for continuous soil mapping
- Development and construction of a NIRS module (demonstrator) in collaboration with the ATB technical staff
- Development, testing and validation of automated workflows for data processing, reference sampling and sensor data calibration using the NIRS demonstrator
- Close cooperation with the project partners in the integration of the NIRS module into the robotic platform
- Publication of the results in scientific and practice-oriented journals and presentation at national and international conferences

Requirements

**Your professional qualification profile**
- Very good university degree (Master/Diploma) and ideally a PhD in an engineering science, preferably (agro-)mechatronics
- Very good knowledge and experience in automation technology in the outdoor sector
- Very good programming skills, ideally for embedded controller programming
- Very good knowledge of measurement technology and signal processing
- Experience in optical spectroscopy is desirable
- Knowledge and experience in sensor calibration with methods of multivariate regression and machine learning
- Experience in agriculture, soil science, remote sensing and geographic information systems is desirable;
- Very good written and spoken English and good knowledge of German
- Independent work, high personal commitment, reliability, flexibility, ability to work in a team and willingness to cooperate are required
- Experience in writing articles for scientific and practice-oriented journals
- Willingness to present project results at international conferences
- Willingness to travel into other EU countries
- Confident use of MS Office programs
- European driving license class B

Application procedure (deadline etc.)

For further information please contact **Dr. Sebastian Vogel** (E-Mail: svogel@atb-potsdam.de) and visit our website [www.atb-potsdam.de](http://www.atb-potsdam.de).

If you would like to participate in our interdisciplinary research, please apply by **January 21, 2024** using ATB’s online application form for the job advertisement, code **2023-4-9**, at [https://www.atb-potsdam.de/en/career/vacancies](https://www.atb-potsdam.de/en/career/vacancies). Applications received after the application deadline cannot be considered.

The job interviews will take place on January 26, 2024.

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](https://www.atb-potsdam.de/en/services/data-protection-declaration-for-the-application-process).

Contact

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