The Leibniz Institute for Agriculture and Bioeconomy (ATB) as a nationally and internationally acting institute is researching at the interface of biological and technical systems. ATB's research aims to create foundations for sustainable 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 bio-based materials and fuels - from basic research to application.

Within the project „Development and Calibration of Quick Methods for Analysing Plant Nutrients in Slurry“ we are offering the following position:

Scientist

for

Spectral-optical Determination of Slurry Composition

The project aims to test and further develop quick and cost-efficient methods for quantifying plant nutrients in liquid organic manure. These methods include colorimetric tests, ion-selective electrodes, capillary electrophoresis, cation / anion absorbers, and optical spectroscopy. The project under the lead of the University of Applied Sciences Osnabrück is funded by the Deutsche Bundestiftung Umwelt (German Environment Foundation) and includes three partners. The ATB is responsible for the sub-project “spectral-optical sensor technology”. Vis, NIR, and MIR spectrometers will be used to determine pH, dry matter, $N_{tot}$, $NH_4$-N, P, K, Mg, Ca, S, Cu und Zn. Data from analysis with reference methods will be provided by the project partners.

Your responsibilities

- Development of measurement setups and conduction of measurements with lab-grade and low-cost spectrometers
- Chemometrical data analysis including:
  - Data pre-treatment (data base, filtering, drift check, alignment)
  - Selection of relevant wavebands (variable selection)
  - Implementation of robust calibration functions
- Scientific presentation of research results
- Support of project management (report writing, documentation, project meetings, purchasing)

Our expectations

Education: University degree (including specialized certificates) in a discipline which refers to the R&D topic, e.g. chemical engineering, bio-technology, medical engineering, environmental engineering, physics, physical chemistry, agronomy.

Experiences: The candidate should have experiences in at least two of the following fields:
- Multivariate data analysis with statistical and machine learning software (preferably R and MATLAB)
- Optical spectrometry
- Analysis of slurry

Further requirements: statistical design of experiments, setup of measuring instrumentation, independent work in the lab, handling of slurry samples, good English skill

We offer

We offer the option to obtain a PhD degree. PhD courses are available from our partner universities in Potsdam and Berlin. Supervision can be obtained in house from Prof. Weltzien, Head of Dept. 4 at the ATB and Chair of “Agromechatronics” at the Technical University of Berlin.

The temporary position is limited until 36 months. Salary amounts up to pay grade 13 TV-L, 50 %, in case of PhD-students with 65 % employment (26 hours per week). The actual salary depends on the qualification.
Further information can be obtained from Dr. Robin Gebbers (Tel.: 0331/5699-413, E-Mail: rgebbers@atb-potsdam.de) and from our web-site www.atb-potsdam.de.

If you are eager to contribute to the interdisciplinary at the ATB please submit your CV and a cover letter as a single PDF document to karriere@atb-potsdam.de. Use the reference number 2018-4-1. Deadline is 31.05.2018.

ATB applies a policy of equal opportunities and accepts applications without discrimination on any grounds. Severely handicapped persons will be particularly regarded.

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