The mission of the Leibniz Centre for Agricultural Landscape Research (**ZALF**) as a nationally and internationally active research institute is to deliver solutions for an ecologically, economically and socially sustainable agriculture – together with society. ZALF is a member of the Leibniz Association and is located in Müncheberg (approx. 35 minutes by regional train from Berlin-Lichtenberg). It also maintains a research station with further locations in Dedelow and Paulinenaue.

The working group Isotope Biogeochemistry and Gas Fluxes (**ZALF IBG**) is working on the investigation of key processes that significantly regulate the flow of substances and water within the soil-plant-atmosphere continuum (SPAC) of agricultural used landscapes. For this purpose, isotope techniques, methods for measuring gas fluxes and plant physiological studies are combined. The targeted combination of these approaches and their further development within the framework of interdisciplinary and multiscale projects enables the integrative analysis and quantification of material fluxes along the SPAC as well as the elucidation of their regulation. Currently, the group is investigating the role of erosion for C and N dynamics (including GHG emissions) in agricultural landscapes on three different continents (Africa, Asia and Europe), the importance of rhizosphere processes for rhizodeposition and uptake, and the water balance and water use efficiency of ecosystems.

Currently we are looking for a **motivated researcher** joining our team within the joint research project **NEmGem,** including the possibiliy to pursue a PhD within the project. In vegetable production, high nitrous oxide (N_2O) and ammonia (NH_3) emissions occur after harvesting, since a high proportion of harvest residues with mostly high nitrogen (N) content remains in the field. The aim of the project **NEmGem** is to reduce these N_2O and NH_3 emissions in field vegetable production. In order to achieve this goal, processing (composting, ensiling and anaerobic digestion) and recycling of crop residues will be investigated within field trial as well as ^{15}N and incubation studies. Besides **ZALF**, the project consortium includes the Leibniz Institute of Vegetable and Ornamental Crops (**IGZ**), the Leibniz Institute for Agricultural Technology and Bioeconomy (**ATB**) and the Magdeburg-Stendal University of Applied Sciences (**HS MD-SDL**). **ZALF IBG** will be partly responsible for the working packages ***2 "Quantify the mitigation of N emissions in the field and N transfer to the succeeding crop by enhancing crop residues"*** and ***4 "Assessment of measure efficiency and measurement of N fluxes in incubation trials".*** The particular focus for the work will therefore be on N dynamics and transformation processes in field vegetable production.

We are offering a part-time position (65% full-time equivalent) for **three years,** starting earliest 1st of July 2024, located at ZALF in Müncheberg.

Researcher (f/m/d)

Your tasks:

- implementing (e.g., IoT sensor network) and conducting measurements (supported by the project technician) to monitor gaseous N-emissions (mainly N_2O and NH_3; closed chamber measurements) and N-dynamics at two measurement sites in Brandenburg
- independent planning and execution of the necessary field work
- planning and conducting soil incubation experiments at ZALF as well as a ^{15}N field experiment in cooperation with the IGZ

Leibniz Centre for Agricultural Landscape Research (ZALF), Eberswalder Straße 84, D-15374 Müncheberg, Germany

Contact of Human resource management: personal@zalf.de

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- use and further development of low-cost DIY (Arduino/raspberry pi based) gaseous N-emission measurement devices (developed by ZALF IBG and e.g. used in Ghana, Benin and the Philippines) for in-situ measurements of inter-alia NH_3
- on-time data analyses using pre-developed calculation and evaluation scripts in R (a further development of those in R, Julia and/or Python is encouraged)
- close cooperation and exchange with project partners and local partners as well as preparation of results for communication to stakeholders (e.g. project workshops) and the scientific community (e.g. presentations at national and international conferences, journal publications)

Your qualifications:

- excellent completion of a Master (or equivalent) in the field of electronics, agriculture, horticulture, biology, geo-ecology or related subjects
- extensive knowledge of biogeochemical cycles and especially N-dynamics
- basic knowledge of at least data processing or programming language (e.g., R) as well as vegetable production is an advantage
- organizational skills, the ability to work independently and willingness for multiday measurement campaigns and travelling to different field sites all over Brandenburg
- good to very good English skills (oral and written) and basic knowledge of German
- scientific curiosity and high interest in writing a doctoral thesis

We offer:

- an inter-disciplinary and multinational team that encourages independence and self-reliance and open-minded working atmosphere in a young and dynamic working group
- excellent state-of-science technical facilities and equipment
- national and international research networks
- access to training courses for PhD students (e.g. in-house training, Doctoral Certificate Program in agricultural Economics, budget for additional training)
- salary in accordance with the guidelines for public employees according to the German TV-L, up to level E13, including special annual payment
- support in reconciling work and family life
- possibility to pursue a PhD within the project

Women are particularly encouraged to apply. Applications from severely disabled persons with equal qualifications are favored. The filling of the position in part-time is possible in principle. Please send your application preferably online (see button online application below). For e-mail applications, create a PDF document (one PDF file, max. 5 MB; packed PDF documents, archive files like zip, rar etc. Word documents cannot be processed and therefore cannot be considered!) with the usual documents, in particular CV, proof of qualification and certificates, stating the reference number **43-2024 until 31 May 2024** to (see button e-mail application below).

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If you have any questions, please do not hesitate to contact us: **contact person**, **Dr. Mathias Hoffmann: Tel.:** 033432/82-473, **Mathias.Hoffmann@zalf.de** or Dr. Maire Holz: Tel.: 033432/82-127 **maire.holz@zalf.de**

For cost reasons, application documents or extensive publications can only be returned if an adequately stamped envelope is attached.
If you apply, we collect and process your personal data in accordance with Articles 5 and 6 of the EU GDPR only for the processing of your application and for purposes that result from possible future employment with the ZALF. Your data will be deleted after six months.

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zalf.de quer-feld-ein.blog zalf_leibniz @ZALF_leibniz@wisskomm.social