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). The institute also maintains locations in Dedelow and Paulinenaue.

The working group ***Isotope Biogeochemistry and Gas Fluxes*** is offering a position as a postdoctoral researcher within the DFG funded project "Using real-time isotopic in-situ measurements to partition evapotranspiration into soil evaporation and plant transpiration at two distinct cropland sites".

This project, funded by the German Research Foundation (DFG), is part of the Land-Atmosphere Feedback Initiative (LAFI) research group. LAFI analyzes the interactions between land and atmosphere on different scales. Information on the interaction between land and atmosphere is a key factor in the creation of long-term climate models and the prediction of extreme weather events.

The subproject P3 of the LAFI research group will perform measurements of water fluxes and their isotopic signature along the land-atmosphere system to investigate water-related processes with high temporal and spatial resolution (e.g. using canopy and leaf chambers for evapotranspiration and transpiration and membrane probes for the measurement of stable soil water isotopes). These measurements will take place at the experimental site of the "Land-Atmosphere-Feedback Observatory" (LAFO) at the University of Hohenheim and will include two field crops (winter wheat and maize).

The aim of the coupled measurements in P3 is 1) to perform and evaluate the evapotranspiration separation based on the collected isotope data, 2) to systematically determine the contribution of different soil depths to root water uptake and root water uptake patterns of the two crops (wheat and maize), and 3) to model the water transmission times of the two crops (wheat and maize).

We are offering a full-time position for 3 years at our location in Müncheberg as

Postdoctoral researcher (m/f/d)

Your tasks:

- measurements of water fluxes and their isotopic signature using leaf and canopy chamber measurements and soil membrane probes
- partitioning of evapotranspiration into transpiration and soil evaporation based on the collected isotope data
- determination of root water uptake and root water uptake patterns of field crops (winter wheat and maize) (e.g. using mixing models or hydrodynamic models)
- modeling the water travel times of the field crops (winter wheat and maize) (e.g. Hydrus1D)
- arelocation to the University of Hohenheim (Stuttgart) during the measurement phases (April to August) is planned

Your qualifications:

- a doctorate/PhD preferably in environmental sciences, hydrology, geoecology or similar
- extensive experience in gas exchange measurements with chambers as well as in environmental modeling (e.g. R, Python) and statistical analysis
- initial experience in machine learning and hydrological modeling is an advantage
- willingness and aptitude for field work, with sometimes long working days and varying weather conditions
- extensive knowledge of written and spoken English
- high impact scientific publications and presentations at international conferences
- driving license class B
- willingness to travel on business
- ability to think creatively and independently, combined with good self-discipline and appropriate communication skills
- enjoys working collaboratively

We offer:

- an interdisciplinary working environment in a large project that encourages independence and self-reliance
- classification according to the collective agreement of the federal states (TV-L) up to E13 (including special annual payment)
- a collegial and open-minded working atmosphere in a dynamic research institution
- company ticket
- great flexibility for the arrangement of professional and family life
- flexible working times and mobile work

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 **100-2024 until 15 December 2024** to (see button e-mail application below).

If you have any questions, please do not hesitate to contact us: Angelika Kübert, angelika.kuebert@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.