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 project "Hydrological and carbon inventory" is part of the joint project "Monitoring of landscape surfaces and biodiversity by means of drone and satellite data in the Lausitz model region" (**LauMon**). The project aims at creating and continuously updating area-wide maps of water resources and soil carbon. To this end, a systematic intersection of remote sensing data with data from ground-based environmental monitoring using approaches from empirical and process-based modelling is planned. Together with the project partners, a continuously updated product is to be developed from this, which will be made available to authorities, landscape planners and the agricultural, forestry and water management sectors.

The project is part of the "Research Platform Data Analysis & Simulation" at ZALF. Subject to approval, we are offering a position for 36 months (65%) at the Müncheberg site, starting as early as possible, of a

PhD student for continuous regional hydrological and carbon inventory (f/m/d)

Your tasks:

- blending of multi-temporal satellite remote sensing products with time series of groundwater levels, runoff, agricultural and forest yield
- use of Empirical Orthogonal Functions (Principal Component Analysis) for the completion of existing hydrological time series and for spatio-temporal interpolation
- simplified process-based modelling of regional water and carbon stocks
- use of machine learning techniques
- creation of a largely automatized workflow for continuous updating

Your qualifications:

- completed university studies in environmental science
- basic knowledge of multivariate statistics and machine learning methods
- experience in working with geodata
- programming skills, preferably in Python or a powerful scripting language
- good command of English (written and spoken)
- experience in hydrological and yield modelling would also be desirable

We offer:

- an interdisciplinary working environment that encourages independence and self-reliance
- classification according to the collective agreement of the federal states (TV-L) up to EG 13, including special annual payment
- a collegial and open-minded working atmosphere in a dynamic research institution
- company ticket

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

Contact of Human resource management: personal@zalf.de

www.zalf.de zalf.agrarlandschaftsforschung zalf_leibniz

Women are particularly encouraged to apply. Applications from severely disabled persons with equal qualifications are favored. It is generally possible to work in the position on a part-time basis. 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 **141-2022 until 15 January 2023** to (see button e-mail application below).

https://jobs.zalf.de/jobposting/9af0a0a464d4d0dc527a8fdbd8f39f2ec71130ad0

If you have any questions, please do not hesitate to contact Prof. Dr. Gunnar Lischeid, Tel. +49 (0) 33432/82-300.

Application documents sent by post or extensive publications will not be returned

Please note that 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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The project "Stable Isotope and AI supported model development for high frequency, cross scale water partitioning" (**ISO-SCALE**) studies the temporal dynamics and spatial variability in ecosystem evapotranspiration, soil evaporation, plant transpiration, soil water distribution and root water uptake. Within that project Work Package 3 aims at differentiating between various effects using a combination of advanced approaches. Thus we are offering a part-time position (65%) starting in March 2023 for three years at our location in Müncheberg as

PhD student for advanced time series analysis (f/m/d)

Your tasks:

- quality assurance of isotope, meteorological and hydrological data from an experimental site
- differentiating between different effects in a complex setting
- identifying drivers and cause-effect relationships for single effects
- close collaboration with field experimentalists and modelers

Your qualifications:

- studies in environmental sciences, geosciences or physics
- basic knowledge of time series analysis, dimensionality reduction and machine learning approaches
- programming experience, preferentially in Python or R
- independent and well-organized work style and time management
- good command of English (written and spoken)

We offer:

- an interdisciplinary working environment that encourages independence and self-reliance
- classification according to the collective agreement of the federal states (TV-L) up to EG 13, including special annual payment
- a collegial and open-minded working atmosphere in a dynamic research institution
- support for work-life balance certified by berufundfamilie audit
- company ticket

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https://jobs.zalf.de/jobposting/b3d027adcc7a8b6fe2366ccffbc751e99eed63f70

If you have any questions, please do not hesitate to contact Prof. Dr. Gunnar Lischeid, Tel. +49 (0) 33432/82-300.

For cost reasons, application documents or extensive publications can only be returned if an adequately stamped envelope is attached.

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