Scientist (m/f/d)

Institut for Strategies and Technology Assessment – Location Kleinmachnow
Application deadline: 3 Oktober 2022 for the reference number: KM-SF-WA-30-22

Climate change leads to an increase of adverse weather conditions with negative impacts on crop yields and their volatility. Timely in-season forecasts of crop yields can help to reduce agricultural risk and support agronomic decision-making. In this regard, remote sensed hyperspectral data can provide spatially explicit and timely information on crop status. Assimilating such data into agroecosystem models can help to derive robust and area-wide in-season yield forecasts.

In the Hy-PiPE project, the newly available EnMAP hyperspectral satellite data is utilized by our project partners from Helmholtz Centre for Environmental Research (UFZ) to derive crop status time series (e.g., on leaf area index). We assimilate these derived plant state variables into an agroecosystem model to complement missing information (e.g., regarding soil conditions and crop management), enhance data accuracy and improve end-season crop yield forecasts. To establish the workflow and respective routines we can build on extensive experimental in-situ time-series datasets.

Your tasks

- establish data assimilation workflow for time-series data (esp. leaf area index) into an agroecosystem model;
- develop programing routines for iterative adjustment of initial soil conditions (water and nitrogen status), crop management (sowing date, fertilization) and genotypic parameters;
- utilize extensive experimental datasets as training data to develop and test the data assimilation and yield forecasting capabilities for selected crops, esp. winter wheat and winter rye;
- utilize crop state variables derived from the EnMAP hyperspectral data for area-wide yield forecasts
- intensive exchange with our project partners at UFZ;
- preparation of reports and presentation of concepts and project results;
- publication of results at national and international specialist events and conferences as well as in national and international scientific journals.

You have

- a university degree (Masters/Diploma) in agricultural or environmental sciences, bioinformatics, geoinformatics, geoecology, mathematics or a comparable discipline;
- in-depth knowledge and experience in statistical data analysis and modelling, preferably with agro-ecosystem models / crop growth models;
- experience in handling large amounts of data and in programming routines, preferably with R or Python;
- knowledge of arable farming, crop physiology and geographic information systems;
- very good English and, if possible, also German language skills, both written and spoken, including academic writing;
- the ability to work independently and on your own responsibility, including strong organizational and communication skills as well as flexibility;
- endurance and enjoyment of scientific work in a team.

We offer

- a diversified, challenging and interesting job in an international working environment;
- a part-time position limited to 30 November 2025 with 19.5 hours per week on a third party funded project. The employment relationship is based on the collective agreement for the public sector-East (TVöD-Ost). The possibility of a doctorate is given.
- a remuneration according to salary group E 13 TVöD;
- starting date: 1 November 2022.

The JKI site in Kleinmachnow can be reached easily from Berlin and Potsdam and is very well connected to public transport ("Julius Kühn-Institut" stop, 8 minutes from Berlin-Wannsee S-Bahn station). If you are hired, you can receive a subsidy for the S-Bahn job ticket of up to 40 euros per month.

We guarantee professional equality. The Julius Kühn Institute is committed to inclusion. Applications from people with severe disabilities are therefore expressly encouraged. These will be given priority in the selection process. The JKI supports the compatibility of work and family and has held the **audit berufundfamilie** certificate since 2021. In order to support the compatibility of work and family, the JKI offers flexible working time models within the scope of the official possibilities.

More Information

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Online application

Please apply by 3 October September 2022 via the online application system "Interamt". To do this, please click on the "Apply online" ("Online bewerben") button on the "Interamt" page.

For an overview of all open advertisements, please use this link:
https://www.interamt.de/koop/app/trefferliste?partner=3695

Please note that the language on the INTERAMT portal is German.

For your application, please register with Interamt at https://www.interamt.de/koop/app/registrieren. If you are already registered as a user, please use your login. If you have technical problems or questions about your registration, please contact Interamt directly on +49 (0) 345 4800-140 or by email: kontakt@interamt.de.

Your meaningful and complete application documents must be uploaded to the system as part of the online process by the end of the application period.