The Max Planck Institute for Biogeochemistry (MPI-BGC) in Jena is dedicated to interdisciplinary fundamental research in the field of Earth system sciences with a focus on climate and ecosystems. The internationally renowned institute, which currently employs around 230 people, will celebrate its 25th anniversary in 2022. Jena is known for high-tech industry, internationally renowned research institutions and a modern university, but it also has a beautiful natural setting in the green Saale valley with steep limestone slopes. The city of Jena has an active student scene and a diverse cultural life. For the department of Biogeochemical Integration we are looking for a

**Data Scientist (m/f/d) in the field of Remote Sensing**

(Full-time, initially limited to 2 years with the possibility of extension)

**Background and position description:**

The Global Diagnostic Modelling group leads the FLUXCOM initiative ([www.fluxcom.org](http://www.fluxcom.org), Jung et al. 2020) which develops approaches to integrate satellite remote sensing data, eddy-covariance flux observations, and machine learning to generate global products of land-atmosphere carbon and energy fluxes. FLUXCOM is developed by a diverse team with backgrounds in ecophysiology, data science, machine learning, and remote sensing. We are looking for applicants (m/f/d) who will strengthen our efforts to tackle this important challenge, particularly with regards to integrating new global Earth Observation data into our workflows and improving and extending our methodology.

The main task of the position is to integrate the latest generation of Earth Observation data into the FLUXCOM workflow, developing efficient and automated data pipelines from data source to prediction of land surface fluxes. These data pipelines will be co-developed within the broader workflow and consist of acquisition, pre-processing, ingestion, and post-processing of EO data and model output. The initial projects will focus on ingesting data streams from the new Sentinel missions into FLUXCOM, which includes utilizing European Data and Information Access Services (DIAS) and Earth Observation Cloud infrastructures. In particular, the initial project will develop and test new TROPOMI-SIF spatial downscaling methodologies to produce high resolution SIF estimates (Duveiller et al. 2020). While the position is application focused, the candidate (m/f/d) will also have the opportunity to lead and contribute to scientific publications of the group.

**Your tasks:**

- Development of automated data pipelines from data source to prediction of land surface fluxes
- Acquisition, pre-processing, ingestion, and post-processing of EO data and model output
- Utilizing European Data and Information Access Services (DIAS) and Earth Observation Cloud infrastructures
- Develop and test new TROPOMI-SIF spatial downscaling methodologies
- Lead and/or contributing to scientific publications of the group

**Your profile:**

The candidate (m/f/d) should have successfully completed scientific university studies in one of the following or a related field: remote sensing, geoinformatics, computer science, informatics, bioinformatics, physics, geo-ecology. Holding a PhD is beneficial but not required. Given the technical nature of the project, preferences will be given to candidates (m/f/d) with experience in handling and analysing satellite Earth Observation data for land applications with a solid
background in terms of programming languages (e.g., Python, Julia, R). Additionally, being familiar with technology currently used by the FLUXCOM team would be advantageous: HPC computing, cloud computing, docker containers, GIT version control, zarr data cubes, as well as a basic understanding of the terrestrial carbon cycle, ecosystem-climate interactions, eddy covariance ecosystem flux measurements, and machine learning. Very good written and spoken English is required.

Our offer:

This position of Data Scientist (m/f/d) is full-time and is to be filled as soon as possible. But part-time work is generally possible and would be considered. The position will be evaluated and graded based on the qualifications and experiences following the collective agreement according to TVöD Bund. In addition, a pension plan based on the public service (VBL) will be provided. The Max-Planck society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. The Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

Your application:

Dr. Martin Jung (mjung@bgc-jena.mpg.de) will be happy to answer further questions. Please send the complete application with cover letter, curriculum vitae as well as names and contact information of two references summarised in a single PDF file (max. 10 MB) by e-mail to bewerbung@bgc-jena.mpg.de by 30 June 2021, quoting the reference number 06/2021 or by mail to

Max-Planck-Institut für Biogeochemie
Personalbüro: Kennwort „Data Scientist“
Hans-Knöll-Straße 10
07745 Jena

We look forward to receiving your application!

References:
