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

**Postdoctoral Researcher (m/f/d)**
(full-time, 2 years limited)

**Background and position description:**
A position for Postdoc is open at the Max Planck Institute for Biogeochemistry in Jena. This is an appointment within the Model Data Integration group ([https://tinyurl.com/bgi-mdi](https://tinyurl.com/bgi-mdi)), at the Department Biogeochemical Integration ([https://tinyurl.com/bgc-bgi](https://tinyurl.com/bgc-bgi)). The BGI/MDI groups are involved in development of methods and datasets towards a better understanding of Earth System dynamics, with an emphasis on terrestrial ecosystems and biogeochemical processes. The BGI/MDI groups are actively involved in researching the use and development of machine and deep learning (ML/DL) approaches to model, to parameterize and to analyze large datasets on Earth System dynamics, with an emphasis on terrestrial ecosystems and biogeochemical processes. The position relates to the research needs of the BGI/MDI in the context of the ESM2025 project, (work packages 11 & 12) ([http://esm2025.prod.lamp.cnrs.fr/](http://esm2025.prod.lamp.cnrs.fr/)).

**Tasks:**
- Develop an hybrid modeling approach (HM) bridging machine learning and Earth system modeling (ESM)
- Conduct modeling and data assimilation/model learning experiments using multiple in situ and Earth observation data streams
- Contrast HM to traditional ESM approaches, as well as to analyze internal model feedbacks
- Dissemination of scientific results via conference communications and publications in scientific journals
- Assume responsibilities on project reporting and deliverables

**Qualifications:**
- A scientific background in one of these fields: climate sciences, computer sciences, environment, ecology, biology, geography or remote sensing sciences (PhD)
- Expertise in statistical analysis and modeling, including in data assimilation or in machine learning
- Experience in Land Surface or Earth System modeling is very valuable
- Affinity towards teamwork; collaborative and responsible culture
- Very good communication skills (oral and written) in English
Terms of employment:

This is a 100% Postdoctoral position to be filled, with current funding guaranteed for 2 years. This is a full-time position, part-time work is possible in principle. Salary will be according to the German TVöD scale, depending on experience, including social benefits. 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.

Application:

Please send your inquiries and/or applications including a cover letter, CV, and the names and contact information of two references to Dr. Nuno Carvalhais (BGI-MDI, ncarvalhais@bgc-jena.mpg.de) with the subject [BGI-MDI-PD-ESM2025-Application], and indication of the reference number 14/2021 by September 15, 2021 at the latest or directly to the institute’s postal address

Max-Planck-Institut für Biogeochemie
Dr. Nuno Carvalhais
Hans-Knöll-Straße 10
07745 Jena

The review of applications will begin on 16.09.2021. Interviews are foreseen until the middle of October. The position is to be filled no later than the 01.11.2021.

For an application by email, all components should ideally be compiled in one single document in PDF-format. For an application by regular mail, please do not use application folders, but only submit copies, as your documents will be destroyed in accordance with data protection regulations at the end of the application process.

We look forward to receiving your application!