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. We are planning to recruit a

**Research Software Engineer (m/f/d)**
(for a full time position for 4 years)

**Background and position description:**

A position for a Research Software Engineer is open at the Max Planck Institute for Biogeochemistry within the Department of Biogeochemical Integration (BGI) in Jena. This is an appointment within the newly funded project NFDI4Earth. The goal of the NFDI4Earth is to provide simple, efficient and open access to all relevant Earth System Data. Major implementation guidelines are the FAIR principles which do impact the whole research data life cycle.

Within the NFDI4Earth project the BGI department is co-coordinating the Task Area 2 - Facilitate and leading the measure “Advancing Tools” within this Task Area. The successful candidate will actively contribute to the work packages mentioned above and support the NFDI-Initiative in finding and advertising best practices in data management of large gridded Earth System Datasets. One particular question will be how well-established data and metadata formats from traditional HPC-environments can be applied in cloud applications and cloud-based storage systems. Also, with machine learning and deep learning workflows getting more abundant, it is an open question how to optimize existing workflows and standards for large gridded datasets for these tasks.

The BGI department is 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.

**Your tasks:**

- Conduct independent scientific research on new technologies and their potential value for NFDI4Earth users and infrastructures, especially but not limited to data cube technologies for gridded data
- Identify and assess new technologies enabling complex analysis of large ESS data
- Support relevant pilot studies and academy members in the application and extension of these technologies
- Actively contribute to open-source software projects that support the goals of the NFDI
- Delegate research activities of the projects within the team
- Report on the development of the deliverables on a regular basis
Your profile:

- Completed university degree in remote sensing, geoinformatics, physics chemistry geo-ecology or similar
- Experience in handling gridded geospatial data either in climate models or remote sensing or both
- Experience with common ESS data formats like NetCDF, HDF5, GeoTIFF etc.
- Work experience in Earth System Science research (if possible through a related PhD, like Geoscience, Earth System Modelling or Remote Sensing but this is not mandatory)
- Understanding of the problems that arise when dealing with very large data sets
- Openness in exploring and evaluating new and advancing technologies for the ESS community
- Fluency in a scientific programming language(s) like Python, Julia, R, Fortran
- Interest in team work
- Very good communicative skills (oral and written), English and German (or at least willingness to learn German fast) as the communication with other NFDI partners, Pilots and Academy members, government agencies, DWD etc., large parts of the NFDI communication are in German

Our offer:

This is a 100% Scientist position to be filled, with current funding guaranteed for at least 4 years. Part-time work is generally possible. The position will be evaluated and graded following the collective agreement according to TVöD Bund; in addition, we will provide a pension plan based on the public service (VBL).

The Max Planck Society (MPS) strives for gender equality and diversity. The MPS aims to increase the proportion of women in areas where they are underrepresented. Women are therefore explicitly encouraged to apply. We welcome applications from all fields. The Max Planck Society has set itself the goal of employing more severely disabled people. Applications from severely disabled persons are expressly encouraged.

Your application:

For questions regarding the position, please feel free to contact Dr. Fabian Gans (fgans@bgc-jena.mpg.de).

Are you interested? Please send us your application with cover letter, curriculum vitae as well as names and contact information of two references summarised in a PDF file (max. 10 MB) by e-mail to bewerbung@bgc-jena.mpg.de or to the

Max-Planck-Institut für Biogeochemie
Personalbüro: Kennwort “NFDI4EARTH”
Hans-Knöll-Straße 10
07745 Jena

by 01 November 2021, quoting the reference number 25/2021. We kindly ask you not to submit copies of your application documents only, as your documents will be destroyed in accordance with data protection regulations after completion of the application procedure.

We look forward to receiving your application!