The Max Planck Institute for Biogeochemistry in Jena is an internationally renowned research institution with currently about 220 employees and is dedicated to basic research in the field of Earth system sciences with a focus on climate and ecosystems. With immediate effect we are looking for a

**Scientific Programmer/Data Expert (m/f/d)**
(Full time, limited in time 31.07.2024)

**Background and position description:**

A position for scientific programmer/data expert 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), at the Department Biogeochemical Integration (https://tinyurl.com/bgc-bgi). The BGI/MDI groups are involved in development of computational tools to model, parameterize and analyze large, and sometimes heterogeneous, datasets on Earth System dynamics, with an emphasis on terrestrial ecosystems and biogeochemical processes. The position relates to these requirements of BGI/MDI for implementation of computationally efficient tools and models, as well as the flexibility in improving the tools with regards to continuous methodological developments and advancements.

Our set of tools and methods rely strongly on computational implementations where an expert programming knowledge is required. Therefore, the knowledge of numerical analysis languages like Matlab, Julia, Python and/or statistical packages as R, is required. Additional knowledge in Fortran or C++ will be beneficial. We are searching for a person with skills on HPC and cloud computing (e. g., GEE, AWS, Sepal, etc.). A priori knowledge on using GPU will be very beneficial. Due to reliance on use of Earth Observation datasets, we encourage also applicants with background or experience in the field of vegetation/environmental remote sensing (optical or RADAR, SAR) with emphasizes in data processing or radiative transfer modeling.

**Tasks:**

- Assist a diverse team in challenges and activities related to scientific programming and technical developments
- Occasionally support data managers with processing and analysis of new datasets
- Conceptualize and propose novel approaches in modernizing the existing approaches at BGI/MDI, especially with regards to their implementation in cloud computing platforms
- Punctual tweaks for increasing computation performance
- Devise an approach to harmonize an heterogeneous dataset
- Adapting model code for GPU deployment
- Porting model code to a higher performance programming languages and platform
• Conceptualizing and implementing a workflow from data acquisition, analysis and visualization

Qualifications:
• An academic degree in a physical or geophysical science, bioinformatics, or computing (MSc or PhD; or BSc with experience)
• An expert knowledge in using at least one of the following: MATLAB, Julia, Python; knowledge of statistical packages as R, as well as of lower level languages like Fortran or C/C++ is also very valuable
• An expert knowledge in either:
  - Data processing / analysis with an emphasizes in Earth Observation datasets, or
  - Numerical modeling and inversion/parameter optimization approaches
  - Or an intermediate experience level in both of them
• An experience in HPC and/or cloud computing (e.g., GEE, AWS, Sepal); a priori experience with GPU is very beneficial
• An interest in the conceptualization and development of tools and methods to model, parameterize and analyze our current set of numerical problems
• Affinity towards teamwork with strong orientation towards solution
• Very good communication skills in English

Our Offer:
This is a full-time Scientific Programmer / Data Analysis position to be filled as soon as possible, with current funding guaranteed for a duration of 52 months (until 31.07.2024). Salary will be according to the German TVöD scale, depending on experience, including social benefits.

The Max Planck Society strives for equality between women and men and for diversity. In addition, the Max Planck Society aims to increase the proportion of women in those areas in which they are underrepresented. Women are therefore expressly encouraged to apply. We welcome applications from all areas. The Max Planck Society has set itself the goal of employing more severely disabled people. Applications from severely disabled persons are expressly welcome.

Your Application:
Please send your inquiries and/or applications including a cover letter, CV, and the names and contact information of two references by 03. April 2020 to

Max-Planck-Institut für Biogeochemie
Herr Dr. Nuno Carvalhais
Kennwort: „BGI-MDI-SPDA-Bewerbung“
Hans-Knöll-Straße 10
07745 Jena

or by e-mail as a continuous PDF file to ncarval@bgc-jena.mpg.de. Interviews are scheduled for the beginning of April 2020 in Jena.

We are looking forward to your application!