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. To strengthen the research portfolio of the Biogeochemical Signals Department, we are looking for

3 Research scientists/Group leaders (m/f/d)
(Full-time, initially limited to 5 years)

Background and position description:

The newly established department of Biogeochemical Signals investigates large-scale signals of biospheric processes and their feedbacks to the climate system. We integrate bottom-up process-driven modeling with top-down constraints inferred from remote-sensing, atmospheric observations and atmospheric inversions. We aim to utilize novel data sources to develop a better predictive understanding of important land-based processes at local to global scales. Our goal is to contribute to a better understanding of recent biogeochemical patterns and trends, as well as to improve predictions of land-climate feedbacks and of the consequences of climate mitigation efforts in future decades.

Within the overall framework of the department’s biosphere and inverse modelling activities, we seek candidates with a forward-looking, interdisciplinary, observation- and model-informed research vision who have a strong interest in terrestrial biogeochemical cycles and their interaction with the global climate system. We invite candidates to propose research projects in one of the following areas:

• Improved understanding and representation of ecosystem processes in models for predicting future ecosystem stability and resilience (in particular nutrient cycling, resilience to drought and temperature extremes, disturbance dynamics);
• Predicting/forecasting seasonal to long-term biosphere-atmosphere interactions combining in-situ and remotely-sensed land surface parameters/observations with process modelling;
• Novel atmospheric tracers or remote-sensing observations as large-scale constraints on land biosphere dynamics, for instance using and extending the regional to global inverse modelling framework (such as CarboScope) to test global models.

Research approaches may focus on conceptual modelling, model-data syntheses, or development and application of generalised global dynamic ecosystem models and/or hybrid models. We also invite applications aiming to combine model-driven and experimental research through monitoring campaigns or mesocosm/field experiments. The proposed research should contribute to the use and/or further development of central research tools of the department, e.g. the QUINCY/ICON-Land biosphere model and the regional to global scale CarboScope inverse modelling systems, and/or make use of data collected by the department. Collaboration between the three positions is highly encouraged.

Your tasks:

• Perform independent research within the overall research direction of the department
• Write and publish scientific papers in leading international journals
• Collaborate with members of the Department of Biogeochemical Signals, other scientists at MPI-BGC and the broader research environment in Jena, as well as internationally
• Develop an independent and competitive research profile
• Engage in new research opportunities and proposal writing
• (Co-)supervise undergraduate and graduate students
• Group leader responsibilities (depending on career stage and interest)
• Contribute to teaching (if desired)

Your profile:
• Successfully completed PhD in a natural or physical science subject (geo-ecology, meteorology, physics, computer sciences or similar)
• Excellent track-record demonstrating research experience in the proposed field of study
• Experience with data analysis, model-data synthesis, biosphere or inverse modelling
• Expertise in global biogeochemical cycles, geo-ecology, or climate science is beneficial
• Ability to work independently as well as in a team
• Very good written and spoken English

Our offer:
This is a full-time position; part-time work is possible in principle. Compensation is commensurate with experience according to TVöD Bund, including health and other benefits, and may range up to class E14 TVöD. In addition, we will provide a pension plan based on the public service (VBL). Two of the three position may lead to tenured positions within the department; subject to favourable evaluation and fit to the overall research direction of the department. The Max Planck Society strives for gender equality and diversity. In addition, the Max Planck Society aims to increase the proportion of women in areas where they are underrepresented. Women are therefore strongly 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:
Prof. Dr. Sönke Zaehle (szaehle@bgc-jena.mpg.de) will be happy to answer questions about the scope of the positions, available research support, and the overall department strategy. Are you interested? Please send your applications with
1. an outline of your research plan and career goals (3 pages max.), as well as the integration possibilities of your research in the department and (international) research projects
2. curriculum vitae; as well as names and contact information of two references

summarised in one PDF file (max. 10 MB) by April 20, 2022, quoting the reference number 13/2022 by e-mail to bewerbung@bgc-jena.mpg.de or to the
Max-Planck-Institut für Biogeochemie
Personalbüro: Kennwort „Wissenschaftliche Mitarbeiter/Gruppenleiter“
Hans-Knöll-Straße 10
07745 Jena

We kindly ask you 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!