

PostDoc (f/m/d) position

Effectiveness of tree species mixtures and thinning for adaptation to climate extremes

The *Chair of Geobotany* at the University of Freiburg, Germany, invites applications for a PostDoc (f/m/d) position (50%), focusing on biodiversity – ecosystem functioning relationships in forests, for a period of three years.

The Chair of Geobotany has its scientific focus on functional biodiversity research and global change ecology. We are involved in several international initiatives that quantify the implications of biodiversity change for ecosystem functions and services. A special focus is on mechanisms underlying biodiversity effects on ecosystem processes and biogeochemistry.

Founded in 1457, the University of Freiburg is one of the oldest German universities and is now one of the nation's leading research and teaching institutions. The Faculty of Biology is renowned worldwide for its excellent research environment in multiple disciplines. Freiburg is a vibrant student city at the foot of the Black Forest in close vicinity to France and Switzerland, with rich cultural and academic life, and excellent recreational opportunities.

Project description:

Increasing tree mortality owing to climatic extreme events calls for adaptation strategies to maintain the resilience and performance of forest ecosystems. The establishment and promotion of mixed-species stands and the control of stand density through thinning are possible silvicultural adaptation options. Therefore, we will investigate the influence of both tree species diversity and thinning on canopy and growth responses of trees to drought. We use the oldest and largest tree species diversity experiment in Central Europe (BIOTREE, see <https://treedivnet.ugent.be/experiments/BIOTREE.html>) in Germany, which allows a causal analysis of the mechanisms of potential influences of tree species diversity in combination with thinning interventions. The results of this project have direct practical relevance for the establishment, adaptation and treatment of mixed-species forests under climate change. In the frame of the project, the postdoctoral researcher will investigate the influence of tree species diversity on tree growth and resistance to insect pests. Specifically, he/she will:

- Coordinate field work for tree inventories to quantify tree growth.
- Conduct own field work to assess the impact of herbivores on carbon reserve status of trees.
- Do the respective data analyses and writing of publications in international journals.
- Work together with colleagues at the Chair of Geobotany and the Chair of Silviculture at the University of Freiburg and with the vibrant International Network of Tree Diversity Experiments ([TreeDivNet](https://treedivnet.ugent.be/)) composed of internationally leading research institutions and professional networks in forest sciences.

He/she will have the responsibility to coordinate the project team and its different subprojects and to maintain the databases. Supervision of student theses at B.Sc. and M.Sc. level will also be part of the work.

Candidate profile:

We are looking for a highly motivated and cooperative person with an PhD in Biology/Ecology, Forestry or Environmental Sciences. He/she will have demonstrated the ability to develop research questions, carry out the relevant research and statistical analyses and publish the results in peer-reviewed journals. Applicants should have a strong background and publication record either in tree ecophysiology, tree-herbivore interactions, forest ecology, or functional biodiversity research. Excellent statistical background and experience with appropriate software (R) is expected. The applicant should be able to work independently and in a team, coordinate work with partners and undertake prolonged periods of field work in Thuringia, Germany. Fluency in English is indispensable. Driver license is also a pre-requisite. For international candidates, knowledge of German (or a willingness to learn) would be beneficial to enhance the experience of living and working in Germany, and to facilitate communication with local stakeholders.

Since the project is carried out by the Faculty of Biology and the Faculty of Environment and Natural Resources, the position requires active participation in the academic life of both Faculties.

We offer an inspirational and welcoming work environment in a highly dynamic and successful research group, located in direct vicinity of the Botanical Garden of Freiburg. Salary is the German standard for postdoctoral researchers (TV-L E13, 50% scientist salary). A starting date in October or early November 2024 is anticipated. The University of Freiburg is an equal opportunity employer and encourages women to apply. Severely disabled applicants with equal qualification and aptitude will be given preferential consideration. For international candidates, the University of Freiburg offers support with the logistics of relocating to Germany (<http://www.welcomecenter.uni-freiburg.de>).

Please send your application (comprising a cover letter, a CV with list of publications, short statements on research interests, academic transcripts (non-official copies are initially acceptable) and contact details of two or more references) in one single PDF-file to sekretariat.geobotanik@biologie.uni-freiburg.de. We accept applications until 30.09.2024. For questions, please contact Prof. Michael Scherer-Lorenzen (michael.scherer@biologie.uni-freiburg.de) or Dr. Peter Hajek (peter.hajek@biologie.uni-freiburg.de)