

The [Chair of Ecosystem Physiology](https://uni-freiburg.de/enr-ecophys/) (<https://uni-freiburg.de/enr-ecophys/>) in the Faculty of Environment and Natural Resources of the University of Freiburg is looking for

1 Doctoral Researcher in Ecohydrology, Ecophysiology, Isotope hydrology (m/w/d)

with start date 1st November 2026 for a fixed-term position of 3+1 years. In the DFG research unit FOR5820 "Soil-plant hydraulics impacting transpiration and plant growth in response to drought (SOPHY)", the Chair of Ecosystem Physiology will investigate drought impact and competition for water between important tree species to gain a better understanding of drought adaptation mechanism under global change. Specifically, we will investigate the regulation of root water uptake depth and (evapo-) transpiration in response to plant-plant interaction of European beech and small-leaved lime (<https://uni-freiburg.de/en/climate-change-presents-new-challenges-regarding-water-regulation-for-plants/>). The project is embedded in the research unit SOPHY, which has the overarching aim to achieve a mechanistic understanding of the hydraulic response of plants to water limitations with a specific focus on the coordination between the hydraulic conductance in the soil, root, xylem tissue, and stomata in important agricultural and forest species. Project partners are distributed all over Germany and Switzerland with collaborators in Australia and USA.

Your task:

Within SOPHY you will establish two different mesocosm experiments including mixtures and monocultures of European beech and small-leaved lime and subject them to a severe drought. Simultaneously, you will establish measurement system for leaf gas exchange and soil moisture, which enables real-time measurements of water stable isotopes in soil water and transpiration. It will be complemented by sap flow, point dendrometry and water potential measurements. To investigate root water uptake dynamics of the two species in different soils in response to drought and species interactions, a deep label with ²H₂O will be applied. Doctoral researchers from other SOPHY projects will participate in the experiments with an array of complementary parameters (molecular tracers to modelling), ensuring close collaboration and exchange. As part of the close collaborations, field work in mature forests is also part of the project.

Your qualifications and contributions

- You hold a Master's degree in Environmental Sciences, Geoecology, Ecology or related fields
- Excellent background in ecosystem and plant physiology, including plant gas exchange and (water) stable isotopes
- Experience with automated measurement systems is a plus
- A high degree of autonomy, responsibility, flexibility, team spirit and organizational skills
- Excellent English skills
- Great enthusiasm for working in a large interdisciplinary project and interest in collaborative research
- Driving license class B

We offer a salary according to TV-L E13 (65%) and participation in an exciting, interdisciplinary scientific project at the interface of ecophysiology and ecohydrology in a very dynamic and interactive team with collaborative culture. You will work in well-connected groups with strong third-party funding in Freiburg in close cooperation with other scientists involved in the project. You will be able to develop your own research ideas, but also find support to qualify for a scientific career. The faculty offers the possibility to graduate in a formal PhD-program (www.gs.esgc.uni-freiburg.de). Women are explicitly encouraged to apply.

Please upload all documents (letter of application, CV, credentials, letter of recommendation) via the official system (Job Offerings) of the University of Freiburg (<https://uni-freiburg.de/stellenangebot/00005177/>). The deadline for applications is the **30th of September 2026**. For any questions regarding the position, please contact Simon Haberstroh (simon.haberstroh@cep.uni-freiburg.de).