

PhD position (m/f/d) in soil ecology

75% TVL-13 from September 2022 to June 2026

“Tracing soil ecological processes of CO₂-fluxes in beech/spruce forest”

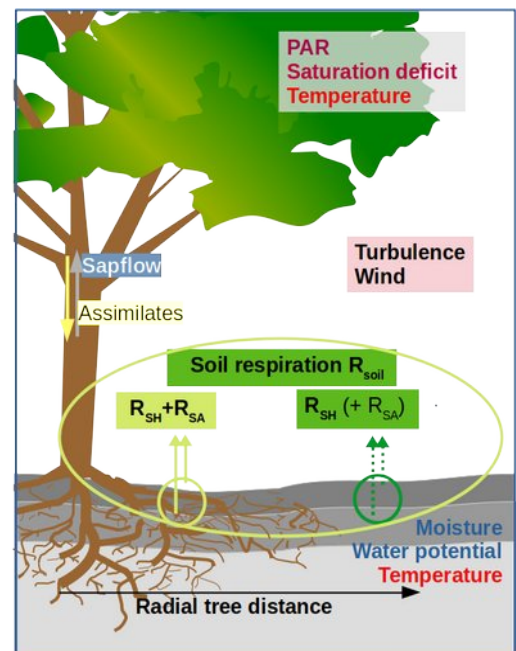
The position is funded by the German Research Foundation (DFG) within the Collaborative Research Center ECOSENSE (SFB 1537) – Multiscale quantification and modelling of spatio-temporal dynamics of ecosystem processes by smart autonomous sensor networks – and is located at the Chair of Soil Ecology (Prof. Dr. Friederike Lang) at the University of Freiburg, Germany. The project is in close cooperation with the Chair of Gas Sensors (Prof. Dr. J. Wöllenstein) and the Chair Design of Microsystems (Prof. Dr. P. Woias).

Who we are:

The Chair of Soil Ecology studies soil-plant interactions and their feedback on nutrient availability, soil structure and soil organic matter with focus on forest soils. One of the current research areas are transport processes of greenhouse gases and source tracing of gases in soils.

The project and your Task:

One of the largest global fluxes of carbon dioxide is soil respiration by roots and microorganisms but its role in ecosystem functioning and climate change is not fully clear. Within the Collaborative Research Centre (CRC) **ECOSENSE** you will focus on soil-related fluxes of carbon dioxide in a beech/spruce forest. You will implement high-resolution measurement fields at the research site to differentiate CO₂ derived from current root respiration and from microbial decay of older sequestered soil organic matter. A key point will be upscaling of the high-resolution data in space and time by means of deterministic diffusion models and statistical analyses. A unique opportunity of the CRC is the close cooperation between several ecological and technical working groups allowing to rely on the newest sensor technology. For details on ECOSENSE, see <https://www.cep.uni-freiburg.de/forschungsprojekte/ecosense>



Who you are:

You have university degree with a solid background in ecology and soil science. (For example geocology, hydrology, environmental sciences, forest sciences, biology). You are willingly to cover the whole bandwidth of project tasks from field work, maintenance of

electronic sensor fields to soil-physical modelling. We encourage applications from enthusiastic dedicated individuals with strong quantitative skills as well as good writing and communication skills in English. Applicants should hold a valid driver's license (European Cat. B) We offer an interdisciplinary, international work environment in the Faculty of Environment and Natural Resources with a formal PhD program of ECOSENSE. The University of Freiburg is an equal opportunity employer and is committed to increasing diversity.

What we offer:

An exciting interdisciplinary topic with a relevant application focus for our society and a salary according to TVL until the end of June 2026. The possibility for pursuing a doctoral thesis is given, provided that all formal criteria are fulfilled. You can expect modern laboratory equipment and a highly qualified, multicultural team, which will cooperate with you and support you along your professional growth.

Details on the documents required for your application, and on the required form of the application are to be found on

<https://www.cep.uni-freiburg.de/forschungsprojekte/ecosense>.

Please follow these rules strictly and send your job application in a digital form to:

christine.schemann@soil.uni-freiburg.de (Reference: ECOSENSE A1).

The application deadline is 30 August 2022. For questions, please contact Friederike Lang (friederike.lang@soil.uni-freiburg.de) or Helmer Schack-Kirchner (helmer.Schack-kirchner@soil.uni-freiburg.de).