



UNIVERSITÄT  
HOHENHEIM



## PhD position in Soil Biology/Microbial Ecology

### **Topic: Effects of grassland land-use intensity on soil microbial carbon and nitrogen turnover in the hyphosphere of fungi**

We invite applications for a PhD position in an interdisciplinary DFG research project at the University of Hohenheim. The 3-year position should start October 2021. The salary is in accordance with the German Public Service salary scale (TV-L E13, 65%).

The project is part of the Biodiversity Exploratories (<https://www.biodiversity-exploratories.de>) research platform and will investigate processes at the microhabitat scale in grassland soils which may explain changes in ecosystem functions at larger scales. Fungi are important transmitters of carbon and nutrients between the mineralosphere and the rhizosphere in grassland soils. The candidate will elucidate the specific importance of the hyphosphere (root-free soil around hyphae) under field conditions using newly developed HYPHOboxes. The rhizosphere and the detritosphere will be separated from the hyphosphere with this approach. Using  $^{13}\text{C}$  labelled  $\text{CO}_2$  and labelled plant residues, the influence of grassland land-use intensity (LUI) on the carbon flow from plants into the rhizo- and hyphosphere, and the  $^{15}\text{N}$  flow from the hyphosphere into the rhizosphere will be quantified. The microbial community; bacteria, arbuscular mycorrhizal (AMF) and free-living saprotrophic fungi will be characterized by next generation sequencing.

#### **Qualifications**

The student is expected to have strong interest in ecology, soils, microbiology, and biogeochemistry. An MS degree in biology, ecology, natural science, microbiology, soil science, or related fields is preferred. Experience in laboratory and field work as well as in molecular biological methods and statistics is desirable, as well as good English and writing skills.

The University of Hohenheim is equal opportunities employer and places particular emphasis on fostering career opportunities for women. Qualified women are therefore strongly encouraged to apply. Disabled persons with equivalent aptitude will be favored. Please send your application with documents (application letter, CV, copies of records of your BSc and MSc, documents showing research experience if applicable, contact information and references as well as a letter of motivation) in electronic form as a single pdf-file to **Nadine Brunsmann** ([nadine.brunsmann@uni-hohenheim.de](mailto:nadine.brunsmann@uni-hohenheim.de); secretary of Prof Dr. Ellen Kandeler and Dr. Sven Marhan). **Application review will begin August 1<sup>st</sup> 2021 and continue until position is filled.**

For additional information please contact:

Prof. Dr. Ellen Kandeler ([ellen.kandeler@uni-hohenheim.de](mailto:ellen.kandeler@uni-hohenheim.de)) or Dr. Sven Marhan ([sven.marhan@uni-hohenheim.de](mailto:sven.marhan@uni-hohenheim.de)), Institute of Soil Science and Land Evaluation, Soil Biology, University of Hohenheim, 70593 Stuttgart, Germany.