

## **Bachelor or Master thesis**

### **Global change effects on soil microbes in long-term experiments**

#### **Background and Project**

Human-induced global change is altering the activity and biomass of soil microbial communities, which are responsible for important ecosystem functions and services. Two of the most significant drivers of global change are climate change, often accompanied by extended drought periods, and intensive land use, with nutrient enrichment due to fertilization being a major factor affecting soil communities. However, the responses of soil microbes to the interactions between these factors remain largely unexplored. Thus, our research aims to investigate changes in microbial activity and biomass over time in two long-term experiments located in Bad Lauchstädt: The Drought Net and the Global Change Experimental Facility. Initiated in 2015, in both experiments we did annual measurements of soil microbial activity and biomass. Our goal for 2024 is to continue this time series, beginning soil sampling and laboratory measurements in May and analyzing changes within the two experimental setups over time. It is also possible to add additional explanatory variables, depending on your specific interests.

#### **Where?**

The work will be conducted at the German Center for Integrative Biodiversity Research (iDiv), in the Experimental Interaction Ecology (EIE) group. Sampling takes place at the research site in the UFZ field station in Bad Lauchstädt.

#### **What we offer**

You will work in an international, diverse and motivated team. You will learn how to conduct a scientific project: from developing your research question to fieldwork, analyzing your data with different methods, statistical analysis and writing a scientific manuscript.

#### **Contact**

The thesis project will be co-supervised by Dr. Marie Sünnemann (marie.suennemann@idiv.de) and Prof. Dr. Nico Eisenhauer (nico.eisenhauer@idiv.de). Please get in touch if you are interested.

