Bachelor or Master thesis

Soil organisms under global change - Effects of climate change and land use on belowground communities

Background and Project

Global environmental change is altering soil ecosystems, modifying interactions within soil communities, and disrupting crucial soil ecosystem functions. Climate change has emerged as one of the most significant threats to biodiversity, causing unprecedented shifts in rainfall patterns, extreme weather events, and rising global temperatures. Simultaneously, increasing resource demands have led to intensified agricultural land use, making it one of the primary drivers of biodiversity change. However, the responses of soil communities to the interactions between these factors are still largely unknown. Therefore, we conducted a sampling of microbes, nematodes, meso- and macrofauna in the large-scale field experiment GCEF in Bad Lauchstädt, Germany. The aim of this work is to explore whether these different groups exhibit similar responses to land use and climate change, investigate changes in community stability over time, and determine which groups are more resistant and resilient. Depending on your personal interest, additional research questions can also be developed. The thesis will be based on an existing dataset, which means there will be no need for lab or field work, allowing more time to become familiar with data handling and analysis.

Where?

The work will be conducted at the German Center for Integrative Biodiversity Research (iDiv), in the Experimental Interaction Ecology (EIE) group. As the sampling and lab work was already done, the thesis can also be done remote.

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 analyzing your data with different methods statistical analysis and writing a scientific manuscript.

Contact

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