

Esther Voigt

Position: PhD Student
Project: A05
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Research Interests

- Structure, stability and functioning of microbial networks
- Temporal and spatial dynamics of subsurface systems
- Theoretical ecology

Current Project

Working title: “Modeling the spatial and temporal processes that shape the food web structure of an aquifer system”

The critical zone observatory ‘AquaDiva’ investigates an aquifer system situated in the Hainich region. The aquifer microbial community depends on external energy input (i.e. carbon and nutrients) leached from the aboveground. The supply of energy is fluctuating due to seasonality or extreme weather events and therefore potentially shaping the aquifers’ microbial communities and their functioning.

My aim is to understand how energy and nutrient inputs from the aboveground drive the biodiversity and ecosystem functioning (BEF) in the aquifer. Moreover, I want to investigate how temporal variability (e.g. heavy rainfall events) change the BEF of the aquifer. Therefore, I will make use of ordinary differential equation based microbial trophic network models to create hypotheses and test these by synthesizing ‘AquaDiva’ field data.

Curriculum Vitae

10/2017 - now Doctoral researcher of the collaborative research center CRC 1076 AquaDiva (Project A05), Friedrich-Schiller-Universität Jena, Institute of Biodiversity, Jena; German Center for Integrative Biodiversity Research (iDiv), Leipzig, Germany; Group: ‘Theory in Biodiversity Science’

10/2014 - 06/2017 M.Sc. in Microbiology at Friedrich Schiller University, Jena, Germany
Master Thesis: *'Robustness and cross-feeding in bacterial communities'*.
Max-Planck-Institute for Chemical Ecology Jena (Advisors: Prof. Christian Kost
and Prof. Wöstemeyer)

10/2009 - 09/2014 B.Sc. in Biology at Friedrich Schiller University, Jena, Germany