

## Patrick Lohmann

Position: PhD Student  
Project: A04  
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### Research Interests

- Qualitative and quantitative proteomics of subsurface microbiome | Metaproteomics
- Assessment of key functional proteins of microbial community of nitrogen and carbon cycle
- Identification of metabolic active key players using protein-stable isotope probing (protein-SIP)

### Current Project

Although groundwater-associated microorganisms play an essential role in biogeochemical cycles the actual microbe-mediated processes on the ecosystem functioning remains still unclear.

I will apply shotgun and targeted metaproteomics to quantify the key functional proteins of carbon and nitrogen cycles of the subsurface microbiome in Hainich CZE. To assess the metabolic active key organisms of the microbial community I will apply protein-stable isotope probing (protein-SIP). Quantitative functional and taxonomical analysis will provide a comprehensive picture of the current state of the subsurface microbiome.

Furthermore, I will unravel the challenge which arises in metaproteomics studies to achieve successfully identifications on a species level in complex microbial communities. Therefore, protein enrichment strategies will be developed to extend the range of species coverage.

### Curriculum Vitae

11/2017 – Now	PhD student, Microbiome Biology Helmholtz-Centre for Environmental Research, Leipzig
09/2015 – 09/2017	M.Sc. Molecular Life Sciences Friedrich-Schiller University of Jena
09/2012 – 09/2015	B.Sc. Biology Friedrich-Schiller University of Jena

## **Publications**

Türkowsky, D., **Lohmann, P.**, Mühlenbrink, M., Schubert, T., Adrian, L., Goris, T., Jehmlich, N., von Bergen, M., (2018): Thermal proteome profiling allows quantitative assessment of interactions between tetrachloroethene reductive dehalogenase and trichloroethene. *J. Proteomics*

## **Conference contributions**

**Lohmann P.**, Türkowsky, D., Jabschinsky, M., Schubert, T., Goris, T., Diekert, G., Adrian, L., Jehmlich, N., von Bergen, M. (2017): Monitoring enzyme-substrate binding by Thermal Proteome Profiling to elucidate regulation of the reductive dehalogenases. *DehaloCon II* (Poster)