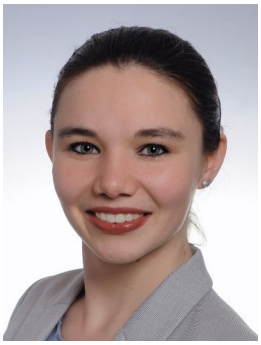
Ann-Sophie Lehnert



Position:	PhD Student
Project:	B03
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Research Interests

- Volatiles
- Analytical chemistry, LC-MS, GC-MS, SIFT-MS
- Soil chemistry and soil organic matter
- Litter degradation
- Sulfur cycle

Current Project

Origin and fate of biogenic volatiles from soils and litter

Biogenic volatile organic compounds (BVOCs) reflect metabolic processes in soil and litter. As metabolic activity of microbes is governed by their individual environmental conditions such as humidity and redox potential, BVOCs can be used as tracers for these microscale conditions in the soil. In my PhD, I investigate which VOCs are correlated with which redox potential and which humidity in the soil. I especially focus on reduced sulfur compounds as dimethyl sulfide, methanethiol, and hydrogen sulfide, as they are tracers for suboxic conditions and their precursors in soils are only partly known. Thus, I also look at precursors and pathways to build them, using SIFT-MS for VOC emissions, and GC-MS and LC-MS metabolomics of soil organic matter extracts for the precursor identification.

Curriculum Vitae

11/2017 – current	PhD student at Max Planck Institute for Biogeochemistry, Jena
08/2015 – 08/2017	Chemistry M. Sc., Friedrich Schiller University, Jena Master thesis: Evaluation of the transformation of orgainic components in leachate *via* metabolomic methods
08/2015 - 04/2016	TASSEP exchange, Queen's University, Kingston, Canada
10/2012 – 07/2015	Chemistry B. Sc., Friedrich Schiller University, Jena Bachelor thesis:

Publications

Lehnert, A., Behrendt, T., Ruecker, A., Pohnert, G., Trumbore, S. E. (2020), Performance of SIFT-MS and PTR-MS in the measurement of volatile organic compounds at different humidities, DOI: 10.5194/amt-2019-349, *in review*.

Conference contributions

Lehnert, A., Ruecker, A., Trumbore, S. E., Pohnert, G., Behrendt, T. (2019) Improvements in the monitoring of volatile organic compounds using SIFT-MS – 21st Spring Symposium of the JungChemikerForum, Bremen, March 20-23, 2019. (Poster)