



Max Planck Institute
for Chemical Ecology



The Max Planck Institute for Chemical Ecology in Jena, Germany offers a

4 year PhD position - Plant volatile organic compounds in the context of biodiversity-ecosystem functioning relationships

Background: Plants release a large diversity of volatile organic compounds (VOCs) constitutively and also upon attack by herbivorous insects. VOCs play important roles in direct plant defense against herbivores, indirect plant defense (i.e. attracting predators and parasitoids of insect herbivores), but also in intra- and interspecific plant communication. Thus, VOCs are key components of biotic interactions that underpin essential ecosystem functions (plant production, herbivory, predation). Few studies have investigated VOC emission in complex natural plant communities and our knowledge on the importance of VOCs in the context of biodiversity and ecosystem functioning is scant. How plant history and soil history effects VOC emission is even less well understood.

The aim of this project is to elucidate how plant diversity, soil history and plant history affect the emission of constitutive and herbivore-induced VOCs from selected plant species and experimental plant communities of the Jena Experiment (<http://www.the-jena-experiment.de>). The data that will be acquired within the research of this project will lay the foundation for formulating precise hypotheses on the defensive roles of plant VOCs in the context of biodiversity-ecosystem functioning relationships in grassland ecosystems.

We are offering a 4-year DFG-funded PhD position ideally starting on January 1st 2020. Payment will be based on the tariff contracts for the public service (65% E13). We provide an excellent research environment with enthusiastic scientists from different nationalities in the Department of Biochemistry (director: Prof. J. Gershenson) at the Max Planck Institute for Chemical Ecology in Jena, Germany (<http://www.ice.mpg.de>). The PhD student will be associated with the International Max Planck Research School (IMPRS <http://imprs.ice.mpg.de>).

Candidate requirements: We look for a candidate with a Master's degree or equivalent who has a strong background in ecology and a strong interest in analytical chemistry. Highly motivated students with solid training in other areas of biology or biochemistry are also encouraged to apply. The applicants should further be enthusiastic about chemical ecological research and statistical data analyses. Experience in field sampling and experimental design, chemical analyses (GC-MS), statistics (preferably R) and handling of large datasets will be a plus.

How to apply: The Max-Planck Society is an equal opportunity employer and strives to employ both genders equally, as well as to employ more individuals with disabilities. Therefore, we encourage all applicants, independent of their nationality, gender or disability, to apply for this position. Please send your application as a single pdf in English including a letter of motivation, summarising your experience and future vision, CV of no more than 4 pages, list of publications and relevant certificates (degree certificates, etc.) and the names of two referees (including email address) to **Dr. Sybille Unsicker** (phdgrassland@ice.mpg.de). The application deadline is November 17th 2019. The position is available from January 1st 2020