

The mission of the Leibniz Centre for Agricultural Landscape Research (ZALF) as a nationally and internationally active research institute is to scientifically explain causal relationships in agricultural landscapes and to provide society with a knowledge base for the sustainable use of agricultural landscapes through excellent research. ZALF is a member of the Leibniz Association and is located in Müncheberg (approx. 35 minutes by regional train from Berlin-Lichtenberg). It also maintains a research station with further locations in Dedelow and Paulinenaue.

The project **Smart Use of Heterogeneities of Agricultural Landscapes** aims at the quantification of the supply of ecosystem services and disservices as provided by kettle holes in agricultural landscapes and offers two PhD positions (1. "ecosystem functions" and 2. "microbial ecology").

Kettle holes are regarded as potential hotspots of biodiversity in arable land due to their high variability of site factors. This project addresses the lack of a systematic knowledge about the hydrological behavior of kettle holes and in particular the hydrological driven spatiotemporal interaction between kettle holes and their agricultural surroundings. This includes determining the conditions that cause flooding, their interaction with ecosystem services and disservices, the effects on yield, and the regulation of function feedbacks.

In particular, it can be assumed that the reactions of microorganism populations in the phyllosphere and the rhizosphere in the vicinity of the kettle holes are different. While the former are mainly influenced by increased humidity and airborne vector transfer, the soil-borne microorganisms are mainly affected by flooding events. The reactions of single organisms or single species or genera to floods have been analyzed in some studies, but the interactions of different organisms (micro- and macroorganisms) during and after such events have not been studied so far.

Here, we are offering as soon as possible a part time position (65%) temporarily limited for 3 years at our location in Müncheberg as

PhD position (f/m/d) "Microbial ecology"

Your tasks:

- Project related field and Lab work, including organization and coordination of the field experiments (at the ZALF Research area within the Uckermark region)
- Analysing the abundance, population structure and distribution of micro- and macroorganisms in the phyllo- and rhizosphere (nutrient media, qPCR, sequencing, taxonomic classification)
- Assessment of environmental and microclimatic data, remote sensing data
- Multivariate statistics and data analysis
- Writing of scientific publications for a cumulative dissertation
- Presentation of the results to an international scientific audience
- Co-operation with project partners

Your qualifications:

- Master (MSc) in (Micro)Biology, Biotechnology, Agriculture, Environmental Sciences, Ecology or related fields



- Skills in empirical field studies and good knowledge in classification of microorganisms (fungi)
- Willingness to carry out field work (car driving license required)
- Good knowledge in statistical analysis with R, SPSS or others
- Good English language skills (writing and speaking)

We offer:

- An interdisciplinary working environment that encourages independence and self-reliance
- Classification according to the collective agreement of the federal states (TV-L) EG13 (including special annual payment)
- A collegial and open-minded working atmosphere in a dynamic working group
- Taking part in a highly relevant research field, the promotion of biodiversity and sustainable land use in agricultural landscapes

This offer is related to the job offer No: 02-2019 (PhD "Ecosystem functions") in the same project.

Women are particularly encouraged to apply. Applications from severely disabled persons with equal qualifications are favored. Please send your application preferably by e-mail (one PDF file, max. 5 MB) with the usual documents, in particular CV, proof of qualification and certificates, stating the reference number **03-2019** until **February, the 28th 2019** to: Bewerbungen@zalf.de

If you have any questions, please do not hesitate to contact us: Dr. Marina Müller, Tel. +49 (0) 33432/82-420 or mmueller@zalf.de.

