



January 2024

Bachelor thesis topics

The Fungal Interactions group at the Leibniz Centre for Agricultural Landscape Research (ZALF) is offering:

Bachelor Thesis Project “Dispersal of phytopathogenic fungi”

for the summer semester 2024 (start on 01.05.24 at the latest) as part of an experiment studying the role played by annual weeds in the spread of phytopathogenic fungal disease in wheat fields. The hypothesis being tested is that early blooming grasses play a particularly significant role, especially in humid conditions marked by rain splash. The project will involve examining the fungal load and diversity on different parts of various types of weeds occurring in the wheat field. The results of this experiment may have profound implications on strategies used to reduce phytopathogenic fungal disease in agriculture.



Two suggested topics/titles for your bachelor thesis, that will be undertaken as part of the experiment, are:

1. Progression of naturally occurring *Fusarium* infection in the inflorescences and leaves of weeds within a wheat field
2. The effect of sprinkling on the fungal community in the phyllosphere in terms of composition and abundance

These projects offer experience in both field work and lab work, and therefore provide an excellent opportunity to learn about experimental approaches used in agricultural and microbiological research. Samples of weeds will be taken between April and July from the

ZALF test field and brought back to the lab to be analyzed using a range of techniques including microscopy, quantifying CFUs (Colony Forming Units) and qPCR to determine the quantity and type of the pathogenic fungal load they carry. As part of your thesis, you would only be involved in field/lab work at ZALF for a period of about three months, but you could precede or extend this with a student assistant position. Both the field and lab work will be performed on-site at ZALF.

There are only two requirements for the position. First, you should be willing to come to ZALF several times a week during the project. Second, you should have a firm grasp of either English or German. Experience in lab work is advantageous but not required since all the tasks are learnable on the job and any issues can be clarified with me at any time.

The project will be co-supervised by Christopher Atkinson, a PhD student in the Biomove research program, and Dr. Marina Müller, head of the Fungal Interactions group at ZALF.

If you have any questions, please do not hesitate to contact us:

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We look forward to receiving your application!