



iDiv

German Centre for Integrative
Biodiversity Research (iDiv)
Halle-Jena-Leipzig

TreeDi



External Job Announcement
Reg.-Nr. 4-15039/20-D

The DFG-funded International Research Training Group GRK 2324 "TreeDi - Tree Diversity Interactions: The role of tree-tree interactions in local neighbourhoods in Chinese subtropical forests" (www.treedidi.de) invites applications for the following position, starting on 01 June 2021 and limited to 3 years:

Doctoral Researcher (m/f/d) on the project "Drivers of fungal endophyte richness" (P5G-2)

65 percent of a full-time employment

The salary will be up to Entgeltgruppe 13 TV-L if the personal requirements and tasks are fulfilled. Work place will be located at Martin Luther University Halle-Wittenberg.

Research topic:

Pathogens, such as foliar fungal pathogens, negatively affect plant performance, directly or indirectly by changing the outcome of competition. While most leaf fungal pathogens were found to be highly host-specific, other fungal endophytes might be much more widespread among the tree and shrub species in the BEF-China experiment. For tree species, it has been shown that local tree species diversity decreases the disease risk and the pathogen load of pathogenic fungi on the majority of host species, which is mainly brought about by dilution effects of conspecific hosts. However, neighbourhood effects caused by spillover of endophytes across species or being mediated by the modification of sun exposure, local microclimate or soil conditions, are much less understood. In the BEF-China experiment, the additionally planted shrub species in the shrub subplot treatments allow to study these neighbourhood effects that are independent from the density of the host plant. The aim of the project is (1) to describe the species composition of leaf fungal endophytes of the shrub species by next-generation sequencing and classical microscopic assessment, and (2) to relate the endophyte composition of the shrubs to the conditions of the local neighbourhood. The project is supervised by [Prof. Dr. Helge Bruelheide](#) (Professor for Geobotany at MLU; helge.bruehlheide@botanik.uni-halle.de).

Tasks:

- Sample leaves from shrubs in different tree neighbourhoods, studying the effect of additional shrubs between four adjacent trees in the shrub addition treatments
- Identify all fungal species found on the 18-shrub species in the experiment, by both next-generation sequencing and microscopic analysis
- Analyse the impact of the local neighbourhood, in particular of the tree species composition, on the endophyte composition of shrub species

The doctoral researcher will team up with the fellow on the Chinese side. Supervision and assistance will be provided by a Joint German-Chinese PhD Advisory Committee (PAC), combining empirical and theoretical



expertise. All TreeDì fellows will have to submit their PhD thesis as a cumulative thesis, comprising at least three chapters in the form of first author papers in international peer-reviewed journals, of which at least one paper has to be accepted or published at the time of thesis submission. TreeDì fosters early experience in autonomous research, and thus, encourages to become engaged in synthesis, making use of available data from previous

projects. Moreover, the work will also include scientific exchange with other working groups, participation in the TreeDì qualification programme, and presentations on international conferences.

Requirements:

- Master or equivalent degree in a project-related field (e.g. ecology, environmental sciences)
- Very good ecological knowledge and great interest in forest biodiversity research
- Good quantitative and statistical skills in R are essential
- Experience in mycology, microscopy techniques and next-generation sequencing are advantageous
- Fluent in English communication in writing and speaking. Knowledge of German and/or Chinese is an advantage
- A clear drive to do science
- Motivated to be a proactive team player in an international research consortium
- Flexible and well organized, hands-on mentality
- Applicants must be prepared to spend substantial time (approx. 2-4 months per year) in China for fieldwork, lab visits and courses
- Willingness to work under subtropical field conditions. Field work experience would be advantageous

The Martin Luther University Halle-Wittenberg gives priority to applications from severely disabled candidates with equivalent qualifications. Women are particularly encouraged to apply.

Queries concerning the application process should be directed to Dr. Stefan Trogisch (stefan.trogisch@botanik.uni-halle.de), for project-related questions, please contact Prof. Dr. Helge Bruelheide (helge.bruehlheide@botanik.uni-halle.de).

Submission deadline is 14 February 2021. Selected candidates will be invited to the online joint recruitment symposium taking place in March 2021 (22-23 March 2021).

All applications should include:

- Cover letter in English describing motivation for the project, research interests and relevant experience
- complete curriculum vitae including names and contact details of at least two scientific references
- digital copy of MA/BA/Diploma certificates

Kindly send your application, quoting the reference number 4-15039/20-D, via our application portal at <https://apply.idiv.de>. While we prefer applications via this portal, hard-copy applications may also be sent to: German Centre for Integrative Biodiversity Research – iDiv (Halle-Jena-Leipzig), HR Department, Puschstr. 4, 04103 Leipzig.



The position is offered with reservation of possible budgetary restrictions. Application portfolios will not be returned, application costs will not be reimbursed.

iDiv is committed to establishing and maintaining a diverse and inclusive community that collectively supports and implements our mission to do great science. We will welcome, recruit, develop, and advance talented staff from diverse genders and backgrounds.