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

TreeDì

External Job Announcement
Reg.-Nr. 4-11527/23-D

Modern, interconnected, conscious of tradition: Martin Luther University Halle-Wittenberg (MLU) is the oldest and largest university in the State of Saxony-Anhalt with a history dating back more than 500 years. Today more than 20,000 students are enrolled at the university. MLU's core research areas are in the nanosciences and bio-sciences, the Enlightenment, as well as in social and cultural research. The university is also home to a range of small disciplines, some of which can be found nowhere else in Germany. The university has excellent national and international ties, and works closely together with leading research institutes, industry, and more than 250 universities around the world.

The Martin Luther University Halle-Wittenberg, in cooperation with the DFG-funded International Research Training Group GRK 2324 "TreeDì - Tree Diversity Interactions: The role of tree-tree interactions in local neighbourhoods in Chinese subtropical forests" (www.treedi.de) and the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, invites applications for the following position, starting 01 June 2024, limited to 3 years:

Doctoral Researcher (m/f/d) on the project "Drivers of fungal endophyte richness" (P5G-3)

as part-time employment (65%).

The salary will be up to Entgeltgruppe 13 TV-L, if the personal requirements and tasks are fulfilled.

The research topic:

Pathogens, such as foliar fungal pathogens, negatively affect plant performance, directly or indirectly by changing the outcome of competition. Other fungal leaf endophytes might affect plant also positively. While most leaf fungal pathogens were found to be highly host-specific, fungal endophytes are often more widespread. For tree species, it has been shown in the BEF-China experiment 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 tree species or being mediated by the modification of sun exposure, local microclimate or soil conditions, are much less understood. Both associational susceptibility and associational resistance effects have been observed. Making use of the BEF-China experiment, the aim of the project is (1) to describe the species composition of leaf fungal endophytes of tree and shrub species by next-generation sequencing and classical microscopic assessment, and (2) to relate the endophyte composition of the shrubs to microclimate, host tree-specific traits and tree diversity of the local neighbourhood, as well as to belowground microbial communities. The project is supervised by Prof. Dr. Helge Bruelheide (Professor for Geobotany at MLU; helge.bruelheide@botanik.uni-halle.de; www.botanik.uni-halle.de/geobotanik/helge_bruelheide).

Tasks:

- Task 1: to sample leaves from trees and shrubs in different tree neighbourhoods, focusing on local tree-tree interactions (tree species pair approach)
- Task 2: to identify leaf fungal species, by both next-generation sequencing and microscopic analysis
- Task 3: to monitor pathogen load and fungal species richness in different seasons and years and measure microclimate using data loggers
- Task 4: to analyse the impact of microclimate, soil microbial communities and the local tree neighbourhood on the endophyte composition

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 at international conferences.

Requirements:

- A completed scientific University degree (Diploma/ M.Sc.) in a project-related field (e.g. ecology, environmental sciences)
- Very good ecological knowledge and great interest with regard to forest biodiversity research
- Good quantitative and statistical skills in R are essential
- Experience in mycology, microscopy techniques and next-generation sequencing is advantageous
- Fluency in English (writing and speaking)
- A clear drive to do science
- Motivation to be a proactive team player in an international research consortium
- Flexibility and good organizational skills, 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; fieldwork 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. Applicants with a degree that was not obtained at a German higher education institution must submit a Statement of Comparability for Foreign Higher Education Qualifications from the Central Office for Foreign Education (Zentralstelle für ausländisches Bildungswesen) to prove equivalence. This Statement can also be submitted after successful completion of the hiring process.

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.bruelheide@botanik.uni-halle.de).

Please submit your full application dossier in English with registration number 4-11527/23-D by 3 January 2024. Applications should be submitted on the website https://apply.idiv.de. Application portfolios submitted by post will not be returned, application costs will not be reimbursed. Selected candidates will be invited to a recruitment symposium taking place at iDiv in Leipzig on 4-5 March 2024.

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

This announcement is subject to possible budgetary restrictions.

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.