



External Job Announcement
Reg.-Nr. 5-8800/21-D

MLU-BioDivFund

Martin Luther University Halle-Wittenberg (MLU) invites applications for the following position:

Doctoral Researcher (m/f/d) on the project

"The use of herbarium specimen to track spatio-temporal changes in genetic diversity, fitness and phenology of endangered plant species in Saxony-Anhalt"

Starting date: November 2021, limited to 3 years, 65% of a full-time employment (E 13 TV-L). The workplace will be located at MLU Halle.

Research topic: Population genomics, plant phenology, functional traits

This integrative project combines three interdisciplinary work packages (WPs) that aim to investigate the relationships between spatio-temporal shifts in environmental gradients and intraspecific variation in genetic diversity, reproductive fitness, functional traits and phenology. Our model species will be endangered plants from Saxony-Anhalt. We will use ddRADseq for landscape genomic analyses in combination with common garden experiments to estimate the relationship between genetic diversity, fitness and phenotypic trait variation (WP1). We will also genotype herbarium specimen of our target species to investigate population genetic signatures of anthropogenically driven habitat change through space and time (WP2). In addition, functional and phenological trait variation of the investigated herbarium specimen and current populations will be tracked through time to better understand potential threats driving local extinctions (WP3). We anticipate spatio-temporal correlations of our investigated data particularly in response to land use change and habitat fragmentation. The resulting data will be used to develop indicators of biodiversity change and extinction risks, to be incorporated into species- and habitat-specific conservation and restoration strategies.

The project is supervised by PD Dr. Marcus Lehnert (Herbarium Halle; https://www.botanik.uni-halle.de/herbarium/marcus_lehnert/). In addition, supervision and assistance will be provided by Prof. Isabell Hensen, Dr. Sabrina Träger and Dr. Christoph Rosche (Plant Ecology, MLU Halle), Prof. Christine Römermann (Plant Biodiversity, Jena University) and Dr. Jochen Müller (Herbarium Jena). The MLU-BioDivFund researcher will be integrated in a stimulating network facilitating excellence. They will become enrolled in yDiv, the Graduate school of iDiv, which includes an international qualification program, an interdisciplinary PhD advisory committee (PAC) and unique offers to meet, study and discuss with figureheads in biodiversity research.

Tasks:

- Analysing genomic diversity of current and historical populations of endangered plant species, applying state-of-the art next generation sequencing
- Assessing the adaptive potential and adaptive shifts of endangered plant species by monitoring functional trait variation in the field, in a common garden experiment, and across herbarium samples

Requirements:

- Master or equivalent degree in a project-related field (e.g. evolutionary ecology, molecular ecology, functional trait ecology, taxonomy)
- Flexible, well organized, and enthusiastic
- Proactive team player in an international research environment
- Great interest in biodiversity research and a clear drive to do science
- Motivated to combine field, common garden and lab approaches
- Good quantitative and statistical skills in R are essential
- Profound knowledge of English in writing and speaking
- Knowledge of German is advantageous

The project is funded by the Federal State of Saxony-Anhalt (MLU-BioDivFund). The program seeks to expand biodiversity research to new interdisciplinary research fields, which will be done in close cooperation with the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig as well as with the Friedrich Schiller University Jena (FSU), the University of Leipzig (UL) and the Helmholtz Centre for Environmental Research (UFZ).

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

For project-related questions, please contact Marcus Lehnert (marcus.lehnert@botanik.uni-halle.de). Queries concerning the application process should be directed to Dr. Stefan Trogisch (stefan.trogisch@botanik.uni-halle.de).

Submission deadline is 20 August 2021. Selected candidates will be invited to an online joint recruitment symposium taking place on 29 September 2021.

Applications should be in English, consisting of a single pdf file including:

- Cover letter 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

Please send your application, quoting **the reference number 5-8800/21-D**, to Dr. Marcus Lehnert (marcus.lehnert@botanik.uni-halle.de)