Friedrich Schiller University is a traditional university with a strong research profile rooted in the heart of Germany. As a university covering all disciplines, it offers a wide range of subjects. Its research is focused on the areas Light−Life−Liberty. It is closely networked with non-research institutions, research companies and renowned cultural institutions. With around 18,000 students and more than 8,600 employees, the university plays a major role in shaping Jena's character as a cosmopolitan and future-oriented city.

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), together with the Friedrich Schiller University of Jena and the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, seeks to fill the position of a

Doctoral Researcher (m/f/d) on the project: "Modelling generalized diversity interactions" (P9G-3)"

commencing on the 1 June 2024, limited to 3 years. This is a part-time position with 26 hours per week; main place of work is the German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig in Leipzig.

Research topic:

The growth of trees depends on resource conditions, tree identity, traits, and local neighborhood interactions with other trees. Animals that move between trees can mediate these interactions. The research environment of TreeDì provides a unique database on tree species growth under different environmental conditions and other neighboring trees. As the relative contributions of these various constraints on tree growth are typically challenging to disentangle empirically, this project will employ systematic statistical and modeling approaches for gaining a mechanistic understanding of tree-tree interactions when embedded in a complex environment. This PhD project aims at (i) gaining mechanistic understanding of tree-tree interaction networks, (ii) revealing how environmental conditions drive the interaction strengths in these networks, and (iii) integrating these tree-tree interactions in complex food-web models. The methods include linear, non-linear, and Bayesian models and differential-equation (ODE) based modeling of complex networks.

The project is supervised by Prof. Dr. Ulrich Brose (Professor for Biodiversity Theory at iDiv; ulrich.brose@idiv.de; www.idiv.de/econetlab).

Your responsibilities:

- Task1: Studying a large data set of tree-tree interaction networks.
- Task2: Analyzing the dependence of tree-tree interaction strengths on environmental conditions.
- Task3: Integrating tree interaction networks in models of complex food webs.

The doctoral researcher will team up with the fellow on the Chinese side, who will study in parallel tree growth models. 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 independent research and encourages to become engaged in synthesis, making use of available data from previous projects. Moreover, the work will include a scientific exchange with other working groups, participation in the TreeDì qualification program, and presentations at international conferences.

Your profile:

We are searching for applicants interested in conceptual thinking about ecosystems, a drive to develop quantitative models, and an interest in natural communities' complex structures. Knowledge in programming languages (e.g. R or another interpreting language) is necessary for the project. The following points describe the expected profile:

- A completed scientific University degree (Diploma/ M.Sc.) in biology, ecology, physics, or a similar discipline
- Knowledge of ecological theory is important
- Good quantitative and statistical skills in R are essential, skills in creating simple programming structures are necessary
- Experience in modeling ecological systems or ecological networks such as food webs, mutualistic networks, or meta-communities is desirable
- Fluency in English (writing and speaking)
- 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

We offer:

- Flexible working hours (flexitime and, if applicable, teleworking)
- A comprehensive further and continuing education programme and individual qualification and development measures
- A Graduate Academy for doctoral candidates and postdocs
- A family-friendly working environment with a variety of offers for families
- University health promotion and a wide range of university sports activities
- Attractive fringe benefits, e.g. capital formation benefits (VL) and an occupational pension (VBL)
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) up to salary scale E13 — depending on the candidate's personal qualifications—, including a special annual payment in accordance with the collective agreement.
- 30 days of vacation per calendar year plus two days off on December 24 and 31

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. Ulrich Brose (ulrich.brose@idiv.de).

Submission deadline is **29 January 2024**. 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 the motivation for the project, research interests, and relevant experience
- Complete curriculum vitae including names and contact details of at least two scientific references
- A digital copy of MA/BA/Diploma certificates

Are you eager to work with us? Kindly send your application, quoting the vacancy ID **373/2023**, via our application portal at https://apply.idiv.de **by 29.01.2024.**

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.

Candidates with severe disabilities will be given preference in the case of equal qualifications and suitability.

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.

For further information on your application and the collection of personal data, please refer to our [Privacy Statement for Applicants](#)