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 German Centre for integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig seeks to fill the position of a

**Doctoral Researcher (m/f/d)**

commencing on the earliest possible starting date.

**Background:**

The German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig is a National Research Centre funded by the German Research Foundation (DFG). Its central mission is to promote theory-driven synthesis and data-driven theory in this emerging field. It is jointly hosted by the Martin Luther University Halle-Wittenberg (MLU), the Friedrich Schiller University Jena (FSU), the University of Leipzig (UL), and the Helmholtz Centre for Environmental Research (UFZ). For more information please visit: www.idiv.de.

Theory in Biodiversity Science (EcoNetLab) is one of the research groups at iDiv. The research topics covered include (i) describing natural communities by network models comprising the species and their interactions, (ii) predicting interactions between species and their strengths by traits, (iii) understanding metacommunity structures as spatial networks of habitat patches linked by dispersal, and (iv) developing quantitative movement models based on species’ traits. These complex models are used to understand environmental and anthropogenic constraints on biodiversity as well as the consequences of biodiversity changes for ecosystem functions. We offer an international, English-speaking research environment with regular integrative group activities and members with a background in ecological theory, synthesis, advanced statistics, and modeling. Our scientific networks offer ample opportunities for collaborations within iDiv as well as with international research groups. More information on the working group is available at www.idiv.de/econetlab.

**Research topic:**

Food web research addresses the structure and dynamics of complex interaction networks in local habitats, while metacommunity science reveals how species’ dispersal connects these local habitats. Connections between these two research areas are only beginning to emerge under the topic of meta-food-webs. In nature, however, the density and survival of species depend on both local interactions and dispersal. The planned PhD project aims at filling this gap by covering the following topics:

- Modeling the loss of species, patches, and dispersal corridors to understand their impact on biodiversity
- Empirical tests of model predictions using fragmentation data and meta-analyses
Your responsibilities:

This PhD project will be based on ecological modeling. This implies formalizing ecological processes as quantitative, equation-based models to predict and understand patterns in networks, species traits, and biodiversity. In detail, this includes:

- dynamic mathematical modeling of complex multi-trophic metacommunities (food webs in space)
- programming ecological models in C, C++, or a similar fast programming language
- research projects addressing the dynamics of complex ecological networks in space
- write scientific papers on the project in internationally peer-reviewed journals
- present the research at national and international meetings

Your profile:

We search for applicants interested in conceptual thinking about ecosystems (marine, freshwater, and terrestrial), a clear drive to develop and analyze quantitative ecological models. Knowledge in programming languages (e.g. R or another interpreting language) is necessary for the project. Skills in more advanced programming languages such as C are advantageous but not strictly necessary. The following points describe the expected profile:

- an MSc degree in biology, ecology, physics, or a similar discipline
- skills in modeling ecological systems or ecological networks such as food webs or metacommunities
- knowledge of C, C++, or a similar fast programming language is desired
- experience in ecological theory (e.g., metabolic theory, food-web theory, meta-population or metacommunity theory)
- excellent knowledge of the English language in speaking and writing.

We offer:

- Work in a dynamic, international, and interdisciplinary environment in the beautiful city of Leipzig
- Opportunities to develop and advance scientific networks
- Flexible working hours and a family-friendly working environment
- The PhD candidates benefit from an inter- and transdisciplinary training and support by the graduate school iDiv
- Attractive fringe benefits, e.g. capital formation benefits (VL), Job Ticket (benefits for public transport), and an occupational pension (VBL)
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) at salary scale E13— depending on the candidate’s personal qualifications—, including a special annual payment in accordance with the collective agreement.

The advertised position is initially limited until 30 September 2021 with an extension to a full period until 30 September 2024 subject to the further formal approval of funding of iDiv.

This is a part-time position with 65% of the working hours of a full-time employee (26 hours per week).

Queries concerning the application process should be directed to hr@idiv.de, for project-related questions, please contact Prof. Dr Ulrich Brose (ulrich.brose@idiv.de).
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 BA/MA/Diploma certificates

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

Are you eager to work with us? Kindly send your application, quoting the vacancy ID 051/2021, via our application portal at [https://apply.idiv.de](https://apply.idiv.de) by 31 March 2021. 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), Prof. Dr. Ulrich Brose, Puschstr. 4, 04103 Leipzig.

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.

Since all application documents will be duly destroyed after the recruitment process, we ask you to submit only copies of your documents.

For further information for applicants, please also refer to [www4.uni-jena.de/stellenmarkt_hinweis.html](http://www4.uni-jena.de/stellenmarkt_hinweis.html) (in German)
Please also note the information on the collection of personal data at [www4.uni-jena.de/en/jobs_information_collecting_personal_data.html](http://www4.uni-jena.de/en/jobs_information_collecting_personal_data.html)