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

Scientific Researcher on the iDiv Flexpool project: “Archives4BioDiv – computer-based methods for digitizing historic vegetation data and maps”

commencing on 1 October 2023 or at the earliest opportunity thereafter and limited to 30 September 2024.

This is a full-time position with 40 hours per week; place of work is the Institute of Ecology and Evolution of the FSU Jena with joint membership in the working groups “Data-intensive Systems and Visualization” (Patrick Mäder, Jena and Ilmenau) and “Vegetation Ecology” (Markus Bernhardt-Römermann, Jena).

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.

The project:

In this project, we aim to bring together the ecological research on biodiversity changes and the research on computer-based methods focusing on AI-based segmentation and recognition methods.

Repeated observations are key to describe trends of biodiversity change. As most monitoring programs started only recently, they miss retro-perspective long-term developments. Archive data are an option to extend time series to the past. This project (“A Window to the Past – The Use of Archive Data for Collecting Baseline Information on Biodiversity (Archives4BioDiv)”) contributes to the emerging field of bioinformatics and investigates the chances and limitations of modern computer-based techniques for making historic archive data available for biodiversity research. We aim on developing computer-based methods for the construction of spatially-explicit time series of forest type development using repeated forest inventory maps from 1850-2000. About 1500 of such maps are available in time steps of up to 20 years.

We are searching for a scientist with a strong expertise in bioinformatics who is interested to foster the development of bioinformatics applications that may help ecologists to digitize huge amounts of archive data and make these available for biodiversity research.

Your responsibilities:
- Develop and comparatively evaluate segmentation methods to extract region annotations from digitized maps
- Coordinate research between the research groups in Jena and the data owner (FFK Gotha)
- Guide the work of technical assistants and student helpers to digitize historical maps (creation/enhancement of training data sets)
- Analyze the acquired data to uncover spatio-temporal changes in forest management
Your profile:

- Master’s degree/Diploma in informatics, bioinformatics or a comparable relevant field
- Knowledge and experience in applying machine learning approaches to computer vision problems, ideally for segmentation and text recognition tasks
- Knowledge in the use of geographical information systems (GIS) would be beneficial
- Experience in the use of a machine learning framework and the utilized programming language, e.g., Python and Tensorflow or PyTorch, Matlab, or R
- Excellent English communication skills (spoken and written)
- Knowledge of the German language is advantageous (at least the willingness to learn German)
- Team-oriented attitude with interest and ability in interdisciplinary research (computer scientists and ecologists) and organizational skills

We offer:

- Work in a dynamic, international, and interdisciplinary environment in the beautiful city of Jena
- Opportunities to develop and advance scientific networks
- Flexible working hours and a family-friendly working environment
- Participation in our iDiv postdoc career support program
- 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.

Are you eager to work with us? Kindly send your application, quoting the vacancy ID 233/2023, via our application portal at https://apply.idiv.de by 25 August 2023. 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), Scientific Networks, Puschstr. 4, 04103 Leipzig.

Queries concerning the application process should be directed to flexpool@idiv.de for project-related questions, please contact Prof. Patrick Mäder (patrick.maeder@tu-ilmenau.de) or apl. Prof. Dr. Markus Bernhardt-Römermann (markus.bernhardt@uni-jena.de).

All applications should include:

- Cover letter 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 Master’s certificate / Diploma

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.

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 and the information on the collection of personal data, please refer to https://www.uni-jena.de/en/job-market