

Postdoctoral Researcher (f/m/d): Data-intensive research on fish biodiversity in relation to river network geometry and hydrology

The [Center for Advanced Systems Understanding \(CASUS\)](#) is a German-Polish research center for data-intensive digital systems research. We combine innovative methods from mathematics, theoretical systems research, simulations, data science, artificial intelligence, and computer science to provide solutions for a range of disciplines – materials science under ambient and extreme conditions, earth system research, systems biology and medicine, and autonomous vehicles.

CASUS was jointly founded in August 2019 by the [Helmholtz-Zentrum Dresden-Rossendorf \(HZDR\)](#), the [Helmholtz Centre for Environmental Research \(UFZ\)](#), the [Max Planck Institute of Molecular Cell Biology and Genetics \(MPI-CBG\)](#), the [Technical University of Dresden \(TUD\)](#) and the [University of Wrocław \(UWr\)](#). CASUS is located in the heart of Görlitz at the border between Germany and Poland. The CASUS start-up phase is hosted by the Helmholtz-Zentrum Dresden-Rossendorf and is financed by the [Federal Ministry of Education and Research \(BMBF\)](#) and the [Saxon State Ministry for Higher Education, Research and the Arts \(SMWK\)](#).

The Calabrese lab in the department of [Earth System Science](#) is looking for a postdoctoral researcher interested in developing a data intensive approach to studying global patterns in fish biodiversity in river systems. The position can begin immediately, and the contract will be limited to 31 March 2022. Extension beyond this period is possible pending available funding and satisfactory performance.

The Scope of Your Job

The successful candidate will be part of a team studying how river network geometry and hydrology interact to shape freshwater fish biodiversity patterns in river systems worldwide. This position will focus on developing and analyzing an extensive database of spatially referenced fish species occurrence records. This database will be combined with existing data on hydrology and river geometry compiled by project collaborators and analyzed to identify key drivers of variation in fish biodiversity. This position requires advanced statistical, programming, and data management skills.

Your Tasks

- Develop a global database on spatially referenced fish species occurrence records;
- Analyze this dataset to identify linkages between biodiversity and river network geometry and hydrology;
- Work with our team and external collaborators to merge diverse data sources and facilitate global comparative analyses;
- Publish results in academic, peer-reviewed journals;
- Present results at scientific meetings.

Your Qualifications

- Ph.D. in ecology, ichthyology, statistics, data science, or a related field;
- A solid background in mathematics, statistics, and data science;
- Excellent programming skills in data science languages such as R and Python;
- Strong motivation to work in a collaborative environment;
- Excellent communication skills in English in a professional context (presentation of research results at scientific meetings, colloquial discussions, writing of manuscripts);
- Evidence of the ability to publish results in top peer-reviewed journals;

What We Offer

- A vibrant research community in an open, diverse, and international work environment;
- Scientific excellence and broad national and international science networks;
- Salary according to the German Collective Wage Agreement for the Civil Service (TVÖD E13);
- Comprehensive benefits package (30 vacation days per year, company pension plan [VBL], flexible working hours, in-house health management, relocation assistance).

Review of applications will begin on 24 August 2020, but consideration of candidates will continue until the position is filled. Please submit your application (including a one-page cover letter, CV, academic degrees, transcripts, etc.) online on the HZDR application portal:

<https://www.hzdr.de/db/Cms?pNid=490&pOid=61570&pContLang=en>

Deadline:

Rolling application – open until filled.

For details please contact:

Dr. Michael Bussmann, E-Mail: m.bussmann@hzdr.de

Prof. Dr. Justin Calabrese, E-Mail: j.calabrese@hzdr.de

CASUS – Center for Advanced Systems Understanding
Helmholtz-Zentrum Dresden-Rossendorf e.V. (HZDR)
Untermarkt 20
D-02826 Görlitz
www.casus.science