PhD-position in ecological modelling of biodiversity in riverine networks

Over one million barriers on Europe's rivers have resulted in extensive loss of river connectivity. Moreover, 70-90 % of Europe's floodplains are ecologically degraded due to human modifications. Thus, it is overdue to integrate spatio-temporal connectivity across the hydrographic network of rivers into biodiversity analyses to allow for accurate biodiversity. We are looking for a PhD-candidate who focuses on modelling approaches (1) to analyse freshwater biodiversity in relation to river networks and their connectivity, (2) to develop generic and scalable workflows related to biodiversity, and (3) to highlight prerequisites for monitoring of riverine biodiversity across large spatial extents.

Your Tasks

- **Analyse pan-European biotic data** related to rivers and floodplains, with special emphasis on connectivity aspects, habitat needs and biodiversity (also considering flagship and/or invasive species)
- Develop **modelling workflows** related to biodiversity and local as well as upstream environmental data that result in generic and scalable workflows/analyses
- Contribute to the framing of **biodiversity monitoring schemes** for the future
- Elaborate your **doctoral dissertation**

Your Profile

The ideal candidate should:

- hold an **MSc degree** (or equivalent) in data science, geoinformatics, bioinformatics, statistical modelling, applied mathematics, ecology, environmental sciences
- be keen to **handle large datasets** and to automate workflows within R and/or Python that finally can be used in interactive data and/or map visualisation

Further professional qualifications of interest:

- very good skills with programming, analyses and modelling of large data sets (R or Python)
- good GIS skills to handle spatial data
- professional qualification concerning stream ecology
- knowledge on modelling approaches for ecological connectivity, habitat modelling
- evidence of international publications in mentioned subject areas in peer-reviewed journals
- presentation experience at national and international conferences
- strong communication and teamwork skills
- problem-solving mindset and team-spirit

Our Offer

We offer a **3-year position** within an interdisciplinary working team of scientists at the University of Natural Resources and Life Sciences, Vienna (BOKU) at the Institute of Hydrobiology and Aquatic Ecosystem Management). Furthermore, your work will be integrated into **international research teams** as the position is funded by the Horizon Europe research projects AquaINFRA and Danube4All.

BOKU offers a **30 hours/week** position as a Junior Scientist (predoctoral). The gross monthly income is **EUR 2,457.98 per month** (14 times a year) according to "Gehaltsgruppe B1" of the Austrian collective contract for university employees. **Earliest starting date: 1.4.2023**

Your Application

If you are qualified and motivated, we look forward to receiving your application for the three-year PhD position.
Please send your application as a **single PDF file** including a one-page motivation letter, CV, publication list (optional), and details of two reference contacts to
Prof. Thomas Hein, thomas.hein@boku.ac.at
Dr. Astrid Schmidt-Kloiber, ask@boku.ac.at
Dr. Florian Borgwardt, florian.borgwardt@boku.ac.at
Application deadline: 31st of January 2023

The general BOKU PhD entry requirements must be met – find more information here.

If you have further questions please get in touch