

PostDoc and PhD opportunities in Computational Ecology



Are you passionate about biodiversity, ecological communities, and species interactions? Do you enjoy data wrangling, coding, and analysis? If so, we may have an exciting opportunity for you. The Faculty of Biology at LMU Munich is seeking to fill two positions - PostDoc and PhD candidate (each for 3 years) - with highly motivated individuals.

Our research focuses on the diversity, dynamics, coevolution, and processes within species interaction networks, particularly - but not exclusively - involving the pollinator-microbe-plant triangle. Both positions will engage in computational research, including statistical modeling, bioinformatics processing, tool development, meta-analyses, and deep learning in the context of biodiversity and ecological interaction networks (bi- and multipartite), utilizing both molecular and classic ecological datasets. Current topics in our group include ecological network resilience, land-use gradients, climatic niches, microbiome assembly and function, pipeline development in AI-based image and sequence analyses.

We have a wealth of exciting datasets at our disposal, focusing on networks (e.g., metabarcoding, metagenomics, observations), ecological traits, bacterial genomes, and community monitoring data (e.g., eDNA, occurrences, video, and photos). These data come from diverse ecosystems, environmental gradients, and experimental designs, offering unique opportunities for meta- or in-depth data analysis. Both roles will involve developing research questions using ecological theory (particularly PostDoc), analyzing data, developing and testing new methods, and sharing scientific results. The PostDoc role will also include teaching and coordination responsibilities. The two positions will be filled with complementary expertise, meaning candidates don't need to cover all interests mentioned above.

Requirements:

- Strong interest in computational ecology, biodiversity and interaction ecology as well as ecological theory.
- Interest and/or experience in analysis of big and heterogeneous datasets. Previous knowledge on data synthesis, metabarcoding, phylogeny, bioinformatics and deep-learning are of benefit.
- Routine with coding in R and/or Python.
- PhD or MSc in natural sciences or equivalent, particularly in the areas of ecology or bioinformatics with focus on computational analyses in the dissertation.
- High motivation for a career in science; willingness and aptitude for self-responsible and independent work.
- Good writing, reading and communication skills in English.

Salary and conditions: Salary and benefits are according to public service positions in Germany (TV-L). Start date: early 2025. Our research group (Cellular and Organismic Networks) offers a friendly and stimulating working atmosphere in an international team and strong support for your career. The group is integrated into various coordinated research endeavors, which can serve as a basis to build up an own research network. Our lab is equipped with state-of-the-art tools and techniques. We are part of the HighTechCampus Planegg-Martinsried at one of the largest German universities. A balanced work-life relationship is important to us, we offer options to make this position also as a part time contract, flexible working times or with part time remote home-office. The LMU signed the "Charta of Diversity" and advocates gender and background equality. Women and minorities are therefore strongly encouraged to apply. Equally qualified handicapped applicants will be given preference.

Please send your application as **one single pdf file** per email to **Prof. Alexander Keller** (keller@bio.lmu.de) until **13. October 2024**. Applications should include a cover letter, a short summary of research interests, CV including publications and third-party funding, and names (with email addresses) of two potential referees.