

PhD position in eco-metabolomics

Investigating the ecological and evolutionary drivers of phytochemical diversity

The Computational Ecology Group at the Institute of Biology, University of Neuchâtel, is seeking a highly motivated candidate to join our team as a PhD student. The project aims to investigate the ecological and evolutionary drivers of phytochemical diversity by leveraging the living collection in Swiss botanical gardens and the latest advances in mass spectrometry and computational eco-metabolomic. By accurately characterizing the metabolome of thousands of plant species held in living collections of botanical gardens across Switzerland and integrating phylogenetic, functional, and environmental information, the successful candidate will explore the evolutionary and ecological mechanism underlying phytochemical variation across the plant kingdom.

The candidate will develop novel molecular-informed biodiversity metrics and predictive models to map chemodiversity across the landscape. This project is integrated in the "[Digital Botanic Garden Initiative](#)" and the "[Earth Metabolome initiative](#)", which represent global efforts to profile the metabolic content of all currently known species on our planet.

Qualifications:

- Master's degree in ecology, bioinformatic or related field.
- Knowledge/interest in botany.
- Knowledge of statistical methods commonly used in ecology.
- Knowledge/interest in programming (machine learning - R/Python Language).
- Communication and writing skills in English.
- Highly motivated, passionate, and able to work independently.

The project requires extensive fieldwork, including the collection of thousands of plant samples across botanical gardens and along elevation gradients in the Swiss Alps. A motivation for botany and fieldwork is thus essential. Additionally, the successful candidate should also have a strong interest in metabolomics and bioinformatics.

Place of work:

Neuchâtel, Switzerland. The project is fully funded for 4 years by the Swiss National Science Foundation (SNSF)

Starting date:

There is some flexibility, but the anticipated starting date will be July 1st 2023.

Application:

The application should contain the following: 1) a cover letter describing yourself and your match to the above-mentioned project; 2) a CV describing your education, publications, and relevant work experience, 3) names and contact information for at least two references.

The deadline for applications is May 15, 2023. Please, send all information to Emmanuel Defossez (emmanuel.defossez@unine.ch).

