

**CHYN**

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## **PhD Opportunity at the Interface of Hydrogeology and Biology**

This interdisciplinary project sits at the interface of biology and hydrogeology, investigating how hydrological and ecological processes together control the development of toxic benthic cyanobacteria (*Microcoleus*) in rivers in Switzerland and New Zealand. The successful candidate will combine fieldwork, environmental monitoring, microbiological approaches, and numerical hydrogeological modelling to study how groundwater–surface water interactions, flow dynamics, nutrients, temperature, sediments, and microbial traits influence the growth and transport of toxic cyanobacterial mats. The project aims to develop predictive models and early-warning tools to better assess and manage the risk of toxic cyanobacterial outbreaks in freshwater ecosystems.

The PhD position is based at the Centre for Hydrogeology and Geothermics (CHYN) at the University of Neuchâtel under the supervision of Prof. P. Brunner, in close collaboration with Profs. Daniel Hunkeler and Pilar Junier and the research team in benthic cyanobacteria at the Institute of Biology. PhD students are expected to contribute to teaching activities by assisting in Bachelor's and Master's level courses. The CHYN offers a stimulating interdisciplinary research environment with around 50 researchers and collaborators working across hydrogeology, environmental sciences, and related fields. The successful candidate will benefit from access to extensive field and laboratory infrastructure, dedicated technical support staff, and a dynamic and international PhD programme.

### **Required qualifications**

We are looking for a motivated candidate with a strong background in hydrogeology, environmental sciences, or a closely related field. The ideal candidate has a keen interest in combining innovative field-based investigations with state-of-the-art numerical modelling approaches to study complex environmental processes. Given the interdisciplinary nature of the project, the candidate should be enthusiastic about working across disciplinary boundaries and willing to engage with concepts and methods outside their primary area of expertise, particularly at the interface of hydrogeology and biology. Excellent written and oral communication skills are essential.

### **Duration**

Beginning: 1.9.2026 (or upon agreement) for 4 years



## **Additional information**

This PhD thesis is part of the project “**Redefining the realized niche of *Microcoleus* spp. to improve accurate forecasting of proliferations**” funded by the Swiss National Science Foundation. Additional information about the position can be obtained from Prof. P. Brunner (philip.brunner@unine.ch) or Prof. Pilar Junier (pilar.junier@unine.ch).

## **Application**

Applications should include a concise statement describing the motivation to work on this research project, copies of your academic qualifications and names of three referees. The application should be submitted as one single pdf file to Prof. P. Brunner (philip.brunner@unine.ch). Please use the term “CyanoProject” in the subject of your email. Deadline for the application is June 30<sup>th</sup>.

