

PhD position - micropollutants in groundwater as environmental tracers

Recent advances in analytical methods have revealed the widespread occurrence of polar organic micropollutants in groundwater such as pesticide metabolites or PFAS. While these substances are a major challenge for groundwater management, they can also be considered as novel environmental tracers to track hydrological processes along the water cycle due to their high mobility.

The main aim of the project is to develop an improved understanding of the role of groundwater at the catchment scale by jointly incorporating micropollutant and environmental tracer data (e.g. stable and radio isotopes) in conceptual and numerical models. A further objective is to evaluate how large-scale hydrogeological processes influence the spatio-temporal dynamics of groundwater and surface water quality. The project will make use of existing data set, combined with additional field campaigns using cutting-edge analytical methods, and numerical modeling.

The PhD position is based at the Centre for Hydrogeology and Geothermics of the University of Neuchâtel (CHYN) with planned collaboration with the Climate and Environmental Physics Institute of the University Bern on environmental tracer methods. The CHYN provides a stimulating research environment with about 50 collaborators working on a wide range of topics in hydrogeology and geothermics. The candidate will benefit from a comprehensive pool of field and laboratory equipment and technical support staff.

Required qualifications

The project is ideally suited for candidates that have a keen interest to combine field research with numerical modeling to address important environmental issues. The successful candidate is expected to have a MSc in hydrogeology, environmental science/engineering or related fields. Experience in fieldwork and numerical modeling is an advantage. Fluency in English is required.

Duration

Beginning 1.2.2023 or upon agreement for a period 4 years. Review of application will start on December 15th 2022 until the position is filled.

Additional information and application

Additional information about the position can be obtained from Prof. D. Hunkeler (Daniel.Hunkeler@unine.ch, 032 718 25 60). Applications should include a concise statement describing your motivation to do a PhD and work on this project, copies of your academic qualifications and names of two referees. The application should be submitted as a single PDF document to application.chyn@unine.ch with the keyword "micropollutants" as topic.

