



Vacancy for a PhD student in Hydrology

Starting date: early 2021

We have two open PhD positions within the SNF-funded project

TopFlow: (in)visible water flows near the surface

at the University of Zurich, Department of Geography, Unit Hydrology & Climate
(<http://www.geo.uzh.ch/h2k/>).

A large part of the precipitation that falls on hillslopes will eventually reach the stream network. Understanding the different flow pathways to the stream is essential for predicting streamflow, stream chemistry and nutrient fluxes. Topsoil interflow occurs when a densely rooted conductive topsoil layer overlays less conductive soil. It is a poorly studied flow process but important in areas with gleysols. Overland flow may be important on some parts of these hillslopes as well. We generally do not observe extended sheet flow on vegetated hillslopes. Instead, overland flow infiltrates and exfiltrates multiple times on its way downslope and mixes with soil water. So far we do not understand the connectivity of these flow pathways very well.

The TopFlow project will take advantage of recent advances in sensor and data-logging technologies, use rainfall simulation experiments, and chemical sampling of different water sources to improve our understanding of runoff generation mechanisms in pre-alpine catchments with gleysols, where most of the lateral flow occurs near the surface. The objective of the TopFlow project is to improve our understanding of overland flow and topsoil interflow and their effects on streamflow and stream chemistry.

The Department of Geography offers an interdisciplinary, international work environment and a formal PhD program (<http://www.geo.uzh.ch/en/graduate-school/>). The Unit Hydrology & Climate has strong expertise in experimental hydrology and hydrological modeling. The salary is competitive and according to the salary scale of the Swiss National Science Foundation¹.

Applicants should have a Diploma or MSc degree in hydrology, earth sciences, environmental sciences or in a closely related field. The project involves a large amount of data collection in the Studibach catchment in the Alptal. Thus, experience in fieldwork and data processing are considered a plus. Because the project also includes some hydrological modeling, knowledge of hydrological modeling is an advantage as well. We encourage applications from enthusiastic, dedicated individuals with good oral and written communication skills (in English), who enjoy working in a team.

Please send your application including cover letter, CV, relevant diploma, an example of your own scientific writing (if available) and the names and contact details of two to three potential references in one pdf-file (max. 5 MB) to Ilja van Meerveld (ilja.vanmeerveld@geo.uzh.ch). Please write 'Application TopFlow' in the subject line. Review of applications will start on December 1 and continue until the positions are filled.

For questions, please contact Dr. Ilja van Meerveld (ilja.vanmeerveld@geo.uzh.ch) or Prof. Jan Seibert (jan.seibert@geo.uzh.ch).

¹ www.snf.ch/SiteCollectionDocuments/allg_doktorierende_e.pdf