



Freiburg, 29.12.2021

The Chair of Hydrology in the Faculty of Environment and Natural Resources at the University of Freiburg, Germany, is offering a

## PhD position in catchment hydrology

starting April 2022 according to the government scale TVL 13 (at 70%) for three years. The position is funded by the German Research Foundation (DFG) within the Research Unit Subsurface Stormflow “Fast and Invisible: Conquering Subsurface Stormflow (SSF) through an Interdisciplinary Multi-Site Approach”. The sub-project “SSF Hillslope Flow Direction” is located at the Chair of Hydrology (Prof. Dr. Markus Weiler) at the University of Freiburg, Germany. The project is in cooperation with the Chair for Soil and Water Ecosystems at the University Marburg. In this project, a combined hydro-biogeochemical approach, measuring the spatial-temporal dynamics of hillslope groundwater response including the characterization of soil water stable isotopes are foreseen. We will apply and further develop a distributed process-based hydrological model to predict the observed spatiotemporal dynamics of SSF and hillslope groundwater dynamics. Shallow groundwater dynamics will be recorded in many hillslopes in four different catchments from the low to high mountain ranges in Germany and Austria. The use of multivariate statistical tools will help to identify temporal and spatial patterns of subsurface hydrological process patterns. We will investigate hillslope-stream connectivity including the extent of contributing area with our model RoGeR predicting SSF fluxes, directions and dynamics which can later be used for predicting transit times and transport of soil organic matter from the hillslope to the stream.

Applicants should have an outstanding MSc degree (or equiv.) in hydrology, environmental science, geoscience, geography, engineering or a closely related field. Knowledge in programming, statistical data analysis and hydrological modeling, is essential. Particular experience in isotope hydrology and challenging field work will be an asset. We encourage applications from enthusiastic dedicated individuals with strong quantitative skills as well as very good writing and communication skills in English. Applicants should hold a valid driver’s license (European Cat. B)

We offer an interdisciplinary, international work environment in the Faculty of Environment and Natural Resources with a formal PhD program ([www.gs.esgc.uni-freiburg.de](http://www.gs.esgc.uni-freiburg.de)). The PhD position will be advised by Prof. Markus Weiler, head of a dynamic, international research group. Collaboration and co-advising with the partners of the research unit is foreseen. The University of Freiburg is an equal opportunity employer and is committed to increasing diversity.

Please send your application including a cover and motivation letter, CV, certificate & transcript of your highest degree earned, an example of your own scientific writing (in English, if available), and the names and contact details of at least two references in one single pdf-file to [hydrology@hydrology.uni-freiburg.de](mailto:hydrology@hydrology.uni-freiburg.de) (**Reference WE4598/20-1**). The application deadline is **30 January 2022**. For questions, please contact Markus Weiler ([markus.weiler@hydro.uni-freiburg.de](mailto:markus.weiler@hydro.uni-freiburg.de)).

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