



Vacancy for

PhD position in Isotope Hydrology

within the DFG funded highly interdisciplinary German-Luxembourgian Research Unit CAOS (FOR 1598): "From Catchments as Organized Systems to Models based on Dynamic Functional Units". The position is part of Project H "*Residence times across scales: from plot to catchment scale*". This project will be carried out in close cooperation with the Section 5.4 Hydrology of the German Research Centre for Geosciences (GFZ).

We invite applications for a TV-L 13 position, 65% for 3 years, starting December 2011.

In the framework of this position, an extensive monitoring network will be established in several headwater catchments in Luxemburg with the purpose of exploring the spatial organization of the flow pathways, water storage and hence the residence time. Combining flux and residence concentration data of natural tracers in water, stable isotopes, and artificial tracers will allow to predict residence time and flow pathways in the different hydrological compartments as well as integrative for entire watersheds. We will investigate with different methods the fingerprint of hydrological processes found in the signal of isotopic composition and natural and artificial tracers of soil, ground and stream water in space and time.

The PhD student will be responsible for the sampling and analysis of the temporal and spatial distribution of stable isotopes of water in the soil (unsaturated and saturated zone) and streams. The PhD student will use observed stable isotope patterns to derive long-term flow pathways (matrix/macropore), flow velocities, mixing patterns and the proportion of evaporation to transpiration. In addition, scaling properties of stable isotopes and its relation to scaling of hydrological processes will be analyzed. The PhD student will also develop and test the new in-situ stable isotope system for soil water.

All applicants should have a Diplom or MSc degree in hydrology, soil science, physics, environmental science or engineering or in a closely related field. We encourage applications from enthusiastic dedicated individuals with strong quantitative skills as well as good writing skills in English (German and French is an asset) who enjoy working in a multi-disciplinary team. Strong experimental background and willingness to work in the field is essential (field campaigns of several weeks are to be expected). Knowledge of stable isotope hydrology and tracer techniques is an asset. A driving license (class B) is required.

We offer an interdisciplinary, international work environment within a formal PhD program (<http://www.gs.esgc.uni-freiburg.de>). An intensive exchange of the PhD students between Freiburg and Potsdam is foreseen.

The University of Freiburg is an equal opportunity employer and is committed to increasing the proportion of women scientists. Consequently, we actively encourage applications from qualified women. We also welcome applications from candidates with severe disabilities who will be given preferential consideration in case of equal qualification.

Please send your application including a cover letter, CV, an example of your own scientific writing (if available), a statement of research interests, certificate & transcript of your highest degree earned and the names and contact details of at least two potential references in one pdf-file to Markus Weiler (markus.weiler@hydrology.uni-freiburg.de). Application deadline is Oct 8th 2011.