

Stellenausschreibung

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FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA

Postdoctoral Researcher Position (100%) at the Institute of Earth Sciences, Faculty of Chemistry and Geosciences, within the BMBF collaborative project TRANS-LARA

“Fluid dynamic modeling of ascending radionuclide transport from groundwater through the unsaturated zone using lysimeter data (COMSOL, PHREEQC, iCP)”

The focus of the BMBF collaborative project TRANS-LARA is to investigate the transport and transfer behavior of long-lived radionuclides along the causal chain groundwater – soil – surface – plant. This will be performed in collaboration with partners from University of Bremen ([IUP](#)), two institutes from the Leibniz Universität Hannover ([LUH-IfB](#), [LUH-IRS](#)), the Helmholtz Zentrum Dresden Rossendorf ([HZDR-IRE](#)), the [Oeko-Institut](#) in Darmstadt and the [Applied Geology group](#) of the Friedrich-Schiller-University Jena.

To provide a realistic or more realistic dose estimation research on the following topics will be performed:

- Physical and chemical properties of radionuclides
- Structure of the soil
- Exchange and adsorption mechanisms on surfaces of the soil matrix under saturated and unsaturated conditions
- Radionuclide uptake mechanisms in plants including the influence of the radionuclide speciation

Close cooperation within the multi- and interdisciplinary TRANS-LARA consortium with researchers from Physics, Chemistry, Biology, Soil Sciences and Geology/Mineralogy offers unique prerequisites for transferring the findings from basic research into applications. Furthermore, within the project at the FSU Jena a close collaboration of the hired Postdoc with the recruited PhD student working on lysimeter transport experiments (dissolved and colloidal transport) on soil systems representing actual and future climate evolutions is expected. The hired Postdoc will develop a fluid dynamic and transport model to predict the transfer of trace metals (selenium and/or radionuclides) using the lysimeter data obtained in the TRANS-LARA consortium.

Requirements:

- A PhD degree in mathematics, physics or a related discipline is mandatory
- Strong expertise in fluid dynamic (e.g. COMSOL) and/or geochemical transport (e.g. PHREEQC) modeling is expected
- Excellent programming skills to work with the interface COMSOL – PHREEQC (iCP) and implementing the experimental data
- Enthusiasm to play an active role in the interdisciplinary research team of TRANS-LARA and the Applied Geology group
- Highly motivated and creative personalities
- Excellent written and oral communications skills in English

We offer:

- A 2 year full position with a gross-salary according to TV-L
- Opportunity for research on an innovative and unique research platform
- A communicative atmosphere within a scientific network providing top-level research facilities and training program, including participation in international and national conferences, summer schools and Workshops
- The place of work is the city of Jena, Germany, a young and lively university town with dynamic business activities, successful scientific centers of innovation, and a vibrant cultural scene.

Severely disabled applicants with equal qualification and aptitude are given preferential consideration.

Applications should be written in English. The application deadline is **December 31, 2017**. **Intended starting date is March 2018**.

Applications are submitted exclusively via e-mail to: regina.piechnick@uni-jena.de

Selected applicants will be invited to a recruitment meeting. For more information on the position, feel free to contact Prof. Dr. Thorsten Schäfer (thorsten.schaefer@uni-jena.de).