



PhD Position in Reactive Transport Modelling

at the Universities of Greifswald, DE and Salzburg, AT

The research foundation “Forum Bergbau und Wasser” (FBW) offers a multidisciplinary PhD position in the field of reactive transport modelling of mine water. The FBW carries out research work in connection with mine water rebound in abandoned coal mines and investigates the chemical and hydrogeological aspects of controlled mine floodings.

The PhD position is expected to explore and simulate the reactive transport within cave-ins and mine cavities during and after the flooding process. The field of activities is at the interface of numerical modelling, hydrochemical analyses and laboratory experiments. In particular, these are:

- extension of quantitative numerical models with reactive transport processes (Feflow, piChem, etc.)
- determination of dissolution/precipitation kinetics and relevant time scales
- characterization of particle sedimentation/remobilisation and modelling of sorption dynamics
- assistance and numerical backup for column and batch experiments in the laboratory

The research will be carried out in the Hydrogeological Lab at The University Salzburg in close collaboration with the Applied Geology/Hydrogeology section of the University Greifswald (Prof. Schafmeister). The candidate will be employed at University Salzburg (Prof. Hilberg), however she/he will be enrolled as PhD student at University of Greifswald.

The position is fully-funded until December 2021 and is designed as a project staff position. The position will be filled once the release of funds is approved. Payment will be according to the salary scheme of the University of Salzburg (group B1) based on a 40 hours week.

We welcome talented and motivated students with interests in numerical modelling and hydrochemistry to apply for the 3-year studentship. Funding includes monthly salary and funds for research stays abroad, travel costs and for the participation at international conferences. The work will be supported with state-of-the-art modelling software and an innovative laboratory facility for the execution of column experiments. Both universities offer graduate programs for diverse skills courses and training.

The candidate should have an outstanding MSc degree in one of the following disciplines: Chemistry, Geology, Earth Sciences, Environmental Studies or similar. In addition, you should have or be experienced in

- working with reactive transport modelling tools (PHREEQC, piChem)
- the description and analysis of hydrochemical reaction kinetics
- the ability to work independently and to conduct laboratory experiments
- excellent skills in English (written and spoken)
- the willingness to travel to partner universities and conferences
- high level of capacity for teamwork, self-responsibility and motivation for scientific work

Please send your complete application documents (*CV, letter of motivation and list of publications*) in one pdf file (max size 5 MB) to sylke.hilberg@sbg.ac.at. Submission deadline is February 28th 2019. The position should be filled by April 1st 2019.

The university aims at rising the women’s quota of scientific staff and personnel in leading positions. Therefore, women are explicitly encouraged to apply for the position. Given an equal qualification, women are considered preferentially.

For questions or further information please refer to Timo Kessler (timo.kessler@uni-greifswald.de).