

Understanding deep groundwater circulations

Are you interested in a research career and in working at the frontiers of hydrogeology? Then here is an opportunity to do a PhD in an internationally recognized research environment supported by national and international cooperation partners.

Wider context of the project

In the framework of the geothermal use of the Bavarian Molasse we want to improve our understanding of the hydrogeology and biogeochemistry in the Deep Malm Aquifer.

Scientific focus of the announced PhD position

In this study we want to study the Upper Jurassic aquifer in the northern Bavarian Molasse Basin, where complex geochemical reactions under reducing conditions have characterised the chemical evolution of the groundwater. This groundwater system may also be affected by incongruent dissolution of different facies types, ion exchange, and to some extent, by bacterial sulfate reduction. Therefore, the project will identify and analyze the hydrogeology, geochemistry and the water age distribution of the Deep Malm aquifer using cutting-edge analytical tools such as stable isotope technique, noble gas isotopes, and modelling. To reach the scientific goals the research questions will primarily be investigated using laboratory experiments linked with field investigations.

Qualifications

At the date of appointment candidates must hold an MSc degree in natural science, preferably with a specialization in the following fields: bio-/chemical/environmental/ hydrogeological sciences. The successful candidate must be an efficient team worker, has good communication skills and has a critical approach to the formulation and testing of hypotheses. Practical experience and willing to work in the field is a prerequisite.

Approval and Enrolment

The scholarships for the PhD degree are subject to academic approval and the candidates will be enrolled in one of the general degree programs of TUM. For information about the general requirements for enrolment and the general planning of the scholarship studies, please see TUM Graduate School (<https://www.gs.tum.de/promovieren-an-der-tum>)

PhD at TUM

As PhD student at TUM you will be part of the scientific staff. Besides your scientific work you are integrated in the teaching program of the Chair of Hydrogeology. You are integrated in courses that prepare undergraduates in the field of hydrogeology. We are one of the leading university institutes in Europe with a large network worldwide. We have an international environment with an international MSc education and supervise almost 10 PhD students in our group. Munich is a pleasant place to live with easy transport and a rich cultural life.

Salary and appointment terms

Salary and appointment terms are consistent with the current rules (75% of a full researcher position) for PhD degree students. The period of employment is 3 years.

The successful candidate will be employed at and enrolled as a PhD student at TUM, within the framework of the Civil, Geo and Environmental Engineering graduate. The starting date is negotiable but a quick start is preferred.

Further information

Further information is available from Professor Dr. Florian Einsiedl (e-mail: f.einsiedl@tum.de).

Application

A cover letter explaining the applicant's motivation to apply for the research project (not more than one page)

- A curriculum vitae providing relevant academic, employment and personal details
- Authorized academic transcripts and copies of master thesis work or publications
- Contact details for two reference persons that we may contact for further inquires

Candidates will be evaluated based on their research potential and commitment and selected candidates will be invited for an interview.

The scholarship is open to both German and international applicants.

All interested candidates irrespective of age, gender, race, religion or ethnic background are encouraged to apply.

Deadline

Deadline for application is open. Please send your application to hydrogeology.bgu@tum.de (subject: "deep groundwater").