

PhD student in Hydrology, focus on Coupled Processes in Fractured Rocks

Uppsala University, Department of Earth Sciences

Are you interested in working within hydrology research, with the support of competent and friendly colleagues in an international environment? Are you looking for an employer that invests in sustainable employeeship and offers safe, favourable working conditions? We welcome you to apply for a PhD student at Uppsala University.

The Department of Earth Sciences is one of the most complete such academic departments in Europe. Our research focuses on subjects that range from the Earth's core to the atmosphere, on scales from sub-microscopic structures in minerals to the formation of mountains and oceans. We have teaching at undergraduate and graduate levels. Our courses offer a wide range within the geoscience area and several of the department's programs have received the highest rating in evaluations by the Swedish National Agency for Higher Education and the Swedish Higher Education Authority. For more information see www.geo.uu.se. The successful candidate will join the research program Air, Water and Landscape Sciences (LUVAL) and the research group in Geohydrology.

Duties

This 4-year PhD project will have a focus on developing an advanced three-dimensional numerical model for simulating coupled hydro-mechanical processes in fractured and/or porous geological media (including heterogeneous bedrocks, soil layers, and fault zones). The simulation tool will be applied to model and predict groundwater drawdown and land subsidence during underground construction in dense urban areas. The model will be validated and calibrated against extensive measurement data available from a major ongoing underground construction project in Sweden. In addition to working at Uppsala University, the PhD candidate will have an opportunity to interact closely with the infrastructure industry.

Requirements

To meet the entry requirements for doctoral studies, you must

- hold a Master's (second-cycle) degree in rock mechanics, hydrogeology, earth sciences, geotechnical engineering, petroleum engineering, or
- have completed at least 240 credits in higher education, with at least 60 credits at Master's level including an independent project worth at least 15 credits, or
- have acquired substantially equivalent knowledge in some other way.

Additional qualifications

The successful candidate should have a solid base in mathematics, mechanics and physics as well as knowledge of computer simulations and scientific programming. Previous experience in numerical-, mathematical modelling is a merit.

The application should include a cover letter of max 2 pages, shortly describing your personal motivation for applying for this PhD position and how you see your role in contributing to the project, as well as your relevant skills, qualifications and research interests. The application should also include a CV, copies of relevant exams, degrees and grades, MSc thesis and other relevant documents, including contact details of two referees.

Rules governing PhD students are set out in the Higher Education Ordinance chapter 5, §§ 1-7 and in Uppsala University's rules and guidelines.

About the employment

The employment is a temporary position according to the Higher Education Ordinance chapter 5 § 7. Scope of employment 100 %. Starting date 01-04-2024 or as agreed. Placement: Uppsala

For further information about the position, please contact: Qinghua Lei, qinghua.lei@geo.uu.se

Please submit your application by 1 of December 2023, UFV-PA 2023/4129.

Are you considering moving to Sweden to work at Uppsala University? Find out more about what it's like to work and live in Sweden.

Uppsala University is a broad research university with a strong international position. The ultimate goal is to conduct education and research of the highest quality and relevance to make a difference in society. Our most important asset is all of our 7,500 employees and 54,000 students who, with curiosity and commitment, make Uppsala University one of Sweden's most exciting workplaces.

Read more about our benefits and what it is like to work at Uppsala University

<https://uu.se/om-uu/jobba-hos-oss/>

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University's recruitment system.

Type of employment	Temporary position
Contract type	Full time
First day of employment	01-04-2024 or as agreed
Salary	Fixed salary
Number of positions	1
Full-time equivalent	100%
City	Uppsala
County	Uppsala län
Country	Sweden
Reference number	UFV-PA 2023/4129
Union representative	ST/TCO tco@fackorg.uu.se Seko Universitetsklubben seko@uadm.uu.se Saco-rådet sacco@uadm.uu.se
Published	2023-11-10
Last application date	2023-12-01
Link to ad	http://uu.varbi.com/what:job/jobID:675372/