

Scientific Assistant – Geotechnical and Geo-environmental numerical modelling

Your mission:

The Laboratory of Soil Mechanics (LMS) at the School of Architecture, Civil and Environmental Engineering at EPFL Switzerland, is seeking a scientific assistant to develop numerical simulations of groundwater flow and simulate hydro-chemo-mechanical processes. LMS is a research lab dedicated to giving priority to the protection from geo-hazards and industrial damage to the environment, landforms and structure, mobilizing its experimental and modelling resources to understand, describe and predict the environmental impact of the technologies of future days. With the “*BIO-mediated GEO-material Strengthening for engineering applications*” (BIOGEOS) project funded by the European Research Council (ERC) and its [Proof of Concept additional grant](#), an LMS research group focuses on bio-mediated, nature-inspired ground reinforcement and explores multi-physical and highly applicable processes in geotechnics. From engineering novel geo-materials at multiple scales, to controlling and mastering bio-inspired soil strengthening, BIOGEOS aims to establish a new paradigm in research and development for geo-technical applications. Within the framework of this project, the LMS is operating the world's largest experimental set-up dedicated to bio-geo-chemo-mechanical investigations. The ultimate goal of this project is to combine state-of-the-art research with innovative tools and systems to eventually transition to practical applications through technology transfer.

Main duties and responsibilities include:

- Performing groundwater flow simulations (aquifer model, wells, injections) using commercially available softwares
- Modelling hydro-chemo-mechanical parameters and their spatio-temporal variations
- Creating data libraries

Your profile:

- Knowledge and experience in groundwater flow and geotechnical simulations are a big plus
- Experience in chemo-mechanical modelling is a plus
- Knowledge of multi-physical modelling (e.g. COMSOL)
- Master's degree with relevant work experience is required

We offer:

- Opportunity to work on cutting-edge projects of innovative bio-geotechnics, ground reinforcement, exploring multi-physical and highly applicable processes
- The candidate will have the opportunity of applying research in a top-ranked engineering school, with a young, stimulating, dynamic, interdisciplinary, and international working environment.
- EPFL is an international and world-class engineering university. It offers state-of-the-art facilities, scientific events and training and hosts a vibrant entrepreneurial community. EPFL is an equal-opportunity employer. Candidates will be recruited on merit only.
- We offer a competitive salary commensurate with skills and experience, and subject to EPFL pay scale

Start date:

February 2021

Term of employment:

Fixed-term (CDD)

Duration:

6 months. Renewable

Contact:

Please send your application with the subject line « PoC Scientific Assistant » to maren.katterbach@epfl.ch in a single pdf file containing all the required information. It shall include a cover letter, CV, a list of publications, and contact details of three referees. Applications will be evaluated as soon as received.