

Wellbore thermo-mechanics and stress measurements for deep geothermal projects

The Centre for Hydrogeology and Geothermics (CHYN) at the University of Neuchâtel invites applications for **a postdoc position in the area of deep geothermal borehole geomechanics**. The successful candidate must have completed a PhD in the field of rock mechanics, geotechnical engineering, earth sciences, or related field. A solid scientific background and knowledge in rock mechanics and geomechanics is of prime importance. Hands-on expertise with experimental rock mechanics in laboratory and/or in-situ is required for the project. Experience in geothermal reservoir characterization and proficiency in numerical modeling methods in rock mechanics and geomechanics are assets. The candidate must have proven his ability to publish his results in leading journals in the field of rock mechanics. Good communication and writing skills in English are required. Oral knowledge in French is advantageous.

Project description

The successful candidate will work in the framework of two related projects: the SPINE – Stress Profiling in EGS project and the TIBEX - Thermally induced breakouts experiment. The objective of both projects is to develop better stress characterization methodologies for deep geothermal projects. The in-situ stress state is a key parameter for designing a deep geothermal reservoir, as it has a strong influence on borehole stability, reservoir permeability and reservoir response to hydraulic injections. Within the SPINE project the postdoc will be working within an international consortium in order to improve stress determination techniques based on the analyses of measurement of fault dislocation data induced by injections. In the TIBEX project he will develop and test a new borehole probe for in-situ thermo-mechanic experiments.

Duration

The position is 3 years and can be filled by the successful candidate in spring 2023.

Additional information

The Centre for Hydrogeology and Geothermics of University of Neuchâtel is a leading institution for fundamental and applied research on groundwater and geothermal resources. Detailed information about the CHYN is available on the web: <http://www.unine.ch/chyn>. For further information regarding the advertised position please contact Prof. B. Valley (benoit.valley@unine.ch).

Application

Complete applications should be sent by e-mail to application.chyn@unine.ch. Please use "Application SPINE/TIBEX: [your name]" in the subject of your email. Your application must include the following: 1) Motivation letter; 2) Curriculum vitae which describes your complete personal details and career history; 3) Complete course grades and transcripts; 4) Digital copies of your PhD thesis and of relevant publications. 5) Contact information of two reference persons. Application deadline is set at January 15th 2023 and candidates will be evaluated in second half of January 2023. Applications can be submitted until the position is officially filled.

