

## **Post-doctoral position at EPFL - Geo-Energy Lab - Gaznat Chair on Geo-Energy**

In relation with a Swiss National Science Foundation grant on the hydraulic stimulation of anisotropic rocks, the Geo-Energy Lab at EPFL led by Prof. Brice Lecampion is looking for an outstanding post-doctoral researcher in the field of computational mechanics.

The objective of this research project is to advance our quantitative understanding of hydraulic fracture propagation in anisotropic rocks by combining experimental and theoretical investigations. In the course of this research, we will notably develop a theoretical and numerical model for mode I hydraulic fracture growth in anisotropic rock. In parallel, carefully scaled down laboratory experiments will be performed on a number of different anisotropic materials allowing direct comparisons with theoretical predictions. We are looking for a highly qualified candidate in the field of numerical and theoretical modeling in mechanics (both fluid and solid) to work on the numerical & theoretical parts of this project.

### **Major duties and responsibilities**

- Contribute to the development of numerical models for hydraulic fracture growth (numerical methods, code architecture etc.), and code documentation,
- Contribute to a benchmarking effort between numerical models and analytical solutions for hydraulic fracture growth,
- Contribute to the design and definition of the experimental program, etc.

### **Requirements**

- PhD in mechanics (or in a related field) preferably obtained in the last 2 years
- Strong theoretical and applied knowledge of continuum mechanics
- Strong knowledge of boundary elements, finite element & finite volume methods
- Strong quantitative and scientific programming skills (C, C++, Fortran, Mathematica etc.)
- Excellent written and spoken English skills
- Team-work attitude

### **Employments conditions**

- Excellent working conditions: an innovative and competitive atmosphere, modern equipped working areas and an environment that promotes access to the world's best scientists
- Full competitive financial support including conference visits
- The working language at EPFL is English

### **Application procedure**

Candidates should apply by sending a resume (including references contact) and cover letter to [brice.lecampion@epfl.ch](mailto:brice.lecampion@epfl.ch). Short-listed candidates will be invited for an interview at EPFL.