

Two-year postdoctoral position in numerical modeling of fluid-rock interactions

The university of Franche-Comté is looking for a two-year postdoctoral researcher (M/F) to join the department of Geosciences on numerical modeling of fluid/rock interactions, with a special emphasis on natural hydrogen production.

Details of the position

The project aims at using numerical modeling to better understand the natural production of H₂ during fluid/rock interactions. The exact subject is dependent on the successful candidate experience and can either be:

- 1) the integration of thermodynamic modeling of fluid ionic species and the associated fluid/rock interactions into existing Hydro-Mechanical-Chemical numerical codes. This new reactive transport code will be used to study the natural generation of H₂ in continental settings at different scales. This will involve collaborations with the University of Lausanne and the Goethe University in Frankfurt.
- 2) pore scale modeling of the dissolution/precipitation process of key H₂ producing minerals. This will be compared to both natural and experimental cases to better constrain the actual equilibrium between the produced mineral and its composition and the bulk fluid responsible for the alteration of primary minerals.

The successful candidate will be located at the University of Franche-Comté in Besançon (France) under the direct supervision of Dr. Guillaume Siron.

The applicants will join a large team working on fluid-rock interactions with different approach and benefit from the various point of views and areas of expertise from the team members, including but not limited to thermodynamic modeling, stable isotopes, experimental petrology, deformation experiments.

Our group at the university of Franche-Comté is committed to ensure a welcoming and nurturing environment and highly values equity and inclusion. We are flexible to design the best environment for each group member to be successful in what they do, based on the diversity of their needs.

The position is a 30-months position, gross salary range between 2550-3017 euros depending on qualifications and experience of the selected candidate. Speaking French is not mandatory.

The deadline for submitting applications is December 20, online interviews are expected to take place the 3rd week of January. Please make sure that your references can provide reference letters at the time of the interviews.

Requirement

- PhD in Earth sciences or related field

Qualifications

- Experience in numerical modeling (large scale geodynamics or pore scale)
- Good knowledge of fluid/rock interactions is a plus
- Good knowledge of the Julia programming language is viewed as a positive
- Good interpersonal skills and a team player
- Good level in English for both writing and speaking

Interested candidates should submit 1) a cover letter (1 page max.), 2) a summary of past research (1 page max.) and a statement of research interest (1 pages max.) and 3) a curriculum vitae. All files must be sent as pdf at the address guillaume.siron@univ-fcomte.fr.