Post-doctotal position at the University of Lorraine

GeoRessources Laboratory, CNRS, CREGU, Nancy – France

georessources.univ-lorraine.fr/

Title: Hydrothermal mobility of Rare Earth Elements: solubility and partitioning by coupling experimental settings and geological observations

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2-year postdoctoral fellowship in metallogeny

The objectives

The project is looking to understand the mobility of Rare Earth Elements (REE) in hydrothermal conditions (100-300°C), with the objectives to constraint and decipher the key parameters finally leading to the formation of hydrothermal REE mineral deposits.

For this purpose, a coupled experimental and analytical approach is targeted, with experimental study a) of the solubility of primary REE-bearing minerals in hydrothermal fluids and b) of the REE partitioning between REE-bearing hydrothermal fluid and hydrothermal minerals during their crystallization. The experimental results will be compared to selected natural geological case studies by measuring the REE concentrations in primary REE-bearing minerals, hydrothermal fluids and hydrothermal REE-bearing minerals with in-situ techniques.

Your tasks

+ Experimental investigations of REE-bearing mineral solubility under hydrothermal conditions (100-400°C), based on parametric experiments;
+ Experimental investigations of REE partitioning between fluid and minerals (e.g. uraninite, fluorite) under hydrothermal conditions (100-300°C), based on parametric experiments;
+ Measurements of REE concentrations in minerals and natural geological fluids (fluid inclusions) by LA-ICPMS analysis.

Your profile

You have a PhD degree in natural sciences or a related scientific discipline. You consider yourself as a skilled experimentalist embodying extended knowledge in hydrothermal geochemistry. You have in-depth knowledge in metal solubility and complexation under hydrothermal conditions. You demonstrate willingness to engage experiments up to elevated temperature and pressure or performing thermodynamic simulations of metal behavior in the Earth's crust.

You enjoy working in an interdisciplinary and multinational research environment. You consider the professional support of researchers as an opportunity to enlarge your scientific expertise and experience. Your research track record shows potential to be of international standing and you have the capacity to write publications in highly-ranked international scientific journals.

You are an enthusiastic, innovative scientist and a good team player with excellent communication skills will help to ensure your success in completing your tasks postdoctoral research scientist. You have the will to train and mentor master students, to help you fulfilling your research objectives.

We offer

Our institution is based on an interdisciplinary, innovative and dynamic collaboration. You will be part of the team "Mineral Resources" (http://georessources.univ-lorraine.fr/fr/content/ressources-minerales), which gathers 15 permanent researchers, technicians and engineers plus several Master and PhD students, as well as postdocs. Our institution is the French leader academic laboratory in the study of mineral deposit formation. The institution homes several research platforms with state-of-the-art experimental hydrothermal labs, and all instruments needed for the characterization of experimental and natural products (SEM, EMPA, LA-ICP-MS, micro-tomography, microthermometry, Raman, Infrared spectroscopy). Our institution is part of the Université de Lorraine (http://welcome.univ-lorraine.fr/en), which is one of the leading institutions for higher education in Europe with more than 55,000 students and 60 research laboratories. The department of Earth Sciences is one of the most important in Europe, with 4 laboratories hosting more than 300 researchers and 1000 students.

This is a full-time postdoctoral position for 12 months, with potential extention up to 12 additional months. The successful candidate will work in the scope of the Laboratory of Excellence LABEX Ressources21, a pluri-annual research grant dedicated to understanding and managing strategic metals in the 21st century (http://www.ressources21.univ-lorraine.fr). The salary will be 2000-2200 €/month Net.

How to apply

Please submit your application with a Curriculum Vitae, list of publications and the name of 2 references to Dr. Laurent Truche: Laurent.truche@univ-lorraine.fr, Dr Marie Christine Boiron: marie-christine.boiron@univ-lorraine.fr, Mrs Isabelle Abildtrup: ressources21-contact@univ-lorraine.fr)

For further information and application, please contact Dr. Laurent Truche (e-mail above) phone +33 3 83 68 47 13

Deadlines

Applications should be send by March 8th 2016

Interviews will take place by end of March 2016.

The Intended starting date is end of April 2016 and negotiable