Laboratoire de Géologie de Lyon

Université Claude Bernard Lyon 1

Institut lumière matière

PhD Position at the frontier between Geology and Physics

The Laboratoire de Géologie de Lyon and the Institut Lumière Matière, University of Lyon1, France, invites applications for a **fully funded PhD** position with research on:

Climate Archives of the last interglacial period in Rhône-Alpes and new methodologies for the reconstruction of paleo-temperatures.

The increase in temperature, frequency of rainfall and disappearance of glaciers imply the loss under the sea level of large areas of lands and significant "environmental" migration of populations. These major societal issues show the need of studying climate and erosion processes of land surface. The Rhône Valley is a sedimentary basin, this low level area surrounded by reliefs (Alpes, Massif) can be easily flooded if the sea level rises.

Our project aims to reconstruct the climate of the Rhône Valley during the Marine Interglacial Stage 5 (MIS 5) considered as a good analogue of modern climate, from the microthermometry study of fluid inclusions in speleothems and geodic quartz from the Mont Blanc in order to assess the impacts of climate change on the ecosystem. Developing an accurate methodology will be an important aspect of the thesis.

Applicants should hold a Master degree in geology or physics. A solid background in thermodynamics is required. The analytical techniques that will be used include microscopy, microthermometry, and optical spectroscopy (Raman, Brillouin).

Candidates must be able to communicate fluently in English, and knowledge of French would be an advantage, although is not mandatory. The application material, including motivation letter, CV, names and contacts of referees (incl. phone number and e-mail address) should be sent as one single file by email to Véronique Gardien (vgardien@univ-lyon1.fr) and Fréderic Caupin (Frederic.Caupin@univ-lyon1.fr). The Labroratoire de Géologie de Lyon and the Institut Lumière Matière of Lyon1 University host ones of the largest groups in geology and physics in France and offers state-of-the-art analytical facilities.

The evaluation of applications will start May 2015 and continue until a suitable candidate has been found. The starting date will depend on the availability of the selected candidate.