

THE MINERALOGY DEPARTMENT AT THE NATURAL HISTORY MUSEUM

We are seeking a candidate with a PhD degree in Earth, Physical or Biological Sciences for a joint application to the Marie Curie Individual Fellowships Programme of the European Union (Marie Curie Programme website: http://cordis.europa.eu/fp7/people/home_en.html).

This programme provides fellowships for European (Intra-European Fellowships) and international (Incoming International Fellowships) researchers in a European country different from where they developed their recent work. Applications are submitted jointly between the candidate and the host institution.

The fellowship would provide a gross salary in the approximate range €100,000-60,000/year, depending on experience, plus mobility (relocation, family, etc.), travel and career exploratory allowances, as well as research funds. The research project would have a duration of 2 years. Fellows can apply for a Reintegration Grant to return to their own country at the end of their fellowship.

The next call will probably open in March 2011 and the deadline will be in August 2011.

Three fellows have been hosted and one more will be hosted starting this year, within this European Programme:

- 1) 2004-2005. Mechanism of smectite kaolinization via kaolinite-smectite (Dudek et al., 2006, *American Mineralogist* 91, 159; Cuadros & Dudek, 2006, *Clays and Clay Minerals* 54, 1; Dudek et al., 2007, *American Mineralogist* 92, 179; Cuadros & Wing-Dudek, 2007, *Clay Minerals* 42, 181; Cuadros et al., 2009, *Clays and Clay Minerals* 57, 742).
- 2) 2005-2007. Smectite dehydration (structure and kinetics) and the onset of smectite illitization (Ferrage et al., 2007, *American Mineralogist* 92, 994; Ferrage et al., 2007, *American Mineralogist* 92, 1007; Ferrage et al., 2011, *American Mineralogist* 96, 207).
- 3) 2009-2011. Water chemistry and microbial activity influence on clay formation. In progress.
- 4) 2011-2013. Fe- and Mg-rich clays from submarine hydrothermal systems as a proxy for the Martian clays of similar composition.

THE PROJECT

Microorganisms and minerals have a mutual influence. Mineral alteration is modified by microorganisms and minerals exert a partial control on microbial population through influence on the chemical and physical conditions that they generate. The present project intends to investigate aspects of this mutual influence. Silicate minerals of different chemistry will be used as substrate for the growth of a variety of microorganisms in order to study (1) the several microbial strategies in their interaction with the minerals in dependence with mineral composition and nutrient availability, and (2) the consequent mineral alteration.

Support will be provided by experienced staff at the Life Sciences Departments at the Natural History Museum as well as from another European group working on biomineralization and biogeochemistry. Thus,

the project is interdisciplinary and will involve international collaboration.

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Our Department is a very dynamic environment, committed to high-quality research and recognized as such worldwide. The Department is equipped with complete up-to-date mineral and chemical analysis facilities (<http://www.nhm.ac.uk/research-curation/science-facilities/analytical-imaging/>). The Natural History Museum is one of the European Union Large Scale Research Facilities.

CONTACT

Anyone interested in this joint application please contact Javier Cuadros at the address below.

Javier Cuadros
Department of Mineralogy
Natural History Museum
Cromwell Road
London SW7 5BD
UK

j.cuadros@nhm.ac.uk

Tel: +44 (0)20 7942 5543

Fax: +44 (0)20 7942 5537

<http://www.nhm.ac.uk/research-curation/staff-directory/mineralogy/j-cuadros/index.html>
