

POSTDOCTORAL POSITION: CHEMICAL AND STRUCTURAL EVOLUTION  
OF ALTERED NUCLEAR GLASSES, University of Grenoble, France

A postdoctoral position is available for the study of nuclear glass corrosion. The project is based on a detailed analysis of the chemical and structural evolution of glass interfaces that have been altered by aqueous fluids, which typically leads to the formation of altered surface layers and in situ secondary phases. The successful candidate will initially examine simple fluid-glass interfaces, followed by more complex interfaces involving glass-metal and metal-clay systems associated with simulated nuclear glass sequestration. The methodology to be used includes focused ion beam milling (FIB) for the preparation of ultrathin TEM foils, followed by micrometer to nanometer-scale chemical mapping using such techniques as TOF-SIMS and TEM (HRTEM, EFTEM, STEM-HAADF, EDX). The use of state-of-the-art high spatial resolution techniques applied to cross-sectional thin sections prepared by FIB should lead to novel results allowing for the development of more refined models describing nuclear glass corrosion and sequestration.

Qualifications:

- Ph.D. in materials science, physics, chemistry, geochemistry
- experience in mineral or glass alteration
- working knowledge of TEM and/or TOF-SIMS techniques
- knowledge of French helpful, but not mandatory
- the project will require travel to laboratories in France and Europe

Starting date: February, or at the latest, March, 2010

Duration of contract: 18 months, with a potential extension of 6 months

Interested candidates should send a CV, a statement of research experience, and a list of 3 referees to:

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