

Employeur : ENSCP - Laboratoire de Chimie de la Matière Condensée  
Contrat : CDD  
Lieu de travail : Paris, Ile-de-France, France  
Salaire : NC

The position will be held in the [Laboratory of Condensed Matter Chemistry](#), CNRS UMR 7574, ENSC-Paris, Paris (France). Technics used will be based on glass synthesis, structural characterization, spectroscopic characterization (IR, raman, NMR, ESR, optical and luminescence).

### **Mission**

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The contact of a glass with water results in an alteration of its surface. Many studies have been devoted to the understanding of the mechanisms involved in this corrosion effect. Indeed, the durability of glass is of prime importance in many industrial applications. For example, this general problem concerns the surface properties of flat glass panels, the reactivity of glass containers, the corrosion of glass fibers (optical as well as insulating). In the nuclear industry, understanding the aqueous alteration mechanisms of nuclear glasses is crucial for a reliable evaluation of the long-term behavior of high-level radioactive wastes in geological disposals as well as interim storages, since the glass matrix is the first confinement barrier for radioelements.

Our team in collaboration with the french national radioactive waste management agency (ANDRA) is interested in a better understanding of the glass alteration properties as a function of its composition and the nature of the surrounding media. We plan to study the glass alteration kinetics of radioactive-free borosilicate glasses. Rare earths oxides will be introduced in the glass composition. The objective is to establish a correlation between the glass composition, the local cationic coordination and the macroscopic dissolution kinetics

### **Profil**

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Although a prior experience in glass science will be preferred, an applicant with a good knowledge in solid state chemistry, solid state ionics or geochemistry could be suitable.

The position is normally offered to a citizen of the European community (non French) but any application may be considered too. The post will be awarded according to the local conditions and salary scales of ANDRA.

### **Candidature**

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send a resume to [Philippe-barboux@enscp.fr](mailto:Philippe-barboux@enscp.fr)