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**Postdoctoral Position Available**  
**Institut Charles Gerhardt Montpellier (ICGM),**  
**CNRS and University Montpellier 2, Montpellier, France.**  
**Available September 2008**

**Molecular Modeling of Electrolyte Solutions Confined in Nanopores.** Molecular simulations will be used to investigate the behavior of electrolyte solutions confined in nanopores. The main goal of this research project is to estimate the effect of confinement, surface forces, and reduced dimensionality on the properties of the solute (ions) and solvent. Among molecular simulation techniques, classical Molecular Dynamics (MD) codes such as AMBER9 will be used, as they allow one to determine the thermodynamical, structural, and dynamical properties of the confined system at the ionic and molecular level. Of particular interest for this research project are the determination by MD of the density and concentration profiles of the solute (ions) and solvent (water) within the nanopores. We will also investigate the system dynamical properties, such as the self-diffusivity of the confined solutes (ions) and solvent (water). Finally, we intend to study the selectivity of the nanopore or membrane, defined for multi-component systems as the ratio of the ionic concentration within the pore to that of the bulk electrolyte.

**Funding.** This research project is part of a larger research program "SIMONANOMEM" led by John Palmeri (LPT, Toulouse, France) and funded by the **Agence Nationale de la Recherche (ANR)**, the French National Agency for Research). The project involves several laboratories in France (Toulouse, Montpellier, and Marseilles). We propose a post-doctoral position in Montpellier, located in the south of France, at the ICGM (Institut Charles Gerhardt Montpellier, [www.icgm.fr](http://www.icgm.fr)) belonging to the CNRS and University of Montpellier 2. The subject will be studied in parallel with experimentalists in the laboratory and therefore offers a real opportunity for experimental and theoretical collaboration.

**Candidates.** Applicants should have a PhD in Physics, Physical Chemistry, or Materials Science with experience in molecular modeling (Molecular Dynamics and/or Monte Carlo).

**Practical aspects.** The position is available immediately, lasts for 15 months, and includes health insurance, retirement, and employments benefits. The net take home salary is about 2100 Euros/month and support for travel is provided. Applicants should provide a CV with a list of publications, a letter of motivation, and the names and Email addresses of 2 or 3 references to:

**Dr. Benoit Coasne**, [benoit.coasne@univ-montp2.fr](mailto:benoit.coasne@univ-montp2.fr), tel: +33 6 70 80 12 34

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