

POST-DOCTORAL POSITION
in Scanning Probe Microscopy
University of Mons (UMONS), Belgium

A **post-doctoral position** is available at the Laboratory for Chemistry for Novel Materials, Center for Innovation and Research in MAterials and Polymers (CIRMAP), University of Mons (UMONS), to carry out research on fundamental studies by means **scanning probe microscopy** techniques in the field of novel materials for **hybrid organic/inorganic electronics**.

The project will focus on two very promising approaches that will integrate the charge-shuttling efficiency of hybrid organic/inorganic structures for **energy conversion and storage**: photovoltaic solar cells and Li-ion batteries. In the project, materials for these solid state devices will be designed by considering novel three-dimensional 3D configurations and their morphological and electrical properties will be studied at the local scale by means of state-of-the-art Scanning Probe Microscopy techniques. A main novelty is the design of a catalogue of grid-like, 3D inorganic architectures for these two types of devices, their fabrication and their subsequent transfer on transparent and stretchable substrates. The expected outcome will be the detailed description of the **charge and energy transfer mechanisms occurring at the interfaces** within the devices. The project also targets progress into the assembly of electrodes and the associated current collectors into grid-like scaffolds, while providing to the device enhanced flexibility and transparency. **The key objective is to decipher the hybrid inorganic/organic interfaces of operational nanostructured electrodes through real space mapping of the electrical and mechanical properties.**

For this project, a **Ph.D. degree in Physics or Physical Chemistry** is mandatory. Experience in organic electronics and Scanning Probe Microscopy is highly required. The successful candidate will work as an integral member of a group with expertise in scanning probe microscopy, materials modelling, spectroscopy, and device fabrication. Knowledge of computational physics and programming experience are also desirable. Thus, experience working in multidisciplinary teams and demonstrated ability for scientific accomplishment with minimal direct guidance is needed.

The position is for one year, with the possibility of renewal for up to four years. UMONS is an equal opportunity employer.

Interested candidates should submit a CV, motivation letter, publication list, names and addresses of three references to Dr. Philippe LECLERE (philippe.leclere@umons.ac.be) **before April 15, 2014.**

For more information, please do not hesitate to contact :

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