

Fully-funded PhD Studentship – United Kingdom: **Molecular electronics/spintronics with hybrid carbon nanotube nanomaterials**

Applications are invited for a fully-funded PhD studentship on “**Molecular electronics/spintronics with hybrid carbon nanotube nanomaterials**”, to join a group led by Dr. Adelina Ilie, working on an EPSRC-funded project within the Nanoscience Group of the Physics Department, University of Bath.

The project will centre on the development of new nanomaterials that combine carbon nanotubes and tailored molecular components. It will thus create a new generation of nanomaterials, ones combining the outstanding properties of nanotubes with specifically designed new functionalities. These materials are expected to be key to the development of the topical fields of molecular electronics and spintronics. The project is highly interdisciplinary, ranging from nanomaterial synthesis, to local probing with advanced scanning probe and transmission electron microscopy, and finally to nanostructure integration and testing in novel devices using unconventional, state-of-the-art nanofabrication techniques.

A top of the range Low-Temperature (atomic resolution) Scanning Tunnelling Microscope will be available specifically for this project, and complemented by a fully-equipped nanofabrication suite in the Physics Department, the Centre for Electron-Optical Studies, and facilities within the Chemistry Department. There will also be the opportunity to spend time abroad, working with other internationally leading groups collaborating on the project.

Due to the multiple aspects of the project, candidates with a background in either Physics, Chemistry, Materials Science or Electronic Engineering are all invited to apply. Particularly welcome are candidates with prior exposure to and an interest in the general domain of Nanoscience and Nanotechnology. The PhD subject can be tailored within the overall project aims to fit the strengths of the successful applicant, and will provide extensive opportunity for training and exposure to current techniques and challenges of the contemporary field of science at the nanoscale.

The work will be supervised by Dr. Adelina Ilie, who has extensive expertise and leadership in the nanoscience of carbon-based nanomaterials, and will further benefit from the highly supportive and expert environment of the larger Nanoscience Group of the Physics Department, with its established reputation in spintronics and nano-magnetism. There will also be a strong interaction with the Chemistry Department at Bath.

Applicants should have or expect to gain the equivalent of First or Upper Second Class UK Honours degree. Funding restrictions mean that the studentship is only open to UK or EU nationals, or those satisfying UK residency criteria. The studentship will cover University tuition fees at EU/UK level and provide the standard EPSRC tax-free stipend (currently £12,940 p.a, and subject to annual increase). **The start date is flexible, the earliest being October 2008.**

Life in Bath: The University is a short walk from the centre of Bath, one of the world's most beautiful cities and a UNESCO world heritage site, a city seamlessly combining tradition and history with a cosmopolitan lifestyle showcasing lively bars and quieter cafes and restaurants. In addition, the University has world-class sports facilities, frequently used by international Olympic teams for their training.

For further information on the project and other informal questions contact Dr. Ilie (a.ilie@bath.ac.uk).

For details of how to apply and download an official application form visit:

<http://www.bath.ac.uk/physics/postgrad/apply.html>

Completed official application forms can be sent electronically to: physics-research@bath.ac.uk