

An Israel - UK scholarship for a PhD on:

**Predictive model for the design of fuel cell
porous electrodes and membranes**

Imperial College London is currently ranked the 10th university in the world in Engineering sciences (<http://www.timeshighereducation.co.uk/world-university-rankings/2012-13/subject-ranking/subject/engineering-and-IT>). Rated 5*(A) (highest score) in the most recent UK Research Assessment Exercise, the Department of Earth Science and Engineering (ESE) at Imperial College London is a world leading centre for research in the Earth Sciences, energy research and related areas of Engineering.

We are seeking a PhD student, holding an **Israeli citizenship**, to work on fundamental physics-based research of issues relevant to the emerging future energy technologies, in particular fuel cells. The project will involve: (i) analytic and numerical methods for the characterization of the topological properties of the void space of porous media; (ii) analysis of real and simulated structures using a new statistical-mechanical formalism; (iii) derivation of relations between structural characteristics and macroscopic properties of porous materials.

The project is a collaboration between Dr Rafi Blumenfeld at Imperial College and Prof. Moshe Schwartz at the School of Physics and Astronomy Tel Aviv University, with most of the work expected to take place in London. Although targeting renewable energy applications, the research is in fundamental physics. We also have a collaboration on aspects of the project with the Physics Department at Cambridge University.

The studentship is funded by the generous Alan Howard Scholarship through the Energy Futures Laboratory at Imperial College London and it covers all tuition fees, a generous stipend, and ample travel and consumables budgets.

Applicants must be Israeli citizens and either have a Masters degree in Applied Mathematics, Physics, Engineering or a related field. Applicants with exceptional first degree (above 85%) will also be considered. Applications should include a cover letter, CV, a transcript of all university course grades and the name of two references. The applications should be sent by email to both Dr Rafi Blumenfeld at rbb11@cam.ac.uk and Prof Moshe Schwartz at bricki@netvision.net.il. Applications will be accepted until **the position is filled**. The successful candidate is expected to start in **the first half of 2013**.

For enquiries please contact either Dr Rafi Blumenfeld at rbb11@cam.ac.uk or Prof Moshe Schwartz at bricki@netvision.net.il.