

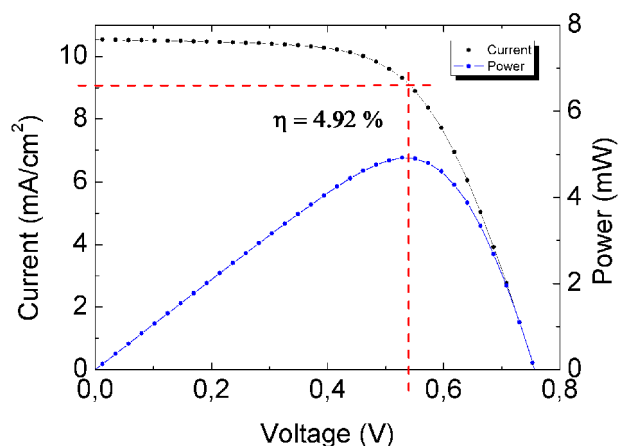
PhD position at the Department of Physics (University of Basel)

Dye Sensitized Solar Cells

Basel, January 2011

A **PhD position** is opened in the group of Prof. E Meyer / Dr. Th. Glatzel in the Department of Physics at the University of Basel (<http://nanolino.unibas.ch/>). Our main research focus is the high resolution surface analysis of molecular self assemblies on insulators as well as the development of sophisticated Scanning Probe Microscopy (SPM) methods. Recently we started combining research in dye sensitized solar cells (DSSC) with our key competences in SPM and molecular electronics. The offered project focuses on the **development and analysis of new natural dye's for DSSCs** and their analysis by standard techniques as well as SPM. This position is available through a joint project between the Department of Chemistry (E. Constable/C. Housecroft), the FHNW (U. Piele) as well as the company DSM Nutritional Products and financed by the program Nano Argovia of the Swiss Nanoscience Institute (<http://www.nanoscience.ch/>).

The successful candidate will explore new neutral dye's and their mixtures provided by DSM for the application in DSSC. An optimized solar cell setup and well controlled preparations steps are essential for a reproducible and comparable performance. For that purpose nanostructured TiO_2 layers as well as functionalized cathode materials should be developed in cooperation with the FHNW and optimized electrolytes pre- and post-treatments of the layers with the Department of Chemistry. To **characterize the solar cell performance as well as the nanostructured layers SPM, current-voltage characteristics (IV), and quantum efficiency (QE/IQE) measurements should be established.** The results will be presented on national and international conferences and workshops and should be seen as a part of the development of next generation solar cell devices.



The candidate should have a master in Physics or Nanoscience and a strong interest in experimental work. Interested candidates are pleased to contact:

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