PhD position at the International Helmholtz Research School for Nanoelectronic Networks (IHRS NANOgNET)

The International Helmholtz Research School for Nanoelectronic Networks (IHRS NANOgNET) is an initiative of the Helmholtz-Zentrum Dresden - Rossendorf (HZDR) in a joint collaboration with the Technische Universität Dresden (TUD), Leibniz Institut für Polymerforschung Dresden e.V. (IPF), Fraunhofer-Institut für zerstörungsfreie Prüfverfahren (IZFP), and the Nanoelectronics Materials Laboratory (NaMLab) gGmbH. The research School offers an interdisciplinary research training program in the field of molecular electronics. The 3-year PhD programme includes independent research work in a project involving different divisions of science and engineering and a well-structured scientific curriculum providing for a comprehensive training in technical and professional skills. Further information can be found at www.ihrs-nanonet.de.

A PhD position is now open within the IHRS NANOgNET at the TU-Dresden, Chair of Materials Science and Nanotechnology (Prof. G. Cuniberti), Institute of Materials Science. The activities of the chair are focused on developing non-conventional strategies for novel materials and devices with intrinsic nanoscale complexity. Further information can be found at http://nano.tu-dresden.de/.

PhD project:
STM studies of long molecular wires grown by on-surface polymerization: length dependence and electrical transport

The goal of this PhD project is to study single conjugated polymer chains (1D structures), which will be grown on-surface under ultra high vacuum (UHV) conditions. Strong efforts will be placed to control the 1D polymerization process, to learn by this about the polymerization mechanism and to study the electrical transport properties of the 1D structures. Precursors and monomers will be synthesized in the groups of Voit and Kiriy (IPF), while polymerization and characterization will take place in the Moresco group (TUD). The electronic and structural properties of the molecules will be investigated by low temperature scanning tunneling microscopy (STM) and spectroscopy (STS).

Requirements:
The successful candidate will:

• Hold (or be about to earn) a Master’s degree (or equivalent) in Physics, Chemistry, Materials Science or Electrical Engineering and have demonstrated an outstanding academic performance.

• Have prior research experience and demonstrated potential and enthusiasm to conduct challenging research towards a PhD.

• Have excellent team-working skills and be motivated to work in a highly interdisciplinary and collaborative environment.

• Have very good oral and written English language skills (German language skills are not required).
Offer:
We offer an exciting research environment with an outstanding research infrastructure, and the participation in an international PhD programme providing for a comprehensive training in technical and professional skills. A fellowship of 1365,- EUR per month to cover living expenses in Germany will be offered for a period of three years. Further details can be found in our website: www.ihrs-nanonet.de

How to apply:
Please visit our website (www.ihrs-nanonet.de) for further information and to access the online application platform. Applications sent by e-mail are not accepted.

The application deadline is 02 March 2014
Incomplete and post-deadline applications will be disregarded.

The IHRS NANONET is committed to an equal opportunity policy. Admission will be offered to qualified candidates without regard to race, gender, or disability.

Further information: www.ihrs-nanonet.de