

Faculty of Mechanical Science and Engineering

At the **Institute of Materials Science** the **Chair of Materials Science and Nanotechnology** (Prof. Dr. Gianaurelino Cuniberti) offers, subject to resources being available, two positions as

Research Associates / PhD Student / PostDoc

(Subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

which entail 50 % of the fulltime weekly hours each. The fixed-term positions for 3 years are planned to start on **March 01 2018**. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). They are embedded in the cooperative research project *Spintronic Components based on Chiral Molecules* funded by the Volkswagen Foundation. The project is related to the theoretical description of challenging phenomena in biomolecular and organic systems displaying chiral-induced spin selectivity (CISS).

The scientific activities of the Chair of Materials Science and Nanotechnology are focused on developing non-conventional strategies for novel materials and devices with intrinsic nanoscale complexity. The Chair actively participates in several German and European networks for the development of molecular and organic electronics, like the Cluster of Excellence cfaed (<http://tu-dresden.de/cfaed>) and the International Helmholtz Research School NANONET (<http://www.ihrs-nanonet.de>).

Tasks: Position 1 will address the electronic structure and spin-dependent properties of chiral organic molecules on substrates with the goal of theoretically designing novel spintronic models. Position 2 will address model-based approaches for spin-transport in networks built out of chiral molecular systems. The main methodologies will be state of the art density-functional theory approaches, Green's function and master equation techniques. The investigations will be done in close collaboration with experimental project partners at the University of Münster (Germany), the Weizmann Institute (Israel), and the Hebrew University (Israel).

Requirements: Candidates with excellent university degree in Theoretical Physics or in Theoretical Chemistry are expected to have expertise in density-functional based softwares or have very strong analytical skills. We target at top-notch dedicated and proactive young scientists who plan to make their mark in science.

Please visit <http://nano.tu-dresden.de/> for more information on our activities.

Applications from women are particularly welcome. The same applies to people with disabilities.

Applicants should send their application documents, including a letter of motivation, Curriculum Vitae, and two reference letters until **30.11.2017** (stamped arrival date of the university central mail service applies), to **TU Dresden, Fakultät Maschinenwesen, Institut für Werkstoffwissenschaft, Professur für Materialwissenschaft und Nanotechnik, Herrn Prof. Dr. G. Cuniberti, 01062 Dresden, Germany** or as a single pdf document with **subject: "Application VW_SPIN, your_surname"** to: jobs@nano.tu-dresden.de (Please note: We are currently not able to receive electronically signed and encrypted data.). Please notice that applications not fulfilling the previous requirements will not be considered. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.