

The Collaborative Research Center CRC 1073 “Atomic scale control of energy conversion” at the Georg-August Universität Göttingen and associated institutions invite applications for a

PhD Position

(Salary group 13 TV-L, at least 50 %, i.e. 19.9 h/week) in the project

Friction under active control in systems with tailored degrees of freedom

The position is available starting October 1st 2017 and is limited to three years.

The CRC consists of a team of more than 50 doctoral students, post-docs, and professors from different scientific disciplines working together to investigate the fundamental mechanisms of energy conversion in complex materials at the atomic scale. Through a series of cutting edge research projects, we aim to understand and control the elementary steps of energy conversion in materials with tunable excitations and interactions. For further information, please refer to our website: www.sfb1073.uni-goettingen.de.

Job profile:

The focus of this project is to understand how vibrational, electronic, and structural properties of a material affect the atomic scale mechanisms of frictional energy dissipation at a sliding contact. A variety of AFM-based methods will be used to measure energy dissipation at a sliding nanoscale contact in strongly correlated electron systems and in nanostructured materials. A systematic investigation of the relation between friction and near surface properties will be performed by driving the strongly correlated systems through phase transitions or by changing nanostructure to modify vibrational properties. There will also be close collaboration with a doctoral student performing molecular dynamics simulations aimed at understanding the role of atomic structure and vibrational degrees of freedom on friction.

We are looking for highly motivated PhD candidates with a strong university degree in physics, chemistry, materials sciences, or related field. The successful candidate is expected to participate in the structured doctoral program of the CRC and to closely interact with the other PhD students in the program. They are expected to present their work at national and international conferences and to publish in peer-reviewed international journals. Further, a very good knowledge in writing and speaking English is required, and good German language skills are desirable. Prior experience with atomic force microscopy, ultra-high vacuum techniques, and friction measurements is highly desired.

The University of Göttingen is an equal opportunity employer and places particular emphasis on fostering career opportunities for women. Qualified women are therefore strongly encouraged to apply in fields in which they are underrepresented. The university has committed itself to being a family-friendly institution and supports their employees in balancing work and family life. The University aims to employ a greater number of severely disabled persons. Applications from severely disabled persons with equivalent qualifications will be given preference.

Please send your application in electronic form to:

Georg-August-Universität Göttingen
SFB 1073 - Office
Friedrich-Hund-Platz 1, 37077 Göttingen
eMail: SFB1073@ump.gwdg.de

by September 30, 2017 and explicitly mention the project “A01”. For further information about the scientific aspects of this position, please contact Prof. C.A. Volkert (volkert@ump.gwdg.de).