Technische Universität Dresden - Center for Advancing Electronics Dresden (cfaed), Junior Research Group “Single Molecule Machines (SMM)

The Junior Research Group Single Molecule Machines (SMM) (Dr. Francesca Moresco) is an independent research group at the Center for Advancing Electronics Dresden (cfaed) at TUD Dresden University of Technology. The Junior Research Group focuses on the physical properties of organic molecules, which are investigated using scanning probe microscopy. The group has extensive experience in molecular manipulation and on-surface synthesis for studying model systems for electronics and energy storage at the nanoscale. For more information, please see www.cfaed.tu-dresden.de/francesca-moresco-group/home. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

Research Associate / PhD student (m/f/x)

(subject to personal qualification, employees are remunerated according to salary group E 13 TV-L) At the Center for Advancing Electronics Dresden (cfaed), the Junior Research Group “Single Molecule Machines (SMM)” offers a position as Research Associate / PhD student (m/f/x) starting as soon as possible. The position is limited 36 months and comprises 75% of the fulltime weekly hours. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification (usually PhD).

City: Dresden; Starting date (earliest): At the earliest possible; Duration: für 36 Monate; Remuneration: bei Vorliegen der persönlichen Voraussetzungen E 13 TV-L; Reference number: w26-157

Tasks

Topic of the position: On-Surface polymerization of N-heterocyclic carbene: From 1D to 2D and vertically switchable architectures.
Tasks:

- experimental work by scanning tunneling microscopy (STM) and non-contact atomic force microscopy (AFM) at low and variable temperatures
- surface preparation and molecular deposition in ultra-high vacuum (UHV) conditions
- on-surface synthesis and molecular manipulation
- contribution to scientific publications and scientific proposal writing

Requirements

- excellent university degree in physics, chemistry, materials science, or closely related areas
- experience in scanning probe microscopy, experimental surface science, or ultra-

high vacuum (UHV) is desirable
- excellent communication and writing skills in English
- ability to work in interdisciplinary teams composed of theory and simulation, molecular design and synthesis, scanning probe microscopy and manipulation

What we offer

- an enthusiastic and ambitious junior research group, working in an international and multidisciplinary research landscape
- a responsible and varied role in an open and international working environment
- flexible working hours
- 30 days of vacation per year (based on a 5-day workweek)
- extensive opportunities for professional development and continuing education
- health care and sports programs offered by TUD
- a discounted job ticket (also available as a Deutschlandticket)
- participation in the supplementary pension scheme for employees in the public sector via VBL (Federal and State Government Employees Retirement Fund)

Application

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The university is a family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.
Application: Please submit your detailed application by July 20, 2026 (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to francesca.moresco@tu-dresden.de or to:
TU Dresden, cfaed/SMM, Dr. Francesca Moresco, Helmholtzstr. 10, 01069 Dresden, Germany.
Your application (in English) must include: a motivation letter, your CV with publication list, copy of degree certificate, transcript of grades (i. e. the official list of coursework including your grades) and two reference letters.
Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

TUD is a founding partner in the DRESDEN-concept alliance.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website:
https://tu-dresden.de/karriere/datenschutzhinweis.

More information at https://stellenticket.de/205195/TUD/
Offer visible until 22/07/26