TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. 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.

At the Center for Advancing Electronics Dresden (cfaed), the Junior Research Group Single Molecule Machines offers, subject to the availability of resources, a position as

Research Associate / PostDoc (m/f/x)  
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting as soon as possible. The position is limited until March 31, 2026 with the option of extension. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

Tasks: The successful candidate will use scanning tunneling microscopy (STM) and non-contact atomic force microscopy (AFM) at low and variable temperatures to experimentally study the mechanical and electronic properties of single molecules on a supporting surface. In the frame of the European Pathfinder Open project ESiM (https://esim-project.eu) the successful candidate will investigate intramolecular properties like rotations or conformational changes for future applications in energy storage. On-surface synthesis will be used to obtain new molecular species or to form larger nanostructures by local chemical reactions.

Requirements:

- university and PhD degree in physics, chemistry, materials science, or closely related areas
- Experience in scanning probe microscopy, experimental surface science, or ultra-high vacuum (UHV)
- excellent communication and writing skills in English, especially with respect to the communication with the European cooperation partners
- ability to work in an interdisciplinary team composed of theory and simulation, molecular design and synthesis, scanning probe microscopy and manipulation, solid-state physics and nanotechnology

We offer: You will join an enthusiastic and ambitious research group, where your work will be inspired by the interactions with scientists in an international and multidisciplinary research landscape. The Center for Advancing Electronics Dresden (cfaed) is a central scientific unit of TUD, and brings together 300 researchers from the university and 10 other research institutes in the areas of Electrical and Computer Engineering, Computer Science, Materials Science, Physics, Chemistry, Biology, and Mathematics. cfaed addresses the advancement of electronic information processing systems through exploring new technologies which overcome the limits of today's predominant CMOS technology. For more information please see www.cfaed.tu-dresden.de.
TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university and offers a Dual Career Service. 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.

Please submit your detailed application with the usual documents by **August 20, 2024** (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](https://securemail.tu-dresden.de) by sending it as a single pdf file quoting the **reference number “2024-ESiM”** to recruiting.cfaed@tu-dresden.de or to: TU Dresden, cfaed, Nachwuchsforschungsgruppe Einzel Molekül-Maschinen, Frau Dr. Francesca Moresco, Helmholtzstr. 10, 01069 Dresden, Germany. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

**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](https://tu-dresden.de/karriere/datenschutzhinweis).