The Cluster of Excellence ‘Center for Advancing Electronics Dresden’ (cfaed), Single Molecule Machines (Junior Research Group) offers a fixed-term position as

**Research Associate / PhD student**
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

**Research area:** Experimental study of single molecules on surfaces by scanning tunneling microscopy at low temperature

**cfaed Investigators:** Dr. Francesca Moresco

**Terms:** 50% of the fulltime weekly hours, starting as soon as possible, the position is initially limited until 09/2021 with the option for extension. 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.

**Position and Requirements**
The EU FET-Open project MEMO aims to study the transmission of motion from molecule to molecule towards the construction of an atomic scale mechanical calculator. The successful candidate will use LT-STM to experimentally investigate the mechanical and electronic properties of single molecules, controlling the rotation and the work delivered at the atomic scale.

Please visit [https://cfaed.tu-dresden.de/francesca-moresco-group/home](https://cfaed.tu-dresden.de/francesca-moresco-group/home) for more information on our activities.

We aim at attracting the best talent in the respective research fields and look for:
- an outstanding university degree (master/diploma or equivalent) in physics, chemistry, nanotechnology or related field
- very good interpersonal and communication skills; in particular, the ability to effectively work in collaborative research efforts,
- an independent, target- and solution-driven work attitude,
- inter- and multidisciplinary thinking,
- strong motivation and interest to join one of the most ambitious interdisciplinary research clusters,
- fluency in English - written and oral
- experience in scanning probe microscopy, experimental surface science, or ultra-high vacuum (UHV) is desirable

**What we offer**
You will join a team of enthusiastic scientists who pursue creatively their individual research agenda inspired by the cluster’s innovative approach and support. Your PhD research will be fostered by the cfaed philosophy to promote young researchers, which includes:
- access to state of the art research of leading academic institutes.
- International doctoral program
- promotion of gender equality and family-friendly work environment.
Informal enquiries can be submitted to Dr. Francesca Moresco, Tel +49 (351) 463 43968; Email: francesca.moresco@tu-dresden.de.

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

**Application Procedure**

Your application (in English only) should include: motivation letter, CV, copy of degree certificate, transcript of grades (i.e. the official list of coursework including your grades) and proof of English language skills. Complete applications should be submitted preferably via the TU Dresden Secure-Mail Portal https://securemail.tu-dresden.de by sending it as a single pdf document quoting the reference number PhD1908_MEMO in the subject header to recruiting.cfaed@tu-dresden.de or alternatively by mail to: TU Dresden, cfaed, Anne Schulze, Helmholtzstr. 10, 01069 Dresden, Germany. The closing date for applications is 29.08.2019 (stamped arrival date of the university central mail service applies). Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

**About cfaed**

cfaed is a cluster of excellence within the German Excellence Initiative. As a central scientific unit of TU Dresden, it 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

cfaed has initiated to create six new Professorships and eight Research Groups at TU Dresden to further strengthen cfaed's research areas. These strategic positions are being filled with distinguished scientists to enhance the Cluster’s research output and increase its international reputation. The Single Molecule Machines Group (Dr. Francesca Moresco) investigates the mechanical and electronic properties of organic molecules at surfaces by scanning probe microscopy at low temperature (LT-STM).

**About TU Dresden**

Technische Universität Dresden as a University of Excellence is one of the leading universities in Germany, and is ranked among the 100 most innovative universities worldwide. Its distinguishing feature is a strong focus on research as well as its diversified offer of 129 courses of study in Engineering Sciences, Natural Sciences, Humanities & Social Sciences and Medicine.

It pursues a long-term overall development programme aimed at making TU Dresden an international top university.