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.

The **Faculty of Electrical Engineering and Information Technology, Institute of Semiconductor and Microsystems,** the **Chair of Microsystems** offers a project position as

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

starting at the **earliest possible date.** The position is limited until May 31, 2026. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

Tasks: As part of an interdisciplinary Emmy Noether junior research group "MEiTNER - Multifunctional dielectric elastomer electronics for next generation soft robotics", engineers and biomedical scientists are working on developing novel concepts for flexible electronics based on dielectric elastomers as well as the necessary manufacturing technologies and materials, especially electrically conductive inks, and on developing the next generation of bio-inspired, flexible robots. Building on the preliminary work in the field of dielectric elastomer electronics from the first funding phase of the junior research group, novel DE electronic components and circuits are now to be integrated into compliant robot structures and drive and control them autonomously. In particular, the design of multifunctional, bio-inspired robot systems is the focus here. We are working closely with scientists from various Dresden scientific institutions, clusters of excellence and start-ups as well as the University of Auckland. As part of the project, there is the opportunity for short research stays in New Zealand.

For the junior research group MEiTNER we are looking for one research assistant to develop multifunctional, bio-inspired components for the next generation of flexible robots and interactive human-machine interfaces. Your work will include the following tasks:

- identification of suitable biological role models to demonstrate the potential of autonomous, bio-inspired, flexible robots and human-machine interfaces
- developing the basic definition of the system architecture based on basic units consisting of dielectric elastomer actuators (DEAs), dielectric elastomer switches (DESs) and DE sensors
- conducting development work to improve the capabilities of DESs and analyzing fundamental problems related to the design, operation and environmental sensing of multifunctional DE electronic components
- investigate the passive mechanical behavior of the designed elastomeric circuits in combination with flexible robot or system components and the active system properties and transfer functions

- investigation of possible future applications of the developed components in the fields of collaborative robotics, industrial robotics, medical technology and human-machine communication
- design, realization, validation of demonstrators

Requirements:

- above-average university and, if applicable, PhD degree in the fields of electrical engineering, microsystems engineering, materials science or related fields
- experience in at least three of the fields of mechatronics, biomedical engineering, microtechnologies and soft robotics is desirable
- ability and willingness to work independently and in a goal-oriented manner
- high level of commitment
- good command of English

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. 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 **July 4, 2025** (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 **markus.vorrath@tu-dresden.de** or to: **TU Dresden, Chair of Microsystems, Prof. Andreas Richter, 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.