Faculty of Electrical and Computer Engineering

At the Institute of Semiconductors 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)

in the Emmy Nöther Junior Research Group "MEiTNER - Multifunctional dielectric elastomer electronics for next generation soft robotics", starting **as soon as possible**, limited to two years, with the option for extension. The period of employment is governed by §2 (2) the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

The Chair of Microsystems offers the opportunity to participate in the development of multifunctional dielectric elastomers for multifunctional and intelligent machine elements and robotics in a prosperous and dynamic environment and with excellently equipped laboratories and to gain valuable project experience in an interdisciplinary environment.

**Tasks:** Within the scope of the cooperation project "Elastic couplings with integrated flexible dielectric elastomer sensors" in the DFG priority program 2305 "Sensor-integrating machine elements", novel intelligent couplings, which are able to measure and transmit various load and performance parameters at runtime, are to be developed in cooperation with the Chair of Mechanics of Multifunctional Structures and the Chair of Machine Elements. At the Chair of Microsystems concepts for flexible sensor electronics based on dielectric elastomers as well as the necessary manufacturing technologies and materials, especially electrically conductive inks, are to be developed and integrated into the elastomer components to be developed for smart couplings. Your tasks will include the development of flexible pressure sensors based on piezoresistive dielectric elastomers, the adaptation of existing manufacturing technologies and the development and connection of the evaluation electronics. You will be supported by the interdisciplinary team of the Emmy Nöther Young Investigators Group MEiTNER and the project partners. The sensor development and the constructive implementation are supported by numerical simulations of the colleagues at the Chair of Mechanics of Multifunctional Structures. The resulting demonstrators will be manufactured and tested in the test stands at the Chair of Microsystems. The results of the work are to be published at international conferences and in recognized journals.

**Requirements:** above-average university degree in the fields of electrical engineering, microsystems engineering, chemical engineering, materials science or related fields and experience in the areas of technology development in microsystems engineering, bionics and soft robotics; ability to work independently; goal-oriented; high level of commitment; willingness to travel internationally; confident command of the English language as well as enjoyment and interest in practice-oriented, interdisciplinary collaboration with cooperation partners. Experience in at least the fields of microsystems engineering, bio- or continuum mechanics, microtechnologies and circuit design is an advantage.

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

Please submit your comprehensive application including the usual documents by **December 17, 2021** (stamped arrival date of the university central mail service applies), by mail to: **TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Halbleiter- und Mikrosystemtechnik, Professur für Mikrosystemtechnik, z.Hd. Herrn Dr. E.-F. Markus Henke, Helmholtzstr. 10, 01069 Dresden** or via the TU Dresden SecureMail Portal **https://securemail.tu-dresden.de** by sending it as a single pdf document to **markus.henke@tu-dresden.de**. 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**