

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 **Faculty of Electrical and Computer Engineering, Institute of Communication Technology**, the **Vodafone Chair of Mobile Communications Systems** offers a 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 to 18 months with the option of 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.

The Vodafone Chair of Mobile Communications Systems offers the opportunity to help shape the development of future mobile communication systems in a prosperous and dynamic environment, to gain valuable project experience and to establish and deepen contacts with innovative companies. Further information on the Vodafone Chair can be found at <https://mns.ifn.et.tu-dresden.de/>.

Tasks: You will conduct research in the field of innovative systems for diagnostic ultrasound imaging and communication technology in a start-up-oriented team. Novel technological approaches enable the implementation of improved signal processing concepts and systems in ultrasound. The research group works closely with industry and hospitals. You will mainly focus on the following topics:

- set up of a prototype for the validation of a multistatic imaging system using signal structures from mobile communications
 - o development of a signal-chain connecting MEMS-based ultrasound sensors and backend processing
 - o set up of a system on chip for signal-processing
 - o management of multiple industry collaborations
- close collaboration with computer scientists developing the imaging algorithms, mechatronics engineers developing the acoustical stack and signal engineers developing the signal architecture
- supervision of student theses.

Requirements: above-average university degree in computer science, electrical engineering, medical engineering, communications engineering, information systems engineering or a comparable course of study; profound knowledge in the areas of electrical engineering hardware implementations; independent, goal- and solution-oriented way of working; integrative and cooperative behavior with very good communication and social skills; confident command of written and spoken English; a strong interest in the areas of modeling, simulation and implementation of computing systems for

communication and imaging systems. Programming experience with Matlab, Python, C++, and LabVIEW. Knowledge in the field of mobile communication is preferable.

Additional information about the project can be found on our website: hybridecho.com.

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 **January 5, 2024** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies) stating the **Job-ID "w23-441"** preferably via E-Mail by sending it as a single pdf file to jobs@ifn.et.tu-dresden.de (Please note: We are currently not able to receive electronically signed and encrypted data) or to: **TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Nachrichtentechnik, Vodafone Stiftungsprofessur für Mobile Nachrichtensysteme, Herrn Prof. Gerhard Fettweis, 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>.