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 Deutsche Telekom Chair of Communication Networks offers two positions under the project Next Generation AI Computing as

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

starting as soon as possible. The positions are limited until December 31, 2024, with the option of extension until August 31, 2027 subject to the availability of resources. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The positions offer the chance to obtain further academic qualification (usually PhD).

**Tasks:**
- development of completely new AI hardware and corresponding software concepts to improve the energy consumption, predictability and reliability of AI-based applications and also to fulfil the legal implementation of AI technologies
- development of a fundamental theoretical understanding of the limitations of current hardware platforms for central problem classes of AI-based future technologies in communication
- requirements analysis and development of mathematical models of innovative hardware, in particular memristor technology and neuromorphic computing as well as quantum computing
- research into the optimal interaction of digital and neuromorphic hardware
- development of demonstrators
- involvement of industry for test runs and application of the novel AI computing developed to specialized problems

**Requirements:**
- university degree (diploma/master) in electrical engineering, telecommunications, information systems, computer science or similar
- knowledge of network coding information theory, communication networks and wireless communication systems
- ability and willingness to work independently, conceptually and scientifically in a team
- proficiency in the English language, both spoken and written
- knowledge of German desired
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 16, 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 to **isabel.delkus@tu-dresden.de** or to **TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Nachrichtentechnik, Deutsche Telekom Professur für Kommunikationsnetze, Frau Isabel Delkus, 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).