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, subject to the availability of resources, 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 **November 1, 2023**. The position is initially limited until October 31, 2026. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

**Responsibilities:** Molecular Communication and the Internet of Bio-Nano Things - Design and elaboration of use cases in air-based molecular communication systems for healthcare applications.

**Tasks:** We are inviting applications for a Research Associate position to contribute to the setup and the analyze of a system of an air-based molecular communication network focusing on the Internet of Bio-Nano Things, f.e. the field of cardiovascular activity monitoring.

- Mapping of the use cases to suitable Internet of Bio-Nano Things architecture components.
- Derivation of air-based molecular communication models as well as evaluation of the models in a simulation environment and on real testbed setups.
- Development and integration of coding solutions for the already existing end-to-end molecular communication models.
- Further development of air-based molecular communication models as communication gateways.
- Development and refinement of macroscale components, e.g., to track specific respiratory patterns for the field of cardiovascular activity monitoring.

**Requirements:**

- university degree (Diploma/Master) in electrical or electronic engineering, telecommunications engineering, computer science, physics, mathematics, biology or equivalent.
- Proficiency in both German and English with good oral and written communication skills.
- Demonstrated ability to work effectively in a team and willingness to actively engage in idea exchange with others.
- Strong programming skills are highly recommended.

We are looking for highly motivated individuals who excel in teamwork and are passionate about advancing the field of molecular communications and the Internet of Bio-Nano Things.
**Additional Information:**

- **Collaborative Environment:** The project fosters a collaborative and innovative environment, encouraging researchers to grow and learn from each other.
- **Molecular communication:** The project offers a unique opportunity to work on cutting-edge molecular communication with potential real-world impact in medicine, biology, or communication science.
- **Educational Contribution:** Researchers will play a vital role in shaping educational content related to molecular communications.

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 **September 21, 2023** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf file to karin.domel@tu-dresden.de or to: TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Nachrichtentechnik, Deutsche Telekom Professur für Kommunikationsnetze, z. Hd. Frau Karin Domel, 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).