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 Center for Molecular Bioengineering (B CUBE) an Institute of the Center for Molecular and Cellular Bioengineering, the Research Group of Micro- and Nanobiosystems (Dr. Mariana Medina-Sánchez) offers a position as

**Research Associate / PhD Student (m/f/x)**

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting as soon as possible. The position is initially limited to three years with the option of extension. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position entails 65% of the full-time weekly hours. The position offers the chance to obtain further academic qualification (usually PhD).

The candidate will be affiliated with B CUBE, TUD, and the thesis will be defended at TUD, with the option to pursue a dual degree with the University of the Basque Country, San Sebastián-Spain. However, due to the current primary assignment of the group leader at CIC nanoGUNE and to facilitate supervision, the PhD student working place would be predominantly at CIC nanoGUNE in San Sebastian, Spain, under a Guest contract, seconded after an initial period in Dresden.

We're looking for a highly motivated and talented PhD student to join our interdisciplinary research team, specializing in Micro- and Nano-Biosystems. Work will involve developing wearable sensors to monitor biomarkers associated with infertility.

**Tasks:** designing and fabricating micro and nanoscale sensors and actuators customized for the manipulation and detection of specific biomarkers linked to infertility; creating a wireless communication system for energy harvesting and onboard power supply for the wearable device; streamlining fabrication processes to guarantee sensor performance, reliability, and scalability; collaborating with biomedical researchers to incorporate sensors into wearable devices for the real-time monitoring of infertility markers; conducting experimental studies to verify sensor performance and evaluate feasibility for clinical applications; analyzing experimental data, interpreting results, and contributing to scientific publications and presentations.

**Requirements:** a university degree (Master or equivalent) in electrical engineering, materials science, biomedical engineering, or related fields; strong background in micro- and nano-fabrication techniques, such as photolithography, thin-film deposition, and etching processes; proficiency in cleanroom operation and experience with relevant characterization tools (SEM, AFM, etc.); experience with sensor development, biosensing technologies, or wearable devices is advantageous; excellent
problem-solving skills, critical thinking, and ability to work both independently and collaboratively in a multidisciplinary team; effective communication skills and a track record of academic or research achievements demonstrated through publications, presentations, or project work; excellent communication skills in English are essential as this is the colloquial language at the research centers. 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 cover letter detailing the research interests and relevant experience, a CV, and contact information for three references by July 9, 2024 (stamped arrival date or the time stamp on the email server of TUD applies) to: TU Dresden, Center for Molecular Bioengineering (B CUBE), z. Hd. Frau Dr. Mariana Medina-Sánchez, Tatzberg 41, 01307 Dresden, Germany or by sending it as a single pdf file to mariana.medina-sanchez@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.