TUD Dresden University of Technology (TUD), as a University of Excellence, is one of the leading and most dynamic research institutions in the country. As an important part of the TUD, the Faculty of Medicine and the University Hospital Dresden work closely together and are committed to excellence in cutting-edge medicine, medical research and teaching, and patient care for the entire region. The University Medicine Dresden sees itself as a modern employer and offers attractive working conditions to all employees in teaching, research and patient care, technology and administration and thus promotes and develops their 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.

Fraunhofer Institute for Material and Beam Technology (IWS) develops complex system solutions in laser and material technology with about 450 employees. The Fraunhofer IWS sees itself as an idea driver, developing solutions with laser applications, functionalized surfaces as well as material and process innovations - from easily integrable individual solutions via cost-efficient mid-sized solutions to complete solutions suitable for industrial use. The scientific focus is on interdisciplinary research in the areas of PVD and nanotechnology, chemical surface engineering, additive manufacturing and surface engineering, cutting and joining, materials characterization and testing, and optical metrology.

The Faculty of Medicine Carl Gustav Carus of Technische Universität Dresden and the Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. invite applications for a

Chair (W2) of Micro-Physiological Systems combined with the position of a head of department at the Fraunhofer Institute for Material and Beam Technology IWS

to be filled in a joint appointment procedure at the **earliest possible date**.

The chair is affiliated to the Institute of Pharmacology and Toxicology, in combination with the position of the Department of Micro- and Biosystems Engineering at the Fraunhofer IWS.

The Department of Micro- and Biosystems Engineering at the Fraunhofer IWS specializes in the development and evaluation of customized complete solutions for in vitro applications ranging from rapid tests to non-animal substance testing. In this context, the Micro- and Biosystems Engineering group develops complex application-specific microsystems with a focus on micro-physiological systems (MPS) and the Digitization group develops customized solutions from real-time data processing and control to cloud applications.

The incumbent (m/f/x) is expected to play a decisive role in the development and establishment of a universal MPS platform as well as the associated application laboratory. Furthermore, the close cooperation with various research groups at the University Hospital Dresden with cutting-edge technologies and sciences such as biotechnology, computer science, information technology and microtechnology is to be expanded in an innovation- and exploitation-oriented manner.

We are looking for a scientist with proven competence and first-hand experience in the field of application-specific MPS as well as the associated peripherals for control, algorithm and method development, and data analysis. Against this background, we are looking for a scientist (m/f/d) with expertise in the following research areas:

- Design, simulation and layout of MPS
- Technologies and systems for manufacturing and characterization of MPS
- Modeling, control, monitoring and regulation of complex MPS
- Acquisition and analysis of image and video data in real time by hardware acceleration (FPGA)
- Label-free biosensor systems (SPR, BLOCH, SAW)
- Laboratory automation, digital twin and cognitive production

In addition to your outstanding scientific records we expect leadership experience, strategic skills, and the ability to work in a team as well as experience in the acquisition of third-party funding. To be eligible for the position, a university degree and a PhD in physics, medical physics, electrical engineering or in a similar field is required. In all other respects, the requirements for appointment, the official duties and the administrative status are governed by §§ 59, 69, 71 of the Act on Higher Education Institutions in the Free State of Saxony (SächsHSG) and the Saxon Regulation on Official Duties at Higher Education Institutions (HSDAVO).

TUD and Fraunhofer-Gesellschaft strive 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. If you have any questions about these topics, please contact the Equal Opportunities Officer of the Faculty of Medicine (Mrs. Katja El-Armouche, phone +49 351-458-16354) or of the Fraunhofer-Gesellschaft (Mrs. Dr. Bärbel Thielicke, Tel. +49 761 5142-192) and the representative for persons with disabilities of the Faculty of Medicine (Mrs. Heike Vogelbusch, +49 351-458-12127) or the Fraunhofer-Gesellschaft (Mr. Frank Müller, Tel. +49 0511 5350-342), respectively.

For further questions, please contact Prof. Dr. Christoph Leyens (christoph.leyens@iws.fraunhofer.de), Director of the Fraunhofer IWS, and/or the dean of the Faculty of Medicine Carl Gustav Carus of TU Dresden, Prof. Dr. med. Dr. Esther Troost (meddekanin@mailbox.tu-dresden.de).

We are looking forward to receiving your application by **October, 31th 2025** in electronic form in a single PDF file (preferred) or in hardcopy to **Dekanin der Medizinischen Fakultät Carl Gustav Carus der Technischen Universität Dresden, Frau Prof. Dr. med. Dr. Esther G.C. Troost, Fetscherstr. 74, 01307 Dresden** (medberufungen@tu-dresden.de). Please enclose the following documents with your letter of application: curriculum vitae including a description of your academic career, description of your research concept, list of publications, list of third-party funding and information on teaching experience including teaching evaluation results (preferably from the last three years), equal opportunities concept for the chair and a copy of the certificate of your highest academic degree. Please note that your application documents will be made available to both representatives of TUD and IWS.

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?set_language=en.