

## JOB OFFER

Braunschweig University of Technology, with its 18.500 students and about 3.700 employees, is the largest University of Technology in northern Germany. We stand for a strategic and performance-oriented thinking and acting, for relevant research, motivated teaching and a successful transfer of knowledge and technology into industry and society. We are consequently advocating family friendliness and equal opportunities. Our campus is located in one of the most research-oriented regions of Europe.

Within the frame of several funded projects we develop integrated circuits for highly scalable MIMO radar systems. For this topic, the Institute for CMOS Design is looking for talents worldwide, who want to join our team as

### **PhD student (m/f/d) in High-Frequency Integrated Circuit Design focussing on Circuits and Systems for mm-Wave FMCW Radar**

The position is temporary (3 years) with a possibility of extension. The location is Braunschweig. Remuneration will be in line with the current German collective pay agreement up to TV-L E13, depending on personal qualification and task assignments.

Radar sensors are used in numerous applications nowadays. At the Institute for CMOS Design we focus on research of the mm-wave transceivers for radar sensors. We develop highly integrated radar transceiver in CMOS and BiCMOS technologies, characterize the chips and integrate in highly scaled demonstrators.

The Institute for CMOS Design is working in an excellent national and international network and is participating in various large collaborative projects in the field of radar systems.

#### **Tasks and assignments:**

- Active participation in research projects and consortia
- Design of highly integrated analog and millimeter-wave circuits in CMOS or BiCMOS
- Design of system architecture and system-level simulations of a FMCW radar system
- Electromagnetic simulations and modeling of antenna to chip transitions
- Design of RF boards and integration into a system-on-board
- Operation and measurement verification of demonstrators for imaging breast cancer diagnosis on breast phantoms in collaboration with project partners

#### **Required profile:**

- Master degree in electrical engineering, physics or relevant field
- Knowledge in the field of high-frequency engineering, particularly radar systems
- Knowledge in the field of analog, RF and/or mixed-signal integrated circuits
- Experience designing high-frequency PCBs is a plus

- Experience with electromagnetics field simulation tools is a plus
- Experience with Cadence Virtuoso is a plus
- Good MATLAB skills are advantageous
- Expert knowledge in one or more of the above-mentioned research areas
- High level of personal motivation, responsibility and continuous learning abilities
- Pronounced communication and team building capabilities
- Openness to work in a diverse, international working environment
- Very good knowledge of the English (and possibly German) language
- Readiness to perform research in partner labs at various locations when necessary

For further information please contact:

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Braunschweig University of Technology offers flexible part-time models whenever possible for supporting family-friendliness. Disabled persons are preferred in case of equal suitability. Written evidence has to be presented in the application. Applications from applicants of all nationalities are welcome. Braunschweig University of Technology aims to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

Personal data will be stored for the purpose of carrying out the application procedure. Application costs cannot be reimbursed. Please understand that applications that are not considered can only be returned against a self-addressed and stamped envelope. By submitting your application, you agree that your application may be forwarded internally to parallel advertising procedures, provided that these fit your profile better.

Are you interested? In this case we are looking forward to your application. Please send your application via email ([V.Issakov@tu-braunschweig.de](mailto:V.Issakov@tu-braunschweig.de)) as a single PDF document. In case this is not possible, a written application may be sent to: Institut für CMOS Design, Frau Liane Meishner, Technische Universität Braunschweig, Hans-Sommer-Straße 66, 38106 Braunschweig).

Application deadline: **March 31<sup>th</sup> 2025**

Prof. Dr. Vadim Issakov