



With more than 16,000 students and 3,800 employees, the **Technische Universität Braunschweig** is one of Germany's leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities.

Our research focuses are mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities.

Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighborhood as we do with our international partner universities.

At the next possible date, the Institute for CMOS Design is looking for a

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

(EG 13 TV-L, full-time)

The position is temporary (3 years) with a possibility of extension. The successful applicant will be given the opportunity to pursue a doctorate.

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.

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 transceivers in CMOS and BiCMOS technologies, characterize the chips and integrate them in highly scaled demonstrators.

### Your tasks

- 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

### Your Qualifications

- You have a degree (Master's or equivalent) 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

## We offer

- Work on exciting future-oriented research topics in an inspiring work environment as part of the university community
- A vibrant campus life in an international atmosphere with lots of intercultural offers and international cooperations
- Pay in accordance with the collective agreement TV-L (a special payment at the end of the year as well as a supplementary benefit in the form of a company pension, comparable to a company pension in the private sector) including 30 days' vacation per year
- Flexible working and part-time options and a family-friendly university culture, awarded the "Family-friendly university" audit since 2007
- Special continuing education programs for young scientists, a postdoc program, as well as other offerings from the Central Personnel Development Department and sports activities.

## Further notes

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (*Niedersächsisches Gleichberechtigungsgesetz—NGG*) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at <https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen> . Application costs cannot be reimbursed.

## Questions and Answers

For more information, please call Prof. Dr.-Ing. Vadim Issakov on +49 (0) 531 391-3193.

## Deadline for applications is 31.08.2024.

Are you interested? Please send your application preferably via email to [v.issakov@tu-braunschweig.de](mailto:v.issakov@tu-braunschweig.de)

or via mail to

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