Technische Universität Braunschweig

Institut für Halbleitertechnik

Zertifikat seit 2007 audit familiengerechte hochschule

With around 17,000 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 neighbourhood as we do with our international partner universities.

Starting from the earliest possible date the Institute of Semiconductor Technology is looking for a

Research Associate (m/f/d) in the field of "In-sensor Gas Conditioning"

(TV-L E13, 75%)

The position is to be filled on a fixed-term basis for a limited period of 3 years. The successful applicant will be given the opportunity to pursue a doctorate.

As a PhD Student in J. Daniel Prades' group, you will work on setting the grounds of "Ubiquitous Metrology", a pioneering approach to sensing focused on bringing the best possible metrology practices to sensor devices operating in the field, that has recently been distinguished and financed the exclusive Alexander von Humboldt Foundation Professur program. You will have the opportunity to be part of the early stages of this field, shaping the future of distributed sensing. The work will be mainly experimental, developing new gas sensor concepts operating within this new paradigm. Work will develop in close collaboration with other experts in optoelectronic devices, clean-room processing (nitrides, silicon, hybrid integration), quantum technology and system integration. We expect you to bring in your talent, enthusiasm, and ingenuity to the team, and undertake appropriate responsibilities.

The group is based in the Institute of Semiconductor Technology (IHT), specialized in nitride processing with dedicated own clean-rooms (Nitride Technology Center and Epitaxy Competence Center). We are part the Laboratory for Emerging Nanometrology (LENA) research center, which offers state-of-the-art facilities in micro-nano characterization; and also members of the Cluster of Excellence QuantumFrontiers and the Quantum Valley Lower Saxony (QVLS).

Make a Difference:

- You will conduct research in new gas control solutions that could be integrated in gas/chemical microsensors to gain full control on the characteristics of the gas sample reaching the sensor, thus improving the quality of the information gathered.
- Your developments will combine lab-scale demonstrators for proof-of-concepts, and miniaturization of the most promising solutions in microdevices.
- You will be strongly involved in experimental set-up definition and assembly, as well as microsensor design, fabrication and test.
- You will work with experts in-house in microelectronic design, clean-room processing (nitride, silicon, hybrid), micro-nano metrology and characterization.
- You will collaborate with world-class centers in sensing, metrology and quantum technology.
- You will actively participate in several collaborative projects with external partners and integrate into a large team of sensor-device scientists and technologists in the group of Prof. Prades and the IHT.
- You will have the chance of publishing abundantly and in top journals; and participate in national and international conferences.

- You can be involved in teaching (preparation and implementation of courses as well as supervision of theses).

Your Qualifications:

- A scientific university education (Master's degree or equivalent) in the field of electrical engineering, physics, nanotechnology or similar.
- Experience in device testing, micro-fluidics and/or finite-elements modelling will be highly appreciated.
- Very high proficiency in English, fluency in the German language is preferable.
- You are flexible, can perform under pressure and work well in a team.

Our Benefits:

- Pay in accordance with the collective agreement TV-L, pay grade up to E13 with 75%, depending on the assignment of tasks and fulfilment of personal requirements.
- 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.
- Counting with the support of 1-2 Master students under your supervision, that will help you boost your scientific productivity.
- Interesting and diverse tasks in a pleasant working atmosphere with a friendly and motivated team.
- A workplace that is basically suitable for part-time work, although the position is to be filled full-time, as well as flexible working and part-time options and a family-friendly university culture, awarded the “Family-friendly university” audit since 2007.
- A wide range of continuing education and company health care programmes as well as a vibrant campus life in an international atmosphere.

What’s more to know:

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 form of evidence of your handicap 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 and diverse-gender individuals 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:

Do you have any questions? For more information, please contact +49 531 391 3774 (Shanice Thyme)

Closing date: January 31, 2025

If we have aroused your interest, please send your application with informative documents in PDF format, preferably by e-mail to daniel.prades@tu-braunschweig.de

or by post to

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