



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 neighborhood as we do with our international partner universities.

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

PostDoc (m/f/d) in the field of “Opto-electronics for Environmental Sensing”

(TV-L E14, 100%)

The position is to be filled on a fixed-term basis for an initial period of 3 years and up to 5 years. It is intended for researchers holding a doctoral degree in a related field, pursuing to continue their professional training.

As a PostDoc 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 and ingenuity to the team and undertake leadership 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 \(QVLS\)](#). We maintain close collaboration and exchanges with the [Department of Electronic and Biomedical Engineering](#) of the [University of Barcelona](#).

Make a Difference:

- You will conduct research in new sensor device concepts and systems, with a strong involvement in design, integration and characterization of optical, electrical and metrological properties.
- You will set up a new laboratory on high-end sensor technology for environmental applications, with participation in management and decision-making.
- You will work with in-house-experts in photonic and optoelectronic simulations, 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 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 gain international experience with the opportunity to carry out research stays at the University of Barcelona, if interested.
- 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.
- A completed doctorate in electronic or sensor devices/systems, or a closely related topic.
- Experience in device characterization, device testing and validation, and clean-room processing 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.
- You are interested in a long-term Post-Doc (up-to 5 years), with possibilities to remain in the group.

Our Benefits:

- Pay in accordance with the collective agreement TV-L, pay grade up to E14 with 100%, 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 3 to 5 students under your supervision (Master and PhD students), 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.
- Financial support to carry out research stays abroad.

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: May 31, 2024

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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