



PhD Researcher Position
Reliability Investigations for Sustainable Grid-Connected Power Electronics

(Application deadline: 15.05.2024)

What you can expect:

- Excellent research conditions for reliability investigations
- Publishing scientific results and participation in international conferences
- Support for university teaching
- Excellent opportunity for a doctorate
- Young, motivated and dynamic team

What do you bring with you:

- Master in Electrical Engineering or Physics
- Ability to work in a team
- Good communication skills
- Interest in systematic work
- Flexibility and resilience

What we offer:

Salary Level up to TV-L E13,
full- or part-time



Responsible
tasks



Mentoring
program



Mobile working



Flexible working
hours



Team-oriented
work



flat hierarchies



IMAB - Institute for Electrical Machines, Drives and Traction
(www.imab.de)

Hans-Sommer-Straße 66, 38106 Braunschweig

Kontakt: Prof. Dr.-Ing. Regine Mallwitz

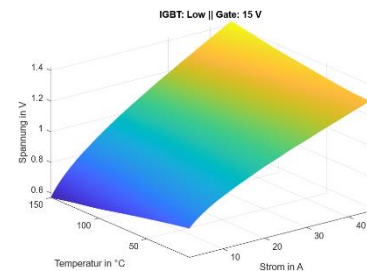
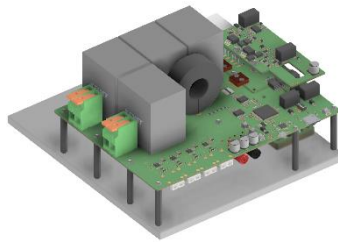
Professor Power Electronics

Tel.: + 49 (0)531 391 3913

Application and questions to: r.mallwitz@tu-braunschweig.de

About the new project:

The transformation of electrical energy supply and mobility towards greater sustainability requires more and more power electronics. Many tests under different environmental conditions and uses cases are required to ensure the reliability and lifetime of these new power electronics solutions. The IMAB institute is working in several projects on reliability issues, life time modeling and life time estimation for power electronics components and systems. In this project, we are working on the lifetime of so-called Netprosumer systems. These are systems that enable energy flows between the grid and stationary and mobile batteries as well as regenerative feeders such as PV and wind.



The project tasks include theoretical and experimental research work for reliability and lifetime assurance of power electronics components like semiconductors, capacitances and inductors.

The following research work will be carried out:

- Electrical and thermal characterization of power electronic components,
- Planning, execution and evaluation of long-term stress tests,
- Development of measurement technologies for the characterization,
- Lifetime modeling and lifetime evaluation.

Experience in at least one of the areas mentioned is a prerequisite for employment:

- Design of power electronics components or systems,
- Characterization of at least one kind of power electronics component or a system,
- Electrical measurement technologies,
- Reliability evaluation, lifetime modeling or lifetime evaluation.

Further information:

The position is to be filled from 01.07.2024. The appointment is initially limited to two years. The aim is to continue employment beyond this period.

We welcome applicants of all nationalities. At the same time, we welcome the interest of severely disabled people and give preference to their applications if they are equally qualified. Please indicate this in your application and enclose proof. Furthermore, we are working to fulfill the equality mandate based on the Lower Saxony Equal Rights Act (NGG) and are striving to reduce underrepresentation as defined by the NGG in all areas and positions.

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.