



With around 16,000 students and 3,800 employees, Technische Universität Braunschweig is the largest Institute of Technology in northern Germany. We are known for our strategic and performance-oriented thinking and acting, top-level research, highly committed lecturers and a successful transfer of knowledge and technologies into industry and society. We are dedicated to creating a family-friendly environment and advocate for equal opportunities.

Our campus is located in the middle of one of Europe's research hotspots, where we have established a successful working relationship—both with the more than 20 research facilities in our neighbourhood and our international partner universities.

Starting from 01.10.2024, the elenia Institute at TU Braunschweig (www.tu-braunschweig.de/elenia) is looking for a

Doctoral Candidate (m/f/d) in the field of DC-systems (full-time – fixed-term)

The position is to be filled on a fixed-term basis for a period of 36 months. The successful applicant will be given the opportunity to *pursue a doctorate*.

This contract is funded by the European Union's Horizon Europe research and innovation programme under the MSCA DN project Inter-oPEN.

Discover a fascinating phase in the energy sector: the integration of renewable energy sources such as offshore wind farms and advanced direct current technology (HVDC) awaits us. Your task as a research assistant is to develop a protection system for HVDC/MVDC multi-terminal grids with offshore wind farms, analyzing the interactions between turbines and converters. You will work with the help of systems engineering, gain a deep understanding of system interactions and validate your concept in real laboratory scenarios. You will pursue your questions independently in the DC Systems and Switchgear team and be a member of a research consortium within the project network. This will enable you to play an active role in shaping the future of energy supply.

Your tasks will include the implementation of practical, interdisciplinary

According to WP 2021-2022 the candidates must comply the MSCA-DN eligibility criteria:

- Not have resided or carried out her/his main activity (work, studies, etc.) in Germany for more than 12 months in the 36 months immediately before the expected recruitment date.
- Not being in possession of a doctoral degree at the date of the recruitment.
- To be in position to be enrolled in a German PhD programme at the date of recruitment.

Required skills

- A university degree in electrical engineering, industrial engineering, electrical engineering or a comparable scientific or technical degree program is mandatory for employment as a research assistant. Employee.
- Good written and spoken German and English skills

Other valued skills

- Basic knowledge of system design using Model Based Systems Engineering
- Previous knowledge in the field of DC components and networks
- Basic knowledge of programming environments (SysML, MATLAB, PSCAD, ...)
- Ability to work in a team and professional and social commitment

Our Benefits

- Salary according to Marie-Curie Fellowship MSCA-DN: 3100 € with additional family- and mobility-allowance if applicable.
- Opportunity *to pursue a doctorate*.
- Interesting and diverse tasks in a pleasant working atmosphere with a friendly and highly motivated team at the elenia Institute at TU Braunschweig (www.tu-braunschweig.de/elenia).
- A workplace with flexible working options and a family-friendly university culture, awarded the “Family-friendly university” audit since 2007, that is basically suitable for part-time work, although the position is to be filled full-time.
- 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* 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/datenschutzzerklaerung-bewerbungen>. Application costs cannot be reimbursed.

Closing date:

17.03.2024

Are you interested?

Please send your complete application (comprising a motivation letter, a CV and relevant certificates) preferably via email to Patrick Vieth (p.vieth@tu-braunschweig.de), indicating the reference to this specific vacancy. For more information, please visit: <https://inter-open.eonerc.rwth-aachen.de/>

Inter-oPEn

- Project start: **Q1/24**
- Start for doctoral candidates: **Q3/24**
- Duration: **3 years**
- Project volume: **~2.673.000 €**

- **MBSE for Protection System Development for DC grids with connected OWFs (AP4)**
 - Technical feasibility of algorithms
 - TRL
 - IP limitations
 - Regulatory framework
 - Economic factors

Inter-oPEn

Inter-oPEn

Interoperability of the Power Electronics dominated grid by openness

