

The **BTU** is a young university that is actively helping to shape the structural change in Lusatia to phase out lignite and is providing scientific support for transformation processes in many ways. In the coming decades, the region will be one of the most exciting real laboratories in Germany, from which groundbreaking development impulses are to emanate. Employment at the BTU therefore promises more than ever participation in development processes towards a sustainable and climate-friendly future.

Applications are invited for a full-time **Professor (W3)** as of 01.10.2023 at the **Faculty of Mechanical Engineering, Electrical and Energy Systems** with research orientation in the field of

High Voltage Engineering and Electrical Systems (Hochspannungstechnik und Elektrische Anlagen)

The announced position follows the succession of the professorship „Energy Distribution and High Voltage Engineering“ and „Decentralized Energy Systems“ of Prof. Dr.-Ing. Harald Schwarz. These chairs will be restructured as „High Voltage Engineering and Electrical Systems“ and, in a second announcement, „Decentralized Energy Systems and Electrical Networks“.

This chair has an important role in the realignment of the energy region Lusatia. In relation with this realignment several major projects are planned at the BTU within the frame of an “Energy Innovation Center”. The new professorship is supposed to participate actively in these projects and to cooperate with the new energy related institutes of DLR and Fraunhofer Gesellschaft in Cottbus. It is expected that the research of the chair is directed towards the restructuring of the production of electrical energy from fossil to renewable sources, and radiate especially into the area Lusatia.

We are looking for a personality who is able to comprehensively represent this field in research and teaching. In the context of the main research topic "energy transition and decarbonisation" at the BTU, the following main research topics are to be worked on:

- Modelling, calculation and testing of complex multilayer insulation systems, also taking into account future more environment friendly insulation materials,
- Impact of harmonics on the breakdown behaviour of insulating material systems due to the increase of inverter based generation systems in high-voltage networks,
- Medium, high and ultra-high voltage electrical power equipment and systems, both in HVAC and HVDC-systems,
- Technology and integration of systems for energy storage or sector coupling in high-voltage and ultra-high-voltage switchgears,
- Modelling and testing of high-voltage equipment under extreme climatic conditions with high voltage or high current loading,
- Electromagnetic compatibility in electrical power and drive systems including lightning protection and grounding as well as power quality measurement technology,
- Further development of existing and new measurement and test methods for high-voltage and ultra-high-voltage devices and systems, if necessary using AI or algorithms of digital signal processing.

The professorship is responsible for the scientific and administrative management of several large laboratories, such as the large and small high-voltage hall including the large climatic chamber and the EMC laboratories including the anechoic chamber, the mode stirring chamber, the GTEM cell and the test station for conducted EMC.



Die BTU trägt das Gütesiegel des Deutschen Hochschulverbandes (DHV). Sie wird damit für ihre fairen und transparenten Verhandlungen zur Berufung von neuen Professorinnen und Professoren ausgezeichnet.

The advertised professorship is the successor of the professorships Energy Distribution and High Voltage Engineering as well as Decentralized Energy Systems, which were both headed by Prof. Harald Schwarz. Due to internal restructuring at the BTU, the content of these professorships has been changed and they will be advertised here as "High Voltage Technology and Electrical Systems" and in a further procedure as "Decentralized Energy Systems and Electrical Networks".

The candidate is expected to have relevant experience in research in several of the above-mentioned areas and to be willing to participate in joint research projects with other departments of the faculty and the university and to continue ongoing research activities of the chair.

In teaching, participation in German and English is expected in the courses of study in Energy Technology and Energy Economics, Power Engineering, Electrical Engineering and Industrial Engineering as well as other engineering courses of study. Basics of electrical Energy, High Voltage Technology and Electromagnetic Compatibility are assigned to this chair. Further developments of the teaching offers are expected.

For further information, please contact Prof. Dr.-Ing. Georg Möhlenkamp, Tel. +49 (0)355 69-4021 / email: georg.moehlenkamp@b-tu.de.

Other duties result from the requirements set by § 42 Brandenburgisches Hochschulgesetz (Higher Education Act of the State of Brandenburg - BbgHG) in conjunction with § 3 BbgHG. Please refer to §§ 41 paragraph 1 no. 1 - 4a and 43 BbgHG for Prerequisites and conditions of employment.

BTU Cottbus-Senftenberg is committed to equal opportunities and diversity and strives for a balanced gender ratio in all employee groups. Person with a severe disability and their equals are given priority in the case of equal suitability. As a family-oriented University, BTU offers a Dual-Career-Services.

The application, including academic certificates, curriculum vitae, a list of publications, as well as proof of teaching experience, should be sent by e-mail in a single pdf file with a max. 7 MB until **30.06.2022** to:

**Dean of the Faculty of Mechanical Engineering, Electrical and Energy Systems
BTU Cottbus - Senftenberg, Postfach 101344, 03013 Cottbus**

Email: fakultaet3+bewerbungen@b-tu.de

When sending your application by unencrypted e-mail, please be aware of the risks regarding the confidentiality and integrity of your application content and please also note the data protection information on the BTU website.



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