

The Faculty of Mechanical Engineering, Electrical and Energy Systems of Brandenburg University of Technology (BTU) Cottbus-Senftenberg invites applicants for a

PROFESSORSHIP THERMAL ENERGY TECHNOLOGY (W3) (Thermische Energietechnik)

with research-oriented focus.

The announced position follows the succession of the professorship “Kraftwerkstechnik” of Prof. Dr.-Ing. Hans-Joachim Krautz. 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” e.g. in the area of energy storage and –conversion. 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.

Candidates are expected to represent this area of expertise in research and teaching, respectively. As part of the research focus of the BTU „Energy-Efficiency and Sustainability“ the professorship should be engaged in at least two of the following research topics:

- Experimental and theoretical investigations on hydrogen production from renewable energies, hydrogen transport, hydrogen storage as well as hydrogen utilization for applications in energy technology as well as in the transport sector.
- Experimental and theoretical investigations on power-to-X-technologies (X = gas, liquid, solid). A dedicated focus should be taken on oxidation and reduction processes for large scale industrial application.
- In conjunction with this also carbon capture and utilization/conversion, amongst others, as a resource for gas or liquid green fuels of the future.
- Scientific investigations on the influence of renewable energies on the operation of conventional power plants (flexibility, maintenance and repair).

The activities of the chair should be shifted from the current focus on conventional power station technology towards electricity and heat production which is complementary to renewable sources. The conversion from regenerative surplus energy via power to gas (hydrogen, but possibly also methane) or power to liquid should be the new center, and also the storage of “green” hydrogen or methane (or liquids) e.g. in the natural gas grid or in other devices. The technologies for large scale electricity production supplied by this storage units, e.g. gas-turbine power stations, should be brought ahead as a next step. The professorship will be authorized with the scientific and administrative direction of a big compression electrolysis, which is planned to be the nucleus of a hydrogen research center at the BTU.

It is expected, that candidates have appropriate experience in more than one of the abovementioned fields of research and are willing to participate in joint research projects with other departments of the faculty and the university and to continue current research activities of the department. Industrial experience is an advantage.

In teaching, the candidate is expected to collaborate in all study programs of mechanical engineering and industrial engineering as well as in the new degree program "Energy Technology/Energy Economics" and an English language program "Power Engineering". A continuous development of the lectures is expected.

For further information please contact:

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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 – 4 a und 43 BbgHG for prerequisites and conditions of employment.

Lectures are primarily to be held in German, but also partly in English. Therefore German language skills as native speaker (or acc. to DSH3 or equivalent) and fluency in English is expected. Experience in the acquisition and realization of third-party funded projects is expected. The research topics should be relevant for DFG (German Research Foundation) funding or other international Research Foundations.

BTU Cottbus-Senftenberg strives to increase the proportion of women in teaching and research and specifically encourages qualified female scientists to apply. As a family-oriented University, BTU offers a Dual Career Service. Qualified applicants with disabilities will be given priority.

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 max. 7 MB **until 24 June 2020** 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



The BTU carries the seal of quality of The German Association of University Professors and Lecturers (Deutscher Hochschulverband, in short DHV). She is thus honored for her fair and transparent negotiations on the appointment of new professors.