

Academic Staff Member (m/w/d) Department of Thermodynamics/ Thermal Process Engineering

Reference Number: 59/24

Salary group	E 13 TV-L
Work hours	Full-time
Limitation	fixed-term employment until 31st July 2026
Employment location	Cottbus

One of the most dynamic energy research hubs in Germany is currently being created in Cottbus. This is because the German government has set itself an ambitious goal with the energy turnaround, the achievement of which will require fundamental changes to our energy systems. This challenges Lusatia in particular, as a traditional center of lignite mining and power generation, to reposition itself. For this reason, more than 70 scientists at the BTU Cottbus-Senftenberg are developing innovative technologies for a climate-neutral energy supply in the »**Energy Innovation Center**« (**EIZ**) together with an interdisciplinary partner network. The focus is on the targeted networking of the various energy systems and sectors as well as the different system actors.

The academic staff will conduct research at the Chair of Thermodynamics / Thermal Process Engineering at BTU on the key topic of »**Modeling thermochemical processes with reduced-order models**«.

These are your responsibilities

Conducting scientific work in the field of modeling and simulation of thermochemical processes in the EIZ sub-project »Energy Storage and Conversion Laboratory« with a focus on reduced-order models, data-based modeling and machine learning. Embedding the models in an energy system simulation consisting of water electrolysis, methanation/methanolization, gas/liquid storage and gas engine. Validation of the models using the simulation results of higher-order models.

Other activities include:

- Lecturing and publication activities on the respective research subject, preparation of contributions for reports and presentations,
- as well as other research-related administrative tasks within the scope of the research project

Your Skills

- A completed academic university degree as defined by the TV-L pay scale (accredited Master's degree / university diploma / equivalent) in the relevant disciplines of technical mathematics, computer science, or in a comparable field.

- Knowledge and experience in reduced-order models, data-based models and machine learning; experience with simulation tools (such as Modelica and Matlab-Simulink); programming skills (such as Python, C++, Fortran).

Personally, you are characterized by the ability to work scientifically, analytical, and conceptual thinking, situational action, flexibility, and excellent communication skills. Your creativity, an interdisciplinary way of working and the ability to work in a team as well as profound knowledge of the German and English language, both written and spoken, round off your profile.

Our Offer

- Helping to shape one of the most exciting and dynamic research projects in structural development with international appeal
- Modern infrastructure with high development and design potential as well as an international team
- Participation in international conferences with corresponding publications
- Extensive opportunities for flexible working hours, such as home office, to enable a better work-life balance and to achieve greater satisfaction by taking more responsibility for designing and performing your work yourself

If you want to play an active role in shaping change in Lusatia, become part of the BTU family. We look forward to meeting you.

For further information please contact Yvonne Teetzen at; E-Mail: yvonne.teetzen@b-tu.de; Tel.: +49 (0)355 69 2600

The BTU Cottbus-Senftenberg is committed to equal opportunities and diversity and strives for a balanced gender ratio in all employee groups. Persons with a severe disability as well as persons of equal status will be given priority in the case of equal suitability.

The submission of application photos is not required.

Please note the more detailed [information on the selection process](#) on the BTU Cottbus-Senftenberg website.

Please send your application documents in a **PDF document, stating the reference number, exclusively by email by 22.05.2024** to the **contact of the chair of Thermodynamics/Thermal Process Engineering, Brandenburg University of Technology Cottbus–Senftenberg,**

email: fg?tdvt@b-tu.de

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