Hybrid-electric and battery-electric propulsion technologies offer the possibility of partially or completely displacing fossil fuels from regional aviation. In order to achieve the economic goals of environmentally friendly, safe and competitive aviation, a holistic systematic approach to the design of electrified aircraft propulsion systems is necessary. The significantly higher system complexity results in significant new requirements for the energy and thermal management of the propulsion system. We need your creative ideas and support for this!

The work is being carried out as part of the LuFo (Luftfahrtforschung, aeronautical research program) joint project "Safe and reliable electrical and thermal networks for hybrid-electric propulsion systems (ETHAN)". The project is integrated into the "Center for Hybrid Electric Systems Cottbus (CHESCO)"

The research and teaching activities of the Department of Aero Engine Design include amongst others research into thermal management systems and their components, taking into account the latest generative manufacturing methods for future hybrid-electric drive solutions.

For this area, the department is looking for two academic staff members with the following main tasks:

a) Scientific work on steady-state and transient thermal modelling of components (electric motors, power electronics, cooler, battery, etc.) of the thermal management system of hybrid-electric drive systems.

b) Scientific work on the design and thermomechanical modelling of a novel cooler concept, considering system safety analyses. This cooler concept should enable a significant increase in cooling capacity within a thermal management system of hybrid-electric drive systems. The project is carried out together with a chair of the Karlsruhe Institute for Technology (KIT).

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

What you bring with you:
You have successfully completed a scientific university degree within the meaning of the remuneration regulations for TV-L (accredited Master's degree / university diploma / equivalent) in a subject relevant to the job (process engineering, mechanical engineering, physics or comparable) with very good results. You have sound knowledge in the specialist areas of engine technology, process engineering or thermodynamics as well as very good
software skills in the area of design and numerical simulation. You also bring with you the ability to work scientifically, independence, flexibility and good communication skills. In addition to German, you should also have a very good command of English.

The BTU offers you excellent conditions for your scientific qualification and research. Our scientists benefit from flexible working hours (trust-based working hours), home office options and active health management.

For further information about the vacant position, please contact Prof. Höschler (e-mail: klaus.hoeschler@b-tu.de, phone: +49 (0)355 69-4509).

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 and their equals are given priority in the case of equal suitability. The BTU aims to increase the proportion of women in research and teaching and therefore strongly encourages qualified female applicants to apply.

Application photos are not required.

Please note the more detailed information on the selection procedure on the BTU Cottbus-Senftenberg website.

Please send your application documents in PDF format (with a maximum of 5 MB), stating the reference number, exclusively by e-mail to the Dean of the Faculty of Mechanical Engineering, Electrical and Energy Systems, Brandenburg University of Technology Cottbus-Senftenberg, e-mail: fakultaet3+bewerbungen@b-tu.de by 11.02.2021.