



Technische
Universität
Braunschweig



PhD-Researcher Position (m/f/d) within the SE²A Research Cluster

Sustainability modeling and analysis of future aircraft systems

Temporary Position (up to 3 years), up to Salary Level EG 13 TV-L, 100%

Background:

The Cluster of Excellence SE²A - *Sustainable and Energy-Efficient Aviation* is a DFG-funded interdisciplinary research center investigating technologies for a sustainable and eco-friendly air transport system. Scientists from aerospace, electrical, energy, and chemical engineering, as well as economics and social science, are working on the reduction of drag, emissions, and noise, life-cycle concepts for airframes, improvements in air traffic management, and new technologies for energy storage and conversion. Technische Universität Braunschweig, the German Aerospace Center (DLR), Leibniz University Hannover (LUH), the Braunschweig University of Art (HBK), and the National Metrology Institute of Germany (PTB) have joined forces in this extraordinary scientific undertaking. The overall project is structured into three core research areas "Assessment of the Air Transport System", "Flight Physics and Vehicle Systems", and "Energy Storage & Conversion".

(www.tu-braunschweig.de/en/se2a)

Employment:

The position is located at the Institute of Automotive Management and Industrial Production (AIP), Chair of Production and Logistics (<https://www.tu-braunschweig.de/aip/pl>) at the Technische Universität Braunschweig. The entry date is as soon as possible, and the duration is initially limited until (*the end of 2025*). The position is part-time suitable but should be occupied 100%. Active participation in SE²A's own doctoral program complementary to the programs of the institutions is an integral part of this position. The payment is made according to task assignment and fulfillment of personal requirements up to salary group EG 13 TV-L. International applicants may have to successfully complete a visa process before hiring can take place. Applications from international scientists are welcome. The Cluster SE²A aims to increase the share of women in academic positions. Applications from female candidates are very welcome. Where candidates have equal qualifications, preference will be given to female applicants. Candidates with handicaps will be preferred if equally qualified. Please enclose a proof.

Task:

You will work on a project within SE²A that addresses the sustainability modeling and analysis of future aircraft systems. To this end, life cycle engineering methodologies should be developed that enable the analysis of environmental, economic, and social sustainability and support decision-making in the early stages of aircraft development. Your work will focus on analyzing and assessing novel aircraft concepts,

including aircraft types and powertrain concepts, along the entire life cycle (cradle-to-grave) and all sustainability dimensions. In this context, you will work with scientists from different disciplines to contribute to the sustainable development of the aviation sector. Overall, you can expect interesting and challenging tasks in fundamental and application-oriented research. The opportunity to pursue a Ph.D. degree is given and encouraged.

Who we are looking for:

- Completed scientific higher education (master, university diploma) in industrial engineering, technology-oriented management, business economics, or a similar field of study
- Solid understanding of the air transport system and interest in its future development
- Excellent analytical, organizational, and communication skills
- High level of proficiency in German and English (written and spoken)
- Familiarity with programming languages (e.g., Python) and optimization software (e.g., AIMMS)
- Advanced MS Office skills (including VBA)
- High motivation and pronounced interest in scientific work

Application Process:

Applications should be sent by e-mail or mail¹ to Prof. Dr. Thomas S. Spengler (t.spengler@tu-braunschweig.de) until November 30, 2022, and must contain the following documents:

- Motivation letter
- Curriculum vitae including complete address, phone number, e-mail address, educational background, language skills, and work experience
- Copies of bachelor's and master's diplomas and transcript of grades in original language and in English or German translation
- Additional Documents must be provided on request

All documents should be in PDF format, preferably in a single file. Personal data and documents relating to the application process will be stored electronically. Please note that application costs cannot be refunded. For the purpose of carrying out the application process, personal data will be stored.

For more information, please contact Alexander Barke by e-mail (a.barke@tu-braunschweig.de) or phone (+49 (0) 531 391-2214).

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