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

System dynamics simulation of future airtransport system

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 qualification programme is mandatory, the time effort for this training measure entails 10% of the working time. 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 which will analyze the behavior of the future airtransport system in the presence of new types of propulsion system. To this end, a combination of system dynamics and agent-based simulations will be developed, to promote a sound understanding of the future scenarios pertaining to different business strategies of aircraft manufacturing and fuel production firms, and assess

potential policies that promote the adoption of new emissions reducing technologies in the air transport system. 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
- 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)
- First knowledge and experience in the area of simulation (preferably System Dynamics or Agent-based simulation) and familiarity with simulation software (e.g., Vensim)
- High motivation and pronounced interest in scientific work

Application Process:

Applications should be sent by e-mail or mail[1] to Dr. Imke Joormann (i.joormann@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 Imke Joormann by e-mail (i.joormann@tu-braunschweig.de) or phone (+49 (0) 531 391-2216).

[1]Dr. Imke Joormann
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