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

Combinatorial and Discrete Optimization

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 Mathematical Optimization (https://www.tu-braunschweig.de/mo/), 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:

The research work will contribute to the development of scheduling and network optimization methods for the air transport system. The project is focused on robust optimization and techniques to amend errors arising from simplifications in modeling. The successful applicant will work at the Institute for Mathematical Optimization with Sebastian Stiller. 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 Mathematics, Computer Science (or a closely related field)

- Expertise in the area of combinatorial and discrete optimization is highly desirable.

- Programming skills

- Good command of written and spoken English

- Interest in working on topics with a real-world application, in cooperation with partners from engineering and economics

- Experience with SCIP/Gurobi/Cplex is advantageous.

Application Process:

Applications should be sent by e-mail or mail[1] to Silke Thiel (s.thiel@tu-braunschweig.de) until **December 15, 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 Prof. Dr. Sebastian Stiller by e-mail (sebastian.stiller@tu-braunschweig.de) or phone (+49 (0) 531 391-7552).

[1]Prof. Dr. Sebastian Stiller
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