The institute

For more than 20 years, the AIP has proven research competence in the design, planning, and control of industrial production and logistics systems. Our guiding principle is technology and decision-oriented business administration. In interdisciplinary teams, we develop decision support models for challenging questions. To strengthen our team, we are looking for a Researcher (m/f/d) as soon as possible, the duration is initially limited to three years. The possibility to obtain a doctorate is given. The successful applicant will work in the Junior Research Group “Overall System Evaluation” with Dr. Imke Joormann.

Your task

The decarbonization of aviation requires the development of new types of aircraft engines. For short- and medium-haul flights, research is currently focusing on hydrogen-powered aircraft, whose widespread use will lead to a considerable demand for hydrogen at airports. As part of the project HyNeat, an interdisciplinary team from hydrogen and energy systems engineering, economics and business administration, and mathematics, will explore hydrogen supply networks’ evolution and its effect on the air transport system. Your task is to develop and implement a suitable optimization model of the flight network and improve corresponding MILP solution techniques.

Requirements

- Completed scientific higher education (master, university diploma) in Mathematics (or a closely related field)
- Solid knowledge in the area of Discrete Optimization
- Programming skills in C/C++ and/or Python
- 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 would be desirable

Application

Applications should be sent by e-mail to i.joormann@tu-braunschweig.de and must contain the following documents: Motivation letter, curriculum vitae, copies of bachelor and master diploma and transcript of grades, copy of master thesis, contact information for at least two references. All documents should be in PDF format, preferably in a single file. The position will be filled as soon as a suitable candidate is found; for full consideration, please apply before April 13, 2022.

The average weekly working time is 39.8 hours. The payment is made according to task assignment and fulfillment of personal requirements to salary group 13 TV-L. In principal, the position is part-time suitable, but should be 100% occupied. At TU Braunschweig, we aim to increase the share of women in academic positions and therefore particularly welcome applications from women. Handicapped applicants will be preferred if equally qualified; a proof must be enclosed. Applications from international scientists are welcome. International applicants may have to successfully complete a visa process before hiring can take place. For the purpose of carrying out the application process, personal data will be stored. Application costs cannot be reimbursed.