Technische Universität Braunschweig

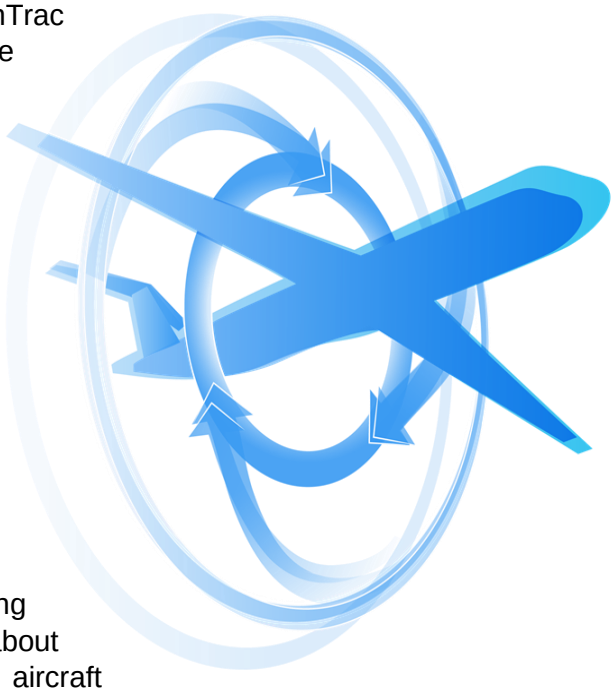
InAD | Institut für Akustik und Dynamik

SynTrac TRR 364

Master's project: Cabin noise assessment in aircraft development

With the major goal of climate-neutral flying, we are exploring potentials and synergies through highly integrated aircraft development in numerous sub-projects at TU Braunschweig, University of Stuttgart, LUH Hannover and DLR Braunschweig in the new research centre SynTrac. We use interactions between the disciplines of aerodynamics, acoustics, flight physics, structural mechanics and thermodynamics through a multidisciplinary, cross-system view of the aircraft development process to develop future highly efficient aircraft through innovative approaches.

The International Female Program of the SynTrac project supports paid research stays for female students from universities outside Germany to persue their master's thesis. During these research stays, we offer German language classes that will be paid by the institutes.



The acoustic project B05 "Cabin noise of integrated and distributed propulsion" is based at the Institute for Acoustics and Dynamics in Braunschweig. The project focuses on the early assessment of cabin noise in aircraft development for different aircraft models and different sound sources within SynTrac.

You can support the project by conducting research for your Master's project and writing about your findings. The investigation will focus on aircraft models and transmission paths. This will require familiarisation with aircraft acoustics and the finite element method. Based on this research, a vibroacoustic simulation model will be developed to investigate sound transmission into the aircraft cabin. Sensitivity and parameter studies will then be used to determine the main influencing factors.

Requirements

- Female international candidates who are or will soon be eligible to start their master's thesis at a university outside of Germany in the field of Acoustics
- Bachelor's in Mechanical Engineering, Aerospace Engineering or a related technical field
- Solid understanding of vibroacoustic and finite element method
- Experience with finite element analysis (FEA) (e.g., ANSYS, Abaqus)
- Experience with programming or scripting languages (e.g., Python, MATLAB, C++)
- Ability to work effectively in a multidisciplinary team environment
- High proficiency in written and spoken English

Contact information

Please send your application, including your CV, transcript of records and letter of motivation to Juliette Thoma (mail: juliette.thoma@tu-braunschweig.de).

The entry date is as soon as possible, and the duration of employment is limited to 6 months. Successful applicants are funded by a student assistant contract with 80 h / month (approx. equivalent to the maximum BafÖG rate, currently 934 €). Ongoing applications are possible until all positions are filled.

International applicants may have to successfully complete a visa process before hiring can take place. Candidates with handicaps will be preferred if equally qualified. Please enclose a proof. The position is part of the SynTrac International Female Program, so only applications by female students of non-German universities are possible.

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.