With more than 16,000 students and 3,800 employees, the **Technische Universität Braunschweig** is one of Germany´s leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities.

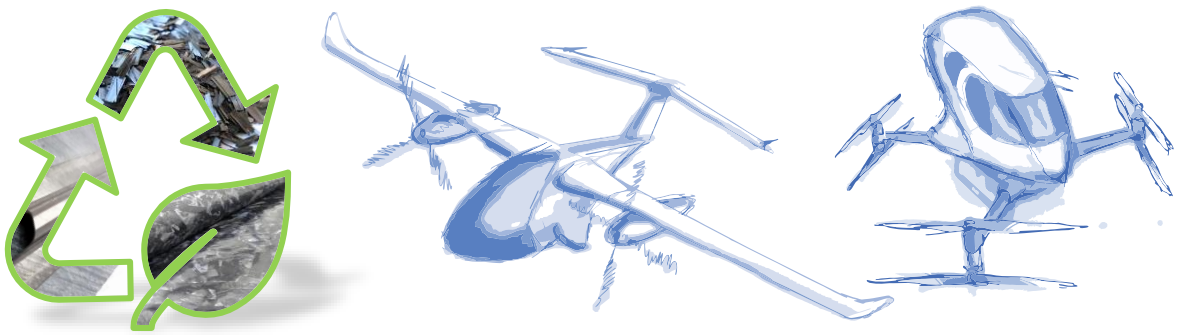
Our research focuses are mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities.

Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighbourhood as we do with our international partner universities.

Starting from *the earliest possible date*, the Faculty of Mechanical Engineering is looking for a

PhD. Candidate (m/f/d) in the field of Aircraft Design and Lightweight Structures

(EG 13 TV-L, full-time)



The position is to be filled on a fixed-term basis until 31.12.2026. The successful applicant will be given the opportunity to pursue a doctorate.

The recycling of carbon fibre reinforced plastics (CFRP) is a critical challenge. Although progress has been made through the use of thermoplastic matrix materials, these advances still do not allow recycling without quality degradation.

The EU-funded EFRE research project **reFrame** aims to develop recycled materials and structures for future mobility concepts that allow reuse without downgrading (downcycling) in the same application. To achieve this, the project will identify potential applications for recycling concepts and investigate their feasibility and limitations on a wide range of potential applications ranging from **eVTOLs** to **traditional passenger aircraft.** This research is purely focused to facilitate the transition to sustainable aircraft concepts.

Your tasks in the project includes a market analysis and aircraft conceptual design (ACD) studies of General Aviation (GA) aircraft types, focusing on their weight sensitivity, i.e., the dependence of performance and economics on weight, as well as their primary structure recycling potential. In particular, recycling strategies, feasibility limits and key enabling technologies will be analysed. After the evaluation of different aircraft concepts, a selection will be made for the development of a comprehensive aircraft design, including size, propulsion type, mass and force estimates.

The knowledge gained will contribute to the development of a demonstrator structure to be designed and manufactured by an interdisciplinary team. Finally, additional application areas will be identified and investigated.

To perform this research, we are looking for a scientific researcher (m/f/d) to join the project as soon as possible. The position is based at CFK Nord in Stade, Germany, a leading research centre for fibre composite materials. It is a fixed-term position, initially limited to 31.12.2026, as part of a project-based contract. The position is intended to support an early career researcher and offers the opportunity to pursue a PhD or further education or to conduct your Post-Doc research.

Your tasks

- You will carry out research in the area of aircraft design and CFRP structural concepts for recycling.
- You will apply for and work on research projects.
- You will publish research findings and participate in national and international conferences.
- You will be involved in teaching at the University (preparation and implementation of courses as well as supervision of students' work).

Your Qualifications

- You have a degree (Master's or equivalent) in the field of Mechanical Engineering, Aerospace Engineering or similar fields.
- You have very good knowledge of the German and English language.
- You have experience in aircraft design, lightweight structures, life-cycle assessment (LCA) or carbon-fibre reinforced materials.
- You are flexible, can perform under pressure and work well in a team.
- You are aiming for a doctorate.

We offer

- Work on exciting future-oriented research topics in an inspiring work environment as part of the university community
- A vibrant campus life in an international atmosphere with lots of intercultural offers and international cooperations
- Pay in accordance with the collective agreement TV-L (a special payment at the end of the year as well as a supplementary benefit in the form of a company pension, comparable to a company pension in the private sector) including 30 days' vacation per year
- Flexible working and part-time options and a family-friendly university culture, awarded the "Family-friendly university" audit since 2007
- Special continuing education programs for young scientists, a postdoc program, as well as other offerings from the Central Personnel Development Department and sports activities.

Further notes

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (*Niedersächsisches Gleichberechtigungsgesetz*—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen . Application costs cannot be reimbursed.

Questions and Answers

For more information, please call Mr. John Finder on +49 (0)4141 77638 26

Deadline for applications is 2025-03-31

Are you interested? Please send your application preferably via email to **ingo.staack@tu-braunschweig.de**

or via mail to

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