

Technische Universität Dresden - Faculty of Mechanical Science and Engineering, Institute of Manufacturing Science and Engineering, Chair of Forming and Machining Processes



TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

Research Associate (m/f/x)

At the Faculty of Mechanical Science and Engineering, Institute of Manufacturing Science and Engineering, the Chair of Forming and Machining Processes offers a position as Research Associate (m/f/x) (subject to personal qualification employees are remunerated according to salary group E 13 TV-L) starting July 1, 2025. The position is limited until June 30, 2028 within the research project "2nd Life Metal Components: A Pathfinding Project for Upcycling". The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification (usually PhD). The project: We are seeking motivated researchers to join our international team for the pioneering "2nd Life Metal Components" project. This long-term initiative, funded by the Werner Siemens Foundation with € 13 million, is dedicated to developing cutting-edge methods for the upcycling of metal parts. By employing newly developed technologies, the project aims to create an enhanced recycling route that reduces energy consumption by 90% compared to traditional methods while improving the functionality of recycled metal components.

City: Dresden; Starting date (earliest): 01/07/25; Duration: limited until June 30, 2028; Remuneration: subject to personal qualification employees are remunerated according to salary group E 13 TV-L; Closing date: 25/04/25

Working field

You will work on developing and applying innovative, primarily non-destructive methods of material and part characterization to identify and classify incoming first-life components. The data you generate will be critical for process planning and manufacturing, and you will work closely with other team members to ensure the efficient upcycling of metal parts. This project offers you substantial scientific freedom to creatively address challenges while pursuing a clear overall goal. Responsibilities are

especially to

- develop and apply new, primarily non-destructive methods for material and part characterization,
- identify and classify incoming first-life components, providing essential data for process planning and manufacturing,
- collaborate with team members involved in process development, production planning, and manufacturing to ensure data-driven, efficient upcycling,
- tackle technical challenges with creative solutions in a research environment that allows scientific freedom,
- communicate your findings through research publications and presentations at scientific conferences,
- contribute to the development of the new Master's program, "Resource-Efficient Manufacturing and Materials - REMM".

Requirements

- Very good to good university degree in engineering science, ideally in material characterization, mechanics, or simulation methods.
- High self-motivation with a willingness to learn and acquire new skills while adapting to evolving challenges.
- Strong organizational and communication skills, with the ability to work effectively within an international team.
- Independent, creative, goal-oriented, and solution-driven working style.
- Solid knowledge of material characterization, mechanics, or modeling and simulation techniques, with a keen interest in further developing this expertise.
- Very good written and spoken communication skills in both German and English.
- Proficiency in programming (Python, VBA, or similar) and familiarity with common CAD and FEM software tools are beneficial.

Application

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application with the usual documents by April 25, 2025 (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal <https://securemail.tu-dresden.de> by sending it as a single pdf file to dorothee.mehlgarten@tu-dresden.de or to: TU Dresden, Professur für Formgebende Fertigungsverfahren, Herrn Prof. Alexander Brosius, Helmholtzstr. 10, 01069 Dresden, Germany. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: <https://tu-dresden.de/karriere/datenschutzhinweis>.

More information at <https://stellenticket.de/193204/TUBS/>
Offer visible until 25/04/25

