

To extend our team, we are looking for a full time

Research Associate (m/f/d) in the field of Process Simulation and Tool Design

About us

The Chair of Carbon Composites (LCC) at the Technical University of Munich pursues an interdisciplinary research approach from raw materials to production engineering up to complete composite components. of fiber-reinforced composite materials and their applications. This includes the development of new manufacturing methods, new approaches for process and structural simulation, as well as research in the field of material characterization and testing.

We are currently looking for a new, motivated colleague (m/f/d) for a research project with an industrial partner aimed at the development of a bionic cooled tool in shell design using an industrially suitable thermo-mechanical design tool.

At TUM, we are focusing on the following research areas:

- Development of a temperature-dependent material model
 - Development of temperature-controlled characterization test rigs for compaction, shear and friction behavior
 - Development of an analytical model to describe the temperature dependence
- Development of a compaction simulation suitable for industrial use
 - Determination of relevant parameters of the material model to reduce complexity and development of an AI-supported tool for parameter fitting
 - Integration of the thermal tool simulation into the compaction simulation
 - Automation of the evaluation and determination of tool forces based on the compaction simulation

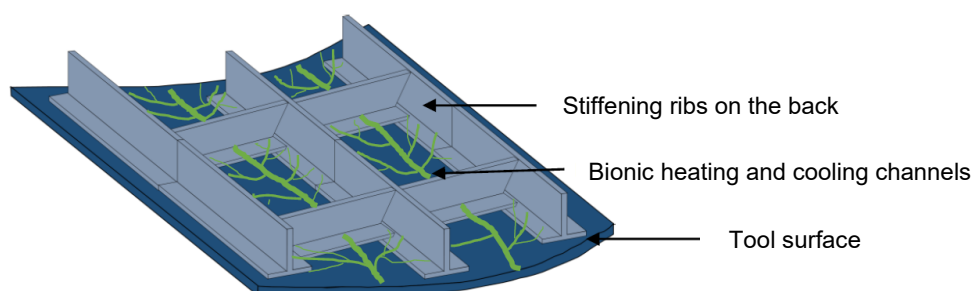


Figure 1 Schematic representation of the mold shell with bionic heating and cooling channels [Fa. Grunewald]

Requirements

- Above-average university degree (Diploma or Master's degree) in the fields of materials science, composite materials, plastics engineering, manufacturing technology, or similar
- General interest in manufacturing processes and characterization of composite structures
- Enjoyment of experimental work and digitalization methods
- Determination, independent and structured working style and pronounced teamwork and communication skills
- Proficiency in writing longer texts with complex content in German and English

Tasks

- Independent handling of various tasks in a research project with partners from industry and science
- Participation in the preparation of research proposals
- Supervision and guidance of student theses
- Involvement in teaching in the field of materials science/composite materials
- Supervision of scientific equipment

We offer

- Exciting research and working environment within a young, committed team
- Opportunity for a doctorate for professional and personal development
- Remuneration according to the collective agreement (TV-L)

Application

- The position is initially limited to two years
- TUM does not cover any costs associated with attending interviews

TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women. The position is suitable for disabled persons. Disabled applicants will be given preference in case of generally equivalent suitability, aptitude and professional performance.

If you are interested in working in our team, please send your complete application to personal_24_01.lcc@ed.tum.de. In the case of a written application, we kindly ask you to submit only copies, as we cannot return your application documents after the procedure is completed

Data Protection Notice:

As part of your application, you provide personal data to the Technical University of Munich (TUM). Please view our privacy policy on collecting and processing personal data in the course of the application process pursuant to Art. 13 of the General Data Protection Regulation of the European Union (GDPR) at <https://portal.mytum.de/kompass/datenschutz/Bewerbung/>. By submitting your application, you confirm to have read and understood the data protection information provided by TUM.

Technical University of Munich

Chair of Carbon Composites

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