

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

Research Associate (m/w/d) in the field of Additive Manufacturing

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 seeking new, motivated colleagues for a research project in collaboration with industry partners. The aim is to develop an innovative 3D-printed tool for cost-efficient manufacturing of composite components. At TUM, we are focusing on the following research areas:

- Investigation of the response of thermoplastics to microwave radiation at varying intensities
- Development of process parameters for microwave irradiation regarding radiation energy, wavelength, and duration for test specimens
- Analysis of the suitability of the developed additive-enhanced polymers for 3D printing and definition of appropriate printing parameters
- Development of a parameter model for tool production using 3D printing
- Integration of fiber optic sensors into the 3D printing process for microwave temperature control

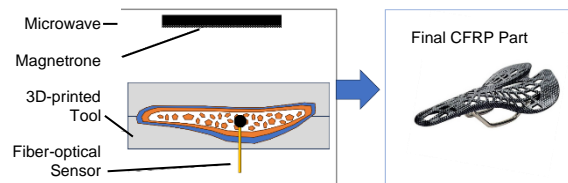


Fig. 1: Manufacture of complex geometries in small components using 3D-printed tools in an industrial microwave system

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 design of composite structures, experience in simulation
- 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 aiming for professional and personal development
- Remuneration according to the collective agreement (TV-L)

Application

- The position is initially limited to two years
- Disabled persons will be given preference if they have the same qualifications and suitability
- TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women
- TUM does not cover any costs associated with attending interviews
- Please send your application via email 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 for a position at the Technical University of Munich (TUM), you will transmit personal data. Please note our privacy policy in accordance with Art. 13 General Data Protection Regulation (GDPR) for the collection and processing of personal data as part of your application. By submitting your application, you confirm that you have taken note of TUM's Privacy Policy.

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Chair of Carbon Composites

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