Chair of Materials Engineering of Additive Manufacturing
TUM School of Engineering and Design
Technical University of Munich

For our research team at the Chair of Materials Engineering of Additive Manufacturing, we are looking for a full-time research associate (f/m/d) in the field of local strain characterization of zirconium claddings to join our team from August 1, 2026.

Research Associate / Doctoral Candidate for Local Strain Characterization of Zirconium Claddings Using Ring Testing and Digital Image Correlation (f/m/d)

About us

The Chair of Materials Engineering for Additive Manufacturing at the Technical University of Munich, established in 2019, conducts research and teaching in the promising field of additive manufacturing of metallic structures. Its main areas of focus include the design and characterization of high-performance metallic materials for and through additive manufacturing technologies, using experimental and digital methods. The goal of our scientific staff is to conduct high-level research, industry transfer and teaching with the aim of obtaining a doctorate.

Requirements

- Master's degree with outstanding grades in mechanical engineering, physics, chemical engineering, materials science, or comparable subjects
- General interest in materials characterization and mechanical testing
- Enjoyment of working with advanced technical systems, specifically Digital Image Correlation (DIC) and testing rigs
- Purposefulness and independent manner of working
- Creativity and willingness to experiment with irradiated and non-irradiated materials in shielded environments
- Team and communication skills for collaboration with project partners
- Very good language skills in English and German

Tasks

- Independent work on a research project, including method development for spatially resolved strain characterization
- Implementation of DIC systems for cladding tube geometries and optimization of optics and illumination
- Execution of ring tensile and ring compression tests on non-irradiated and irradiated zirconium alloys
- Analysis of material heterogeneities, such as hydride morphology and distribution, and their effect on crack initiation
- Setup of a database for experimental data compatible with artificial intelligence applications
- Guiding and supporting students in their study projects and teaching in the field of materials engineering

Our offer

- Full-time position (TV-L E13) as a research associate with the opportunity to pursue a doctoral degree
- Access to high-resolution DIC systems and advanced laboratory equipment
- Opportunity to conduct experiments in international hot laboratory environments
- Support from research-supporting staff in project administration and technical manufacturing
- Comprehensive personnel development program and an exciting research environment within a dedicated, international team
- Flexible working time model

Further notes
Employment is with corresponding remuneration according to the collective agreement of the federal states (TV-L). Severely disabled persons will be given preference in the case of essentially equal suitability and qualifications. The Technical University of Munich (TUM) aims to increase the proportion of women, so applications from women are expressly welcomed.

Application
Please send your informative application documents in German or English to Hannes Panzer (hannes.panzer@tum.de) by **June 28, 2026** at the latest. If applying by post, please send us copies only, as we are unfortunately unable to return your application documents once the process has been completed. Instead, we will destroy them in accordance with data protection regulations. The Technical University of Munich does not assume any costs associated with the perception of interviews.
As part of your application, you provide personal data to 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 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.

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