

**Research Associate (m/f/d) at the Chair of Composite Materials and Engineering
Mechanics at the Institute Aeronautical Engineering**

**in the field of
"CFRP Road wheel development"**

(Remuneration according to salary group 13 TVöD)

full-time position wanted as soon as possible, limited to 14 months.

The Ludwig Bölkow Campus in Taufkirchen/Ottobrunn (Germany) is the place of work.

The Bundeswehr University in Munich offers a state-of-the-art research environment that is a leader in various disciplines throughout Germany. We are a team dedicated to scientific research and development in the field of lightweight fibre-reinforced plastic (FRP) composite design. This includes both the analytical and numerical design of structural fibre composite components, as well as the construction of specimens and prototypes with subsequent testing and validation. The professorship "Composites and Technical Mechanics" at the Institute of Aeronautical Engineering has an extensive, newly equipped fibre composite laboratory at its disposal, including an autoclave, an RTM infusion system, a winding system and facilities for non-destructive testing.

Your tasks:

Your task is to work on the "CFRP Road wheel" project. This includes:

- Independent processing of the project "CFRP Road wheel" including planning, coordination and agreement of project activities within the professorship as well as with the client
- Creation of manufacturing concepts for the construction of the CFRP Road wheel
- Design and calculation of the CFRP Road wheel including the tool concept
- Selection of the most suitable materials for the CFRP Road wheel and the tools for its manufacture
- Determination of the material parameters for the calculation
- Determining the manufacturing parameters
- Building a first prototype wheel
- Building four CFRP Road wheel for the test campaign
- Accompanying the tests of the CFRP Road wheel
- Regular reporting to the client
- Preparation of a final report including preparation, interpretation and documentation, the calculation, the production and the test results from the test.

Qualification requirements:

- University degree (Masters or Dr.) in engineering (e.g. aerospace, mechanical engineering, lightweight construction, plastics technology, materials science/materials technology or in a related field)
- Established knowledge of lightweight design with fibre-plastic composites
- Proven knowledge of the analysis of fibre-plastic composites
- Experience with using Abaqus for the simulation of FRP structures
- Knowledge of the design and build of scientifically usable test and specimen bodies, their testing, analysis and evaluation as well as the design of highly resilient prototypes for

design research and component development.

What do we expect:

- high level of initiative and the ability to inspire others with creative ideas
- strong communication and teamwork skills
- openness and enthusiasm for new research challenges
- willingness and the ability to work independently, precisely, intrinsically and on one's own responsibility in a committed, interdisciplinary team with a constructive atmosphere
- a high degree of commitment and gender and equality competence

What do we offer:

- a pleasant working environment in a friendly and committed team with modern laboratory equipment with independent processing and design of the task
- a modern workplace and excellent state-of-the-art equipment at a tradition-conscious, yet innovative aerospace location (UniBw branch Ludwig Bölkow Campus - Taufkirchen/Ottobrunn)
- flexible working hours
- grouping in pay group 13 is carried out in compliance with § 12 of the TVöD with regard to the activities actually to be performed and the fulfilment of personal and collective agreement requirements.
- mobile working and the offer of teleworking is possible to a limited extent after consultation with the project management.
- as a campus university with very good basic facilities, with its own crèche and kindergarten (parent initiative) and excellent sports facilities, it offers the best conditions for efficient research and physical relaxation.

Employment can also be part-time if desired. The University of the Bundeswehr Munich aims to increase the proportion of female academics and employees; applications from women are expressly welcomed. Persons with a handicap will be given special consideration if they are equally qualified.

Have we piqued your interest?

Then send your application documents (cover letter, curriculum vitae, diplomas and references) in PDF format (max. 10 MB) by e-mail to:

Prof. Dr.-Ing. Tobias Dickhut (Tobias.Dickhut@unibw.de)

By submitting your application, you agree that your personal data may be stored, processed and forwarded to the offices involved in the application process for the purposes of the application. You can find more information on data protection under the following link:

<https://www.unibw.de/home/footer/datenschutzerklaerung>

The team around the Chair of Composites and Engineering Mechanics is looking forward to your application