

Job vacancy No. 097-2022

The Leibniz Institute of Polymer Research Dresden is a non-university research institute and a member of the Leibniz Association. It has gained world-wide reputation for its application-oriented basic research on new polymer materials for future technologies, e.g. in the fields of energy, mobility, health, sustainability, and communication, and it supports the transfer of research results into application. The research work is carried out on the basis of state-of-the-art technical equipment in interdisciplinary cooperation between the five institutes of the IPF and embedded in numerous national and international cooperations. The IPF promotes young scientists and is certified as a family-friendly employer according to the Audit berufundfamilie®. The institute currently employs around 500 persons. Further information at www.ipfdd.de.

The research group „Fiber-Engineering“ offers a position at the IPF-Institut of Polymer Materials, Department Processing Technology as

PhD Student (m/f/x) / Research Associate.

The position is integrated within the EU MEra.net - project GRADIENT (project details at: <https://m-era.net/joint-calls/joint-call-2021>) with 3 further partners, associated partners in international (Sweden, Latvia) and interdisciplinary research tasks. The objective of the project is the development of approaches to reduce stress concentrations in the fiber-matrix interphase in order to increase the durability of fiber-reinforced composite structures. This is achieved by fiber surface modification for a gradation of the interphase to avoid the distinct stiffness difference occurring between fiber and matrix. The project addresses the need for new methodologies and validation tools for interphase optimization required in all composite market sectors to gain knowhow in the complex field of interphase formation, their stress transfer capability and damage behavior.

Task description

- Generating and collection of material data for numerical modelling in cooperation with project partners;
- Numerical identification of interphase parameters from micro/mesoscale tests by RVE;
- Estimation of interphase properties from virtual experiments of micromechanical tests (single fiber pullout test) and validation by experimental data;
- Internal and external planning of the interdisciplinary project, scientific work, internal and external reporting and communication;
- Generation of scientific results in the form of publications, posters and presentations including participation in national / international conferences;
- Further publication activities (website design, social media...).

Requirements

- Master / Diploma/ PhD degree in mechanical engineering, physics, and similar
- Experienced in software for finite element analysis and CAE, such as using SIMULIA Abaqus or ANSYS FEA
- Very good communication skills (verbal and written in English), act in an international and diverse environment
- Very good performance in project and self-organization, independent, target- and solution-driven work attitude, strong analytic and problem-solving skills, and creativity.

Salary: According to German pay grade TV-L EG 13 (75% of the full-time weekly hours)
Starting date: August 2022
Duration: 34 month

The IPF Dresden strives for gender equality and diversity in all fields. Applications by people with severe disabilities will be given preference if they are equally qualified. Moreover, as the IPF would like to raise the proportion of women in fields where they are underrepresented, women in particular are invited to apply.

The personal data collected by the IPF relating to your application, as well as the evaluation thereof shall be processed exclusively for purposes of the application process on the basis of contractual measures under Art. 6 (1b) GDPR. These data shall not be transferred to third parties. Recipients shall comprise the employees responsible, the Works Council as well as, where applicable, the representative body for disabled employees and the equal opportunities officers of the IPF. Your application details provided to us shall be deleted by us 6 months after the end of the application process, i.e. either after the job advertised has been filled, or after we have decided not to fill the vacancy after all. For questions under data protection law and for exercising your rights, please contact: d.atenschutz@ipfdd.de (data protection officer). You have the right to complain to the supervisory authority. Expenses for the interview participation will not be refunded.

The desire to work across disciplines is essential. If you are motivated by these challenges, please submit your excellent record of accomplishment with research interests, full CV, a detailed description of hands-on training in experimental and characterization methods to the IPF Human Resources Department. Don't forget to indicate the number of the Job vacancy.

For further information please contact Prof. Dr. Axel Spickenheuer / Dr. C. Scheffler (eMail: spickenheuer@ipfdd.de / scheffler@ipfdd.de bzw. +49 351 4658 374/373).

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