



At the Faculty of Material Science and Technology, Institute of Materials Science  
an open position of a

**Research Associate (m/f/d) – reference number 93-E/2022**

within the DFG project “Design of the microstructure of thin multilayer systems via ultrashort-pulsed laser radiation”.



**Pay grade:** E13 TV-L  
**Hours:** 1,0 FTE (part-time possible)  
**Contract type:** temporary for 36 months

The aim of this research project is to describe the effect of ultrashort-pulsed high-energy laser radiation on the microstructure of thin metallic films and multilayers, and to clarify the impact of the laser-induced microstructure changes on the materials characteristics, which are relevant for simulation of the laser-assisted processes. In this project, further cooperation partners are involved, who are working in the fields of laser technology and materials data science. The tasks of this part of the project are the microstructure analysis of the laser-treated films and multilayers using X-ray diffraction, X-ray spectroscopy and electron microscopy, the formulation of physically based microstructure models for description of the laser-induced microstructure changes and the quantitative description and simulation of diffusion processes.

**Job description:**

- Work on a multidisciplinary scientific topic in the field of characterization and modelling of the microstructure of metallic thin films and multilayers
- Planning and performing experiments that are associated with the deposition of thin films and multilayers and with their microstructure characterization
- Analysis of experimental data, interpretation of results
- Further development of computer routines for microstructure analysis and simulation of diffusion processes in solids
- Discussion of results within an interdisciplinary research team
- Writing of reports, preparation of results for publication in peer-reviewed journals
- Presentation of results at national and international conferences

**What you can expect from us:**

- Working at a family-friendly university with flexible working hours
- Remuneration according to the provisions of the collective bargaining agreement for the public service of the federal states in accordance with personal requirements
- attractive fringe benefits, e.g. Asset-based benefits (VL), company pension schemes (VBL), health management
- “Jobticket”
- Training and supervision through experienced scientific fellows, possibility to participate in career development programs

**What we expect from you:**

- a university diploma or master degree in the fields of Materials Science, Solid state physics, Experimental physics or Solid state analytics
- good knowledge and practical experience with X-ray diffraction, X-ray spectroscopy and electron microscopy
- good knowledge of German and/or English
- Desire for further scientific qualification

**For further information contact please Prof. Dr. D. Rafaja (Phone +49-3731 39-2299,  
E-Mail: rafaja@iww.tu-freiberg.de).**

The applicant (m/f/d) must meet the hiring requirements for fixed-term employment contracts according to the WissZeitVG. Applicants with disabilities will receive preferential consideration, provided they possess equal qualifications. For consideration, we ask you to submit proof of your disabled status together with your application documents. TU Bergakademie is committed to increasing the number of women in teaching and research positions, hence qualified female candidates are especially encouraged to apply.

Written applications, including a CV, motivation letter and copies of all relevant qualifications documents (certificates, diplomas), should be submitted by **May 31, 2022** stating **reference number (93-E/2022)** to the following address:

**TU Bergakademie Freiberg, Dezernat für Personalangelegenheiten, 09596 Freiberg or  
bewerbungen@tu-freiberg.de**

Your application documents will not be returned, please only submit copies. Candidates will not be compensated for any costs incurred for attending interviews. TU Bergakademie Freiberg is always looking for scientific personnel from various disciplines. Further information can be found at <http://tu-freiberg.de/wirtschaft/karriere/stellenausschreibungen>