

In the Glass Science and Engineering Group at the Institute for Non-Metallic Materials at Clausthal University of Technology, there are positions of **two**

Research associates in the field of glass materials

(provided that the requirements EG 13 TV-L are met)

to be filled, each for a period of 3 years on a 75% part-time basis.

Glasses are disordered mostly highly transparent materials. Their use in architecture and vehicle construction, as containers and in many areas of high technology is indispensable. In the research group, knowledge-based solutions for the sustainable production and processing of glasses, glass ceramics and enamels are developed in the area of applied research, which build on fundamental studies of the research group on physical and chemical aspects of glass formation, cooperative dynamic processes in melts and solutions, microstructure formation through controlled crystallization and functionalization of surfaces.

The **first research associate** will work on conditional network former oxides as they play an essential role as components in the production of highly specialized and optical glasses. Their readiness for glass formation by melt-quenching is strongly limited due to immediate crystallization and in practice they form glasses only by binary or multi-component mixtures with other oxides. However, the origin of their limited glass formation based on structural and/or kinetic criteria is still not satisfactorily settled.

The **second research associate** will work on fundamental composition-structure-property relationships of specific tectosilicates solid-solutions synthesized from glass due to their technological relevance in glass-ceramics, their development potential and their experimental underdetermination. The work uses the non-equilibrium, kinetically frozen-in state of glass as a starting material, since it allows upon controlled reheating to explore thermodynamically metastable crystalline phases otherwise impossible to synthesize.

Your tasks are:

- research and development in the topics mentioned above
- working with major research instrumentation
- publication of your results and presentation at international conferences

Your profile:

- good academic degree (master, diploma) in the field of materials science and engineering, geosciences, physics, chemistry or similar with an interest in scientific work as part of a doctorate
- independent, structured way of working and quick thinking, the ability to rapidly familiarize yourself with new concepts
- very good written and spoken German skills
- good knowledge of English, both spoken and written

Ideally, you are also comfortable in the following areas:

- experience and/or previous knowledge in the field of glassy materials
- experience with usual methods for material characterization, for example calorimetry, X-ray diffraction, viscometry and optical/Raman spectroscopy
- experience with commonly used tools for evaluating and presenting material science experiments

We offer:

- a family-friendly and collegial working environment in committed teams as well as interdisciplinary and varied areas of responsibility
- the opportunity to develop innovative approaches and solutions independently
- possibility to evaluate your results directly in industry projects
- the possibility of doing a doctorate
- flexible working hours and the option to work from home
- lounge, table football and social events
- regular training courses and professional development

The salary complies with the labour contract for the public sector (TV-L) and includes an annual special payment at the year-end. In addition, we offer separate supplementary benefits as a company pension (VBL).

TU Clausthal supports the compatibility of family and profession by means of flexible part-time work schemes within the scope of the official feasibilities and is member of the academic association "Familie in der Hochschule".

Gender equality with its facets of equal opportunities, diversity and family-friendliness is an important concern at Clausthal University of Technology. People with disabilities are given priority if they are suitably qualified. Applications from people of all nationalities are welcome

Please send your application with the usual documents by email (in a single PDF file) by February 27th, 2023 to: sabrina.schildhauer@tu-clausthal.de

If you have any further inquiries, we will be happy to address them.

We are happy to welcome you!

Please note our information on data protection in the application process:

<https://www.tu-clausthal.de/universitaet/karriere-ausbildung/stellenangebote/hinweise-zum-datenschutz-im-bewerbungsverfahren>.

Application costs cannot be reimbursed. The application documents will be destroyed after completion of the selection process in compliance with the legal provisions.