

Graz University of Technology is the longest-established university of technology in Austria. Here, successful teams of students, talented up-and-coming scientists, ambitious researchers and a lively start-up scene enjoy an inspirational environment as well as access to top-quality equipment. And all this in one of the most innovative and livable regions in Europe. TU Graz offers an inspiring working environment with outstanding infrastructure and service-oriented university management.

The **Institute of Chemistry and Technology of Materials** at TU Graz has an opening for a

PhD position (m/f/d) in the field of Functional oxide materials: Development of new lead-free piezoelectric materials

30 hours/week, for 4 years, starting presumably April/May 2023, funded by the FWF Austrian Science Fund

Research topic/project

Piezoelectrics and ferroelectrics are being widely used in modern electronic devices as sensors, actuators, and transducers. Moreover, their versatile functional properties are constantly enabling new technologies for tackling the future global challenges in energy production/management, environmental protection, smart manufacturing, and electric vehicles.

The goal of this project is to develop a novel concept using Fermi level engineering, to be used for the targeted design of new and environmentally-friendly oxide piezoelectric materials. Research tasks include material design, synthesis and processing, defect engineering, microstructural studies, as well as determination of functional properties and examination of underlying physical mechanisms. The project is part of a large German collaborative research centre (SFB 1548), which will ensure support in the field of modelling, X-ray photoelectron spectroscopy, electronic structure determination, and advanced electron microscopy.

Eligibility criteria

This position is open to all early stage researchers of any nationality, who have not yet been awarded a doctoral degree and hold a Master degree or its equivalent in Materials Science, Chemistry, Physics or in another relevant discipline.

We expect excellent, independent research, a high level of commitment and the ability to work in an international team. Reliability, creativity, flexibility, as well as a systematic and goal-oriented working style are also required. The candidates should have excellent communication skills in English (German is desirable, but not required).

We offer:

- Interesting area of responsibility
- Collegial and friendly working atmosphere
- Excellent work-life balance (flexible working schedule) and possibility for home-office
- University's sports program and workplace Health Management
- Exciting opportunities for professional and personal development
- Top research infrastructure and access to the latest technologies
- Public transport subsidy and shopping discounts
- Seal of quality for in-house advancement of women
- Award for being the most family-friendly enterprise in Styria 2018
- International training and teaching opportunities

We offer a 4-year position with a minimum monthly gross salary of 2.293,95 € (14 salaries/year), based on a 30 h/week (75%) workload. The hiring will be performed under the condition of final funding approval of the Collaborative Research Center CRC 1548 (Fermi Level Engineering Applied to Oxide Electroceramics – FLAIR).

Graz University of Technology actively promotes diversity and equal opportunities. People with disabilities and who have the relevant qualifications are expressly invited to apply. Protecting the health of our students and employees is of high importance to our university. For this reason, equally qualified candidates who are fully vaccinated against COVID-19 will be given preference.

Applications with documents (1-page motivation letter, copy of certificates and grades, CV and other relevant documents) should be submitted, preferably by email, before **January 31, 2023** to jurij.koruz@tugraz.at

Contact

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