**PhD Position / University Assistant (m/f/d) at the Institute of Solid State Physics**

The **Institute of Solid State Physics** at Graz University of Technology has an opening for the position of an

**University Assistant / PhD Position (m/f/d)**

for an initial fixed-term of 4 years, in full employment, starting presumably on March 1st, 2022.

Crystallisation of molecules at surfaces is a process where the growth kinetics can be varied in a large range. As a consequence, new unknown polymorphs can be observed, these phases can have specific technological relevant properties. The PhD project is related to the effect of chiral symmetry breaking due to crystallization at surfaces. Molecules which show chiral symmetry breaking (molecules which can take both types of chirality) will be deposited at defined surfaces by physical vapour deposition. For that purpose, a specific thin film deposition system working under high vacuum conditions have to be constructed and adapted. In a subsequent step the chirality of the molecular crystals has to be proven. For that purpose, resonant (or anomalous) X-ray diffraction experiments have to be performed. The goal of the project is to develop a crystallization method for a defined molecule / substrate combination which allows a defined chiral symmetry breaking.

**Duties and Responsibilities:**

* Installation of a thin film growth chamber working under ultra-high vacuum / high vacuum conditions with possibilities of treatment of substrates surfaces and defined deposition of small molecules
* Participation in the scientific tasks of the institute, especially in the performance of X-ray diffraction experiments using in-house equipment as well as the performance of experiments using synchrotron radiation.
* Participation in teaching for courses Bachelor and Master courses in Physics and for the Master course Advanced Materials Science.
* Support of international scientific cooperation, especially with universities in Belgium collaborating within the excellence initiative 2Dto3D.
* Organisational tasks within the institute

**Required Skills and Qualifications:**

* Master degree of Physics, Technical Physics, Advanced Materials Science,
* Finished study of a Master course in Physics, Technical Physics, Advanced Materials Science
* Good knowledge about the concepts of Solid State Physics
* Experience in experimental work using vacuum systems
* Knowledge in the field of surface science
* Interest to join a team for scientific collaboration
* Good knowledge of English in language and writing

**We offer:**

* Interesting area of responsibility
* Excellent work-life balance (flexible working schedule)
* University’s sports program
* Exciting opportunities for professional and personal development
* Public transport subsidy
* Workplace Health Management
* Award for being the most family-friendly enterprise in Styria 2018
* Wide range of food on campus
* Shopping Discounts

We offer a minimum annual gross salary based on full-time of € 41,601.--, overpayment possible depending on qualification and experience. Graz University of Technology actively promotes diversity and equal opportunities. People with disabilities and who have the relevant qualifications are expressly invited to apply.

Applications with relevant documents should be submitted, preferably by email, to [bewerbungen.mpug@tugraz.at](mailto:bewerbungen.mpug@tugraz.at) and should quote the position identification number **5130/21/020**

31st January 2022 at the latest.

**Contact**  
Graz University of Technology  
Dean of the Faculty of Mathematics, Physics and Geodesy  
Univ.-Prof. Dipl.-Phys. Dr.rer.nat. Roland Würschum  
Petersgasse 16, 8010 Graz

[www.if.tugraz.at](http://www.if.tugraz.at)

Information on the data processing of your application can be found at [www.tugraz.at/go/datenschutzinformation-pa](http://www.tugraz.at/go/datenschutzinformation-pa).

**Selection process**

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**Offer Requirements**

* REQUIRED EDUCATION LEVEL

Physics: Master Degree or equivalent

Advanced Materials Science: Master Degree or equivalent

* REQUIRED LANGUAGES

ENGLISH: Good