EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Stellenangebote

13.03.2025

PhD student / doctoral candidate in Physics, Machine Learning and advanced X-ray and neutron scattering (m/f/d, E 13 TV-L, 50-75%)

Faculty of Science, Institute of Applied Physics

Bewerbungsfrist: 30.06.2025

The Soft Matter Physics Group at the University of Tübingen is searching for a

PhD student / doctoral candidate
in Physics, Machine Learning and advanced X-ray and neutron scattering
(m/f/d, E 13 TV-L, 50-75%)

The position is limited for three years.

The group deals with the physics of molecular and biological materials. The primary research areas include materials for photovoltaics, complex nanostructured materials, and proteins in solutions and at interfaces, mostly studied by X-ray and neutron scattering. One of the research areas is the development of machine learning (ML) based approaches to efficient analysis of the vast data amounts generated in the scattering experiments. For more information, visit our web page: https://www.soft-matter.uni-tuebingen.de/

We are currently looking for a PhD student to join our team and help us make exciting new advances in applications of machine learning (ML) strategies for analyzing X-ray and neutron scattering data! You will be working in a large international research group at the Institute of Applied Physics supervised by experienced colleagues. The group offers well-equipped laboratories and a highly collaborative international environment. You will contribute to the top scientific experiments, will obtain practical experience, improve your soft skills (presentation, communication, language, etc), learn the strategies of data organization and analysis.

Your tasks

- Development of ML-based tools to analyse data from different surface sensitive scattering techniques (X-ray Reflectivity (XRR), Grazing-Incidence Wide-Angle X-ray Scattering (GIWAXS) and others)
- Contribution to the scattering data analysis and support of data/metadata formats developed in the group
- Integration of the developed software into the computational environments and data handling routines

You will also have an opportunity to:

- Participate in X-ray scattering experiments at world leading large-scale X-ray facilities such as Deutsches Elektronen-

Synchrotron DESY in Hamburg, European Synchrotron Radiation Facility ESRF in Grenoble and European X-ray Free Electron Laser EuXFEL in Schenefeld
- Present your scientific results at conferences and in publications

Requirements

- Master's degree in Physics, Chemistry or Computer Science, or equivalent
- Interest in Physics, Chemistry and Machine Learning
- Good written and spoken English
- Ability to work both independently and in a team
- Programming skills (Python) and acquaintance with modern machine learning frameworks (PyTorch/JAX) are strong advantages

The university seeks to raise the number of women in research and teaching and therefore urges qualified women academics to apply for these positions. Equally qualified applicants with disabilities will be given preference in the hiring process. The university is committed to equal opportunities and diversity. It therefore takes individual situations into account and asks for relevant information. The employment will be handled by the central administration of the University of Tübingen.

Applications should be accompanied by a cover letter describing motivation, skills and any special achievements. Furthermore, a CV and a transcript of records should be added. **The position is to be filled immediately.** Please send your application in one PDF file to softmatter@ifap.uni-tuebingen.de

Zurück