



Technische Universität Berlin



Research Assistant - 0.75 working time - salary grade E13 TV-L Berliner Hochschulen

under the reserve that funds are granted

Faculty II - Mathematics and Natural Sciences, Institute of Physics and Astronomy - Experimental Physics / Applied Physics

Reference number: II-461/25 (starting at the earliest possible / limited for 36 months / closing date for applications 31/01/26)

About us:

The Semiconductor Nano- and Quantum Materials group at TU Berlin is looking for a motivated research assistant to work within the framework of the newly established DFG-SPP 2477 program "Nitrides4Future" (<https://gepris.dfg.de/gepris/projekt/563156864>) The position aims to explore advanced concepts in the design and characterization of thermoelectric materials, in particular of novel rare-earth nitrides and their heterostructures. The candidate should enjoy working on electrical and thermal transport, interfacing modeling and experimental work, and conduct high-quality research in a highly cooperative environment. The project is performed together with the Paul-Drude-Institut (PDI) Berlin.

Your responsibility:

- Research in the field of experimental solid state physics as well as nanoelectronics, in particular the electro-thermal transport of epitaxial nitride thin films and quantum heterostructures.
- Experimental methods in thermoelectric transport (T-dependent electrical conductivity, Seebeck effect, thermal conductivity) using custom-built setups, Hall-effect, 3-method, TDTR, supplemented by data analysis and modeling
- Boltzmann transport theory and quantum-mechanical transmission calculations using self-consistent Schrödinger-Poisson solvers
- Clean-room fabrication of thermoelectric test structures
- Design and assembly of thermoelectric measurement platform (incl. electrical circuit design)
- Close collaboration with experts in state-of-the-art semiconductor materials characterization (AFM, XRD, TEM)

More information about the position can be obtained from Prof. Gregor Koblmüller (e-mail: koblmueller.office@physik.tu-berlin.de, phone +49 30 314 21620, web: <https://www.ifkp.tu-berlin.de/menue/arbeitsgruppen/agkoblmueller/>)

Your profile:

- Successfully completed scientific degree (Master, Diploma or equivalent) in physics, electrical engineering or materials science with outstanding academic track record
- In-depth knowledge of solid state physics and nanoelectronics (electrical transport / electronic properties of semiconductors) is expected
- Experimental expertise in the assembly or development of sensitive electrical measurement setups is a great advantage
- Expertise in modeling quantum mechanical carrier transport phenomena is desired
- Excellent English skills (written and spoken), demonstrated by previous theses or publications; good German skills are desirable, or the willingness to acquire them
- A high degree of determination, commitment and the ability to work independently in academic research; experimental skill in handling complex laboratory setups, interest in the automation and optimization of experiments

How to apply:

Please send your application **with the reference number** and the appropriate documents (CV, motivation letter, university degrees, certificates, publications etc., all combined in a single pdf file, max 5 MB) exclusively by email to Prof. Dr. Gregor Koblmüller via koblmueller.office@physik.tu-berlin.de.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

The vacancy is also available on the internet at:
<https://www.jobs.tu-berlin.de>

