



Positions for phd students and postdocs at TU Wien

From strong correlations to topology and entanglement

Strongly correlated electron systems are a vibrant frontier in modern condensed matter physics. Electron correlations often stabilize exotic phases, including various kinds of magnetism and superconductivity. Recently, effects of nontrivial electronic topology further enrich this landscape. To understand the underlying physics, both new materials and new characterization tools are needed.

The Quantum Materials Research Unit, lead by Silke Bühler-Paschen at the Institute of Solid State Physics at TU Wien, is now recruiting phd students and postdocs for two new projects: The ERC Advanced Grant “Correlation-driven metallic topology” (CorMeTop) and the project “Quantum criticality and topology in Kondo systems” within the FWF Special Research Programme “Correlated Quantum Materials and Solid State Quantum Systems” (Q-M&S). Key objectives are to establish design principles for strongly correlated electronic topology and to improve the understanding of the enigmatic strange metal state using new techniques inspired by quantum information.

We are looking for candidates with an excellent background in solid state physics and a high motivation for curiosity-driven fundamental research. Expertise in one of the following experimental techniques is particularly welcome:

- Molecular beam epitaxy of intermetallic compounds
- Fabrication and handling of mesoscopic structures and devices
- High-resolution experiments at low and ultralow temperatures
- Microwave and noise spectroscopy
- Thermal transport

To apply, please send an email containing a CV, a list of publications and presentations, a short statement of research experience and interests, and two letters of recommendation (emailed separately by the writers) to:

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Starting date: As soon as possible.

Application deadline: Applications will be considered until all positions are filled.

Salary: ~2300 EUR (phd student)/~4100 EUR (postdoc) gross salary/month, 14 times per year, in accordance with the Austrian Collective Agreement for University Staff.