

# Master Thesis/Semester Project at the Quantum Coherence Lab

## Quantum Transport and Mesoscopic Superconductivity in Molecular Nanostructures.

We are looking for highly motivated students to join our molQ team, to help us investigate and study potential topological phases in molecular assemblies on superconducting surfaces, aiming to implement topological qubits.

The project involves nanofabrication of superconducting devices and low-temperature quantum transport measurements in high magnetic fields. Students will help design, fabricate, and characterize nanoscale devices—such as Josephson junctions and SQUIDs—to study quantum interference effects and other mesoscopic phenomena. We actively collaborate with research groups specializing in areas ranging from molecular engineering [Liu group, Universität Bern] to scanning probe microscopy [Meyer group], offering students the opportunity to gain hands-on experience in state of the art's interdisciplinary scientific teamwork.

This project offers an excellent opportunity to explore novel topics in condensed matter physics. If you are eager to contribute to cutting-edge research and develop your skills in a stimulating academic environment, we encourage you to apply.

For further information, please contact Prof. [dominik.zumbuhl@unibas.ch](mailto:dominik.zumbuhl@unibas.ch) or [andrea.chieppa@unibas.ch](mailto:andrea.chieppa@unibas.ch)

