

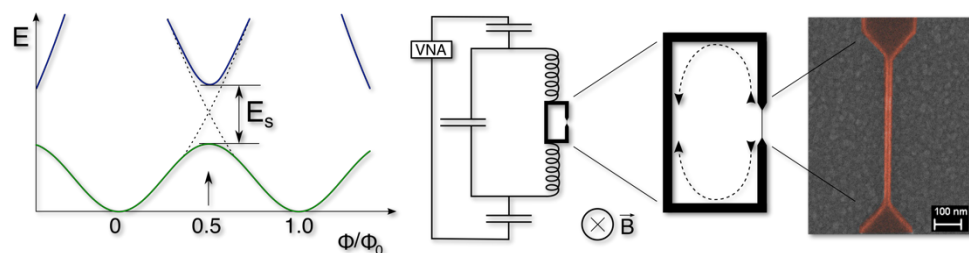
Master Thesis (m/w)

# Superconducting Nano-Wire Qubit

**Superconducting nano-wires** are a promising candidate for novel and compact qubit circuits. The underlying physical mechanisms of the nano-wire are theoretically dual to the physics of the well-known Josephson junctions, which often serves as the non-linear element in conventional qubit and other superconducting circuits.

Apart from being interesting in the context of two-level systems, the nano-wire also allows, for instance, to study 1-dim coherence effects or fundamental quantum phase transitions.

**On the basis of already developed** thin film material and lithographic techniques, the thesis aims towards designing, fabricating and measuring the nano-wire circuits at milli-Kelvin temperatures.



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