

PhD Position available in Nanolino Group, University of Basel

Controlling charge and spin states of molecular quantum dots at surfaces

Scanning tunneling microscopy (STM) and Atomic Force Microscopy with CO-terminated tips (AFM) at low temperatures will be used to characterize the structure and electronic properties of molecular assemblies on surfaces. Using tunneling spectroscopy, further insights into their charge and spin states will be explored at very low temperature (1 K). The aim of this PhD thesis is to explore potential quantum dot molecules adsorbed on superconducting and/or metallic substrates, in order to find suitable candidates as building block for complex quantum dot architectures or spin lattices.

Requirements: Master degree in physics or chemistry, interest in scanning probe microscopy in cryogenic conditions, quantum materials and quantum science

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