CRC 1227
Designed Quantum States of Matter

GUEST LECTURE

Ass. Prof. Dr. Julian Léonard

Atomic Institute, Faculty of Physics, TU Wien, Austria

Leibniz Universität Hannover

DQ-mat Colloquium

Thursday, 30 January 2025, 4.00 pm

Room D326, Welfengarten 1, building 1101

"Assembling quantum matter atom by atom"

Introducing tools from microscopy recently brought the control of quantum gases to the single-particle level. It allowed experimenters to synthesize, manipulate, and probe few-body quantum states with high fidelity. I will present experimental studies of assembled quantum matter in optical lattices, ranging from entanglement dynamics in non-equilibrium systems to topologically ordered systems. I will conclude with an overview of our ongoing research on light-mediated interactions in an optical tweezer array, and its prospects for quantum simulation and information.

All DQ-mat members and all interested are cordially invited to attend.