

Summer School on Quantum Materials and Quantum Technology

July 11 – 13, 2018, venue: Max Planck Institute for Intelligent Systems, Heisenbergstraße 3, 70569, Stuttgart, Germany

Time	Wednesday, July 11, Room 2P4, MPI-IS	Time	Thursday, July 12, Room 2P4, MPI-IS	Time	Friday, July 13, Room 2R4, MPI-IS
9:00 – 9:30	Bernhard Keimer (MPI-FKF) Overview of the TQuant project	9:00 – 10:30	Jörg Wrachtrup (University of Stuttgart) NV centers for quantum sensing and beyond	9:00 – 10:00	Ali Alavi (MPI-FKF) Modelling the electronic structure of strongly correlated systems
9:30 – 11:00	Svenja Knappe (University of Colorado Boulder) Quantum sensors, from proof of concept to the market	10:30 – 10:45	Coffee break	10:00 – 10:45	Eva Benckiser (MPI-FKF) X-ray spectroscopy of quantum materials
11:00 – 11:30	Coffee break	10:45 – 12:15	Martin Plenio (Ulm University) Quantum control methods of color centers for applications in quantum sensing/quantum simulations and hyperpolarization	10:45 – 11:00	Coffee break
11:30 – 12:15	Sebastian Loth (University of Stuttgart) The quantum physics of atoms on surfaces and their potential applications	12:15 – 13:30	Lunch break	11:00 – 11:30	Farida Shagieva (University of Stuttgart) Science highlight: Hyperpolarization with diamond
12:15 – 13:30	Lunch break	13:30 – 15:00	Jochen Mannhart (MPI-FKF) Nonreciprocal quantum devices	11:30 – 12:00	Bastian Kern (University of Stuttgart and MPI-FKF) Science highlight: EPR Spectroscopy on the nanoscale
13:30 – 15:00	Hidenori Takagi (MPI-FKF) Quantum Spin Liquid	15:00 – 15:30	Ulrike Niemann (MPI-FKF) Science highlight: Investigating exotic heavy fermions via heteroepitaxy	12:00 – 13:30	Lunch break
15:00 – 15:15	Coffee break	15:30 – 15:45	Coffee break	13:30 – 15:00	Tilman Pfau (University of Stuttgart) Rydberg atoms: from fundamentals to gas sensors
15:15 – 16:00	Stefanie Barz (University of Stuttgart) Quantum information processing with photons	15:45 – 16:30	Friedemann Reinhard (TU München) Nuclear Magnetic Resonance with NV centers	15:00 – 15:15	Coffee break
16:00 – 17:30	Joris van Slageren (University of Stuttgart) Molecular quantum bits	16:30 – 17:30	Joachim Ankerhold (Ulm University) The dynamics of open quantum systems	15:15 – 15:45	Florian Meinert (University of Stuttgart) Science highlight: Charged impurities immersed in a Bose-Einstein condensate- Probing atom-ion interaction with Rydberg atoms
		17:30 – 20:30	Summer School Dinner and Poster Session	15:45 – 16:00	Closing remarks