

Program

Monday, 13 December 2021

08:30 – 08:45	Hans Werner Schumacher & Patrik Recher	Welcome and Organization
08:45 – 09:00	Stefan Jorda	About the Wilhelm and Else Heraeus Foundation
09:00 – 09:50	Masaya Kataoka	Tomography and two-particle interactions of hot electrons in quantum Hall regime
09:50 – 10:40	Heung-Sun Sim	Anyon braiding in quantum Hall anyon collider
10:40 – 11:10	<i>COFFEE BREAK</i>	
11:10 – 12:00	Christopher Bäuerle	Surface acoustic waves as testbed for electron flying qubits
12:00 – 12:50	Vyacheslavs Kashcheyevs	Metrology of on-demand electrons by energy-selective time-dependent scattering
12:50	<i>LUNCH</i>	
14:00 – 15:40	Poster Session A	
15:40 – 16:00	<i>COFFEE BREAK</i>	
16:00 – 16:50	Guoji Zheng	Embedding silicon spins in superconducting circuits
16:50 – 17:40	Fedor Jelezko	Quantum sensing with diamond spin qubits
17:40 – 18:05	Hugo Bartolomei (C1)	Single electron interferences in Fabry-Perot cavities

Program

Tuesday, 14 December 2021

09:00 – 09:50	Oliver Kieler	The pulse-driven AC Josephson voltage standard of Josephson voltage standard of PTB
09:50 – 10:40	Dieter Koelle	NanoSQUIDs for sensing magnetic fields on the nanoscale
10:40 – 11:10	<i>COFFEE BREAK</i>	
11:10 – 12:00	Ioan Pop	Quantum Circuits Resilient to Magnetic Fields
12:00 – 12:50	Fabrizio Nichele	Suppression of superconductivity via out-of-equilibrium electrons and phonons
12:50	<i>LUNCH</i>	
14:00 – 15:40	Poster Session B	
15:40 – 16:00	<i>COFFEE BREAK</i>	
16:00 – 16:50	Alfredo Levy-Yeyati	Detection and manipulation of Andreev states in hybrid nanowire Josephson junctions using cQED techniques
16:50 – 17:40	Hans Hübl	Boosting coupling rates in nano-electromechanics
17:40 – 18:05	Pasquale Scarlino (C2)	Hybrid Circuit Quantum Electrodynamics with Semiconductor QDs and Superconducting Resonators

Program

Wednesday, 15 December 2021

09:00 – 09:50	Audrey Cottet	Engineered interactions between photons in Mesoscopic Quantum Electrodynamics
09:50 – 10:40	Martin Weides	Quantum sensing with superconducting circuits
10:40 – 11:10	<i>COFFEE BREAK</i>	
11:10 – 12:00	Ewelina Hankiewicz	Fingerprint of Majorana bound states in heat transport and thermodynamics
12:00 – 12:50	Srijit Goswami	Semiconductor-superconductor hybrids for Majorana-based topological quantum computing
12:50	<i>LUNCH</i>	
14:00 – 14:50	Jelena Klinovaja	Majorana bound states in topological insulators without a vortex
14:50 – 15:15	Fernando Dominguez Tijero (C3)	Fraunhofer pattern in the presence of Majorana modes
15:15 – 15:40	Ciprian Padurariu (C4)	Quantum Locking and Synchronization in Josephson Photonics Devices
15:40 – 16:00	<i>COFFEE BREAK</i>	
16:00 – 16:50	Christian Schönenberger	AC Josephson effect in junctions fabricated with topological and non-topological materials
16:50 – 17:40	Charles Gould	Towards the Universal Quantum Electrical Standard
17:40 – 18:15	Rubén Seoane Souto (C5)	Charge-transfer based operations on Majorana systems

Program

Thursday, 16 December 2021

09:00 – 09:50	Joachim Ullrich	The revised SI for innovation, science and the second quantum revolution
09:50 – 10:40	Shuichi Murakami	Kinetic magnetoelectric effect in topological insulators
10:40 – 11:10	<i>COFFEE BREAK</i>	
11:10 – 12:00	Claudia Felser	Magnetic Materials and Topology
12:00 – 12:50	Karin Everschor-Sitte	Reservoir Computing with Magnetic Skyrmions
12:50 – 14:00	Hans Werner Schumacher & Patrik Recher	Closing remarks and poster awards