

ML4Q conference 2021: Program

Last updated: Feb. 22, 2021

Wednesday, February 24, 2021	
Morning	
09:00 – 09:30	Opening greetings & organizational remarks (incl. joint test of the event platform)
09:30 – 10:30	Keynote talk: <i>Revealing the second-order topological character of bismuth-based Josephson junction</i> (Hélène Bouchiat)
10:30 – 11:30	Joint F1 session:
10:30	Yoichi Ando: <i>Results on the self-assembled PdTe/BST Josephson junctions</i>
10:50	Markus Morgenstern: <i>Magnetic Topological Insulator MnSbTe</i>
11:10	Nicola Wurz: <i>Bilayer Fermi-Hubbard systems in optical lattices</i>
11:30 – 12:00	Break & networking
12:00 – 13:00	Joint F2 session:
12:00	Chris Dickel: <i>Investigating Topological Insulators with circuit QED Methods</i>
12:15	Henry Legg: <i>Stable Majorana fermions and non-reciprocal transport in gated TI nanowires</i>
12:30	Reinhold Egger: <i>Driven dissipative stabilization of Majorana qubit states</i>
12:45	Fabian Hassler: <i>Braiding of chiral edge vortices</i>
Afternoon	
14:30 – 15:00	Poster teasers A
15:00 – 15:30	Posters & networking
15:30 – 16:30	Keynote talk: <i>Majorana Zero Mode Pair Appears on Superconducting Gold Surface State</i> (Jagadeesh Moodera)
16:30 – 18:00	Members Assembly

Thursday, February 25, 2021	
Morning	
09:00 – 10:00	Joint F3 session:
09:00	Catalin Halati (P3.1): <i>Non-equilibrium transition in strong quantum-light and quantum-matter coupling</i>
09:15	Sebastian Diehl (P3.1): <i>Topology in open fermion systems: quantized response and symmetry classification</i>
09:30	David Wierichs (P3.2): <i>Avoiding local minima in variational quantum eigensolvers with the natural gradient optimizer</i>
09:45	Veit Langrock (P3.3): <i>The silicon qubus: long-distance transport of single electrons</i>
10:00 – 11:00	Posters & networking
11:00 – 12:00	Joint F4 session:
11:00	Martin Weitz: <i>Photon condensates in lattice potentials</i>
11:20	Giacomo Carrara: <i>Genuine multipartite entanglement is not a precondition for secure conference key agreement</i>
11:40	Pascal Kobel: <i>Secure distribution of a certified random quantum key using an entangled memory qubit</i>
12:00 – 13:00	Discussion session on cluster-internal communication
Afternoon	
15:00 – 16:00	Keynote talk: <i>Quantum information and black holes</i> (Johanna Erdmenger)
16:00 – 16:30	Poster teasers B
16:30 – 17:00	Posters & networking
17:00 – 18:00	Associated Members Assembly / in parallel: SB + SAB meeting

Friday, February 26, 2021	
Morning	
09:00 – 10:00	Keynote talk: <i>Quantum Computation and Quantum Simulation with Strings of Trapped Ca+ Ions</i> (Rainer Blatt)
10:00 – 11:00	Discussion session on the “future of quantum”:
	Quantum hubs (Frank Wilhelm-Mauch)
	Possible discussion topics: What will be the first commercially viable application for quantum computers / quantum networks? Which qubit platform is the most economically viable for scaling up?
11:00 – 12:00	Posters & networking (in parallel: SB + SAB)
12:00 – 13:00	Discussion session on solid-state platforms:
	Presentation of recent results on chaotic transmons (David DiVincenzo)
	Possible discussion topics: Unambiguous detection of Majorana modes (prior to braiding and beyond) Magnetic TIs for Majorana qubits? Designing topological superconductivity by 2D Materials
Afternoon	
15:00 – 16:00	Discussion session on optical quantum connectivity
16:00 – 17:00	Plenary session