

Program, Swiss Quantum Days 2023

Wednesday, February 1, 2023

12:00 – 13:30	Arrival, Light Lunch and Posters up
13:30 – 13:45	Welcome
	<i>Chair: Andrea Hofmann</i>
13:45 – 14:30	Invited Speaker Patrick Maletinsky, University of Basel Quantum Sensing (and its role in Switzerland's quantum research landscape)
14:30 – 14:50	John Abendroth, ETH Zurich Diamond-based chemical sensing at the few-molecule level
14:50 – 15:10	Pavel Sekatski, University of Geneva Experimental device independent quantum key distribution
15:10 – 15:30	Coffee Break
	<i>Chair: Lídia del Rio</i>
15:30 – 15:50	Rebekka Garreis, ETH Zurich Spin and valley lifetimes in graphene qubits
15:50 – 16:10	Stefano Barison, EPFL Variational Quantum Algorithm for Dynamical properties
16:10 – 16:30	Livio Ciorciaro, ETH Zurich High-temperature kinetic magnetism in triangular lattices
16:30 – 16:50	Aline Ramires, PSI Emulating Heavy Fermions in Twisted Trilayer Graphene
17:00 – 19:00	Poster Session
19:00 - 21:00	Dinner
	<i>Chair: Géraldine Haack</i>
21:00 - 22:00	Keynote Address Jens Eisert, Free University Berlin
22:00	Beers

Thursday, February 2, 2023

07:30	Breakfast
	<i>Chair: Rob Thew</i>
09:00 – 09:45	Invited Speaker Grégoire Ribordy, ID Quantique Quantum information & communication
09:45 – 10:05	Rebecka Sax, University of Geneva Fast and compact Quantum Key Distribution
10:05 – 10:25	Luca Gravina, EPFL A critical Schrödinger cat qubit
10:25 – 11:00	Coffee Break
	<i>Chair: Guy Matmon</i>
11:00 – 11:20	Lukyi Cheung, University of Basel Long distance coupling of Andreev qubits
11:20 – 11:40	Elias Portoles, ETH Zurich Josephson junctions and monolithic SQUID in twisted bilayer graphene
11:40 – 12:00	Estefani Marchiori, University of Basel Real-space imaging of magnetic phases in the chiral magnet Cu ₂ OSeO ₃
12:00	Lunch
until 16:30	Free Afternoon
16:00 – 16:30	Coffee
	<i>Chair: Cristina Benea-Chelms</i>
16:30 – 16:50	Roland Matt, ETH Zurich Controlling >100 ions in a micro fabricated ion trap
16:50 – 17:10	Giulia Del Pace, EPFL Self-organization of strongly-correlated atomic Fermi gases with long-range interactions
17:10 – 17:30	Tilman Zibold, University of Basel Einstein-Podolsky-Rosen experiment with two Bose-Einstein condensates
17:30 – 17:50	Break

Thursday, February 2, 2023 (continued)

17:30 – 17:50	Break
	<i>Chair: Roope Uola</i>
17:50 – 18:35	Invited Speaker Ana Akrap, University of Fribourg Landau level spectroscopy as a window into topological semimetals
18:35 – 18:55	Fan Wu, University of Geneva Electrostatic Modulation of Magnetism in the Layered Antiferromagnet CrPS4
18:55 – 19:15	Ramona Wolf, ETH Zurich Why security proofs are unavoidable in quantum cryptography
	<i>Chair: Klaus Ensslin</i>
19:15 – 19:35	Nicolas Gisin Swiss Quantum Initiative
20:00	Special Dinner

Friday, February 3, 2023

07:30	Breakfast
	<i>Chair: Zoe Holmes</i>
09:00 – 09:45	Invited Speaker Wenchao Xu, ETH Zurich / PSI Quantum computation & simulation
09:45 – 10:05	Kevin Reuer, ETH Zurich Realizing a deep reinforcement learning agent discovering real-time feedback control strategies for a quantum system
10:05 – 10:25	Yannick Fontana, University of Basel Low-noise nitrogen-vacancy centres in the Purcell regime
10:25 – 11:00	Coffee Break and Checkout
	<i>Chair: Patrick Potts</i>
11:00 – 11:20	Jayadev Vijayan, ETH Zurich Multi-particle levitated optomechanics in the quantum regime
11:20 – 11:40	Tiff Brydges, University of Geneva An Entangled Photon-Pair Source with Fast-Frequency Tunability for Interfacing with Quantum Networks
11:40 – 12:00	Alexander Grimm, PSI Bosonic Qubits for Error correction
12:00	Closing Remarks
12:10	Lunch Boxes (for participants who signed up for it)