

Posters at the Swiss Quantum Days, 2023

Legend of Research Directions (Res. Dir.):

1. Quantum information & communication
2. Quantum computation & simulation
3. Quantum sensing
4. Quantum materials & technologies

No.	Presenter	Title	Res. Dir.	Institution
P1	Alberto Rolandi	Finite time Landauer principle at strong coupling	1	University of Geneva
P2	Aleksandr Shlykov	Quantum-logic characterisation of the N ²⁺ ground state preparation fidelity inside an RF-Paul trap	3	University of Basel
P3	Aleksei Gaier	Integrated lithium niobate waveguides for terahertz generation	3	EPFL
P4	Amit Jamadagni Gangapuram	QuCoS ² : Quantum Computing Systems Simulator	2	PSI
P5	Arianne Brooks	Controlled coupling between bulk resonator modes and spin states in silicon-vacancy centers	2	ETH Zurich
P6	Christoph Adam	Measuring Charge State Degeneracies in Electrostatically Defined Bilayer Graphene Quantum Dots	4	ETH Zurich
P7	Daniel Jetter	Magnetic imaging of 2D ferromagnetic Cr ₂ Ge ₂ Te ₆	3 & 4	University of Basel
P8	Didem Dede	Preventing dopant segregation in selective area-grown InGaAs nanowires	4	EPFL
P9	Elias Zapusek	Nonunitary multi-qubit operations in variational quantum algorithms	2	ETH Zurich
P10	Eloi Collette	Ultra-thin SOI nanowires for multi-gated single electron operation	4	EPFL
P11	Eoin Kelly	Gate-based readout of Si spin qubits	2	IBM
P12	Eric Bonvin	Hybrid traps for coherent expansion of a levitated nanoparticle	3 & 4	ETH Zurich

P13	Eric Jutzi	Developing hole spin qubits in planar Germanium	2	University of Basel
P14	Fabian Finger	An Atomic Mode Parametric Amplifier Mediated by Cavity Photons	2	ETH Zurich
P15	Fabio Bersano	Multi-Gate FD-SOI electron spin qubits	4	EPFL
P16	Fabrizio Minganti	Chaos and criticality in driven arrays: from computing to sensing	2 & 3	EPFL
P17	Florentin Reiter	Coherent noise characterization of near-term quantum devices	2	ETH Zurich
P18	Francesco Adinolfi	Introduction to the Kerr-cat qubit	2	PSI
P19	Gabriele Raino	Perovskite Nanocrystals as Non-Classical Light Sources: From Single Photon Emission to Superfluorescence	4	ETH Zurich
P20	Gian Salis	Readout of quantum devices using a sideband microwave interferometer with reduced common-mode noise	2	IBM
P21	Gianmichele Blasi	Hybrid normal-superconducting Aharonov-Bohm quantum thermal device	4	University of Geneva
P22	Giulia Del Pace	Self-organization of strongly-correlated atomic Fermi gas with long-range interactions	2	EPFL
P23	Guanhao Huang	Framework of Free-Electron Quantum Optics Using Photonic Integrated Circuits	4	EPFL
P24	Guy Matmon	Optical probing and control of low-dimensional donor structures in silicon and germanium	1 & 3	PSI
P25	Henry Legg	Topological superconducting diodes	4	University of Basel
P26	Ignacio Gutiérrez-Lezama	Quenching the bandgap of two-dimensional semiconductors with a perpendicular electric field	4	University of Geneva
P27	Iyan Mendez Veiga	Privacy Amplification with Python	1	HSLU
P28	Jackson Okech Ang'ong'a	Towards large scale quantum computing – a many qubit ion trap at room temperature	2	ETH Zurich
P29	Jeremy Flannery	Optical Crosstalk Mitigation for Individual Addressing in a Cryogenic Ion Trap	2	ETH Zurich
P30	Joao Pinto Barros	Quantum simulator of link models using spinor dipolar ultracold atoms	2	ETH Zurich
P31	Jodok Happacher	Low temperature photo-physics of single NV centers in diamond	3	University of Basel

P32	Josefine Enkner	Modifying the interger quantum Hall effect with cavity vacuum fields		ETH Zurich
P33	Kacper Prech	Entanglement and thermo-kinetic uncertainty relations in coherent mesoscopic transport	1	University of Basel
P34	Laurent Michaud	Introduction to the Kerr-cat qubit	2	PSI
P35	Lidia del Rio	Thought experiments in a quantum computer	1	ETH Zurich
P36	Lorenzo Graziotto	Modify the quantum Hall effect via cavity vacuum fields	4	ETH Zurich
P37	Lorenzo Stasi	High efficiency and fast photon number resolving parallel SNSPD	3	University of Geneva
P38	Luca Gravina	Critical Schrodinger cat qubit	2 & 4	EPFL
P39	Marcelo Janovitch	The Wave-Particle Duality in a Quantum Heat Engine	1	University of Basel
P40	Marco Scigliuzzo	Dynamics of multiple nearly degenerate mechanical oscillators in superconducting circuit optomechanics	2	EPFL
P41	Margherita Melegari	Gate-induced superconductivity in 2D semiconductors with Li-ion Conductive Glass Ceramics	4	University of Geneva
P42	Maria Spethmann	2-qubit gates for singlet-triplet qubits	2	University of Basel
P43	Mark Hogg	Giant and tunable optical nonlinearity mediated by a single quantum dot in a microcavity	1	University of Basel
P44	Markus Müller	Emergence of highly coherent quantum subsystems of a noisy and dense spin system	3	PSI
P45	Martin Frimmer	Quantum sensing with a levitated nanoparticle	3	ETH Zurich
P46	Maximilian Mörchen	Autonomous quantum chemical calculations for highly entangled systems	2	ETH Zurich
P47	Mikolaj Roguski	Precision spectroscopy and coherent manipulation of single trapped molecular N ₂ ⁺ ion	3	University of Basel
P48	Minghao Li	Shallow Narrow Linewidth Single Silicon Vacancy Centers in Diamond Nano-pillars for Quantum Sensing	3	University of Basel

P49	Moritz Businger	Broadband, multimode and long-duration storage in 171Yb:Y2SiO5	1	University of Geneva
P50	Nicola Reiter	Engineering Correlated Spin-Momentum Pairs in a Quantum Gas Coupled to an Optical Cavity	2	ETH Zurich
P51	Nils Johan Engelsen	Ultralow Mechanical Dissipation for Quantum Optomechanics	3	EPFL
P52	Patrick Harvey-Collard	Spin qubit research at the IBM Research Europe - Zurich lab	2	IBM
P53	Petar Tomic	Silicon MOSFET gate stack optimization for Fin-FET quantum dots		ETH Zurich
P54	Rebecka Sax	High-speed integrated QKD	1	University of Geneva
P55	Richard Karl	Laser Cooling of Ions in Strongly Inhomogeneous Magnetic F	4	University of Basel
P56	Rodrigo Rosa-Medina	Emerging Dissipative Phases and Dynamical Tunnelling in a Superradiant Quantum Gas	2	ETH Zurich
P57	Rohit Prasad Bhatt	A new cavity experiment for quantum simulation of strongly correlated fermionic systems	2	EPFL
P58	Sachin Verlekar	Excess dephasing and spectral reshaping of single dye molecules in plasmonic nanocavities at 4 Kelvin	4	EPFL
P59	Shayantani Ghosh	Nonlinear photon-pair interferometer for performing FTIR spectroscopy for the trace detection of volatile organic compounds in the atmosphere	3	University of Geneva
P60	Shingo Kono	Ultra-coherent and multi-mode superconducting circuit optomechanics	2	EPFL
P61	Simon Hertlein	Emergent atom pump in a non-hermitian system	2	ETH Zurich
P62	Sophie Egelhaaf	High-dimensional Quantum Steering in Networks	1	University of Geneva
P63	Stefan Ernst	Temperature dependence of photoluminescence intensity and spin contrast in nitrogen-vacancy centers	3	ETH Zurich
P64	Stefano Barison	Variational quantum algorithms for dynamics of quantum systems	2	EPFL
P65	Stefano Bosco	Theory of hole spin qubits in Si and Ge quantum dots	2	University of Basel

P66	Taras Patlatiuk	Ge/Si hole spin qubits	2	University of Basel
P67	Thea Budde	Quantum Monte Carlo Simulations in (1+1)-dimensional lattice gauge theories	2	ETH Zurich
P68	Tobias Kehrer	Gates and Measurement for Transmon Qudits	2	University of Basel
P69	Tobias Nadolny	Quantum limit cycles and synchronization	3	University of Basel
P70	Tom Schatteburg	Brillouin optomechanics in the quantum ground state	1 & 4	ETH Zurich
P71	Valerii Kozin	Cavity-induced pairing in a 2DEG	4	University of Basel
P72	Vasilis Belis	Quantum anomaly detection in the latent space of proton collision events at the LHC	2	ETH Zurich
P73	Yazan Lampert-Almahmoud	Integrated Lithium Niobate Waveguides for Terahertz Generation	3 & 4	EPFL
P74	Yiwen Chu	Engineering multi-mode phonon interactions	2	ETH Zurich
P75	Alessandro Carbone	Quantum circuits for the preparation of spine eigenfunctions on quantum computers	2	EPFL
P76	Santhanu Panikar Ramanandan	Coherent Hole Transport in Selective Area Grown Ge Nanowire Networks	4	EPFL
P77	Mayeul Chipaux	Subcellular magnetic detection of free-radical species reveals the metabolism of individual cells with unprecedented precision	3	EPFL
P78	Louis Nicolas	Long coherence time electronic spin transitions at low magnetic field for large bandwidth quantum memories	1	University of Geneva
P79	Shishir Khandelwal	Characterising the efficiency of heat rectifiers	1	University of Geneva
P80	Artem Rakcheev	Diabatic annealing of the Sherrington-Kirkpatrick model	2	PSI