

Quantum Optics and Photonics Division Fachverband Quantenoptik und Photonik (Q)

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Overview of Invited Talks and Sessions

(Lecture halls Q-H10, Q-H11, Q-H12, Q-H13, Q-H14, and Q-H15; Poster P)

Invited Talks

Q 2.1	Mon	14:00–14:30	Q-H10	Matter-wave microscope for sub-lattice-resolved imaging of 3D quantum systems — ●CHRISTOF WEITENBERG
Q 6.1	Mon	14:00–14:30	Q-H14	Quantum Cooperativity: from ideal quantum emitters to molecules — ●CLAUDIU GENES
Q 9.1	Mon	16:30–17:00	Q-H11	Rotation sensors for planet Earth: Introducing ring laser gyroscopes — ●SIMON STELLMER, OLIVER HECKL, ULRICH SCHREIBER
Q 11.1	Mon	16:30–17:00	Q-H13	Quantum-state engineering with optically-trapped neutral atoms — ●VLADIMIR M. STOJANOVIC, GERNOT ALBER, THORSTEN HAASE, SASCHA H. HAUCK
Q 15.1	Tue	10:30–11:00	Q-H12	A hybrid quantum classical learning agent — ●SABINE WÖLK
Q 17.1	Tue	10:30–11:00	Q-H14	Superradiant lasing in presence of atomic motion — ●SIMON B. JÄGER, HAONAN LIU, JOHN COOPER, MURRAY J. HOLLAND
Q 27.1	Wed	10:30–11:00	Q-H11	Searching for physics beyond the Standard Model with isotope shift spectroscopy — ●ELINA FUCHS
Q 29.1	Wed	10:30–11:00	Q-H13	Quantum rotations of levitated nanoparticles — ●BENJAMIN A. STICKLER
Q 30.1	Wed	10:30–11:00	Q-H14	Optical properties of porous crystalline nanomaterials modeled across all length scales — ●MARJAN KRSTIĆ
Q 37.1	Wed	14:00–14:30	Q-H14	Nanophotonic structure-mediated free-electron acceleration and manipulation in the classical and quantum regimes — ●ROY SHILOH
Q 46.1	Thu	10:30–11:00	Q-H11	Nanoscale heat radiation in non-reciprocal and topological many-body systems — ●SVEND-AGE BIEHS
Q 52.1	Thu	14:00–14:30	Q-H10	Self-bound Dipolar Droplets and Supersolids in Molecular Bose-Einstein Condensates — ●TIM LANGEN

Invited talks of the joint PhD symposium Solid-state Quantum Emitters Coupled to Optical Microcavities (SYPD)

See SYPD for the full program of the symposium.

SYPD 1.1	Mon	16:30–17:00	AKjDPG-H17	Fiber-based microcavities for efficient spin-photon interfaces — ●DAVID HUNGER
SYPD 1.2	Mon	17:00–17:30	AKjDPG-H17	A fast and bright source of coherent single-photons using a quantum dot in an open microcavity — ●RICHARD J. WARBURTON
SYPD 1.3	Mon	17:30–18:00	AKjDPG-H17	New host materials for individually addressed rare-earth ions — ●SEBASTIAN HORVATH, SALIM OURARI, LUKASZ DUSANOWSKI, CHRISTOPHER PHENICIE, ISAIAH GRAY, PAUL STEVENSON, NATHALIE DE LEON, JEFF THOMPSON
SYPD 1.4	Mon	18:00–18:30	AKjDPG-H17	A multi-node quantum network of remote solid-state qubits — ●RONALD HANSON

Invited talks of the joint symposium SAMOP Dissertation Prize 2022 (SYAD)

See SYAD for the full program of the symposium.

SYAD 1.1	Tue	14:00–14:30	Audimax	New insights into the Fermi-Hubbard model in and out-of equilibrium — ●ANNABELLE BOHRDT
SYAD 1.2	Tue	14:30–15:00	Audimax	Searches for New Physics with Yb⁺ Optical Clocks — ●RICHARD LANGE
SYAD 1.3	Tue	15:00–15:30	Audimax	Machine Learning Methodologies for Quantum Information — ●HENDRIK POULSEN NAUTRUP
SYAD 1.4	Tue	15:30–16:00	Audimax	Precision Mass Measurement of the Deuteron’s Atomic Mass — ●SASCHA RAU

Invited talks of the joint symposium Rydberg Physics in Single-Atom Trap Arrays (SYRY)

See SYRY for the full program of the symposium.

SYRY 2.1	Wed	10:30–11:00	Audimax	Many-body physics with arrays of Rydberg atoms in resonant interaction — ●ANTOINE BROWAEYS
SYRY 2.2	Wed	11:00–11:30	Audimax	Optimization and sampling algorithms with Rydberg atom arrays — ●HANNES PICHLER
SYRY 2.3	Wed	11:30–12:00	Audimax	Slow dynamics due to constraints, classical and quantum — ●JUAN P. GARRAHAN
SYRY 3.3	Wed	14:30–15:00	Audimax	New frontiers in quantum simulation and computation with neutral atom arrays — ●GIULIA SEMEGHINI
SYRY 3.4	Wed	15:00–15:30	Audimax	New frontiers in atom arrays using alkaline-earth atoms — ●ADAM KAUFMAN
SYRY 3.5	Wed	15:30–16:00	Audimax	Spin squeezing with finite range spin-exchange interactions — ●ANA MARIA REY

Invited talks of the joint symposium Quantum Cooperativity of Light and Matter (SYQC)

See SYQC for the full program of the symposium.

SYQC 1.1	Thu	10:30–11:00	Audimax	Super- and subradiant states of an ensemble of cold atoms coupled to a nanophotonic waveguide — ●ARNO RAUSCHENBEUTEL
SYQC 1.6	Thu	12:00–12:30	Audimax	Cooperative Effects in Pigment-Protein Complexes: Vibronic Renormalisation of System Parameters in Complex Vibrational Environments — ●SUSANA F. HUELGA
SYQC 2.1	Thu	14:00–14:30	Audimax	Quantum simulation with coherent engineering of synthetic dimensions — ●PAOLA CAPPELLARO
SYQC 2.6	Thu	15:30–16:00	Audimax	Quantum Fractals — ●CRISTIANE MORAIS-SMITH

Sessions

Q 1.1–1.2	Mon	11:00–13:00	AKjDPG-H17	Tutorial Rydberg Physics (joint session AKjDPG/SYRY/Q)
Q 2.1–2.7	Mon	14:00–16:00	Q-H10	Quantum Gases (Bosons) I
Q 3.1–3.8	Mon	14:00–16:00	Q-H11	Precision Measurements and Metrology I
Q 4.1–4.8	Mon	14:00–16:00	Q-H12	Quantum Information (Concepts and Methods) I
Q 5.1–5.8	Mon	14:00–16:00	Q-H13	Quantum Technologies I
Q 6.1–6.7	Mon	14:00–16:00	Q-H14	Quantum Optics (Miscellaneous) I
Q 7.1–7.6	Mon	14:00–15:30	A-H2	Precision spectroscopy of atoms and ions I (joint session A/Q)
Q 8.1–8.8	Mon	16:30–18:30	Q-H10	Quantum Gases (Bosons) II
Q 9.1–9.6	Mon	16:30–18:15	Q-H11	Precision Measurements and Metrology II
Q 10.1–10.5	Mon	16:30–17:45	Q-H12	Quantum Information (Concepts and Methods) II
Q 11.1–11.5	Mon	16:30–18:00	Q-H13	Quantum Technologies II
Q 12.1–12.6	Mon	16:30–18:00	Q-H14	Quantum Optics (Miscellaneous) II
Q 13.1–13.8	Tue	10:30–12:30	Q-H10	Quantum Gases (Bosons) III
Q 14.1–14.7	Tue	10:30–12:15	Q-H11	Precision Measurements and Metrology III

Q 15.1–15.7	Tue	10:30–12:30	Q-H12	Quantum Information (Quantum Computing and Simulation)
Q 16.1–16.10	Tue	10:30–13:00	Q-H13	Quantum Effects I
Q 17.1–17.7	Tue	10:30–12:30	Q-H14	Quantum Optics (Miscellaneous) III
Q 18.1–18.6	Tue	10:30–12:00	Q-H15	Laser and Laser Applications
Q 19.1–19.7	Tue	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC I (joint session A/Q)
Q 20.1–20.11	Tue	16:30–18:30	P	Quantum Gases I
Q 21.1–21.15	Tue	16:30–18:30	P	Ultracold Atoms and Plasmas (joint session Q/A)
Q 22.1–22.15	Tue	16:30–18:30	P	Precision Measurements and Metrology I (joint session Q/A)
Q 23.1–23.17	Tue	16:30–18:30	P	Quantum Information I
Q 24.1–24.16	Tue	16:30–18:30	P	Quantum Effects
Q 25.1–25.4	Tue	16:30–18:30	P	Ultra-cold plasmas and Rydberg systems (joint session A/Q)
Q 26.1–26.8	Wed	10:30–12:30	Q-H10	Quantum Gases (Fermions)
Q 27.1–27.7	Wed	10:30–12:30	Q-H11	Precision Measurements and Metrology IV (joint session Q/A)
Q 28.1–28.8	Wed	10:30–12:30	Q-H12	Quantum Information (Quantum Communication) I
Q 29.1–29.7	Wed	10:30–12:30	Q-H13	Optomechanics I
Q 30.1–30.7	Wed	10:30–12:30	Q-H14	Quantum Optics (Miscellaneous) IV
Q 31.1–31.8	Wed	10:30–12:30	Q-H15	Photonics I
Q 32.1–32.7	Wed	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC II (joint session A/Q)
Q 33.1–33.6	Wed	14:00–15:30	Q-H10	Quantum Gases
Q 34.1–34.6	Wed	14:00–15:30	Q-H11	Precision Measurements and Metrology V (joint session Q/A)
Q 35.1–35.8	Wed	14:00–16:00	Q-H12	Quantum Information (Quantum Communication) II
Q 36.1–36.5	Wed	14:00–15:15	Q-H13	Optomechanics II
Q 37.1–37.7	Wed	14:00–16:00	Q-H14	Quantum Optics (Miscellaneous) V
Q 38.1–38.5	Wed	14:00–15:15	Q-H15	Photonics II
Q 39.1–39.5	Wed	14:00–15:15	A-H2	Precision spectroscopy of atoms and ions II (joint session A/Q)
Q 40.1–40.13	Wed	16:30–18:30	P	Optomechanics and Photonics
Q 41.1–41.17	Wed	16:30–18:30	P	Nano-Optics
Q 42.1–42.12	Wed	16:30–18:30	P	Laser and Laser Applications
Q 43.1–43.9	Wed	16:30–18:30	P	Quantum Technologies
Q 44.1–44.21	Wed	16:30–18:30	P	Precision spectroscopy of atoms and ions (joint session A/Q)
Q 45.1–45.8	Thu	10:30–12:30	Q-H10	Ultracold Atoms and Molecules I (joint session Q/A)
Q 46.1–46.7	Thu	10:30–12:30	Q-H11	Nano-Optics I
Q 47.1–47.7	Thu	10:30–12:15	Q-H12	Quantum Information (Quantum Communication and Quantum Repeater)
Q 48.1–48.8	Thu	10:30–12:30	Q-H13	Quantum Effects II
Q 49.1–49.6	Thu	10:30–12:15	A-H2	Ultra-cold atoms, ions and BEC III (joint session A/Q)
Q 50.1–50.6	Thu	10:30–12:15	A-H3	Precision spectroscopy of atoms and ions III (joint session A/Q)
Q 51	Thu	13:00–14:00	Q-MV	General Assembly of the Quantum Optics and Photonics Division
Q 52.1–52.5	Thu	14:00–15:30	Q-H10	Ultracold Atoms and Molecules II (joint session Q/A)
Q 53.1–53.9	Thu	14:00–16:15	Q-H11	Nano-Optics II
Q 54.1–54.7	Thu	14:00–15:45	Q-H12	Quantum Information (Quantum Repeater)
Q 55.1–55.6	Thu	14:00–15:30	Q-H13	Quantum Effects III
Q 56.1–56.7	Thu	14:00–15:45	A-H1	Ultra-cold plasmas and Rydberg systems (joint session A/Q)
Q 57.1–57.10	Thu	16:30–18:30	P	Quantum Gases II
Q 58.1–58.10	Thu	16:30–18:30	P	Matter Wave Optics
Q 59.1–59.16	Thu	16:30–18:30	P	Precision Measurements and Metrology II (joint session Q/A)
Q 60.1–60.23	Thu	16:30–18:30	P	Quantum Information II
Q 61.1–61.18	Thu	16:30–18:30	P	Quantum Optics (Miscellaneous)
Q 62.1–62.22	Thu	16:30–18:30	P	Ultra-cold atoms, ions and BEC (joint session A/Q)
Q 63.1–63.8	Fri	10:30–12:30	Q-H10	Matter Wave Optics

Q 64.1–64.8	Fri	10:30–12:30	Q-H11	Nano-Optics III
Q 65.1–65.7	Fri	10:30–12:15	Q-H12	Quantum Information (Miscellaneous)
Q 66.1–66.7	Fri	10:30–12:15	Q-H13	Quantum Effects IV
Q 67.1–67.5	Fri	10:30–11:45	Q-H14	Rydberg Systems (joint session Q/A)
Q 68.1–68.8	Fri	10:30–12:30	Q-H15	Quantum Cooperativity (joint session Q/SYQC)
Q 69.1–69.6	Fri	10:30–12:15	A-H1	Ultra-cold atoms, ions and BEC IV (joint session A/Q)
Q 70.1–70.5	Fri	10:30–12:00	A-H2	Precision spectroscopy of atoms and ions IV (joint session A/Q)

Annual General Meeting of the Quantum Optics and Photonics Division

Thursday 13:00–14:00 Q-MV