

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

Giovanna Morigi
Uni des Saarlandes
Theoretische Physik
Campus Geb. E26
66123 Saarbrücken
giovanna.morigi@physik.uni-saarland.de

Overview of Invited Talks and Sessions

(Lecture rooms S HS 001 Chemie, S HS 002 Chemie, S HS 037 Informatik,
S Gr. HS Maschb., S SR 111 Maschb., S SR 112 Maschb., S SR 211 Maschb., and S Ex 04 E-Tech;
Poster S Fobau Physik and S Atrium Informatik)

Invited Talks

Q 3.1	Mon	10:30–11:00	S HS 001 Chemie	Quantum information scrambling and hybrid machine learning with trapped ions — •NORBERT M. LINKE, KEVIN A. LANDSMAN, DAIWEI ZHU, CHRIS MONROE
Q 13.1	Mon	14:00–14:30	S Gr. HS Maschb.	Integrated quantum photonics on silicon chips — •CARSTEN SCHUCK
Q 15.1	Mon	14:00–14:30	S SR 112 Maschb.	Tunable and nonlinear resonant semiconductor metasurfaces — •ISABELLE STAUDE
Q 28.1	Wed	10:30–11:00	S HS 037 Informatik	Spatial entanglement patterns and Einstein-Podolsky-Rosen steering in a Bose-Einstein condensate — •TILMAN ZIBOLD, MATTEO FADEL, BORIS DECAMPS, YIFAN LI, PHILIPP TREUTLEIN
Q 29.1	Wed	10:30–11:00	S Gr. HS Maschb.	Nonlinear quantum transport of light in a cold atomic cloud — TOBIAS BINNINGER, VYACHESLAV SHATOKHIN, ANDREAS BUCHLEITNER, •THOMAS WELLENS
Q 30.1	Wed	10:30–11:00	S SR 211 Maschb.	Atom transport at the quantum speed limit and its application for atom interferometry — MANOLO RIVERA, NATALIE PETER, THORSTEN GROH, WOLFGANG ALT, GAUTAM RAMOLA, RICHARD WINKELMAN, CARSTEN ROBENS, ANTONIO NEGRETTI, SIMONE MONTANGERO, TOMMASO CALARCO, DIETER MESCHUDE, •ANDREA ALBERTI
Q 33.1	Wed	14:00–14:30	S HS 001 Chemie	Topological Quantum Error Correction: From Concepts to Experiments with Trapped Ions — •MARKUS MUELLER
Q 46.1	Thu	10:30–11:00	S HS 037 Informatik	Controlling the flow of two-dimensional photon gases — •JAN KLAERS, MARIO VRETENAR, KLAAS-JAN GORTER, DAVID DUNG, CHRISTIAN KURTSCHIED, TOBIAS DAMM, JULIAN SCHMITT, FRANK VEWINGER, MARTIN WEITZ
Q 50.1	Thu	14:00–14:30	S HS 001 Chemie	Quantum technologies enabled by dissipation — •HENDRIK WEIMER
Q 55.1	Thu	14:00–14:30	S SR 112 Maschb.	Color centers in diamond as novel atomic-scale sensors — •ELKE NEU
Q 60.1	Fri	10:30–11:00	S HS 037 Informatik	Polaronic effects in condensed matter and atomic systems — •RICHARD SCHMIDT

Invited Talks of the Quantum Optics and Photonics Division in joint sessions with the Atomic Physics Division

A 9.1	Mon	16:15–16:45	S HS 2 Physik	Non-equilibrium Dynamics of Ion Coulomb Systems — •TANJA E. MEHLSTÄUBLER
A 31.8	Thu	15:45–16:15	S HS 1 Physik	String patterns in the doped Hubbard model — •DANIEL GREIF

Invited talks of the joint symposium SYPS

See SYPS for the full program of the symposium.

SYPS 1.1	Mon	14:00–14:30	U Audimax	Optimal control of many-body quantum systems — ●SIMONE MONTANGERO
SYPS 1.2	Mon	14:30–15:00	U Audimax	Light matter quantum interface based on single colour centres in diamond — ●FEDOR JELEZKO
SYPS 1.3	Mon	15:00–15:30	U Audimax	Principles of Quantum Systems Theory and Control Engineering — ●THOMAS SCHULTE-HERBRÜGGEN
SYPS 1.4	Mon	15:30–16:00	U Audimax	Quantum metrology with Rydberg atoms — ●SEBASTIEN GLEYZES, ARTHUR LARROUY, REMI RICHAUD, SABRINA PATSCH, JEAN-MICHEL RAIMOND, MICHEL BRUNE, CHRISTIANE KOCH

Invited talks of the joint symposium SYAD

See SYAD for the full program of the symposium.

SYAD 1.1	Tue	10:30–11:00	U Audimax	Quantum States and their Marginals: from Multipartite Entanglement to Quantum Error-Correcting Codes — ●FELIX HUBER
SYAD 1.2	Tue	11:00–11:30	U Audimax	The Uniform Electron Gas at Warm Dense Matter Conditions — ●SIMON GROTH
SYAD 1.3	Tue	11:30–12:00	U Audimax	Relativistically intense laser-microplasma interactions (and potential applications) — ●TOBIAS OSTERMAYER
SYAD 1.4	Tue	12:00–12:30	U Audimax	Motional quantum state engineering for quantum logic spectroscopy of molecular ions — ●FABIAN WOLF

Invited talks of the joint symposium SYSI

See SYSI for the full program of the symposium.

SYSI 1.1	Wed	10:30–11:00	U Audimax	The redefinition of the SI in November 2018 — ●TERRY QUINN
SYSI 1.2	Wed	11:00–11:30	U Audimax	Quantum Hall effect and the new SI — ●KLAUS VON KLITZING
SYSI 1.3	Wed	11:30–12:00	U Audimax	The electron charge for the definition and realisation of the ampere — ●JAN-THEODOOR JANSSEN
SYSI 1.4	Wed	12:00–12:30	U Audimax	The Planck constant and the realization of the kilogram — ●STEPHAN SCHLAMMINGER

Invited talks of the joint symposium SYXR

See SYXR for the full program of the symposium.

SYXR 1.1	Thu	14:00–14:30	U Audimax	Superradiance of an ensemble of nuclei excited by a free electron laser — ●ALEKSANDR CHUMAKOV
SYXR 1.2	Thu	14:30–15:00	U Audimax	Quantum imaging with incoherently scattered light from a Free-Electron Laser — ●JOACHIM VON ZANTHIER
SYXR 1.3	Thu	15:00–15:30	U Audimax	Stimulated X-Ray Emission Spectroscopy for Chemical Analysis — ●NINA ROHRINGER
SYXR 1.4	Thu	15:30–16:00	U Audimax	X-Ray Multiphoton Ionization of Atoms and Molecules — ●DANIEL ROLLES

Invited talks of the joint symposium SYQM

See SYQM for the full program of the symposium.

SYQM 1.1	Fri	10:30–11:00	U Audimax	Robust symmetry-protected metrology with a topological phase — ●STEPHEN BARTLETT, GAVIN BRENNEN, AKIMASA MIYAKE
SYQM 1.2	Fri	11:00–11:30	U Audimax	Diamond quantum sensors for nanoscale magnetic resonance — ●FEDOR JELEZKO
SYQM 1.3	Fri	11:30–12:00	U Audimax	Quantum metrology for subdiffraction incoherent optical imaging — ●MANKEI TSANG
SYQM 1.4	Fri	12:00–12:30	U Audimax	Learning Hamiltonians using quantum and classical resources — ●NATHAN WIEBE

Sessions

Q 1.1–1.7	Mon	10:30–12:15	S HS 1 Physik	Ultra-cold atoms and molecules I (joint session A/MO/Q)
Q 2.1–2.8	Mon	10:30–12:30	S HS 2 Physik	Precision Spectroscopy of atoms and ions I (joint session A/Q)
Q 3.1–3.7	Mon	10:30–12:30	S HS 001 Chemie	Quantum Information (Quantum Computing) I
Q 4.1–4.7	Mon	10:30–12:30	S HS 037 Informatik	Quantum Gases (Bosons) I
Q 5.1–5.9	Mon	10:30–12:45	S SR 111 Maschb.	Precision Measurements and Metrology I
Q 6.1–6.7	Mon	10:30–12:15	S SR 112 Maschb.	Nano-Optics (Single Quantum Emitters) I
Q 7.1–7.7	Mon	10:30–12:15	S SR 211 Maschb.	Ultracold Plasmas and Rydberg Systems
Q 8.1–8.8	Mon	10:30–12:30	S Ex 04 E-Tech	Quantum Optics and Photonics I
Q 9.1–9.8	Mon	14:00–16:00	S HS 1 Physik	Ultra-cold atoms and molecules II (joint session A/MO/Q)
Q 10.1–10.6	Mon	14:00–15:45	S HS 2 Physik	Precision Spectroscopy of atoms and ions II (joint session A/Q)
Q 11.1–11.7	Mon	14:00–15:45	S HS 001 Chemie	Quantum Information (Concepts and Methods) I
Q 12.1–12.7	Mon	14:00–15:45	S HS 037 Informatik	Quantum Gases (Bosons and Fermions) I
Q 13.1–13.7	Mon	14:00–16:00	S Gr. HS Maschb.	Quantum Optics and Photonics II
Q 14.1–14.8	Mon	14:00–16:15	S SR 111 Maschb.	Precision Measurements and Metrology (Optical Clocks)
Q 15.1–15.7	Mon	14:00–16:00	S SR 112 Maschb.	Nano-Optics (Plasmonics)
Q 16.1–16.7	Mon	14:00–15:45	S SR 211 Maschb.	Laser Developments and Applications
Q 17.1–17.6	Mon	16:15–17:45	S HS 1 Physik	Ultra-cold atoms, ions and BEC (joint session A/Q)
Q 18.1–18.6	Mon	16:15–18:00	S HS 2 Physik	Precision Spectroscopy of atoms and ions III (joint session A/Q)
Q 19.1–19.6	Mon	16:15–17:45	S HS 001 Chemie	Quantum Information (Quantum Repeater) I
Q 20.1–20.5	Mon	16:15–17:45	S HS 002 Chemie	Quantum Information (Solid State Systems)
Q 21.1–21.6	Mon	16:15–17:45	S HS 037 Informatik	Quantum Gases (Bosons) II
Q 22.1–22.6	Mon	16:15–17:45	S Gr. HS Maschb.	Quantum Optics I
Q 23.1–23.6	Mon	16:15–17:45	S Ex 04 E-Tech	Photonics I
Q 24.1–24.26	Tue	16:30–18:30	S Fobau Physik	Poster: Quantum Optics and Photonics I
Q 25.1–25.36	Tue	16:30–18:30	S Atrium Informatik	Poster: Quantum Optics and Photonics I
Q 26.1–26.8	Wed	10:30–12:30	S HS 1 Physik	Ultra-cold atoms (joint session A/Q)
Q 27.1–27.7	Wed	10:30–12:30	S HS 001 Chemie	Quantum Information (Concepts and Methods) II
Q 28.1–28.7	Wed	10:30–12:30	S HS 037 Informatik	Quantum Gases (Bosons) III
Q 29.1–29.7	Wed	10:30–12:30	S Gr. HS Maschb.	Quantum Effects
Q 30.1–30.8	Wed	10:30–12:45	S SR 211 Maschb.	Matter Wave Optics
Q 31	Wed	12:30–14:00	S Gr. HS Maschb.	Annual General Meeting of the Quantum Optics and Photonics Division
Q 32.1–32.8	Wed	14:00–16:00	S HS 1 Physik	Ultra-cold plasmas and Rydberg systems (joint session A/Q)
Q 33.1–33.7	Wed	14:00–16:00	S HS 001 Chemie	Quantum Information (Quantum Computing) II
Q 34.1–34.7	Wed	14:00–15:45	S HS 002 Chemie	Quantum Information (Quantum Communication) I
Q 35.1–35.8	Wed	14:00–16:15	S HS 037 Informatik	Quantum Gases (Fermions) I
Q 36.1–36.7	Wed	14:00–15:45	S Gr. HS Maschb.	Photonics II
Q 37.1–37.8	Wed	14:00–16:00	S SR 111 Maschb.	Precision Measurements and Metrology II
Q 38.1–38.7	Wed	14:00–15:45	S SR 112 Maschb.	Nano-Optics (Single Quantum Emitters) II
Q 39.1–39.9	Wed	14:00–16:30	S SR 211 Maschb.	Ultrashort Laser Pulses
Q 40.1–40.5	Wed	14:00–15:15	S Ex 04 E-Tech	Quantum Effects (QED) I
Q 41.1–41.43	Wed	16:15–18:15	S Fobau Physik	Poster: Quantum Optics and Photonics II
Q 42.1–42.33	Wed	16:15–18:15	S Atrium Informatik	Poster: Quantum Optics and Photonics II
Q 43.1–43.6	Thu	10:30–12:00	S HS 1 Physik	Quantum gases (Bosons) (joint session A/Q)
Q 44.1–44.8	Thu	10:30–12:30	S HS 001 Chemie	Quantum Information (Concepts and Methods) III
Q 45.1–45.7	Thu	10:30–12:15	S HS 002 Chemie	Quantum Information (Quantum Communication) II
Q 46.1–46.6	Thu	10:30–12:15	S HS 037 Informatik	Quantum Gases (Bosons) IV
Q 47.1–47.7	Thu	10:30–12:15	S Gr. HS Maschb.	Quantum Effects (QED) II
Q 48.1–48.8	Thu	10:30–12:30	S Ex 04 E-Tech	Quantum Optics II
Q 49.1–49.8	Thu	14:00–16:15	S HS 1 Physik	Quantum gases (Fermions) (joint session A/Q)
Q 50.1–50.7	Thu	14:00–16:00	S HS 001 Chemie	Quantum Information (Concepts and Methods) IV
Q 51.1–51.7	Thu	14:00–15:45	S HS 002 Chemie	Quantum Information (Quantum Repeater) II
Q 52.1–52.8	Thu	14:00–16:00	S HS 037 Informatik	Quantum Gases (Bosons) V

Q 53.1–53.8	Thu	14:00–16:00	S Gr. HS Maschb.	Quantum Optics and Photonics III
Q 54.1–54.8	Thu	14:00–16:15	S SR 111 Maschb.	Precision Measurements and Metrology III
Q 55.1–55.6	Thu	14:00–15:45	S SR 112 Maschb.	Nano-Optics (Single Quantum Emitters) III
Q 56.1–56.7	Thu	14:00–16:00	S Ex 04 E-Tech	Quantum Optics III
Q 57.1–57.44	Thu	16:15–18:15	S Fobau Physik	Poster: Quantum Optics and Photonics III
Q 58.1–58.35	Thu	16:15–18:15	S Atrium Informatik	Poster: Quantum Optics and Photonics III
Q 59.1–59.9	Fri	10:30–12:45	S HS 001 Chemie	Quantum Information (Concepts and Methods) V
Q 60.1–60.7	Fri	10:30–12:30	S HS 037 Informatik	Quantum Gases (Bosons and Fermions) II
Q 61.1–61.8	Fri	10:30–12:30	S Gr. HS Maschb.	Quantum Effects (Cavity QED)
Q 62.1–62.8	Fri	10:30–12:45	S SR 111 Maschb.	Optomechanics
Q 63.1–63.8	Fri	10:30–12:30	S SR 211 Maschb.	Ultracold Atoms (Trapping and Cooling)

Annual General Meeting of the Quantum Optics and Photonics Division

Wednesday 12:30–14:00 S Gr. HS Maschb