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

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Overview of Invited Talks and Sessions

(Lecture Rooms: Kinosaal, UDL HS 2002, UDL HS 3038, DO24 Reuter Saal, DO24 1.101, DO26 207, and DO26 208; Posters: Spree-Palais)

Invited talks of the joint symposium SYCS

See SYCS for the full program of the symposium.

SYCS 1.1	Mon	10:30–11:00	Audimax	**Electron dynamics in chiral systems: From structure determination to violation of fundamental symmetries** — •Robert Berger
SYCS 1.2	Mon	11:00–11:30	Audimax	**Electron Scattering in Chiral Photoionization: probing fundamental electron-molecule interactions to chiral molecular recognition** — •Ivan Powis
SYCS 1.3	Mon	11:30–12:00	Audimax	**Enantiomer Identification of Chiral Molecules in Mixtures using Microwave Three-Wave Mixing** — •Melanie Schnell
SYCS 1.4	Mon	12:00–12:30	Audimax	**Mass-selective circular dichroism spectroscopy of chiral molecules** — •Ulrich Boesl

Invited talks of the joint symposium SYPE

See SYPE for the full program of the symposium.

SYPE 1.1	Mon	14:00–14:15	Kinosaal	**Meeting the Energy Challenge** — •Steve Chu
SYPE 1.2	Mon	14:15–14:30	Kinosaal	**Energy transformation pathways towards 2°C stabilization** — •Gunnar Luderer
SYPE 1.3	Mon	14:30–14:45	Kinosaal	**How can Physicists contribute to the Energy Transformation?** — •Eicke R. Weber
SYPE 1.4	Mon	14:45–15:00	Kinosaal	**Photosynthesis: lessons from nature** — •Rienk van Grondelle
SYPE 1.5	Mon	15:00–15:20	Kinosaal	**Questions and perspectives for highschool physics and young researchers** — •Gerwald Heckmann

Invited talks of the joint symposium SYQR

See SYQR for the full program of the symposium.

SYQR 2.1	Mon	14:00–14:30	Audimax	**Protocols and prospects for building a quantum repeater** — •Peter van Loock
SYQR 2.2	Mon	14:30–15:00	Audimax	**Quantum teleportation from a telecom-wavelength photon to a solid-state quantum memory** — •Felix Bussieres
SYQR 2.3	Mon	15:00–15:30	Audimax	**Semiconductor quantum light sources for quantum repeaters** — •Peter Michler
SYQR 2.4	Mon	15:30–16:00	Audimax	**Quantum networks based on cavity QED** — •Stephan Ritter, Joerg Bochmann, Eden Figueroa, Carolin Hahn, Norbert Kalb, Martin Mücke, Andreas Neuzner, Christian Nölleke, Andreas Reiserer, Manuel Uphoff, Gerhard Rempe

Invited talks of the joint symposium SYAD

See SYAD for the full program of the symposium.

SYAD 1.1	Tue	10:30–11:00	Audimax	**Rotationally resolved fluorescence spectroscopy - from neurotransmitter to conical intersection** — •Christian Brand
SYAD 1.2	Tue	11:00–11:30	Audimax	**Quantum simulations with ultracold atoms: Beyond standard optical lattices** — •Philipp Hauke
SYAD 1.3	Tue	11:30–12:00	Audimax	**Degenerate quantum gases of alkaline-earth atoms** — •Simon Stellmer
SYAD 1.4	Tue	12:00–12:30	Audimax	**One step beyond entanglement: general quantum correlations and their role in quantum information theory** — •Alexander Streltsov

Prize talks of the joint symposium SYAW

See SYAW for the full program of the symposium.

SYAW 1.1	Wed	14:00–14:30	Kinosaal	**Semicrystalline polymers - pathway of crystallization and deformation properties** — •Gert Strobl
SYAW 1.2	Wed	14:30–15:00	Kinosaal	**A measurement of the evolution of Interatomic Coulombic Decay in the time domain** — •Till Jahnke
SYAW 1.3	Wed	15:00–15:30	Kinosaal	**A one-dimensional liquid of fermions with tunable spin** — •Massimo Inguscio
SYAW 1.4	Wed	15:30–16:00	Kinosaal	**Non-equilibrium: from heat transport to turbulence (to life).** — •David Ruelle
SYAW 2.1	Wed	16:30–17:00	Kinosaal	**Investigation of charge transfer efficiency of CCD image sensors for the scientific small satellite mission "AsteroidFinder"** — •Andrej Krimlowski
SYAW 2.2	Wed	17:00–17:30	Kinosaal	**Metrology of atomic hydrogen: from the Rydberg constant to the size of the proton** — •François Biraben

Invited talks of the joint symposium SYQE

See SYQE for the full program of the symposium.

SYQE 1.1	Tue	14:00–14:30	Audimax	**The role of quantum discord in quantum information theory** — •Alexander Streltsov
SYQE 1.2	Tue	14:30–15:00	Audimax	**Experimental entanglement distribution by separable states** — •Roman Schnabel, C.E. Vollmer, D. Schulze, T. Eberle, V. Händchen, J. Fiurasek
SYQE 1.3	Tue	15:00–15:30	Audimax	**Quantum computing with black-box quantum subroutines** — Jayne Thompson, Mile Gu, •Kavan Modi, Vlatko Vedral
SYQE 1.4	Tue	15:30–16:00	Audimax	**Quantum metrology embraced for the worst** — •Gerardo Adesso
SYQE 2.1	Tue	16:30–17:00	Kinosaal	**The arrow of time and correlations in quantum physics** — •Vlatko Vedral
SYQE 2.2	Tue	17:00–17:30	Kinosaal	**Quantum correlations on indefinite causal structures** — •Caslav Brukner
SYQE 2.3	Tue	17:30–18:00	Kinosaal	**Zero-error classical channel capacity and simulation cost assisted by quantum non-signalling correlations** — •Andreas Winter
SYQE 2.4	Tue	18:00–18:30	Kinosaal	**The quantum marginal problem** — •Matthias Christandl

Invited talks of the joint symposium SYSE

See SYSE for the full program of the symposium.

SYSE 1.1	Wed	14:00–14:30	Audimax	**Addressing open questions of stellar evolution with laboratory experiments** — •Almudena Arcones
SYSE 1.2	Wed	14:30–15:00	Audimax	**Methods and problems of the modern theory of stellar evolution** — •Achim Weiss
SYSE 1.3	Wed	15:00–15:30	Audimax	**Photoabsorption and opacity in the X-ray region: The role of highly charged ions** — •José R. Crespo López-Urrutia
SYSE 1.4	Wed	15:30–16:00	Audimax	**Neutron-rich matter: From cold atoms to neutron stars** — •Achim Schwenk

Invited talks of the joint symposium SYRE

See SYRE for the full program of the symposium.

SYRE 1.1	Wed	16:30–17:00	Audimax	**Rare and large events: examples from the natural sciences and economics** — •Thomas Guhr
SYRE 1.2	Wed	17:00–17:30	Audimax	**The roles of energy-level and electronic-coupling fluctuations in the control of biomolecular and small-molecule charge transfer reactions** — •Spiros Skourtis
SYRE 1.3	Wed	17:30–18:00	Audimax	**What do we know about extreme solar events?** — •Ilya Usoskin
SYRE 1.4	Wed	18:00–18:30	Audimax	**The climate impact of very large volcanic eruptions: An Earth system model approach** — •Claudia Timmreck

Invited talks of the joint symposium SYQC

See SYQC for the full program of the symposium.

SYQC 1.1	Thu	10:30–11:00	Audimax	**Experimental tests of quantum macroscopicity** — •Markus Arndt
SYQC 1.2	Thu	11:00–11:30	Audimax	**From classical instruments to quantum mechanics and back** — •Reinhard F. Werner
SYQC 1.3	Thu	11:30–12:00	Audimax	**Correlations and the quantum-classical border** — •Dagmar Bruss, Alexander Streltsov, Hermann Kampermann
SYQC 1.4	Thu	12:00–12:30	Audimax	**Why Physics Needs a Classical World...and How It Can Get One** — •Tim Maudlin

Invited talks of the joint symposium SYPS

See SYPS for the full program of the symposium.

SYPS 1.1	Thu	14:10–14:40	Audimax	**Oxygen and imaging, a perfect match** — •David Parker
SYPS 1.2	Thu	14:40–15:10	Audimax	**Attosecond imaging** — •Marc Vrakking
SYPS 1.4	Thu	15:25–15:55	Audimax	**Applications of the fast imaging Pixel Imaging Mass Spectrometry camera** — •Mark Brouard
SYPS 2.1	Thu	16:30–17:00	Audimax	**Unraveling the dynamics of state- and conformer selected molecules fixed in space with the VMI** — •Jochen Küpper
SYPS 2.3	Thu	17:15–17:45	Audimax	**Velocity map imaging: from molecules to clusters, nanoparticles and aerosols** — •Michal Farnik, Viktoriya Poterya, Jozef Lengyel, Andriy Pysanenko, Pavla Svrckova, Jaroslav Kocisek
SYPS 2.5	Thu	18:00–18:30	Audimax	**Velocity map imaging studies of quantum state resolved scattering at gas-solid and gas-SAMs surfaces** — •David J. Nesbitt, Monika Gruetter, J. Robert Roscioli, Carl Hoffman, Daniel J. Nelson

Invited talks of the joint symposium SYQS

See SYQS for the full program of the symposium.

SYQS 1.1	Fri	10:30–11:15	Audimax	**Tutorial Complex Systems: From Classical to Quantum, from Single to Many Particle Problems** — •Klaus Richter
SYQS 1.2	Fri	11:30–12:00	Audimax	**Multiphoton random walks: Experimental Boson Sampling on a photonic chip** — •Ian Walmsley, Justin Spring, Ben Metcalf, Peter Humphreys, Steve Kolthammer, Xianmin Jin, Animesh Datta, James Gates, Peter Smith
SYQS 2.1	Fri	14:00–14:30	Audimax	**Charge transfer and quantum coherence in solar cells and artificial light harvesting systems** — •Christoph Lienau
SYQS 2.6	Fri	15:30–16:00	Audimax	**Feedback control: from Maxwell's demon to quantum phase transitions** — •Tobias Brandes
SYQS 3.4	Fri	17:15–17:45	Audimax	**Multi-photon dynamics in complex integrated structures** — •Fabio Sciarrino
SYQS 3.5	Fri	17:45–18:15	Audimax	**Complexity and many-boson coherence** — •Malte Tichy

Sessions

Q 1.1–1.8	Mon	10:30–12:30	DO26 207	**Laser development and applications I**
Q 2.1–2.7	Mon	10:30–12:15	DO26 208	**Matter wave optics I**
Q 3.1–3.8	Mon	10:30–12:30	BEBEL E42	**Precision spectroscopy of atoms and ions I (with A)**
Q 4.1–4.7	Mon	10:30–12:15	DO24 Reuter Saal	**Quantum gases: Fermions**
Q 5.1–5.7	Mon	10:30–12:30	UDL HS3038	**Quantum information: Atoms and ions I**
Q 6.1–6.8	Mon	10:30–12:30	BEBEL E34	**Ultracold atoms, ions and BEC I (with A)**
Q 7.1–7.6	Mon	10:30–12:00	DO24 1.101	**Ultracold plasmas and Rydberg systems I (with A)**
Q 8.1–8.8	Mon	14:00–16:00	DO26 207	**Laser development and applications II**
Q 9.1–9.7	Mon	14:00–15:45	DO26 208	**Matter wave optics II**
Q 10.1–10.8	Mon	14:00–16:00	BEBEL E42	**Precision spectroscopy of atoms and ions II (with A)**
Q 11.1–11.7	Mon	14:00–15:45	DO24 Reuter Saal	**Quantum effects: Entanglement and decoherence I**
Q 12.1–12.7	Mon	14:00–15:45	UDL HS2002	**Quantum gases: Bosons, mixtures and spinor gases**
Q 13.1–13.7	Mon	14:00–16:00	UDL HS3038	**Quantum information: Atoms and ions II**
Q 14.1–14.8	Mon	14:00–16:00	BEBEL E34	**Ultracold atoms, ions and BEC II (with A)**
Q 15.1–15.6	Mon	14:00–15:30	DO24 1.101	**Ultracold plasmas and Rydberg systems II (with A)**
Q 16.1–16.87	Mon	16:30–18:30	Spree-Palais	**Poster: Quantum information, micromechanical oscillators, matter wave optics, precision measurements and metrology**
Q 17.1–17.1	Mon	18:40–19:10	SPA HS201	**DFG funding programs**
Q 18.1–18.7	Tue	10:30–12:15	DO26 207	**Laser development and applications III**
Q 19.1–19.7	Tue	10:30–12:15	DO26 208	**Quantum effects: Light scattering and propagation**
Q 20.1–20.6	Tue	10:30–12:15	UDL HS2002	**Quantum gases: Bosons I**
Q 21.1–21.7	Tue	10:30–12:15	UDL HS3038	**Quantum information: Atoms and ions III**
Q 22	Tue	12:45–13:45	UDL HS2002	**Annual General Meeting of the Quantum Optics and Photonics Division**
Q 23.1–23.7	Tue	14:00–15:45	DO26 207	**Laser development and applications IV**
Q 24.1–24.7	Tue	14:00–15:45	BEBEL SR140/142	**Precision spectroscopy of atoms and ions III (with A)**
Q 25.1–25.7	Tue	14:00–15:45	DO24 1.101	**Quantum effects: Entanglement and decoherence II**
Q 26.1–26.6	Tue	14:00–15:30	DO26 208	**Quantum effects: Miscellaneous**
Q 27.1–27.8	Tue	14:00–16:00	UDL HS2002	**Quantum gases: Bosons II**
Q 28.1–28.7	Tue	14:00–15:45	UDL HS3038	**Quantum information: Atoms and ions IV**
Q 29.1–29.8	Tue	14:00–16:00	BEBEL E44/46	**Ultracold plasmas and Rydberg systems III (with A)**
Q 30.1–30.91	Tue	16:30–18:30	Spree-Palais	**Poster: Photonics, laser development and applications, ultrashort laser pulses, quantum effects**
Q 31.1–31.7	Wed	14:00–16:00	UDL HS3038	**Ultracold atoms, ions and BEC III (with A)**
Q 32.1–32.90	Wed	16:30–18:30	Spree-Palais	**Poster: Quantum gases, ultracold atoms and molecules**
Q 33.1–33.8	Thu	10:30–12:30	DO24 1.101	**Micromechanical oscillators**
Q 34.1–34.8	Thu	10:30–12:30	BEBEL SR140/142	**Precision spectroscopy of atoms and ions IV (with A)**
Q 35.1–35.5	Thu	10:30–12:00	DO26 208	**Quantum effects: QED I**
Q 36.1–36.6	Thu	10:30–12:15	UDL HS2002	**Quantum gases: Effects of interactions**
Q 37.1–37.8	Thu	10:30–12:30	Kinosaal	**Quantum information: Concepts and methods I**
Q 38.1–38.8	Thu	10:30–12:30	UDL HS3038	**Quantum information: Photons and nonclassical light I**
Q 39.1–39.8	Thu	10:30–12:30	BEBEL E34	**Ultracold atoms, ions and BEC IV (with A)**
Q 40.1–40.8	Thu	10:30–12:30	DO26 207	**Ultrashort laser pulses I**
Q 41.1–41.7	Thu	14:00–16:00	DO24 1.101	**Precision measurements and metrology I**
Q 42.1–42.5	Thu	14:00–15:30	UDL HS2002	**Quantum gases: Disorder- or interaction-induced effects**
Q 43.1–43.7	Thu	14:00–16:00	Kinosaal	**Quantum information: Concepts and methods II**
Q 44.1–44.7	Thu	14:00–15:45	UDL HS3038	**Quantum information: Photons and nonclassical light II**
Q 45.1–45.6	Thu	14:00–15:30	DO26 208	**Ultracold atoms and molecules I**
Q 46.1–46.8	Thu	14:00–16:00	DO26 207	**Ultrashort laser pulses II**
Q 47.1–47.6	Thu	16:30–18:30	DO24 1.101	**Precision measurements and metrology II**
Q 48.1–48.6	Thu	16:30–18:00	DO26 208	**Quantum effects: Interference and correlations I**
Q 49.1–49.7	Thu	16:30–18:15	UDL HS2002	**Quantum gases: Lattices I**
Q 50.1–50.8	Thu	16:30–18:30	Kinosaal	**Quantum information: Concepts and methods III**
Q 51.1–51.8	Thu	16:30–18:30	UDL HS3038	**Quantum information: Photons and nonclassical light III**

Q 52.1–52.8	Thu	16:30–18:30	BEBEL SR140/142	**Ultracold atoms, ions and BEC V (with A)**
Q 53.1–53.8	Thu	16:30–18:30	DO26 207	**Ultrashort laser pulses III**
Q 54.1–54.7	Fri	10:30–12:30	UDL HS3038	**Photonics I**
Q 55.1–55.7	Fri	10:30–12:30	DO24 1.101	**Precision measurements and metrology III**
Q 56.1–56.6	Fri	10:30–12:00	DO26 208	**Quantum effects: QED II**
Q 57.1–57.8	Fri	10:30–12:30	UDL HS2002	**Quantum gases: Lattices II**
Q 58.1–58.7	Fri	10:30–12:15	Kinosaal	**Quantum information: Concepts and methods IV**
Q 59.1–59.8	Fri	10:30–12:30	DO26 207	**Quantum information: Quantum computers and communication I**
Q 60.1–60.5	Fri	10:30–11:45	BEBEL E34	**Ultracold atoms, ions and BEC VI (with A)**
Q 61.1–61.8	Fri	14:00–16:00	UDL HS3038	**Photonics II**
Q 62.1–62.6	Fri	14:00–15:45	DO24 1.101	**Precision measurements and metrology IV**
Q 63.1–63.8	Fri	14:00–16:00	UDL HS2002	**Quantum gases: Lattices III**
Q 64.1–64.8	Fri	14:00–16:00	Kinosaal	**Quantum information: Concepts and methods V**
Q 65.1–65.7	Fri	14:00–15:45	DO26 207	**Quantum information: Quantum computers and communication II**
Q 66.1–66.6	Fri	14:00–15:30	DO26 208	**Ultracold atoms and molecules II**
Q 67.1–67.8	Fri	16:30–18:30	UDL HS3038	**Photonics III**
Q 68.1–68.6	Fri	16:30–18:15	DO24 1.101	**Precision measurements and metrology V**
Q 69.1–69.6	Fri	16:30–18:00	DO26 208	**Quantum effects: Interference and correlations II**
Q 70.1–70.8	Fri	16:30–18:30	UDL HS2002	**Quantum gases: Lattices IV**
Q 71.1–71.8	Fri	16:30–18:30	Kinosaal	**Quantum information: Concepts and methods VI**

Annual General Meeting of the Quantum Optics and Photonics Division

Tuesday 12:45–13:45 UDL HS 2002