# Atomic Physics Division Fachverband Atomphysik (A)

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# **Overview of Invited Talks and Sessions**

(Lecture rooms: BEBEL E34, BEBEL E42, BEBEL E44/46, BEBEL SR140/142 and UDL HS3038; Posters: Spree-Palais)

#### **Invited Talks**

A 10.1	Mon	14:00-14:30	BEBEL E44/46	Coulomb effects and correlation in strong laser-driven quantum dynamics — •DIETER BAUER
A 18.1	Tue	14:00-14:30	BEBEL E34	<b>Determination of chiral molecules' handedness</b> — •MARKUS SCHÖFFLER
A 19.1	Tue	14:00-14:30	BEBEL E42	The molecular double slit: transition from random to oriented target properties — • GREGOR HARTMANN
A 29.1	Wed	14:00-14:30	UDL HS3038	Single charged impurities inside a Bose-Einstein condensate — •SEBASTIAN HOFFERBERTH
A 30.1	Wed	14:00-14:30	BEBEL E42	Stimulated electronic x-ray Raman scattering using x-ray free- electron lasers — •NINA ROHRINGER
A 37.1	Thu	10:30-11:00	BEBEL E42	Electron-impact ionization of highly-charged heavy ions relevant for plasma applications — •ALEXANDER BOROVIK
A 38.1	Thu	10:30-11:00	BEBEL E44/46	Unusual electron dynamics in He clusters induced by intense XUV pulses — •YEVHENIY OVCHARENKO
A 41.1	Thu	14:00-14:30	BEBEL E42	Quantum systems in ultra-strong lasers: from tunnel ionization to spin dynamics — •HEIKO BAUKE

#### 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 determina-
				tion to violation of fundamental symmetries — $\bullet$ ROBERT BERGER
SYCS $1.2$	Mon	11:00-11:30	Audimax	Electron Scattering in Chiral Photoionization: probing fundamen-
				tal 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 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

#### 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 neurotrans-
SYAD 1.2	Tue	11:00-11:30	Audimax	mitter to conical intersection — •CHRISTIAN BRAND Quantum simulations with ultracold atoms: Beyond standard op- tical lattices — •PHILIPP HAUKE
SYAD 1.3	Tue	11:30-12:00	Audimax	Degenerate quantum gases of alkaline-earth atoms $ \bullet$ SIMON
SYAD 1.4	Tue	12:00-12:30	Audimax	STELLMER One step beyond entanglement: general quantum correlations and their role in quantum information theory — •ALEXANDER STRELTSOV

#### 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
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SYSE $1.2$	Wed	14:30-15:00	Audimax	Methods and problems of the modern theory of stellar evolution
				$-\bullet$ 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 $-\bullet$ ACHIM
				Schwenk

#### 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 defor- mation 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 — $\bullet$ 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 sen- sors 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 — $\bullet$ FRANÇOIS BIRABEN

### 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	<b>Oxygen and imaging, a perfect match</b> — • 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 $aerosols - \bullet$ Michal Farnik
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 — $\bullet$ DAVID J. NESBITT

#### 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 Sin- gle 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 — $\bullet$ IAN WALMSLEY
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 tran- sitions — • 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 — $\bullet$ MALTE TICHY

#### Sessions

A 1.1–1.8	Mon	10:30-12:30	BEBEL E34	Ultra-cold atoms, ions and BEC I (with Q)
A 2.1–2.8	Mon	10:30-12:30	BEBEL E42	Precision spectroscopy of atoms and ions I (with Q)
A 3.1–3.8	Mon	10:30-12:30	BEBEL E44/46	Interaction with strong or short laser pulses I
A 4.1–4.4	Mon	10:30-12:30	Audimax	Electron Dynamics in Chiral Systems SYCS 1 (with
11 1.1 1.1	mon	10.00 12.00	nuumax	MO)
A 5.1–5.6	Mon	10:30-12:00	DO24 1.101	Ultracold plasmas and Rydberg systems I (with Q)
A 6.1–6.8	Mon	10:30-12:30	BEBEL SR144	Clusters (with MO)
A 7.1–7.7	Mon	10:30-12:15	UDL HS2002	Flying/Stationary Qubit Conversion and Entangle-
	1.1011	10.00 12.10	0.011 11.020002	ment Generation SYQR 1 (with Q)
A 8.1–8.8	Mon	14:00-16:00	BEBEL E34	Ultra-cold atoms, ions and BEC II (with Q)
A 9.1–9.8	Mon	14:00-16:00	BEBEL E42	Precision spectroscopy of atoms and ions II (with Q)
A 10.1–10.7	Mon	14:00-16:00	BEBEL $E44/46$	Atomic systems in external fields
A 11.1–11.6	Mon	14:00-16:00	BEBEL HS213	Electron Dynamics in Chiral Systems SYCS 2 (with
-				MO)
A 12.1–12.4	Mon	14:00-16:00	Audimax	Quantum Repeaters SYQR 2 (with Q)
A 13.1–13.6	Mon	14:00-15:30	DO24 1.101	Ultracold plasmas and Rydberg systems II (with Q)
A 14.1–14.28	Mon	16:30 - 18:30	Spree-Palais	Poster: Precision spectroscopy of atoms and ions
			1	(with Q)
A 15.1–15.19	Mon	16:30 - 18:30	Spree-Palais	Poster: Interaction with strong or short laser pulses
A 16.1–16.4	Tue	10:30-12:30	Audimax	Symposium SAMOP Dissertation-Prize 2014 SYAD
				(with Q, MO, P)
A 17.1–17.7	Tue	10:30-12:15	Kinosaal	Quantum Protocols and Gates SYQR 3 (with Q)
A 18.1–18.7	Tue	14:00-16:00	BEBEL E34	Interaction with strong or short laser pulses II
A 19.1–19.7	Tue	14:00-16:00	BEBEL E42	Photoionization
A 20.1–20.8	Tue	14:00-16:00	BEBEL $E44/46$	Ultra-cold plasmas and Rydberg systems III (with Q)
A 21.1–21.7	Tue	14:00-15:45	BEBEL SR140/142	Precision spectroscopy of atoms and ions III (with Q)
A 22.1–22.7	Tue	14:00-15:45	Kinosaal	Photon Sources for Quantum Networks SYQR 4 (with
				$\mathbf{Q}$ )
A 23.1–23.6	Tue	16:30 - 18:30	Spree-Palais	Poster: Atomic clusters (with MO)
A $24.1-24.3$	Tue	16:30-18:30	Spree-Palais	Poster: Atomic systems in external fields
A $25.1-25.10$	Tue	16:30-18:30	Spree-Palais	Poster: Electron scattering and recombination
A 26.1–26.6	Tue	16:30 - 18:30	Spree-Palais	Poster: Interaction of matter and collisions with ions
A $27.1-27.12$	Tue	16:30-18:30	Spree-Palais	Poster: Photoionization
A $28.1 - 28.9$	Tue	16:30 - 18:30	Spree-Palais	Poster: Ultra-cold plasmas and Rydberg systems
				$(\text{with }\mathbf{Q})$
A $29.1 - 29.7$	Wed	14:00-16:00	UDL HS3038	Ultra-cold atoms, ions and BEC III (with $Q$ )
A $30.1 - 30.7$	Wed	14:00-16:00	BEBEL E42	Interaction with VUV and X-ray light I
A 31.1–31.4	Wed	14:00-16:00	Audimax	Fathoming Stellar Evolution with Laboratory Preci-
				sion SYSE (with MS, $Q$ , MO, EP)
A 32.1–32.4	Wed	14:00-16:00	Kinosaal	Awards Symposium I (SYAW 1)
A 33.1–33.2	Wed	16:30-17:30	Kinosaal	Awards Symposium II (SYAW 2)
A 34.1–34.31	Wed	16:30 - 18:30	Spree-Palais	Poster: Ultra-cold atoms, ions and BEC (with $Q$ )
A 35.1–35.16	Wed	16:30 - 18:30	Spree-Palais	Poster: Interaction with VUV and X-ray light
A 36.1–36.8	Thu	10:30-12:30	BEBEL E34	Ultra-cold atoms, ions and BEC IV (with $Q$ )
A 37.1–37.7	Thu	10:30-12:30	BEBEL E42	Electron scattering and recombination
A 38.1–38.7	Thu	10:30-12:30	BEBEL $E44/46$	Atomic clusters (with MO)

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A 39.1–39.8	Thu	10:30-12:30	BEBEL SR140/142	Precision spectroscopy of atoms and ions IV (with Q)
A 40.1–40.8	Thu	14:00-16:00	BEBEL E34	Interaction with strong or short laser pulses III
A 41.1–41.7	Thu	14:00-16:00	BEBEL E42	Interaction with VUV and X-ray light II
A 42.1–42.6	Thu	14:00-15:30	DO26 208	Ultracold atoms and molecules I (with $Q$ )
A 43.1–43.4	Thu	14:00-15:55	Audimax	Velocity map imaging - focusing on intra- and inter-
				atomic dynamics SYPS 1 (with jDPG)
A 44.1–44.7	Thu	14:00-16:00	DO24 1.101	Precision measurements and metrology I (with Q)
A $45.1 - 45.5$	Thu	16:30 - 18:30	Audimax	Velocity map imaging - focusing on intra- and inter-
				atomic dynamics SYPS 2 (with jDPG)
A 46.1–46.6	Thu	16:30 - 18:00	BEBEL E34	Atomic collisions and ultracold plasmas
A 47.1–47.8	Thu	16:30 - 18:30	BEBEL E42	Attosecond physics
A 48.1–48.8	Thu	16:30 - 18:30	BEBEL SR140/142	Ultra-cold atoms, ions and BEC V (with Q)
A 49.1–49.6	Thu	16:30 - 18:30	DO24 1.101	Precision measurements and metrology II (with Q)
A $50.1 - 50.5$	Fri	10:30-11:45	BEBEL E34	Ultra-cold atoms, ions and BEC VI (with Q)
A $51.1-51.6$	Fri	10:30-12:00	BEBEL E42	Interaction with VUV and X-ray light III
A 52.1–52.4	Fri	10:30-12:30	Audimax	Characterization and control of complex quantum sys-
				tems SYQS 1 (with Q, MO, MS, MP, AGjDPG)
A 53.1–53.7	Fri	10:30-12:30	DO24 1.101	Precision measurements and metrology III (with Q)
A 54.1–54.6	$\mathbf{Fri}$	14:00-15:45	DO24 1.101	Precision measurements and metrology IV (with Q)
A 55.1–55.6	Fri	14:00-16:00	Audimax	Characterization and control of complex quantum sys-
				tems SYQS 2 (with Q, MO, MS, MP, AGjDPG)
A 56.1–56.6	Fri	14:00-15:30	DO26 208	Ultracold atoms and molecules II (with Q)
A 57.1–57.6	Fri	16:30-18:15	DO24 1.101	Precision measurements and metrology V (with Q)
A 58.1–58.5	Fri	16:30 - 18:30	Audimax	Characterization and control of complex quantum sys-
				tems SYQS 3 (with Q, MO, MS, MP, AGjDPG)

## Annual General Meeting of the Atomic Physics Division

Thursday 13:15–14:00 BEBEL E44/46

- Bericht
- Wahl
- Verschiedenes