Molecular Physics Division
Fachverband Molekülphysik (MO)

Stephan Schlemmer
I. Physikalisches Institut
Zülpicher Straße 77
50937 Köln
schlemmer@ph1.uni-koeln.de

Overview of Invited Talks and Sessions

(Lecture halls MO-H5, MO-H6, MO-H7, and MO-H8; Poster P)

Invited Talks

MO 3.1	Mon	16:30–17:00	MO-H5	**Electronic Properties of Small Gold Cluster Cations** — •Marko Förstel, Kai Pollow, Taarna Studemund, Nima-Noah Nahvi, Nikita Kavka, Roland Mitric, Otto Dopfer
MO 5.1	Tue	10:30–11:00	MO-H6	**Extending coherent multidimensional spectroscopy to new target systems and new light sources** — •Lukas Bruder
MO 16.1	Thu	10:30–11:00	MO-H5	**Infrared Spectroscopy of Ionic Hydrogen-Helium Complexes** — •Oskar Asvany, Stephan Schlemmer
MO 18.1	Thu	14:30–15:00	MO-H5	**High-resolution spectroscopic studies of transient carbon-rich species** — •Sven Thorwirth, Oskar Asvany, Stephan Schlemmer

Invited talks of the joint symposium Laboratory Astrophysics (SYLA)

See SYLA for the full program of the symposium.

SYLA 1.1	Mon	14:00–14:30	Audimax	**Probing chemistry inside giant planets with laboratory experiments** — •Dominik Kraus
SYLA 1.2	Mon	14:30–15:00	Audimax	**Inner-shell photoabsorption of atomic and molecular ions** — •Stefan Schippers
SYLA 1.3	Mon	15:00–15:30	Audimax	**Molecular Astrophysics at the Cryogenic Storage Ring** — •Holger Kreckel
SYLA 1.4	Mon	15:30–16:00	Audimax	**Observing small molecules in stellar giants - High spectral resolution infrared studies in the laboratory, on a mountain, and high up in the air** — •Guido W. Fuchs
SYLA 2.1	Mon	16:30–17:00	Audimax	**State-to-State Rate Coefficients for NH_3-NH_3 Collisions obtained from Pump-Probe Chirped-Pulse Experiments** — •Christian P. Endres, Paola Caselli, Stephan Schlemmer
SYLA 2.4	Mon	17:30–18:00	Audimax	**A multifaceted approach to investigate the reactivity of PAHs under electrical discharge conditions** — •Donatella Loru, Amanda L. Steber, Johannes M. M. Thunnissen, Daniël B. Rap, Alexander K. Lemmens, Anouk M. Rijs, Melanie Schnell
SYLA 2.5	Mon	18:00–18:30	Audimax	**Exploring the Femtosecond Dynamics of Polycyclic Aromatic Hydrocarbons Using XUV FEL Pulses** — •Jason Lee, Denis Tikhonov, Bastian Manschwetus, Melanie Schnell

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

MO 1.1–1.4	Mon	10:30–11:30	MO-H5	**Quantum-Control**
MO 2.1–2.9	Mon	14:00–16:15	MO-H5	**X-ray FELs (joint session MO/A)**
MO 3.1–3.6	Mon	16:30–18:15	MO-H5	**Electronic I**
MO 4.1–4.4	Tue	10:30–11:30	MO-H5	**Electronic II**
MO 5.1–5.6	Tue	10:30–12:15	MO-H6	**Femtosecond Spectroscopy I**

MO 6.1–6.6	Tue	10:30–12:00	MO-H7	**Theory**
MO 7.1–7.8	Tue	10:30–12:30	MO-H8	**Cold Molecules**
MO 8.1–8.24	Tue	16:30–18:30	P	**Poster 1**
MO 9.1–9.6	Wed	10:30–12:00	MO-H5	**Femtosecond Spectroscopy II**
MO 10.1–10.7	Wed	10:30–12:15	MO-H6	**XUV-spectroscopy**
MO 11.1–11.5	Wed	10:30–11:45	MO-H7	**Photochemistry I**
MO 12	Wed	12:45–13:15	MO-MV	**Annual General meeting**
MO 13.1–13.5	Wed	14:30–15:45	MO-H5	**Femtosecond Spectroscopy III**
MO 14.1–14.6	Wed	14:30–16:00	MO-H6	**Photochemistry II**
MO 15.1–15.23	Wed	16:30–18:30	P	**Poster 2**
MO 16.1–16.6	Thu	10:30–12:15	MO-H5	**Ions**
MO 17.1–17.3	Thu	10:30–11:15	MO-H6	**Precision**
MO 18.1–18.7	Thu	14:30–16:30	MO-H5	**High-Resolution Spectroscopy**
MO 19.1–19.18	Thu	16:30–18:30	P	**Poster 3**

Annual General Meeting of the Molecular Physics Division

Wednesday 12:45–13:15 MO-MV

- report
- Miscellaneous