

Molecular Physics Division Fachverband Molekülphysik (MO)

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Overview of Invited Talks and Sessions

(Lecture halls HS XV and HS XVI; Poster Tent)

Invited Talks

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|---------|-----|-------------|--------|---|
| MO 1.1 | Mon | 11:00–11:30 | HS XVI | Tracking and Controlling Chirality — ●DANIEL REICH |
| MO 18.1 | Wed | 14:30–15:00 | HS XVI | Cold and Controlled Reactive Collisions — ●JOLIJN ONVLEE |
| MO 23.1 | Thu | 11:00–11:30 | HS XV | Pickup and reactions of molecules on clusters relevant for atmospheric processes — ●JOZEF LENGYEL |
| MO 25.1 | Thu | 14:30–15:00 | HS XVI | In good neighborhood: Suppression of radiation damage to X-ray-ionized molecules by intermolecular decay — ●ANDREAS HANS, DANA BLOSS, MADHUSREE ROY CHOWDHURY, CATMARN KÜSTNER-WETEKAM, FLORIAN TRINTER, ALEXANDER KULEFF, LORENZ S. CEDERBAUM, ARNO EHRESMANN |
| MO 29.1 | Fri | 11:00–11:30 | HS XV | N₂ activation by transition metal clusters — MAX LUCZAK, CHRISTOPHER WIEHN, DANIELA FRIES, NIELS WOLFGRAMM, CHRISTOPH VAN WÜLLEN, ●GEREON NIEDNER-SCHATTEBURG |

Invited Talks of the joint Symposium Molecular Spectroscopy of Liquid Jets (SYML)

See SYML for the full program of the symposium.

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| SYML 1.1 | Mon | 11:00–11:30 | HS 1+2 | The challenging road to work function measurements from aqueous solutions — ●BERND WINTER |
| SYML 1.2 | Mon | 11:30–12:00 | HS 1+2 | Liquid Delivery Systems for Time Resolved X-ray Spectroscopy — ●ZHONG YIN |
| SYML 1.3 | Mon | 12:00–12:30 | HS 1+2 | UV photoelectron spectroscopy of aqueous solutions — ●HELEN FIELDING, JOHANNA RADEMACHER, KATE ROBERTSON, EDOARDO SIMONETTI |
| SYML 1.4 | Mon | 12:30–13:00 | HS 1+2 | Decoherence and electron transport in liquid water observed with attosecond interferometric spectroscopy — ●HUGO MARROUX ET AL |

Invited Talks of the joint Symposium SAMOP Dissertation Prize 2025 (SYAD)

See SYAD for the full program of the symposium.

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| SYAD 1.1 | Mon | 14:30–15:00 | HS 1+2 | A simple method to separate single- from multi-particle dynamics in time-resolved spectroscopy — ●JULIAN LÜTTIG |
| SYAD 1.2 | Mon | 15:00–15:30 | HS 1+2 | Time-resolving quantum dynamics in atoms and molecules with intense x-ray lasers and neural networks — ●ALEXANDER MAGUNIA |
| SYAD 1.3 | Mon | 15:30–16:00 | HS 1+2 | How rotation shapes the decay of diatomic carbon anions — ●VIVIANE C. SCHMIDT |
| SYAD 1.4 | Mon | 16:00–16:30 | HS 1+2 | Interstellar stardust from stellar explosions recorded in a deep-ocean ferromanganese crust within the last 10 million years — ●DOMINIK KOLL |

Invited Talks of the joint Symposium Polaritonic Effects in Molecular System (SYPE)

See SYPE for the full program of the symposium.

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| SYPE 1.1 | Tue | 11:00–11:30 | HS 1+2 | Ab initio quantum electrodynamics: from microscopic details to thermodynamics — ●MICHAEL RUGGENTHALER |
| SYPE 1.2 | Tue | 11:30–12:00 | HS 1+2 | Ultrafast coherent exciton dynamics mediated by field-matter couplings — ●ANTONIETTA DE SIO |
| SYPE 1.3 | Tue | 12:00–12:30 | HS 1+2 | Open system dynamics for non-radiative transitions in molecules — ●CLAUDIU GENES |
| SYPE 1.4 | Tue | 12:30–13:00 | HS 1+2 | Strong light-matter coupling: from self-hybridized polaritons to Casimir self-assembly — ●TIMUR SHEGAI |

Invited Talks of the joint Symposium Quantum Science and more in Ghana and Germany (SYGG)

See SYGG for the full program of the symposium.

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| SYGG 1.1 | Tue | 11:00–11:05 | WP-HS | Welcome Adress — ●BIRGIT MÜNCH |
| SYGG 1.2 | Tue | 11:05–11:20 | WP-HS | Quantum Education in Ghana — ●DORCAS ATTUABEA ADDO |
| SYGG 1.3 | Tue | 11:20–11:45 | WP-HS | Mathematical and Computational Physics Research In Ghana: To Cultivate a Knowledge-Based and Sustainable Development Economy — ●HENRY MARTIN, HENRY ELORM QUARSHIE, MARK PAAL, FRANCIS KOFI AMPONG, ERIC KWABENA KYEH ABAVARE, MATTEO COLANGELI, ALESSANDRA CONTINENZA, JAIME MARIAN |
| SYGG 1.4 | Tue | 11:45–12:10 | WP-HS | Forecasting the Economic Health of Ghana Using Quantum-Enhanced Long Short-Term Memory Model — ●PETER NIMBE, HENRY MARTIN, DORCAS ATTUABEA ADDO, NICODEMUS SONGOSE AWARAYI |
| SYGG 1.5 | Tue | 12:10–12:40 | WP-HS | Quantum Technology with Spins — ●JOERG WRACHTRUP |
| SYGG 1.6 | Tue | 12:40–13:00 | WP-HS | Renewable Energy Technologies for Rural Ghana: The Role of Appropriate Technology for Tailored solutions — ●MICHAEL KWEKU EDEM DONKOR |

Prize and Invited Talks of the joint Awards Symposium (SYAS)

See SYAS for the full program of the symposium.

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| SYAS 1.1 | Thu | 14:30–15:10 | HS 1+2 | A journey in mathematical quantum physics — ●REINHARD F. WERNER |
| SYAS 1.2 | Thu | 15:10–15:50 | HS 1+2 | Precision Tests of the Standard Model at Low Energies Using Stored Exotic Ions in Penning Traps — ●KLAUS BLAUM |
| SYAS 1.3 | Thu | 15:50–16:30 | HS 1+2 | Controlling light by atoms and atoms by light: from dark-state polaritons to many-body spin physics — ●MICHAEL FLEISCHHAUER |
| SYAS 1.4 | Thu | 16:30–16:35 | HS 1+2 | Quantum history at your fingertips: Launch of the DPG's Quantum History Wall — ●ARNE SCHIRRMACHER |

Invited Talks of the joint Symposium Laser-Cooled Molecules (SYLC)

See SYLC for the full program of the symposium.

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| SYLC 1.1 | Fri | 11:00–11:30 | HS 1+2 | Measuring the electron electric dipole moment with laser-cooled molecules — ●MICHAEL TARBUTT |
| SYLC 1.2 | Fri | 11:30–12:00 | HS 1+2 | Laser-cooling of molecules in various charge states — ●ROBERT BERGER |
| SYLC 1.3 | Fri | 12:00–12:30 | HS 1+2 | Progress in quantum gases of polar molecules: Collisions, laser cooling, and trapping techniques — MARA MEYER ZUM ALTEN BORGLÖH, JULE HEIER, BARAA SHAMMOUT, FRITZ VON GIERKE, TIMO POLL, JULIUS NIEDERSTUCKE, PAUL KAEBERT, SEBASTIAN ANSKEIT, JAKOB STALMANN, LEON KARPA, MIRCO SIERCKE, ●SILKE OSPELKAUS |
| SYLC 1.4 | Fri | 12:30–13:00 | HS 1+2 | Progress in laser cooling the AlF molecule — ●SIDNEY WRIGHT |

Invited Talks of the joint Symposium New Avenues in Molecular Alignment and Orientation (SYAO)

See SYAO for the full program of the symposium.

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| SYAO 1.1 | Fri | 14:30–15:00 | HS 1+2 | Ultralong-range Rydberg molecules: Rotational hybridization, control of alignment and orientation, and Rydberg blockade — ●ROSARIO GONZÁLEZ-FÉREZ |
| SYAO 1.2 | Fri | 15:00–15:30 | HS 1+2 | Quantum control of molecular rotation — ●DOMINIQUE SUGNY |
| SYAO 1.3 | Fri | 15:30–16:00 | HS 1+2 | Strong-Field Ionization and Electron Rescattering Probabilities in the Molecular Frame — ●JOCHEN MIKOSCH, MARTIN GARRO, NARAYAN KUNDU, HORST ROTTKE, KILLIAN DICKSON, VARUN MAKHIJA, FEDERICO BRANCHI, FELIX SCHELL, MARK MERO, C P SCHULZ, SERGUEI PATCHKOVSKII, MARC VRAKKING |
| SYAO 1.4 | Fri | 16:00–16:30 | HS 1+2 | Coherent rotational control of gas phase molecular dipoles by concerted Terahertz and Near-IR pulses — ●SHARLY FLEISCHER |

Sessions

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|---------------|-----|-------------|------------|---|
| MO 1.1–1.8 | Mon | 11:00–13:15 | HS XVI | Chirality |
| MO 2.1–2.8 | Mon | 11:00–13:00 | HS XV | Polaritonic Effects in Molecular Systems I (joint session MO/Q) |
| MO 3.1–3.7 | Mon | 11:00–12:45 | HS I | Rydberg Atoms, Ions, and Molecules (joint session Q/MO) |
| MO 4.1–4.4 | Mon | 17:00–18:00 | HS XVI | Molecular Spectroscopy of Liquid Jets I |
| MO 5.1–5.8 | Tue | 11:00–13:00 | HS XVI | Ultrafast Dynamics I |
| MO 6.1–6.8 | Tue | 11:00–13:00 | HS XV | Molecular Spectroscopy of Liquid Jets II |
| MO 7.1–7.5 | Tue | 11:00–12:30 | GrHS Mathe | Attosecond Physics I (joint session A/MO) |
| MO 8.1–8.6 | Tue | 11:00–12:45 | HS V | Strong-Field and Ultrafast Phenomena (joint session Q/MO) |
| MO 9.1–9.5 | Tue | 14:00–16:00 | Tent | Poster – Novel Approaches |
| MO 10.1–10.4 | Tue | 14:00–16:00 | Tent | Poster – Chirality |
| MO 11.1–11.6 | Tue | 14:00–16:00 | Tent | Poster – Polaritonic Effects in Molecular Systems (joint session MO/Q) |
| MO 12.1–12.65 | Tue | 14:00–16:00 | Tent | Poster – Cold Atoms and Molecules, Matter Waves (joint session Q/A/MO) |
| MO 13.1–13.8 | Wed | 11:00–13:00 | HS XVI | Ultrafast Dynamics II |
| MO 14.1–14.8 | Wed | 11:00–13:00 | HS XV | Polaritonic Effects in Molecular Systems II (joint session MO/Q) |
| MO 15.1–15.7 | Wed | 11:00–12:45 | GrHS Mathe | Interaction with VUV and X-ray Light I (joint session A/MO) |
| MO 16.1–16.4 | Wed | 11:00–13:00 | HS I PI | In Memoriam of Hermann Haken (joint session Q/MO) |
| MO 17 | Wed | 13:15–14:15 | HS 5 | Members' Assembly |
| MO 18.1–18.7 | Wed | 14:30–16:30 | HS XVI | Cold Molecules and Cold Chemistry (joint session MO/Q) |
| MO 19.1–19.6 | Wed | 14:30–16:15 | GrHS Mathe | Interaction with Strong or Short Laser Pulses I (joint session A/MO) |
| MO 20.1–20.22 | Wed | 17:00–19:00 | Tent | Poster – Molecular Spectroscopy and Dynamics |
| MO 21.1–21.10 | Wed | 17:00–19:00 | Tent | Poster – Interaction with Strong or Short Laser Pulses (joint session A/MO) |
| MO 22.1–22.8 | Thu | 11:00–13:00 | HS XVI | Ultrafast Dynamics III |
| MO 23.1–23.8 | Thu | 11:00–13:15 | HS XV | Cluster and Nanoparticles I (joint session MO/A) |
| MO 24.1–24.5 | Thu | 11:00–12:30 | GrHS Mathe | Attosecond Physics II (joint session A/MO) |
| MO 25.1–25.7 | Thu | 14:30–16:30 | HS XVI | X-ray Spectroscopy |
| MO 26.1–26.15 | Thu | 17:00–19:00 | Tent | Poster – Cold Molecules (joint session MO/Q) |
| MO 27.1–27.3 | Thu | 17:00–19:00 | Tent | Poster – Collisions, Scattering and Correlation Phenomena (joint session A/MO) |
| MO 28.1–28.7 | Fri | 11:00–12:45 | HS XVI | Ultrafast Dynamics IV |
| MO 29.1–29.7 | Fri | 11:00–13:00 | HS XV | Cluster and Nanoparticles II (joint session MO/A) |
| MO 30.1–30.7 | Fri | 14:30–16:15 | HS XVI | Molecular Spectroscopy and Theoretical Approaches |

Members' Assembly of the Molecular Physics Division

Wednesday 13:15–14:15 HS 5