

Surface Science Division Fachverband Oberflächenphysik (O)

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Overview of Invited Talks and Sessions

(Lecture halls H 0105, H 1012, HE 101, HL 001, MA 004, MA 005, MA 041, MA 042, MA 043, MA 141, MA 144, and TC 006; Poster A, C, and D)

Plenary Talks

PLV I	Mon	8:30– 9:15	H 0105	Opportunities from single magnetic adatoms on superconductors — •KATHARINA J. FRANKE
PLV IV	Tue	8:30– 9:15	H 0105	Capturing light induced phase transitions with femtosecond movies — •NUH GEDIK

Laureate of the Gaede Prize 2024

O 64.1	Wed	17:30–18:00	MA 004	Molecular spin switches on surfaces — •MANUEL GRUBER
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Overview Talks

O 1.1	Mon	9:30–10:15	HE 101	(Surface-)science-driven machine learning — •JOHANNES T. MARGRAF
O 19.1	Tue	9:30–10:15	HE 101	Quasiparticle dynamics and spin-orbital texture of 2D electron liquids at surfaces — •FELIX BAUMBERGER
O 41.1	Wed	9:30–10:15	HE 101	Extreme interaction of photons and electrons in metallic nanocavities and STM tunnelling gaps — •JAVIER AIZPURUA
O 73.1	Thu	9:30–10:15	HE 101	Ice structures and dynamics on surfaces investigated on the local scale — •KARINA MORGENSTERN
O 100.1	Fri	9:30–10:15	HE 101	Momentum microscopy & 2D materials: Excitons in space and time — •MARCEL REUTZEL
O 112.1	Fri	13:15–14:00	HE 101	A surface science approach to thermal and electrochemical ammonia synthesis — •IB CHORKENDORFF

Invited Talks of the joint Symposium "Frontiers of Electronic-Structure Theory - Advances in Time-Dependent and Nonequilibrium Ab Initio Methods" (SYES)

SYES 1.1	Tue	9:30–10:00	H 0105	Light control of charge transport and phase transitions — •SHENG MENG
SYES 1.2	Tue	10:00–10:30	H 0105	Probing the transport of the interacting electron-phonon system self-consistently and <i>ab initio</i> — •NAKIB PROTIK
SYES 1.3	Tue	10:30–11:00	H 0105	In- and out-of-equilibrium ab initio theory of electrons and phonons — •GIANLUCA STEFANUCCI
SYES 1.4	Tue	11:15–11:45	H 0105	Phonon screening of excitons in semiconductors and insulators from first principles — •MARINA RUCSANDRA FILIP
SYES 1.5	Tue	11:45–12:15	H 0105	Light-matter control of quantum materials: from Floquet to cavity engineering — •MICHAEL SENTEF

Topical Talks of the Focus Session "Spins on Surfaces studied by Atomic Scale Spectroscopies"

- O 3.1 Mon 10:30–11:00 MA 004 **Magnetic molecules on superconductors: from sensing experiments to novel molecular candidates for quantum platforms** — ●GIULIA SERRANO
- O 11.1 Mon 15:00–15:30 MA 004 **Unusual magnetism of closed-shell molecules on metal substrates** — ●ALEXANDER WEISMANN
- O 21.1 Tue 10:30–11:00 MA 004 **Theory of Electron Spin Resonance in Scanning Tunneling Microscopy** — ●JUAN CARLOS CUEVAS
- O 52.1 Wed 15:00–15:30 MA 004 **Locally driven quantum phase transitions in a strongly correlated molecular monolayer** — ●MARKUS TERNES

Topical Talks of the Focus Session "Molecular Nanostructures on Surfaces: On-Surface Synthesis and Single-Molecule Manipulation"

- O 20.1 Tue 10:30–11:00 HE 101 **Generation and Characterization of Cyclocarbons** — ●LEO GROSS
- O 51.1 Wed 15:00–15:30 HE 101 **Exploring the Magnetic and Topological Properties in Carbon-based Nanomaterials** — ●PING YU
- O 87.1 Thu 15:00–15:30 HE 101 **Towards the third dimension: Organic molecular architectures synthesized on solid surfaces by means of solution-based click chemistry** — ●MICHAEL DÜRR
- O 103.1 Fri 10:30–11:00 HE 101 **Toward nanofabrication with molecular building blocks** — ●CHRISTIAN WAGNER

Topical Talks of the Focus Session "Spin Phenomena in Chiral Molecular Systems"

- O 26.1 Tue 10:30–11:00 MA 141 **The Electron's Spin and Chirality - a Miraculous Match** — ●RON NAA-MAN
- O 26.2 Tue 11:00–11:30 MA 141 **Electrons, Vibrations and Chirality** — ●MARTIN B. PLENIO
- O 26.3 Tue 11:30–12:00 MA 141 **Electrical Dipole Moment Governs Spin Polarization in Charge Transport in Single α -helical Peptides Junctions** — ●ISMAEL DIEZ-PEREZ
- O 48.1 Wed 10:30–11:00 MA 141 **Chiral-induced Spin Selectivity in Hybrid Chiral Molecule/ Metal Systems** — ●ANGELA WITTMANN
- O 48.2 Wed 11:00–11:30 MA 141 **Chirality-induced spin selectivity at the single-molecule scale** — ●DANIEL EMIL BÜRGLER

Topical Talks of the Focus Session "Novel Approaches to Surface Plasmon Generated Charges and Heat for Photocatalysis (joint session O/CPP)"

- O 58.1 Wed 15:00–15:30 MA 141 **Plasmonic photothermal chemistry on single nanoparticles** — ●ANDREA BALDI
- O 58.6 Wed 16:30–17:00 MA 141 **Disentangling plasmonic catalysis contributions by time-resolved spectroscopy** — ●HOLGER LANGE
- O 83.1 Thu 10:30–11:00 MA 141 **Designing Plasmonic Photocatalysts** — ●EMILIANO CORTES

Topical Talks of the Focus Session "Ultrafast Processes in Organic Semiconductors and Perovskites"

- O 78.1 Thu 10:30–11:00 MA 004 **Transport and trapping in molecular materials at the picosecond time scale** — ●MARINA GERHARD
- O 78.4 Thu 11:30–12:00 MA 004 **Ultrafast charge-transfer dynamics in organic and hybrid interfaces from first principles** — ●CATERINA COCCHI
- O 88.1 Thu 15:00–15:30 MA 004 **Time-resolved chiroptical probes to track spin & light polarization in solution-processable semiconductors** — ●SASCHA FELDMANN

Topical Talks of the Focus Session "Proximity Effects in Epitaxial Graphene"

O 94.1	Thu	15:00–15:30	MA 141	Tailoring the electronic structure of epitaxial graphene on SiC — •KATHRIN KÜSTER
O 94.6	Thu	16:30–17:00	MA 141	Proximity spin-orbit coupling and topological interfaces in graphene / alloyed transition metal dichalcogenide heterostructures — •STEPHEN POWER, ZAHRA KHATIBI
O 109.1	Fri	10:30–11:00	MA 141	Heavy fermion quantum matter and topological superconductivity in artificial van der Waals heterostructures — •JOSE LADO
O 109.5	Fri	11:45–12:15	MA 141	Superconducting quantum devices in twisted graphene layers — •KLAUS ENSSLIN

General Invited Topical Talks

O 4.7	Mon	12:00–12:30	MA 005	Focused and coherent X-rays for the study of thin films and surfaces — •IVAN ZALUZHNYI
O 13.1	Mon	15:00–15:30	MA 041	Photocatalysis at the surface the TiO₂ on its real time — •HESHMAT NOEI
O 14.3	Mon	15:30–16:00	MA 042	Time-resolved interaction of the electron system with strong surface plasmon polariton fields — •FRANK MEYER ZU HERINGDORF
O 22.2	Tue	10:45–11:15	MA 005	Bias free extraction of orbital angular momentum from two-dimensional materials by dichroic photoemission — •SIMON MOSER
O 47.4	Wed	11:15–11:45	MA 043	Adsorbate motors for unidirectional translation and transport — •GRANT J. SIMPSON
O 53.3	Wed	15:30–16:00	MA 005	Tuning quantum electronic transport in nanoporous graphene — •ARAN GARCIA-LEKUE
O 54.1	Wed	15:00–15:30	MA 041	Ultrafast scanning tunneling microscopy as a local probe of femtosecond electron and coherent phonon dynamics — •MELANIE MÜLLER
O 54.6	Wed	16:30–17:00	MA 041	Ultrafast scanning tunneling microscopy of a phonon-driven atomic vacancy in a monolayer crystal — •YAROSLAV GERASIMENKO
O 60.5	Wed	16:00–16:30	MA 042	Ab initio insights into atomistic processes at electrified solid/liquid interfaces — •MIRA TODOROVA
O 81.7	Thu	12:00–12:30	MA 042	Trapping single atoms of noble gases in nanocages: from fundamental studies to applications — •JORGE ANIBAL BOSCOBOINIK
O 91.1	Thu	15:00–15:30	MA 041	SPM on the path to direct nano-optical measurements — •MARTIN SVEC
O 96.4	Thu	15:45–16:15	TC 006	Importance of charge transfer descriptor for the computational screening of electrocatalysts — •STEFAN RINGE
O 106.4	Fri	11:15–11:45	MA 041	Characterization of just one atom using synchrotron x-rays — •VOLKER ROSE

Sessions

O 1.1–1.1	Mon	9:30–10:15	HE 101	Overview Talk Johannes T. Margraf
O 2.1–2.10	Mon	10:30–13:00	HE 101	Focus Session: Frontiers of Electronic-Structure Theory – Advances in Time-Dependent and Nonequilibrium Ab Initio Methods I
O 3.1–3.6	Mon	10:30–12:15	MA 004	Focus Session: Spins on Surfaces studied by Atomic Scale Spectroscopies I
O 4.1–4.7	Mon	10:30–12:30	MA 005	New Methods: Experiments
O 5.1–5.8	Mon	10:30–12:30	MA 041	Ultrafast Electron Dynamics at Surfaces and Interfaces I
O 6.1–6.10	Mon	10:30–13:00	MA 042	Organic Molecules on Inorganic Substrates I: Adsorption & Growth
O 7.1–7.10	Mon	10:30–13:00	MA 043	Plasmonics and Nanooptics I
O 8.1–8.10	Mon	10:30–13:00	MA 141	Surface Reactions
O 9.1–9.7	Mon	10:30–12:15	MA 144	Semiconductor Substrates I: Adsorption of Small Molecules, Metallic Nanowires, Overlayers
O 10.1–10.9	Mon	15:00–17:15	HE 101	Focus Session: Frontiers of Electronic-Structure Theory – Advances in Time-Dependent and Nonequilibrium Ab Initio Methods II

O 11.1–11.10	Mon	15:00–17:45	MA 004	Focus Session: Spins on Surfaces studied by Atomic Scale Spectroscopies II
O 12.1–12.10	Mon	15:00–17:30	MA 005	2D Materials I: Electronic Structure (joint session O/TT)
O 13.1–13.9	Mon	15:00–17:30	MA 041	Ultrafast Electron Dynamics at Surfaces and Interfaces II
O 14.1–14.9	Mon	15:00–17:30	MA 042	Plasmonics and Nanooptics II: Light-Matter Interaction and Spectroscopy
O 15.1–15.12	Mon	15:00–18:00	MA 043	Organic Molecules on Inorganic Substrates II: Electronic, Optical and other Properties
O 16.1–16.10	Mon	15:00–17:30	MA 141	Surface Dynamics & Electron-Driven Processes
O 17.1–17.8	Mon	15:00–17:00	MA 144	Semiconductor Substrates II: Structure, Epitaxy, Growth
O 18.1–18.12	Mon	15:00–18:00	H 1012	Solid-Liquid Interfaces I: Structure and Spectroscopy
O 19.1–19.1	Tue	9:30–10:15	HE 101	Overview Talk Felix Baumberger
O 20.1–20.9	Tue	10:30–13:00	HE 101	Focus Session: Molecular Nanostructures on Surfaces: On-Surface Synthesis and Single-Molecule Manipulation I
O 21.1–21.10	Tue	10:30–13:15	MA 004	Focus Session: Spins on Surfaces studied by Atomic Scale Spectroscopies III
O 22.1–22.6	Tue	10:30–12:15	MA 005	2D Materials II: Electronic Structure (joint session O/TT)
O 23.1–23.11	Tue	10:30–13:15	MA 041	Ultrafast Electron Dynamics at Surfaces and Interfaces III
O 24.1–24.10	Tue	10:30–13:00	MA 042	Plasmonics and Nanooptics III: Light-Matter Interaction and Spectroscopy
O 25.1–25.10	Tue	10:30–13:00	MA 043	Organic Molecules on Inorganic Substrates III: Adsorption & Growth
O 26.1–26.7	Tue	10:30–13:15	MA 141	Focus Session: Spin Phenomena in Chiral Molecular Systems I (joint session O/TT)
O 27.1–27.8	Tue	10:30–12:30	MA 144	Tribology
O 28.1–28.11	Tue	10:30–13:15	H 1012	Solid-Liquid Interfaces II: Structure and Spectroscopy
O 29.1–29.35	Tue	12:30–14:30	Poster A	Poster: 2D Materials
O 30.1–30.7	Tue	12:30–14:30	Poster A	Poster: Proximity Effects in Epitaxial Graphene
O 31.1–31.17	Tue	18:00–20:00	Poster C	Poster: Organic Molecules on Inorganic Substrates
O 32.1–32.17	Tue	18:00–20:00	Poster C	Poster: Solid-Liquid Interfaces
O 33.1–33.10	Tue	18:00–20:00	Poster C	Poster: Supported Nanoclusters and Catalysis
O 34.1–34.5	Tue	18:00–20:00	Poster C	Poster: Surface Dynamics & Electron-Driven Processes
O 35.1–35.7	Tue	18:00–20:00	Poster C	Poster: Surface Reactions
O 36.1–36.25	Tue	18:00–20:00	Poster C	Poster: Ultrafast Electron Dynamics at Surfaces and Interfaces
O 37.1–37.12	Tue	18:00–20:00	Poster D	Poster: Electronic Structure of Surfaces and Spectroscopy of Surface States
O 38.1–38.3	Tue	18:00–20:00	Poster D	Poster: Electronic Structure Theory
O 39.1–39.11	Tue	18:00–20:00	Poster D	Poster: Metal Substrates
O 40.1–40.6	Tue	18:00–20:00	Poster D	Poster: Topological Materials
O 41.1–41.1	Wed	9:30–10:15	HE 101	Overview Talk Javier Aizpurua
O 42.1–42.8	Wed	10:30–12:30	HE 101	Focus Session: Frontiers of Electronic-Structure Theory – Advances in Time-Dependent and Nonequilibrium Ab Initio Methods III
O 43.1–43.10	Wed	10:30–13:00	MA 004	Focus Session: Spins on Surfaces studied by Atomic Scale Spectroscopies IV
O 44.1–44.10	Wed	10:30–13:00	MA 005	2D Materials III: Electronic Structure (joint session O/TT)
O 45.1–45.9	Wed	10:30–12:45	MA 041	Ultrafast Electron Dynamics at Surfaces and Interfaces IV
O 46.1–46.10	Wed	10:30–13:00	MA 042	Plasmonics and Nanooptics IV: Fabrication and Applications
O 47.1–47.6	Wed	10:30–12:15	MA 043	Metal Substrates I
O 48.1–48.6	Wed	10:30–12:30	MA 141	Focus Session: Spin Phenomena in Chiral Molecular Systems II (joint session O/TT)
O 49.1–49.10	Wed	10:30–13:00	MA 144	Oxide and Insulator Interfaces I
O 50.1–50.8	Wed	10:30–12:30	TC 006	Supported Nanoclusters: Structure, Reaction, Catalysis
O 51.1–51.10	Wed	15:00–17:45	HE 101	Focus Session: Molecular Nanostructures on Surfaces: On-Surface Synthesis and Single-Molecule Manipulation II
O 52.1–52.8	Wed	15:00–17:15	MA 004	Focus Session: Spins on Surfaces studied by Atomic Scale Spectroscopies V
O 53.1–53.11	Wed	15:00–18:00	MA 005	2D Materials IV: Graphene (joint session O/TT)
O 54.1–54.9	Wed	15:00–17:45	MA 041	Scanning Probe Microscopy: Light Matter Interaction at Atomic Scales I

O 55.1–55.11	Wed	15:00–17:45	HL 001	Topology and Symmetry protected Materials (joint session O/TT)
O 56.1–56.4	Wed	15:00–16:00	MA 043	Metal Substrates II
O 57.1–57.7	Wed	16:15–18:00	MA 043	New Methods: Theory
O 58.1–58.8	Wed	15:00–17:30	MA 141	Focus Session: Novel Approaches to Surface Plasmon Generated Charges and Heat for Photocatalysis I (joint session O/CPP)
O 59.1–59.10	Wed	15:00–17:30	MA 144	Oxide and Insulator Interfaces II
O 60.1–60.10	Wed	15:00–17:45	MA 042	Solid-Liquid Interfaces III: Reactions and Electrochemistry
O 61.1–61.6	Wed	15:00–17:00	A 053	Focus Session: 2D Transition Metal Carbides, Nitrides and Carbonitrides I (joint session DS/MM/O)
O 62.1–62.7	Wed	15:00–18:00	Poster E	Poster: SrTiO₃: A Versatile Material from Bulk Quantum Paraelectric to 2D Superconductor (joint session TT/KFM/MA/O)
O 63.1–63.31	Wed	17:00–19:00	Poster B	Poster DS (joint session DS/MM/O)
O 64.1–64.1	Wed	17:30–18:00	MA 004	Laureate of the Gaede Prize 2024
O 65.1–65.17	Wed	18:00–20:00	Poster C	Poster: Molecular Nanostructures on Surfaces
O 66.1–66.22	Wed	18:00–20:00	Poster C	Poster: Nanostructures at Surfaces
O 67.1–67.10	Wed	18:00–20:00	Poster C	Poster: Oxide, Insulator and Semiconductor Surfaces
O 68.1–68.12	Wed	18:00–20:00	Poster C	Poster: Scanning Probe Techniques: Method Development
O 69.1–69.5	Wed	18:00–20:00	Poster C	Poster: Spin Phenomena in Chiral Molecular Systems
O 70.1–70.16	Wed	18:00–20:00	Poster C	Poster: Spins on Surfaces & Surface Magnetism
O 71.1–71.22	Wed	18:00–20:00	Poster D	Poster: Plasmonics and Nanooptics
O 72.1–72.13	Wed	18:00–20:00	Poster D	Poster: Scanning Probe Microscopy: Light Matter Interaction at Atomic Scales
O 73.1–73.1	Thu	9:30–10:15	HE 101	Overview Talk Karina Morgenstern
O 74.1–74.7	Thu	9:30–12:45	H 0104	Focus Session: SrTiO₃: A Versatile Material from Bulk Quantum Paraelectric to 2D Superconductor I (joint session TT/KFM/MA/O)
O 75.1–75.5	Thu	9:30–11:00	H 0107	Focus Session: Wetting on Adaptive Substrates I (joint session CPP/DY/O)
O 76.1–76.8	Thu	9:30–12:15	A 053	Focus Session: 2D Transition Metal Carbides, Nitrides and Carbonitrides II (joint session DS/MM/O)
O 77.1–77.5	Thu	10:30–13:00	HE 101	Gerhard Ertl Young Investigator Award Competition
O 78.1–78.8	Thu	10:30–13:00	MA 004	Focus Session: Ultrafast Processes in Organic Semiconductors and Perovskites I (joint session O/CPP)
O 79.1–79.10	Thu	10:30–13:00	MA 005	2D Materials V: Growth, Structure and Substrate Interaction
O 80.1–80.8	Thu	10:30–12:30	MA 041	Scanning Probe Microscopy: Light Matter Interaction at Atomic Scales II
O 81.1–81.8	Thu	10:30–12:45	MA 042	Nanostructures at Surfaces I
O 82.1–82.8	Thu	10:30–12:30	MA 043	Electronic Structure Theory I
O 83.1–83.10	Thu	10:30–13:15	MA 141	Focus Session: Novel Approaches to Surface Plasmon Generated Charges and Heat for Photocatalysis II (joint session O/CPP)
O 84.1–84.10	Thu	10:30–13:00	MA 144	Electronic Structure of Surfaces I: Spectroscopy, Surface States
O 85.1–85.9	Thu	10:30–12:45	TC 006	Heterogeneous Catalysis I
O 86.1–86.5	Thu	11:30–13:00	H 0107	Focus Session: Wetting on Adaptive Substrates II (joint session CPP/DY/O)
O 87.1–87.11	Thu	15:00–18:00	HE 101	Focus Session: Molecular Nanostructures on Surfaces: On-Surface Synthesis and Single-Molecule Manipulation III
O 88.1–88.11	Thu	15:00–18:00	MA 004	Focus Session: Ultrafast Processes in Organic Semiconductors and Perovskites II (joint session O/CPP)
O 89.1–89.7	Thu	15:00–17:30	A 053	Focus Session: 2D Transition Metal Carbides, Nitrides and Carbonitrides III (joint session DS/MM/O)
O 90.1–90.12	Thu	15:00–18:00	MA 005	2D Materials VI: Growth, Structure and Substrate Interaction
O 91.1–91.10	Thu	15:00–17:45	MA 041	Scanning Probe Microscopy: Light Matter Interaction at Atomic Scales III
O 92.1–92.11	Thu	15:00–17:45	MA 042	Nanostructures at Surfaces II
O 93.1–93.12	Thu	15:00–18:00	MA 043	Scanning Probe Techniques: Method Development

O 94.1–94.10	Thu	15:00–18:00	MA 141	Focus Session: Proximity Effects in Epitaxial Graphene I
O 95.1–95.10	Thu	15:00–17:30	MA 144	Electronic Structure of Surfaces II: Spectroscopy, Surface States
O 96.1–96.11	Thu	15:00–18:00	TC 006	Solid-Liquid Interfaces IV: Reactions and Electrochemistry
O 97.1–97.11	Thu	15:00–18:00	H 0104	Focus Session: SrTiO₃: A Versatile Material from Bulk Quantum Paraelectric to 2D Superconductor II (joint session TT/KFM/MA/O)
O 98	Thu	19:00–19:30	H 0105	Members' Assembly
O 99	Thu	19:30–20:30	H 0105	Post-Deadline Session
O 100.1–100.1	Fri	9:30–10:15	HE 101	Overview Talk Marcel Reutzel
O 101.1–101.11	Fri	9:30–12:30	H 0104	Focus Session: SrTiO₃: A Versatile Material from Bulk Quantum Paraelectric to 2D Superconductor III (joint session TT/KFM/MA/O)
O 102.1–102.10	Fri	9:30–12:45	H 0110	Focus Session: Wetting on Adaptive Substrates III (joint session CPP/DY/O)
O 103.1–103.9	Fri	10:30–13:00	HE 101	Focus Session: Molecular Nanostructures on Surfaces: On-Surface Synthesis and Single-Molecule Manipulation IV
O 104.1–104.5	Fri	10:30–11:45	MA 004	Focus Session: Ultrafast Processes in Organic Semiconductors and Perovskites III (joint session O/ CPP)
O 105.1–105.9	Fri	10:30–12:45	MA 005	2D Materials VII: Heterostructures (joint session O/TT)
O 106.1–106.8	Fri	10:30–12:45	MA 041	Scanning Probe Microscopy: Light Matter Interaction at Atomic Scales IV
O 107.1–107.7	Fri	10:30–12:15	MA 042	Nanostructured Surfaces and Thin Films
O 108.1–108.8	Fri	10:30–12:30	MA 043	Electronic Structure Theory II
O 109.1–109.8	Fri	10:30–13:00	MA 141	Focus Session: Proximity Effects in Epitaxial Graphene II
O 110.1–110.9	Fri	10:30–12:45	MA 144	Surface Magnetism
O 111.1–111.8	Fri	10:30–12:30	TC 006	Heterogeneous Catalysis II
O 112.1–112.1	Fri	13:15–14:00	HE 101	Overview Talk Ib Chorkendorff

Members' Assembly of the Surface Science Division

Thursday 19:00–19:30 H 0105

- Report of the Chairman
- Election of a new Vice-Chair
- Presentation of the Gerhard Ertl Young Investigator Award
- Miscellaneous