

Surface Science Division Fachverband Oberflächenphysik (O)

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Overview of Invited Talks and Sessions

(Lecture halls H2, H3, H4, H6, S051, S052, S053, and S054; Poster P3 and P4)

Invited Talks

O 1.1	Mon	9:30–10:15	S054	Laser-excited electrons: how hot are they? — ●BAERBEL RETHFELD
O 24.1	Tue	9:30–10:15	S054	Oxygen Evolution on Rutile Ruthenium and Iridium Dioxides — ●YANG SHAO-HORN
O 36.1	Wed	9:30–10:15	S054	Heterogeneous chemistry of liquid-vapor interfaces investigated with X-ray photoelectron spectroscopy — ●HENDRIK BLUHM
O 60.1	Thu	9:30–10:15	S054	Exciting states in atomically thin layers — ●THORSTEN DEILMANN
O 77.1	Fri	9:30–10:15	S054	Sub-molecular fluorescence microscopy with STM — ●GUILLAUME SCHULL
O 84.1	Fri	13:15–14:00	S054	Exploring the Mysteries of Topology in Quantum Materials — ●CLAUS M. SCHNEIDER

Invited Talks of the joint Symposium Frontiers of Orbital Physics: Statics, Dynamics, and Transport of Orbital Angular Momentum (SYOP)

See SYOP for the full program of the symposium.

SYOP 1.1	Mon	9:30–10:00	H1	Orbital degeneracy in transition metal compounds: Jahn-Teller effect, spin-orbit coupling and quantum effects — ●DANIEL KHOMSKII
SYOP 1.2	Mon	10:00–10:30	H1	Orbital magnetism out of equilibrium: driving orbital motion with fluctuations, fields and currents — ●YURIY MOKROUSOV
SYOP 1.3	Mon	10:30–11:00	H1	Orbitronics: new torques and magnetoresistance effects — ●MATHIAS KLÄUI
SYOP 1.4	Mon	11:15–11:45	H1	Orbital and total angular momenta dichroism of the THz vortex beams at the antiferromagnetic resonances — ●ANDREI SIRENKO
SYOP 1.5	Mon	11:45–12:15	H1	Observation of the orbital Hall effect in a light metal Ti — ●GYUNG-MIN CHOI

Invited Talks of the joint Symposium SKM Dissertation Prize 2022 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	10:15–10:45	H2	Charge localisation in halide perovskites from bulk to nano for efficient optoelectronic applications — ●SASCHA FELDMANN
SYSD 1.2	Mon	10:45–11:15	H2	Nonequilibrium Transport and Dynamics in Conventional and Topological Superconducting Junctions — ●RAFFAEL L. KLEES
SYSD 1.3	Mon	11:15–11:45	H2	Probing magnetostatic and magnetotransport properties of the antiferromagnetic iron oxide hematite — ●ANDREW ROSS
SYSD 1.4	Mon	11:45–12:15	H2	Quantum dot optomechanics with surface acoustic waves — ●MATTHIAS WEISS

Invited Talks of the joint Symposium United Kingdom as Guest of Honor (SYUK)

See SYUK for the full program of the symposium.

SYUK 1.1	Wed	9:30–10:00	H2	Structure and Dynamics of Interfacial Water — ●ANGELOS MICHAELIDES
SYUK 1.2	Wed	10:00–10:30	H2	A molecular view of the water interface — ●MISCHA BONN
SYUK 1.3	Wed	10:30–11:00	H2	Motile cilia waves: creating and responding to flow — ●PIETRO CICUTA
SYUK 1.4	Wed	11:00–11:30	H2	Cilia and flagella: Building blocks of life and a physicist’s playground — ●OLIVER BÄUMCHEN
SYUK 1.5	Wed	11:45–12:15	H2	Computational modelling of the physics of rare earth - transition metal permanent magnets from SmCo₅ to Nd₂Fe₁₄B — ●JULIE STAUNTON
SYUK 2.1	Wed	15:00–15:30	H2	Hysteresis Design of Magnetic Materials for Efficient Energy Conversion — ●OLIVER GUTFLEISCH
SYUK 2.2	Wed	15:30–16:00	H2	Non-equilibrium dynamics of many-body quantum systems versus quantum technologies — ●IRENE D’AMICO
SYUK 2.3	Wed	16:00–16:30	H2	Quantum computing with trapped ions — ●FERDINAND SCHMIDT-KALER
SYUK 2.4	Wed	16:45–17:15	H2	Breaking the millikelvin barrier in cooling nanoelectronic devices — ●RICHARD HALEY
SYUK 2.5	Wed	17:15–17:45	H2	Superconducting Quantum Interference Devices for applications at mK temperatures — ●SEBASTIAN KEMPF

Invited Talks of the joint Symposium Frontiers of Electronic-Structure Theory: Focus on Artificial Intelligence Applied to Real Materials (SYES)

See SYES for the full program of the symposium.

SYES 1.1	Thu	15:00–15:30	H1	Machine-learning-driven advances in modelling inorganic materials — ●VOLKER L. DERINGER
SYES 1.2	Thu	15:30–16:00	H1	Machine-Learning Discovery of Descriptors for Square-Net Topological Semimetals — ●EUN-AH KIM
SYES 1.3	Thu	16:00–16:30	H1	Four Generations of Neural Network Potentials — ●JÖRG BEHLER
SYES 1.4	Thu	16:30–17:00	H1	Using machine learning to find density functionals — ●KIERON BURKE
SYES 1.5	Thu	17:00–17:30	H1	Coarse graining for classical and quantum systems — ●CECILIA CLEMENTI

Sessions

O 1.1–1.1	Mon	9:30–10:15	S054	Overview Talk Bärbel Rethfeld
O 2.1–2.10	Mon	10:30–13:00	H3	Ultrafast Electron Dynamics at Surfaces and Interfaces 1
O 3.1–3.8	Mon	10:30–12:45	H4	Focus Session: Single Atom Catalysis 1
O 4.1–4.4	Mon	10:30–11:30	H6	Topology and Symmetry-Protected Materials
O 5.1–5.9	Mon	10:30–13:00	S051	Organic Molecules at Surfaces 1: Substrate Effects
O 6.1–6.10	Mon	10:30–13:00	S052	Nanostructures at Surfaces 1
O 7.1–7.9	Mon	10:30–13:00	S053	New Methods and Developments 1: Scanning Probe Techniques 1 (joint session O/KFM)
O 8.1–8.8	Mon	10:30–12:45	S054	Solid-Liquid Interfaces 1: Reactions and Electrochemistry
O 9.1–9.13	Mon	15:00–18:15	H3	Ultrafast Electron Dynamics at Surfaces and Interfaces 2
O 10.1–10.7	Mon	15:00–17:30	H4	Focus Session: Single Atom Catalysis 2
O 11.1–11.6	Mon	15:00–16:30	H6	Electronic Structure Theory
O 12.1–12.12	Mon	15:00–18:00	S051	Organic Molecules at Surfaces 2: Characterization of Organic Monolayers
O 13.1–13.10	Mon	15:00–17:30	S052	Nanostructures at Surfaces 2
O 14.1–14.5	Mon	15:00–16:15	S053	New Methods and Developments 2: Scanning Probe Techniques 2 (joint session O/KFM)
O 15.1–15.11	Mon	15:00–18:00	S054	Solid-Liquid Interfaces 2: Structure and Spectroscopy
O 16.1–16.12	Mon	18:00–20:00	P4	Poster Monday: Ultrafast Processes 1
O 17.1–17.12	Mon	18:00–20:00	P4	Poster Monday: Organic Molecules at Surfaces 1
O 18.1–18.28	Mon	18:00–20:00	P4	Poster Monday: 2D Materials 1
O 19.1–19.10	Mon	18:00–20:00	P4	Poster Monday: Scanning Probe Techniques 1
O 20.1–20.11	Mon	18:00–20:00	P4	Poster Monday: Solid-Liquid Interfaces
O 21.1–21.5	Mon	18:00–20:00	P4	Poster Monday: Topology and Symmetry-Protected Materials
O 22.1–22.8	Mon	18:00–20:00	P4	Poster Monday: Surface Structure, Epitaxy, Growth and Tribology

O 23.1–23.9	Mon	18:00–20:00	P4	Poster Monday: Nanostructures 1
O 24.1–24.1	Tue	9:30–10:15	S054	Overview Talk Yang Shao-Horn
O 25.1–25.7	Tue	10:30–13:00	H2	Focus Session: Atomic-Scale Characterization of Correlated Ground States in Epitaxial 2D Materials
O 26.1–26.9	Tue	10:30–12:45	H4	Surface Magnetism
O 27.1–27.5	Tue	10:30–11:45	H6	Electron-Driven Processes
O 28.1–28.9	Tue	10:30–12:45	S051	Organic Molecules at Surfaces 3: Theory
O 29.1–29.7	Tue	10:30–12:15	S052	Metal substrates 1
O 30.1–30.8	Tue	10:30–12:45	S053	Semiconductor Surfaces
O 31.1–31.7	Tue	10:30–12:30	S054	Solid-Liquid Interfaces 3: Reactions and Electrochemistry
O 32.1–32.9	Tue	11:00–13:00	P3	Poster Tuesday: Adsorption and Catalysis 1
O 33.1–33.11	Tue	11:00–13:00	P3	Poster Tuesday: Ultrafast Processes 2
O 34.1–34.10	Tue	11:00–13:00	P3	Poster Tuesday: Scanning Probe Techniques 2
O 35.1–35.8	Tue	11:00–13:00	P3	Poster Tuesday: Plasmonics and Nanooptics 1
O 36.1–36.1	Wed	9:30–10:15	S054	Overview Talk Hendrik Bluhm
O 37.1–37.8	Wed	10:30–12:45	H3	Plasmonics and Nanooptics 1
O 38.1–38.7	Wed	10:30–12:30	H4	Solid-Liquid Interfaces 4: Reactions and Electrochemistry
O 39.1–39.7	Wed	10:30–12:15	H6	Tribology
O 40.1–40.9	Wed	10:30–12:45	S051	Organic Molecules at Surfaces 4: Chemistry on Surfaces
O 41.1–41.8	Wed	10:30–12:30	S052	Graphene: Growth, Substrate Interaction, Intercalation, and Doping
O 42.1–42.5	Wed	10:30–11:45	S053	Metal substrates 2
O 43.1–43.10	Wed	10:30–13:00	S054	Frontiers of Electronic Structure Theory: Focus on Artificial Intelligence Applied to Real Materials 1
O 44.1–44.10	Wed	15:00–18:30	H3	Focus Session: Surfaces and Interfaces of (Incipient) Ferroelectrics (joint session O/KFM)
O 45.1–45.9	Wed	15:00–18:00	H4	Focus Session: Catalysis at Liquid Interfaces
O 46.1–46.8	Wed	15:00–17:00	H6	New Methods and Developments 3: Theory
O 47.1–47.10	Wed	15:00–18:00	S051	Focus Session: Atomic-Scale Studies of Spins on Surfaces with Scanning Tunneling Microscopy 1
O 48.1–48.10	Wed	15:00–17:30	S052	2D Materials 1: Electronic Structure of Transition Metal Dichalcogenides
O 49.1–49.10	Wed	15:00–17:30	S053	Oxide Surfaces 1
O 50.1–50.12	Wed	15:00–18:00	S054	Frontiers of Electronic Structure Theory: Focus on Artificial Intelligence Applied to Real Materials 2
O 51.1–51.10	Wed	18:00–20:00	P4	Poster Wednesday: Atomic-Scale Studies of Spins on Surfaces with Scanning Tunneling Microscopy
O 52.1–52.12	Wed	18:00–20:00	P4	Poster Wednesday: Adsorption and Catalysis 2
O 53.1–53.5	Wed	18:00–20:00	P4	Poster Wednesday: Spins and Magnetism
O 54.1–54.14	Wed	18:00–20:00	P4	Poster Wednesday: 2D Materials 2
O 55.1–55.16	Wed	18:00–20:00	P4	Poster Wednesday: Organic Molecules at Surfaces 2
O 56.1–56.6	Wed	18:00–20:00	P4	Poster Wednesday: Nanostructures 2
O 57.1–57.7	Wed	18:00–20:00	P4	Poster Wednesday: Electronic Structure
O 58.1–58.15	Wed	18:00–20:00	P4	Poster Wednesday: New Methods and Developments, Frontiers of Electronic Structure Theory
O 59.1–59.8	Wed	18:00–20:00	P4	Poster Wednesday: Plasmonics and Nanooptics 2
O 60.1–60.1	Thu	9:30–10:15	S054	Overview Talk Thorsten Deilmann
O 61.1–61.8	Thu	10:30–12:45	H2	Plasmonics and Nanooptics 2
O 62.1–62.9	Thu	10:30–12:45	H4	Surface Reactions and Heterogeneous Catalysis 1
O 63.1–63.7	Thu	10:30–12:30	H6	New Methods and Developments 4: Spectroscopies, Diffraction and Others (joint session O/KFM)
O 64.1–64.5	Thu	10:30–13:00	S051	Gerhard Ertl Young Investigator Award
O 65.1–65.8	Thu	10:30–12:30	S052	2D Materials 2: Growth, Structure and Substrate Interaction
O 66.1–66.9	Thu	10:30–13:00	S053	Oxide Surfaces 2
O 67.1–67.9	Thu	10:30–12:45	S054	Frontiers of Electronic Structure Theory: Focus on Artificial Intelligence Applied to Real Materials 3
O 68.1–68.10	Thu	15:00–18:30	H3	Focus Session: Time-Resolved Momentum Microscopy
O 69.1–69.10	Thu	15:00–17:45	H4	Surface Reactions and Heterogeneous Catalysis 2
O 70.1–70.10	Thu	15:00–17:45	H6	Supported nanoclusters: Structure, Reactions, Catalysis
O 71.1–71.10	Thu	15:00–18:00	S051	Focus Session: Atomic-Scale Studies of Spins on Surfaces with Scanning Tunneling Microscopy 2

O 72.1–72.8	Thu	15:00–17:00	S052	2D Materials 3: hBN and Electronic Structure
O 73.1–73.11	Thu	15:00–17:45	S053	Electronic Structure of Surfaces 1
O 74.1–74.12	Thu	15:00–18:00	S054	Organic Molecules at Surfaces 5: Molecular Switches
O 75	Thu	19:00–19:30	H1	Members' Assembly
O 76	Thu	19:30–20:30	H1	Post-Deadline Session
O 77.1–77.1	Fri	9:30–10:15	S054	Overview Talk Guillaume Schull
O 78.1–78.8	Fri	10:30–12:30	H3	Plasmonics and Nanooptics 3
O 79.1–79.8	Fri	10:30–12:45	H4	Surface Reactions and Heterogeneous Catalysis 3
O 80.1–80.7	Fri	10:30–12:15	S051	Focus Session: Atomic-Scale Studies of Spins on Surfaces with Scanning Tunneling Microscopy 3
O 81.1–81.6	Fri	10:30–12:00	S052	2D Materials 4: Heterostructures
O 82.1–82.7	Fri	10:30–12:15	S053	Electronic Structure of Surfaces 2
O 83.1–83.10	Fri	10:30–13:00	S054	Frontiers of Electronic Structure Theory: Focus on Artificial Intelligence Applied to Real Materials 4
O 84.1–84.1	Fri	13:15–14:00	S054	Overview Talk Claus M. Schneider (joint session O/CPP)

Members' Assembly of the Surface Science Division

Thursday 19:00–19:30 H1

- Report of the Chairman
- Presentation of the Gerhard Ertl Young Investigator Award
- Miscellaneous