

Surface Science Division Fachverband Oberflächenphysik (O)

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Overview of Invited Talks and Sessions

(Lecture Rooms: TRE Phy, TRE Ma, GER 38, PHY C 213, WIL A317, WIL C107, WIL C307; Posters: P1 and P2)

Invited Talks

O 1.1	Mon	9:30–10:15	TRE Phy	Building blocks for molecular spintronics: From C60 to Spin-Shuttles on Surfaces — ●THOMAS GREBER
O 12.1	Mon	15:00–15:45	TRE Phy	Uncovering Molecular Orbitals by ARPES — ●ACHIM SCHÖLL
O 24.1	Tue	9:30–10:15	TRE Phy	Elementary Steps in Surface Reactions: Mechanisms, Kinetics and Thermodynamics — ●SWETLANA SCHAUERMANN
O 33.1	Tue	15:00–15:45	TRE Phy	Beyond graphene: silicene and germanene, its silicon and germanium cousins — ●GUY LE LAY
O 38.1	Wed	9:30–10:15	TRE Phy	Understanding STM experiments on single-atom junctions from first-principles — ●STEFAN HEINZE
O 53.1	Wed	15:00–15:45	TRE Phy	The Many-Body Path Towards Quantitative Modeling of Complex Adsorption Systems — ●ALEXANDRE TKATCHENKO
O 66.1	Thu	9:30–10:15	HSZ 01	Fundamental mechanistic studies in formic acid decomposition on transition metal surfaces — ●MANOS MAVRIKAKIS
O 76.1	Thu	15:00–15:45	TRE Ma	Quasi free-standing graphene — ●CARSTEN BUSSE
O 91.1	Fri	9:30–10:15	TRE Phy	From organic monolayers to free-standing 2D carbon materials: Carbon nanomembranes, graphene and their heterostructures — ●ANDREY TURCHANIN
O 104.1	Fri	13:15–14:00	TRE Phy	Toward a Dynamical Understanding of Surface Chemistry — ●ALEC WODTKE

Topical Talks of the Focused Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale (jointly with HL and TT)

O 7.1	Mon	10:30–11:00	TRE Ma	Molecular junction transport: some theoretical and computational considerations — ●MARK RATNER, MATTHEW REUTER
O 7.5	Mon	12:00–12:30	TRE Ma	Insight into Charge Transport in Molecular Junctions from Ab Initio Theories of Level Alignment — ●JEFFREY B. NEATON
O 15.1	Mon	16:00–16:30	TRE Ma	Simulating heat transport: from large scale molecular dynamics to first-principles calculations — ●DAVIDE DONADIO
O 28.1	Tue	10:30–11:00	TRE Ma	Ultrafast relaxation dynamics of Hubbard nanoclusters — ●MICHAEL BONITZ, SEBASTIAN HERMANN, CHRISTOPHER HINZ, DENIS LACROIX
O 47.1	Wed	10:30–11:00	TRE Ma	From Rydberg Crystals to Bound Magnons - Probing the Non-Equilibrium Dynamics of Ultracold Atoms in Optical Lattices — ●IMMANUEL BLOCH
O 56.1	Wed	16:00–16:30	TRE Ma	Theory of nonlinear phononics for coherent light-control of solids — ●ANTOINE GEORGES, ALASKA SUBEDI, ANDREA CAVALLERI
O 70.1	Thu	10:30–11:00	TRE Ma	Localization at the edge of 2D topological insulator by Kondo impurities — ●BORIS ALTSHULER, IGOR ALEINER, VLADIMIR YUDSON

Topical Talks of the Focused Session: Towards a Quantitative Understanding of Complex Adsorption Structures: Surface Science goes Organic

O 55.1	Wed	16:00–16:30	TRE Phy	Trends in the energies and entropies of adsorbates on single-crystal surfaces — ●CHARLES CAMPBELL
O 55.5	Wed	17:15–17:45	TRE Phy	Surface crystallography of organic layers — ●GEORG HELD
O 69.1	Thu	10:30–11:00	HSZ 01	Injection/extraction barriers in donor-acceptor blends on metals through core-level spectroscopy — ●ENRIQUE ORTEGA, AFAF EL-SAYED, PATRIZIA BORGHETTI, ELI GOIRI, CELIA ROGERO, LUCA FLOREANO, YUTAKA WAKAYAMA, JOSE LUIS CABELLOS-QUIROZ, DUNCAN MOWBRAY, ANGEL RUBIO, DIMAS OTEYZA
O 69.4	Thu	11:30–12:00	HSZ 01	Core and valence spectroscopy of physisorbed molecules: Role of substrate — ●CLAUDIA DRAXL
O 77.1	Thu	16:00–16:30	TRE Phy	Infrared-Spectroscopy applied to ultrathin organic films. — ●PETER JAKOB

Gaede Prize Talk

O 52.1	Wed	12:30–13:00	HSZ 02	Spectroscopy and microscopy of graphene on metals — ●YURIY DEDKOV
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Invited talks of the joint symposium SYMO: Magnetic/organic Interfaces and Molecular Magnetism (MA jointly with CPP, DS, HL, O, TT)

See SYMO for the full program of the symposium.

SYMO 1.1	Mon	9:30–10:00	HSZ 02	Molecular quantum spintronics with single-molecule magnets — ●WOLFGANG WERNSDORFER
SYMO 1.2	Mon	10:00–10:30	HSZ 02	EPR Studies of Rare-Earth Molecular Nanomagnets — ●STEPHEN HILL, SANHITA GHOSH, DORSA KOMIJANI, SALVADOR CARDONA-SERRA, JOSE-JAIME BALDOVI, YAN DUAN, ALEJANDRO GAITA-ARINO, EUGENIO CORONADO
SYMO 1.3	Mon	10:45–11:15	HSZ 02	On-surface magnetochemistry of spin-bearing metalorganic molecules — ●PETER M. OPPENEER, KARTICK TARAFDER, EHESAN ALI, NIRMALYA BALLAV, CHRISTIAN WÄCKERLIN, THOMAS A. JUNG
SYMO 1.4	Mon	11:15–11:45	HSZ 02	Interfacing single-molecule magnets with metals — ●ANDREA CORNIA, VALERIA LANZILOTTO, LUIGI MALAVOLTI, MATTEO MANNINI, MAURO PERFETTI, LUCA RIGAMONTI, ROBERTA SESSOLI
SYMO 1.5	Mon	11:45–12:15	HSZ 02	Linking magnetic molecules to themselves, to others and to surfaces — ●RICHARD WINPENNY

Invited talks of the joint symposium SYSG: Spin Properties of Graphene (HL jointly with DS, MA, O, TT)

See SYSG for the full program of the symposium.

SYSG 1.1	Tue	9:30–10:00	HSZ 02	Intrinsic magnetism in graphene — ●IRINA GRIGORIEVA
SYSG 1.2	Tue	10:00–10:30	HSZ 02	Defect Induced Magnetic Moments in Graphene — ●ROLAND KAWAKAMI
SYSG 1.3	Tue	10:30–11:00	HSZ 02	Role of MgO barriers for spin and charge transport in Co/MgO/graphene spin-valve devices — ●BERND BESCHOTEN
SYSG 1.4	Tue	11:15–11:45	HSZ 02	Defect-Mediated Spin Relaxation and Dephasing in Graphene — MARK LUNDEBERG, SILVIA FOLK, ●JOSHUA FOLK
SYSG 1.5	Tue	11:45–12:15	HSZ 02	Electron spin relaxation in graphene: resonant scattering off local magnetic moments — ●JAROSLAV FABIAN, DENIS KOCHAN, MARTIN GMITRA

Invited talks of the joint symposium SYMS: Molecular Switches and Motors at Surfaces (O jointly with BP, CPP)

See SYMS for the full program of the symposium.

SYMS 1.1	Wed	9:30–10:00	HSZ 02	Imaging and manipulation of single functional molecules on surfaces — ●LEONHARD GRILL
SYMS 1.2	Wed	10:00–10:30	HSZ 02	Adiabatic quantum motors — ●FELIX VON OPPEN
SYMS 1.3	Wed	10:30–11:00	HSZ 02	Operation of molecular devices and machines on surfaces — ●SAW WAI HLA
SYMS 1.4	Wed	11:15–11:45	HSZ 02	Driving and Controlling Molecular Surface Rotors with a Terahertz Electric Field — ●RAYMOND DEAN ASTUMIAN
SYMS 1.5	Wed	11:45–12:15	HSZ 02	Unidirectional motion by inelastic electron tunneling — ●KARL-HEINZ ERNST

Invited talks of the joint symposium SYOM: One-dimensional metals: Reality of Fiction (DS jointly with HL, O, TT)

See SYOM for the full program of the symposium.

SYOM 1.1	Fri	9:30–10:10	HSZ 02	Atomic-scale dopant wires for quantum computer architectures — ●MICHELLE Y SIMMONS
SYOM 1.2	Fri	10:10–10:50	HSZ 02	1 + δ: Tuning the Dimensionality of Organic Conductors — ●MARTIN DRESSEL
SYOM 1.3	Fri	11:10–11:50	HSZ 02	Spectral and transport properties of one-dimensional correlated electrons — ●VOLKER MEDEN
SYOM 1.4	Fri	11:50–12:30	HSZ 02	Atomic nanowires on surfaces: Spectroscopic reality versus theoretical fiction — ●RALPH CLAESSEN

Sessions

O 1.1–1.1	Mon	9:30–10:15	TRE Phy	Invited Talk (Thomas Greber)
O 2.1–2.5	Mon	9:30–12:15	HSZ 02	Symposium Magnetic/Organic Interfaces and Molecular Magnetism SYMO (MA jointly with CPP, DS, HL, O, TT)
O 3.1–3.9	Mon	9:30–12:15	ZEU 222	Organic Electronics and Photovoltaics I (DS jointly with HL, O)
O 4.1–4.14	Mon	9:30–13:15	BEY 81	Transport: Quantum Dots, Quantum Wires, Point Contacts I (TT jointly with O)
O 5.1–5.11	Mon	9:30–12:30	POT 051	Topological Insulators: Mostly Structure and Electronic Structure (HL jointly with MA, O, TT)
O 6.1–6.11	Mon	10:30–13:15	TRE Phy	Organic/bio Molecules on Metal Surfaces I
O 7.1–7.8	Mon	10:30–13:15	TRE Ma	Focussed Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale
O 8.1–8.10	Mon	10:30–13:00	GER 38	Electronic Structure and Spin-Orbit Interaction I
O 9.1–9.10	Mon	10:30–13:00	PHY C 213	Surface Chemical Reactions and Heterogeneous Catalysis I
O 10.1–10.11	Mon	10:30–13:15	WIL A317	Solid-liquid Interfaces I
O 11.1–11.11	Mon	10:30–13:15	WIL C107	Nanostructures at Surfaces I
O 12.1–12.1	Mon	15:00–15:45	TRE Phy	Invited Talk (Achim Schöll)
O 13.1–13.5	Mon	15:00–17:30	HSZ 04	Focus Session: New Trends in Molecular Magnetism (MA jointly with O, TT)
O 14.1–14.12	Mon	16:00–19:00	TRE Phy	Organic/bio Molecules on Metal Surfaces II
O 15.1–15.10	Mon	16:00–18:45	TRE Ma	Focussed Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale II
O 16.1–16.12	Mon	16:00–19:00	GER 38	Electronic Structure and Spin-Orbit Interaction II
O 17.1–17.13	Mon	16:00–19:15	PHY C 213	Semiconductor Substrates
O 18.1–18.13	Mon	16:00–19:15	WIL A317	Solid-liquid Interfaces II
O 19.1–19.12	Mon	16:00–19:00	WIL C107	Graphene: Structural properties
O 20.1–20.13	Mon	16:00–19:15	WIL B321	Nanostructures at Surfaces II
O 21.1–21.9	Mon	16:00–18:30	HSZ 204	Transport: Quantum Dots, Quantum Wires, Point Contacts II (TT jointly with O)

O 22.1–22.10	Mon	15:00–18:00	ZEU 222	Organic Electronics and Photovoltaics II (CPP jointly with DS, HL, O)
O 23.1–23.7	Mon	18:00–19:45	CHE 91	Organic Electronics and Photovoltaics III (DS jointly with CPP, HL, O)
O 24.1–24.1	Tue	9:30–10:15	TRE Phy	Invited Talk (Swetlana Schauer mann)
O 25.1–25.5	Tue	9:30–12:15	HSZ 02	Symposium Spin Properties of Graphene (HL jointly with DS, MA, O, TT)
O 26.1–26.13	Tue	9:30–13:15	WIL C107	Transport: Graphene (TT jointly with O)
O 27.1–27.11	Tue	10:30–13:15	TRE Phy	Organic/bio Molecules on Metal Surfaces III
O 28.1–28.9	Tue	10:30–13:15	TRE Ma	Focussed Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale III
O 29.1–29.11	Tue	10:30–13:15	GER 38	Topological Insulators
O 30.1–30.9	Tue	10:30–12:45	PHY C 213	Surface Chemical Reactions and Heterogeneous Catalysis II
O 31.1–31.10	Tue	10:30–13:00	WIL A317	Molecular Films: Properties and Preparation
O 32.1–32.9	Tue	10:00–12:30	POT 081	Organic Semiconductors: Photovoltaics (HL jointly with CPP, DS, O)
O 33.1–33.1	Tue	15:00–15:45	TRE Phy	Invited Talk (Guy Le Lay)
O 34.1–34.2	Tue	15:00–16:00	BEY 118	Magnetic Adatoms on Surfaces (MA jointly with O)
O 35.1–35.8	Tue	14:00–16:00	HSZ 304	Transport: Topological Insulators I (TT jointly with O)
O 36.1–36.105	Tue	18:30–22:00	P1	Posters: Bio/organic Molecules on Surfaces, Graphene, Solid/liquid interfaces, Metal Substrates, Electronic Structure Theory
O 37.1–37.110	Tue	18:30–22:00	P2	Posters: Plasmonics, Electronic Structure and Spin-Orbit Interaction, Semiconductor and Insulator Surfaces, Nanostructures
O 38.1–38.1	Wed	9:30–10:15	TRE Phy	Invited Talk (Stefan Heinze)
O 39.1–39.5	Wed	9:30–12:15	HSZ 02	Symposium Molecular Switches and Motors at Surfaces (O jointly with BP, CPP)
O 40.1–40.12	Wed	9:30–13:00	HSZ 304	Transport: Molecular Electronics I (TT jointly with O)
O 41.1–41.10	Wed	9:30–12:15	POT 051	Graphene: Transport (HL jointly with MA, O, TT)
O 42.1–42.7	Wed	9:30–11:15	POT 151	Topological Insulators: Theory (HL jointly with MA, O, TT)
O 43.1–43.12	Wed	9:30–12:45	ZEU 260	Organic Electronics and Photovoltaics IV (CPP jointly with DS, HL, O)
O 44.1–44.13	Wed	9:30–13:00	BEY 81	Low-Dimensional Systems: 2D - Theory (TT jointly with O)
O 45.1–45.7	Wed	10:15–12:00	POT 006	Spintronics I (HL jointly with MA, O, TT)
O 46.1–46.10	Wed	10:30–13:00	TRE Phy	Plasmonics and Nanooptics I
O 47.1–47.10	Wed	10:30–13:15	TRE Ma	Focussed Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale IV
O 48.1–48.11	Wed	10:30–13:15	GER 38	Scanning Probe Methods I
O 49.1–49.10	Wed	10:30–13:00	PHY C 213	Surface Chemical Reactions and Heterogeneous Catalysis III
O 50.1–50.10	Wed	10:30–13:00	WIL A317	Oxide and Insulator Surfaces I
O 51.1–51.10	Wed	10:30–13:00	WIL C107	Surface and Interface Magnetism I (O jointly with MA)
O 52.1–52.1	Wed	12:30–13:00	HSZ 02	Gaede Prize Talk
O 53.1–53.1	Wed	15:00–15:45	TRE Phy	Invited Talk (Alexandre Tkatchenko)
O 54.1–54.12	Wed	15:00–18:15	ZEU 260	Organic Electronics and Photovoltaics V (CPP jointly with DS, HL, O)
O 55.1–55.10	Wed	16:00–19:00	TRE Phy	Focussed Session: Towards a Quantitative Understanding of Complex Adsorption Structures: Surface Science goes Organic I
O 56.1–56.11	Wed	16:00–19:15	TRE Ma	Focussed Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale V
O 57.1–57.12	Wed	16:00–19:00	GER 38	Plasmonics and Nanooptics II
O 58.1–58.12	Wed	16:00–19:00	PHY C 213	Oxide and Insulator Surfaces II
O 59.1–59.13	Wed	16:00–19:15	WIL A317	Metal Substrates I
O 60.1–60.13	Wed	16:00–19:15	WIL C107	Graphene: Electronic Properties (O jointly with DS, HL, MA, TT)
O 61.1–61.12	Wed	16:00–19:00	WIL B321	Nanostructures at Surfaces III

O 62.1–62.32	Wed	17:30–21:00	P1	Posters: Surface Reactions and Dynamics, Nanostructures
O 63.1–63.33	Wed	17:30–21:00	P2	Posters: Scanning Probe Methods
O 64.1–64.5	Wed	17:00–20:00	P1	Poster: Surfaces, Interfaces and Heterostructures (HL jointly with O)
O 65.1–65.12	Wed	17:00–20:00	P1	Poster: Graphene (HL jointly with MA, O)
O 66.1–66.1	Thu	9:30–10:15	HSZ 01	Invited Talk (Manos Mavrikakis)
O 67.1–67.9	Thu	10:00–12:30	POT 081	Graphene-like Materials: Silicene, MoS2 and Relatives (HL jointly with DY, MA, O, TT)
O 68.1–68.9	Thu	10:00–12:15	POT 151	Spintronics II (HL jointly with MA, O, TT)
O 69.1–69.9	Thu	10:30–13:15	HSZ 01	Focused Session: Towards a Quantitative Understanding of Complex Adsorption Structures: Surface Science goes Organic II
O 70.1–70.10	Thu	10:30–13:15	TRE Ma	Focused Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale VI
O 71.1–71.10	Thu	10:30–13:00	GER 38	Plasmonics and Nanooptics III
O 72.1–72.5	Thu	10:30–13:00	PHY C 213	Competition for the Gerhard Ertl Young Investigator Award
O 73.1–73.11	Thu	10:30–13:15	WIL A317	Scanning Probe Methods II
O 74.1–74.10	Thu	10:30–13:00	WIL C107	Surface and Interface Magnetism II (O jointly with MA)
O 75.1–75.1	Thu	14:00–14:45	HSZ 02	Plenary Talk (Lukas Novotny)
O 76.1–76.1	Thu	15:00–15:45	TRE Ma	Invited Talk (Carsten Busse)
O 77.1–77.11	Thu	16:00–19:00	TRE Phy	Focused Session: Towards a Quantitative Understanding of Complex Adsorption Structures: Surface Science goes Organic III
O 78.1–78.11	Thu	15:00–18:00	POT 081	Graphene: Spintronics, Transistors, and Sensors (HL jointly with DY, MA, O, TT)
O 79.1–79.10	Thu	16:00–18:30	TRE Ma	Plasmonics and Nanooptics IV
O 80.1–80.12	Thu	16:00–19:00	GER 38	Surface Dynamics I
O 81.1–81.12	Thu	16:00–19:00	PHY C 213	Oxide and Insulator Surfaces III
O 82.1–82.12	Thu	16:00–19:00	WIL A317	Metal Substrates II
O 83.1–83.11	Thu	16:00–18:45	WIL C107	Graphene: Adsorption, Intercalation, Doping (O jointly with DS, HL, MA, TT)
O 84.1–84.6	Thu	16:00–17:30	WIL B321	Nanotribology
O 85.1–85.5	Thu	17:45–19:00	WIL B321	Molecular Simulations
O 86.1–86.8	Thu	17:45–19:45	CHE 91	Organic Electronics and Photovoltaics VI (DS jointly with CPP, HL, O)
O 87.1–87.12	Thu	17:00–20:00	P1	Poster: Topological Insulators (HL jointly with MA, O)
O 88.1–88.7	Thu	17:00–20:00	P1	Poster: Spintronics (HL jointly with MA, O)
O 89	Thu	19:30–20:00	TRE Phy	Annual General Meeting of the Surface Science Division
O 90	Thu	20:00–21:00	TRE Phy	Post-Deadline Session
O 91.1–91.1	Fri	9:30–10:15	TRE Phy	Invited Talk (Andrey Turchanin)
O 92.1–92.4	Fri	9:30–12:30	HSZ 02	Symposium One-dimensional Metals: Reality or Fiction (DS jointly with HL, O, TT)
O 93.1–93.9	Fri	9:30–12:00	HSZ 04	Topological Insulators (MA jointly with DS, HL, O, TT)
O 94.1–94.6	Fri	9:30–11:00	POT 081	Graphene: Bi- and Multi-Layers (HL jointly with MA, O, TT)
O 95.1–95.7	Fri	9:30–11:15	CHE 89	Micro- and Nanopatterning (DS jointly with O)
O 96.1–96.10	Fri	9:30–12:30	CHE 91	Atomic Layer Deposition (DS jointly with O)
O 97.1–97.10	Fri	10:30–13:00	TRE Phy	Organic/bio Molecules on Metal Surfaces IV
O 98.1–98.10	Fri	10:30–13:00	TRE Ma	Plasmonics and Nanooptics V
O 99.1–99.10	Fri	10:30–13:00	GER 38	Scanning Probe Methods III
O 100.1–100.10	Fri	10:30–13:00	PHY C 213	Surface Dynamics II
O 101.1–101.8	Fri	10:30–12:30	WIL A317	Molecular Films: Electronics, Photovoltaics and Structure
O 102.1–102.7	Fri	11:15–13:00	POT 081	Graphene: Interaction with the Substrate (HL jointly with DY, MA, O, TT)
O 103.1–103.7	Fri	11:30–13:15	CHE 89	Graphene (DS jointly with TT, MA, HL, DY, O)
O 104.1–104.1	Fri	13:15–14:00	TRE Phy	Invited Talk (Alec Wodtke)

Annual General Meeting of the Surface Science Division

Thursday 19:30–20:00 TRE Phy

- Report of the chairman
- Election of the new chairmen
- Presentation of the Gerhard Ertl Young Investigator Award
- Miscellaneous

Post Deadline Session

Thursday 20:00–21:00 TRE Phy

Post Deadline Session followed by the Surface Science Get-Together