

Thin Films Division Fachverband Dünne Schichten (DS)

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Overview of Invited Talks and Sessions

(Lecture rooms: CHE 89, CHE 91, and HSZ 02; Posters: P1)

Gaede Prize Talk

DS 26.1 Wed 12:30–13:00 HSZ 02 **Spectroscopy and microscopy of graphene on metals** — ●YURIY DEDKOV

Invited Talks

DS 4.1 Mon 15:00–15:30 CHE 91 **Interfaces of archetype magnetic molecules: from interface dipoles to charge and spin transfer** — ●MARTIN KNUPFER

DS 9.1 Tue 9:30–10:00 CHE 91 **Chalcopyrite semiconductors: atomic-scale structure and band gap bowing** — ●CLAUDIA S. SCHNOHR, STEFANIE ECKNER, HELENA KÄMMER, TOBIAS STEINBACH, MARTIN GNAUCK, ANDREAS JOHANNES, CHRISTIAN A. KAUFMANN, CHRISTIANE STEPHAN, SUSAN SCHORR

DS 9.2 Tue 10:00–10:30 CHE 91 **Polarized mid-infrared spectroscopy of split-ring resonators and metal nanoparticle-organic hybrids** — ●THOMAS W.H. OATES, DIMITRA GKOGKOU, TIMUR SHAYKHUTDINOV, TOLGA WAGNER, KARSTEN HINRICHS

DS 11.1 Tue 9:30–10:00 CHE 89 **Giant magnetoelectric thin film composites** — ●ANDRE PIORRA, ROBERT JAHNS, ENNO LAGE, CHRISTINE KIRCHHOF, ERDEM YARAR, VOLKER RÖBISCH, DIRK MEYNERS, REINHARD KNÖCHEL, ECKHARD QUANDT

DS 11.6 Tue 11:15–11:45 CHE 89 **Carbon nanotubes for piezoresistive electro-mechanical transducers incorporating a wafer-level technology** — ●SASCHA HERMANN, ALEXEY SHAPORIN, JENS BONITZ, STEFFEN HARTMANN, JANA KALBACOVA, RAUL D. RODRIGUEZ, DIETRICH R.T. ZAHN, JAN MEHNER, BERNHARD WUNDERLE, STEFAN E. SCHULZ, THOMAS GESSNER

DS 11.9 Tue 12:15–12:45 CHE 89 **Integration of individual SWCNTs into field-effect transistor-based sensors** — ●MIROSLAV HALUSKA, WEI LIU, KIRAN CHIKKADI, MATTHIAS MUOTH, TOBIAS SUSS, STUART TRUAX, COSMIN ROMAN, CHRISOFER HI-EROLD

DS 16.1 Tue 14:00–14:30 CHE 89 **Carbon Wonderland from an Engineering Perspective** — ●FRANZ KREUPL, STEFAN KAPSER, SEBASTIAN HÜBNER

DS 24.1 Wed 9:30–10:00 CHE 89 **Scaling limits and future prospects of resistive switching devices: From materials to systems** — ●VICTOR ZHIRNOV

DS 25.1 Wed 11:15–11:45 CHE 89 **Nanoscale redox-processes in resistive switching oxide devices** — ●REGINA DITTMANN

DS 34.1 Wed 18:30–19:00 CHE 89 **Materials engineering for phase change memory** — ●SIMONE RAOUX, HUAI-YU CHENG

DS 37.1 Thu 9:30–10:00 CHE 91 **Photovoltaics with Copper Oxides** — ●BRUNO MEYER

DS 37.2 Thu 10:00–10:30 CHE 91 **Energy band alignment at interfaces of polycrystalline semiconductors for thin film solar cells** — ●ANDREAS KLEIN

DS 37.3 Thu 10:30–11:00 CHE 91 **Use of doped oxides for enhanced performance solar cells** — ●JUDITH MACMANUS-DRISCOLL

DS 37.4	Thu	11:15–11:45	CHE 91	Nanowire device concepts for thin film photovoltaics — ●SILKE CHRISTIANSEN
DS 37.5	Thu	11:45–12:15	CHE 91	Core shell ZnO nanowire heterostructures for solar cells — ●VINCENT CONSONNI
DS 37.6	Thu	12:15–12:45	CHE 91	Potential and challenges of kesterite-type materials for thin film solar cells — ●THOMAS UNOLD
DS 39.1	Thu	9:30–10:00	CHE 89	Switching kinetics in phase change materials — ●MARTIN SALINGA
DS 49.1	Fri	9:30–10:00	CHE 91	Synthesis, Characterization, and Application of Tunable Resistance Coatings — ●JEFFREY W. ELAM

Invited talks of the joint symposium SYOM

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	$1 + \delta$: 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

Invited talks of the joint symposium SYCM

See SYCM for the full program of the symposium.

SYCM 1.1	Mon	15:00–15:30	HSZ 02	Complexity on Compression: The Crystallography of High-Density Matter — ●MALCOLM MCMAHON
SYCM 1.2	Mon	15:30–16:00	HSZ 02	X-Ray Microscopy with Coherent Radiation: Beyond the Spatial Resolution of Conventional X-Ray Microscopy — ●CHRISTIAN G. SCHROER
SYCM 1.3	Mon	16:00–16:30	HSZ 02	Modulated martensite: A scale bridging Lego game for crystallographers and physicists — ●SEBASTIAN FÄHLER
SYCM 1.4	Mon	16:45–17:15	HSZ 02	Switching of magnetic domains reveals evidence for spatially inhomogeneous superconductivity — ●MICHEL KENZELMANN
SYCM 1.5	Mon	17:15–17:45	HSZ 02	The key role of magnetic neutron diffraction in materials science — ●LAURENT C. CHAPON

Invited talks of the joint symposium SYSG

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 SYMO

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
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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

Sessions

DS 1.1–1.14	Mon	9:30–13:15	CHE 91	Application of Thin Films
DS 2.1–2.9	Mon	9:30–12:15	ZEU 222	Organic Electronics and Photovoltaics I (joint session with CPP, HL, O)
DS 3.1–3.8	Mon	10:30–13:15	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale I (jointly with O)
DS 4.1–4.10	Mon	15:00–17:45	CHE 91	Magnetic / Organic Interfaces, Spins in Organics and Molecular Magnetism (jointly with MA)
DS 5.1–5.10	Mon	15:00–18:00	ZEU 222	Organic Electronics and Photovoltaics II (joint session with CPP, HL, O)
DS 6.1–6.18	Mon	15:00–20:00	CHE 89	Thin Film Characterization: Structure Analysis and Composition (XRD, TEM, XPS, SIMS, RBS,...)
DS 7.1–7.10	Mon	16:00–18:45	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale II (jointly with O)
DS 8.1–8.7	Mon	18:00–19:45	CHE 91	Organic Electronics and Photovoltaics III (jointly with CPP, HL, O)
DS 9.1–9.10	Tue	9:30–12:45	CHE 91	Layer Properties: Electrical, Optical, and Mechanical Properties
DS 10.1–10.12	Tue	9:30–12:45	BEY 118	Multiferroics I (jointly with MA, DF, KR, TT)
DS 11.1–11.11	Tue	9:30–13:15	CHE 89	Focus Session: Sensoric Micro and Nano-systems I
DS 12.1–12.4	Tue	10:30–11:50	GER 37	High- and low-k-dielectrics (Joint Session with DF)
DS 13.1–13.9	Tue	10:00–12:30	POT 081	Organic semiconductors: Photovoltaics (Jointly with HL, CPP)
DS 14.1–14.9	Tue	10:30–13:15	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale III (jointly with O)
DS 15.1–15.7	Tue	14:00–15:45	POT 081	Organic semiconductors: Transistors and OLEDs (Jointly with HL, CPP)
DS 16.1–16.8	Tue	14:00–16:15	CHE 89	Focus Session: Sensoric Micro and Nano-systems II
DS 17.1–17.9	Tue	14:00–16:15	CHE 91	Ion and Electron Beam Induced Processes
DS 18.1–18.12	Wed	9:30–12:45	CHE 91	Organic Thin Films I
DS 19.1–19.13	Wed	9:30–13:00	HSZ 04	Multiferroics II (jointly with MA, DF, KR, TT)
DS 20.1–20.10	Wed	9:30–13:00	POT 081	Focus Session: Emerging oxide semiconductors I (jointly with HL, DF, O)
DS 21.1–21.12	Wed	9:30–12:45	ZEU 260	Organic Electronics and Photovoltaics IV (joint session with CPP, HL, O)
DS 22.1–22.10	Wed	10:30–13:15	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale IV (jointly with O)
DS 23.1–23.1	Wed	10:30–11:15	GER 37	Invited Talk - Stefan Förster (Joint Session with DF, O, KR, MM)
DS 24.1–24.5	Wed	9:30–11:00	CHE 89	Focus Session: Resistive Switching by Redox and Phase Change Phenomena I (Memristive devices and new circuit concepts)
DS 25.1–25.5	Wed	11:15–12:45	CHE 89	Focus Session: Resistive Switching by Redox and Phase Change Phenomena II (Valence and phase change in oxides)
DS 26.1–26.1	Wed	12:30–13:00	HSZ 02	Gaede Prize Talk
DS 27.1–27.13	Wed	15:00–18:30	CHE 91	Organic Thin Films II

DS 28.1–28.1	Wed	15:00–15:45	GER 37	Invited Talk - Heidemarie Schmidt (Joint Session with DF, MA, HL, KR, MM)
DS 29.1–29.12	Wed	15:00–18:15	ZEU 260	Organic Electronics and Photovoltaics V (joint session with CPP, HL, O)
DS 30.1–30.12	Wed	15:00–18:45	POT 081	Focus Session: Emerging oxide semiconductors II (jointly with HL, DF, O)
DS 31.1–31.11	Wed	16:00–19:15	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale V (jointly with O)
DS 32.1–32.6	Wed	15:00–16:30	CHE 89	Focus session: Resistive Switching by Redox and Phase Change Phenomena III (Defect and material engineering in oxides)
DS 33.1–33.6	Wed	16:45–18:15	CHE 89	Focus session: Resistive Switching by Redox and Phase Change Phenomena IV (Kinetic in oxides and phase change)
DS 34.1–34.5	Wed	18:30–20:00	CHE 89	Focus Session: Resistive Switching by Redox and Phase Change Phenomena V (Structure, growth and general properties of PC materials)
DS 35.1–35.70	Wed	17:00–20:00	P1	Poster I: Application of thin films; Focus session: Sensoric micro and nano-systems; Focus Session: Sustainable photovoltaics with earth abundant materials; Graphen (joint session with TT; MA; HL; DY; O); Ion and electron beam induced processes; Layer properties: electrical, optical, and mechanical properties; Magnetic/organic interfaces, spins in organics and molecular magnetism; Micro- and nanopatterning (jointly with O); Organic electronics and photovoltaics (jointly with CPP, HL, O); Thermoelectric materials
DS 36.1–36.6	Thu	9:30–12:45	BEY 118	Focus Session: Unconventional Spin Structures (jointly with MA)
DS 37.1–37.6	Thu	9:30–12:45	CHE 91	Focus Session: Sustainable Photovoltaics with Earth Abundant Materials I
DS 38.1–38.10	Thu	10:30–13:15	TRE Ma	Focus Session: Frontiers of Electronic Structure Theory - Non-equilibrium Phenomena at the Nano-scale VI (jointly with O)
DS 39.1–39.6	Thu	9:30–11:15	CHE 89	Focus Session: Resistive Switching by Redox and Phase Change Phenomena VI (Kinetics and Transport in PC materials)
DS 40.1–40.6	Thu	11:30–13:00	CHE 89	Focus Session: Resistive Switching by Redox and Phase Change Phenomena VII (Optical properties and theory of PC materials)
DS 41.1–41.10	Thu	15:00–17:30	CHE 91	Focus Session: Sustainable Photovoltaics with Earth Abundant Materials II
DS 42.1–42.15	Thu	15:00–19:00	CHE 89	Thermoelectric Materials
DS 43.1–43.31	Thu	16:00–19:00	P1	Poster II: Organic thin films; Atomic layer deposition, Thin film characterization: Structure analysis and composition (XRD, TEM, XPS, SIMS, RBS, ...)
DS 44.1–44.21	Thu	16:00–19:00	P1	Poster III: Focus session: Resistive switching by redox and phase change phenomena
DS 45.1–45.27	Thu	16:00–19:00	P1	Poster IV: One-Dimensional Metals: Reality or Fiction
DS 46.1–46.8	Thu	17:45–19:45	CHE 91	Organic Electronics and Photovoltaics VI (jointly with CPP, HL, O)
DS 47.1–47.7	Fri	9:30–11:15	CHE 89	Micro- and Nanopatterning (jointly with O)
DS 48.1–48.9	Fri	9:30–12:00	HSZ 04	Topological Insulators (jointly with MA,HL,O,TT)
DS 49.1–49.10	Fri	9:30–12:30	CHE 91	Atomic Layer Deposition
DS 50.1–50.9	Fri	10:15–12:30	POT 051	Organic semiconductors: Material properties (jointly with HL, CPP)
DS 51.1–51.7	Fri	11:30–13:15	CHE 89	Graphene (joint session with TT, MA, HL, DY, O)

Annual General Meeting of the Thin Films Division

Thursday 19:00–20:00 Room CHE 89