

Thin Films Division Fachverband Dünne Schichten (DS)

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Overview of Invited Talks and Sessions

(Lecture rooms H8 and H11; Poster A)

Gaede Prize Talk

DS 21.2 Tue 14:00–14:30 H11 **Ultrafast dynamics of many-body effects in solids and at interfaces: Polarons, excitons and correlated electrons** — ●JULIA STÄHLER

Invited Talks

DS 4.1 Mon 9:30–10:00 H11 **Controlling and tailoring molecular thin film growth** — ●STEFAN KOWARIK

DS 8.1 Mon 15:00–15:30 H8 **Materials characterization at the nanoscale by X-ray spectrometry** — ●BURKHARD BECKHOFF

DS 15.1 Tue 9:30–10:00 H8 **Heterostructures with Targeted Nanoarchitecture and Tunable Properties** — ●DAVID JOHNSON

DS 28.1 Wed 9:30–10:00 H8 **Surface analytics with electron spectroscopy on coated steel sheets** — ●DAVID STIFTER

DS 36.1 Wed 15:00–15:30 H11 **Single site-controlled InGaAs quantum dots grown on patterned GaAs nanoholes** — ●S. HÖFLING, S. MAIER, S. UNSLEBER, M. KAMP, C. SCHNEIDER

DS 36.2 Wed 15:30–16:00 H11 **Nanometer scale correlation of structural and optical properties of individual GaAs/AlGaAs nanorods by Scanning Transmission Electron Microscope Cathodoluminescence** — ●FRANK BERTRAM, MARCUS MÜLLER, PETER VEIT, JÜRGEN CHRISTEN

DS 36.3 Wed 16:00–16:30 H11 **Local Heteroepitaxy for Large-Scale Integration** — ●HEINZ SCHMID, MATTHIAS BORG, DAVIDE CUTAIA, KIRSTEN MOSELUND, MORITZ KNOEDLER, NICOLAS BOLOGNA, HEIKE RIEL

DS 36.4 Wed 16:45–17:15 H11 **Fabrication and study of metal contacts on germanium nanowires using electrical biasing in a transmission electron microscope** — ●MARTIEN DEN-HERTOG, KHALIL EL-HAJROUI, CLEMENS ZEINER, ALOIS LUGSTEIN, ERIC ROBIN, MIGUEL LOPEZ-HARO, JEAN-LUC ROUVIERE

DS 36.5 Wed 17:15–17:45 H11 **Cubic GaN on pre-patterned 3C-SiC/Si (001) substrates** — ●DONAT JOSEF AS, RICARDA MARIA KEMPER, THOMAS RIEDL, JÖRG K.N. LINDNER

DS 40.1 Thu 9:30–10:15 H11 **Oxide semiconductors: materials design and applications** — ●HIDEO HOSONO

DS 40.2 Thu 10:15–10:45 H11 **Mixing In and Ga sesquioxides - and their polar phases** — ●VINCENZO FIORENTINI

DS 40.3 Thu 10:45–11:15 H11 **Exploring and tailoring conductance phenomena in oxide films: An STM study** — ●NIKLAS NILIUS

DS 40.4 Thu 11:30–12:00 H11 **Miscibility and phase separation in $(\text{In}_x\text{Ga}_{1-x})_2\text{O}_3$** — ●MARTIN ALBRECHT, ROBERT SCHEWSKI, TONI MARKURT, TOBIAS SCHULZ, MICHELE BALDINI, GÜNTER WAGNER, HOLGER VON WENCKSTERN, MARIUS GRUNDMANN, HARTWIN PEELAERS, JOEL VARLEY, CHRIS VAN DE WALLE

DS 47.1	Thu	15:00–15:30	H8	Bright and dark excitons in transition metal dichalcogenide monolayers — CEDRIC ROBERT, GANG WANG, ASLIHAN SUSLU, BIN CHEN, SIJE YANG, SARAH ALAMDARI, IANN GERBER, THIERRY AMAND, SEF TONGAY, BERNHARD URBASZEK, ●XAVIER MARIE
DS 47.2	Thu	15:30–16:00	H8	Exciton fine structure in transition-metal dichalcogenides monolayers — ●MIKHAIL GLAZOV
DS 47.3	Thu	16:00–16:30	H8	Photonics and polaritonics with van der Waals heterostructures — ●ALEXANDER TARTAKOVSKII
DS 47.4	Thu	16:30–17:00	H8	van der Waals Epitaxy of 2D materials — ●SEFAATTIN TONGAY
DS 56.1	Fri	9:30–10:00	H11	Processes at the nanoscale: Recent progress in understandings on ReRAMs — ●ILIA VALOV
DS 56.2	Fri	10:00–10:30	H11	Tunnel junction based memristors as artificial synapses — ●ANDY THOMAS

Invited talks of the joint symposium SYHP

See SYHP for the full program of the symposium.

SYHP 1.1	Mon	9:30–10:00	H1	Perovskite Semiconductors: Opportunities and Challenges for Photovoltaic Materials Design — ●DAVID B. MITZI
SYHP 1.2	Mon	10:00–10:30	H1	Perovskite Solar Cells: A new Paradigm in Photovoltaics — ●MOHAMMAD NAZEERUDDIN
SYHP 1.3	Mon	10:30–11:00	H1	Charge-Carrier Diffusion and Radiative Efficiencies in Hybrid Metal Halide Perovskites — ●LAURA HERZ
SYHP 1.4	Mon	11:15–11:45	H1	Photovoltage losses in perovskite solar cells — ●KRISTOFER TVINGSTED
SYHP 1.5	Mon	11:45–12:15	H1	Computational screening of perovskite solar energy materials — ●KARSTEN W. JACOBSEN

Invited talks of the joint symposium SYTI

See SYTI for the full program of the symposium.

SYTI 1.1	Wed	9:30–10:10	H1	Topological insulators and topological superconductors — ●SHOUCHENG ZHANG
SYTI 1.2	Wed	10:10–10:50	H1	Three-dimensional topological insulators and superconductors — ●YOICHI ANDO
SYTI 1.3	Wed	10:50–11:30	H1	Interplay of magnetic and electronic states in pyrochlore iridates — ●LEON BALENTS
SYTI 1.4	Wed	11:40–12:20	H1	Magnetic imaging of edge states — ●KATHRYN MOLER
SYTI 1.5	Wed	12:20–13:00	H1	Sub-nm wide edge states at the dark side of a weak topological insulator — ●MARKUS MORGENSTERN

Invited talks of the joint symposium SYES

See SYES for the full program of the symposium.

SYES 1.1	Fri	9:30–10:00	H1	Intrinsic Transport Coefficients and Momentum Space Berry Curvatures — ●ALLAN H MACDONALD
SYES 1.2	Fri	10:00–10:30	H1	Berry phase linked spin-orbit torques in Ferromagnetic and Antiferromagnetic systems — ●JAIRO SINOVA
SYES 1.3	Fri	10:30–11:00	H1	Transport in Topological Insulators and Topological Superconductors: In Search of Majorana Fermions — ●EWELINA HANKIEWICZ
SYES 1.4	Fri	11:15–11:45	H1	Engineering Topological Quantum States: From 1D to 2D. — ●JELENA KLINOVAJA
SYES 1.5	Fri	11:45–12:15	H1	Skyrmions – Topological magnetization solitons for future spintronics — ●STEFAN BLÜGEL

Sessions

DS 1.1–1.3	Sun	16:00–18:30	H18	Tutorial: Hybrid and Perovskite Photovoltaics (Joint session of CPP, DF, DS and HL, organized by CPP)
DS 2.1–2.5	Mon	9:30–12:15	H1	Fundamentals of Hybrid and Perovskite Photovoltaics (Joint symposium of CPP, DF, DS and HL, organized by CPP)
DS 3.1–3.14	Mon	9:30–13:15	H8	Phase Change / Resistive Switching

DS 4.1–4.11	Mon	9:30–12:45	H11	Organic Thin Films I
DS 5.1–5.11	Mon	9:30–13:00	H16	Two-dimensional Materials (Joint session of DS and HL, organized by HL)
DS 6.1–6.10	Mon	9:30–12:30	H17	Graphene: Theory (Joint session of DS, DY, HL, MA, O and TT organized by HL)
DS 7.1–7.8	Mon	14:45–17:45	H17	Graphene: Transport (Joint session of DS, DY, HL, MA, O and TT organized by HL)
DS 8.1–8.5	Mon	15:00–16:30	H8	Thin Film Characterisation: Structure Analysis and Composition I
DS 9.1–9.7	Mon	15:00–16:45	H11	Organic Thin Films II
DS 10.1–10.10	Mon	15:00–17:45	H18	Transport: Topological Insulators - 2D (Joint session of DS, HL, MA, O and TT, organized by TT)
DS 11.1–11.9	Mon	15:00–17:30	H38	Hybrid and Perovskite Photovoltaics I (Joint session of CPP, DS and HL, organized by CPP)
DS 12.1–12.55	Mon	17:00–19:00	Poster A	Postersession DS
DS 13.1–13.4	Mon	17:45–18:45	H17	Graphene: Fabrication (Joint session of DS, DY, HL, MA, O and TT organized by HL)
DS 14	Mon	19:00–20:00	H8	Annual Meeting of the Thin Films Division
DS 15.1–15.9	Tue	9:30–12:15	H8	Thermoelectric Materials
DS 16.1–16.13	Tue	9:30–13:00	H11	Layer Properties: Electrical, Optical, and Mechanical
DS 17.1–17.10	Tue	10:30–13:00	H24	2D Materials: Structure and Electronic Properties (Joint session of DS and O, organized by O)
DS 18.1–18.10	Tue	10:30–13:15	S052	1D Metal Wires on Semiconductors I (Joint session of DS and O, organized by O)
DS 19.1–19.8	Tue	10:45–13:00	H37	Hybrid and Perovskite Photovoltaics II (Joint session of CPP, DS and HL, organized by CPP)
DS 20.1–20.2	Tue	12:30–13:00	H8	Topological Insulators: Status Quo and Future Directions (Joint session of DS, O and TT, organized by DS)
DS 21.1–21.4	Tue	13:30–15:30	H11	Gaede Prize Symposium (Joint session of DS and O, organized by DS)
DS 22.1–22.6	Tue	14:00–15:45	H18	Transport: Topological Insulators - 3D (Joint session of DS, HL, MA, O and TT, organized by TT)
DS 23.1–23.7	Tue	14:00–16:00	H24	Frontiers of Electronic Structure Theory: Focus on Topology and Transport I (Joint session of DS and O, organized by O)
DS 24.1–24.8	Tue	14:00–16:00	S052	1D Metal Wires on Semiconductors II (Joint session of DS and O, organized by O)
DS 25.1–25.6	Tue	14:00–15:30	H37	Organic Electronics and Photovoltaics I (Joint session of CPP, DS, HL and O, organized by CPP)
DS 26.1–26.1	Wed	8:30– 9:15	H1	Plenary Talk XI
DS 27.1–27.5	Wed	9:30–13:00	H1	Symposium Topological Insulators: Status Quo and Future Directions (Joint symposium of DS, HL, MA, O and TT, organized by TT)
DS 28.1–28.8	Wed	9:30–12:00	H8	Thin Film Applications
DS 29.1–29.8	Wed	9:30–11:45	H11	Hybrid and Perovskite Photovoltaics III (Joint session of CPP, DS and HL, organized by DS)
DS 30.1–30.13	Wed	9:30–13:15	H22	Transport: Graphene (Joint session of DS, DY, HL, MA, O and TT, organized by TT)
DS 31.1–31.10	Wed	10:30–13:00	H24	Frontiers of Electronic Structure Theory: Focus on Topology and Transport II (Joint session of DS and O, organized by O)
DS 32.1–32.10	Wed	10:30–13:00	S053	2D Materials: Growth (Joint session of DS and O, organized by O)
DS 33.1–33.3	Wed	12:00–12:45	H11	Frontiers of Electronic Structure Theory (Joint session of DS and O, organized by DS)
DS 34.1–34.2	Wed	12:15–12:45	H8	Atomic Layer Deposition

DS 35.1–35.12	Wed	15:00–18:15	H8	Thin Film Characterisation: Structure Analysis and Composition II
DS 36.1–36.8	Wed	15:00–18:30	H11	Focussed Session: Semiconductor Heteroepitaxy on Nanopatterned Substrates (Joint session of DS and HL, organized by DS)
DS 37.1–37.12	Wed	15:00–18:30	H24	Frontiers of Electronic Structure Theory: Focus on Topology and Transport III (Joint session of DS and O, organized by O)
DS 38.1–38.10	Wed	15:00–17:45	H32	Topological Insulators (Joint session of DS, HL, MA, O and TT, organized by MA)
DS 39.1–39.6	Thu	9:30–11:00	H8	Resistive Effects I
DS 40.1–40.9	Thu	9:30–13:15	H11	Focussed Session: Oxide Semiconductors for Device and Energy Applications I (Joint session of DS and HL, organized by DS)
DS 41.1–41.13	Thu	9:30–13:00	H23	Transport: Molecular Electronics and Photonics I (Joint session of CPP, DS, HL, MA, O and TT, organized by TT)
DS 42.1–42.11	Thu	9:30–12:45	H40	Organic Electronics and Photovoltaics II (Joint session of CPP, DS, HL and O, organized by CPP)
DS 43.1–43.9	Thu	10:30–13:15	H24	Frontiers of Electronic Structure Theory: Focus on Topology and Transport IV (Joint session of DS and O, organized by O)
DS 44.1–44.8	Thu	11:15–13:15	H8	Physics and Application of Emergent 2D-semiconductors and their Heterostructures I (Joint session of DS and HL, organized by DS)
DS 45.1–45.13	Thu	14:45–18:30	H2	Hybrid and Perovskite Photovoltaics IV (Joint session of CPP, DF, DS and HL, organized by HL)
DS 46.1–46.8	Thu	14:45–17:15	H10	Topological Insulators I (Joint session of DS and HL, organized by HL)
DS 47.1–47.4	Thu	15:00–17:00	H8	Focussed Session: Physics and Application of Emergent 2D-semiconductors and their Heterostructures II (Joint session of DS and HL, organized by DS)
DS 48.1–48.7	Thu	15:00–16:45	H11	Oxide Semiconductors for Device and Energy Applications II (Joint session of DS and HL, organized by DS)
DS 49.1–49.4	Thu	15:00–16:00	H23	Transport: Molecular Electronics and Photonics II (Joint session of CPP, DS, HL, MA, O and TT, organized by TT)
DS 50.1–50.13	Thu	15:00–18:15	H24	Frontiers of Electronic Structure Theory: Focus on Topology and Transport V (Joint session of DS and O, organized by O)
DS 51.1–51.7	Thu	16:15–18:30	H23	Transport: Spintronics and Magnetotransport (Joint session of DS, HL, MA and TT, organized by TT)
DS 52.1–52.5	Thu	17:00–18:15	H11	Ion and Electron Beam Induced Processes
DS 53.1–53.37	Thu	16:00–19:00	Poster A	Postersession DS/HL
DS 54.1–54.5	Fri	9:30–12:15	H1	Symposium on Frontiers of Electronic Structure Theory: Focus on Topology and Transport (Joint symposium of DS, HL, MA, MM and O, organized by O)
DS 55.1–55.10	Fri	9:30–12:15	H8	Organic Thin Films III
DS 56.1–56.6	Fri	9:30–11:45	H11	Focussed Session: Resistive Effects II
DS 57.1–57.8	Fri	9:30–12:00	H15	Topological Insulators II (Joint session of DS and HL, organized by HL)
DS 58.1–58.9	Fri	9:30–12:00	H40	Organic Electronics and Photovoltaics III (Joint session of CPP, DS, HL and O, organized by CPP)

Annual Meeting of the Thin Films Division

Monday 19:00–20:00 H8

- Annual Report