

Thin Films Division Fachverband Dünne Schichten (DS)

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Overview of Invited Talks and Sessions

(Lecture halls H14 and H17; Poster P3)

Invited Talks

DS 2.1	Mon	9:30–10:00	H17	GaN-based power converters enabling talktive power — ●MARCO LISERRE
DS 2.2	Mon	10:00–10:30	H17	Energy-efficient power electronics based on Gallium Nitride — ●OLIVER AMBACHER
DS 2.4	Mon	10:45–11:15	H17	Potential of Aluminum Nitride for Vertical Power Electronics — ●ANDREAS WAAG, KLAAS STREMPPEL, LUKAS PETERS, CHRISTOPH MARGENFELD, SAMUEL FABER, FRIEDHARD RÖMER, BERND WITZIGMANN
DS 6.1	Mon	15:00–15:30	H17	Novel high power device structures: Enabling compact and integrated power ICs — ●ELISON MATIOLI
DS 6.2	Mon	15:30–16:00	H17	Ab-initio investigations of V-pits and nanopipes in GaN — ●LIVERIOS LYMPERAKIS, SU-HYUN YOO, JÖRG NEUGEBAUER
DS 6.4	Mon	16:15–16:45	H17	Lateral and Vertical β-Ga₂O₃ Power Transistors for High-Voltage Applications — ●KORNELIUS TETZNER, MICHAEL KLUPSCH, KARINA ICKERT, RALPH-STEPHAN UNGER, ZBIGNIEW GALAZKA, TA-SHUN CHOU, SAUD BIN ANOOZ, ANDREAS POPP, JOACHIM WÜRFL, OLIVER HILT
DS 14.1	Wed	9:30–10:00	H17	Facet dependence of reconstructions at quantum material interfaces — ●EVA BENCKISER
DS 14.3	Wed	10:15–10:45	H17	Designing novel electronic phases at oxide interfaces from first principles — ●ROSSITZA PENTCHEVA

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
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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 From Physics and Big Data to the Design of Novel Materials (SYNM)

See SYNM for the full program of the symposium.

SYNM 1.1	Mon	15:00–15:30	H1	How to tackle the "P" in FAIR? — ●CLAUDIA DRAXL
SYNM 1.2	Mon	15:30–16:00	H1	Beyond the average error: machine learning for the discovery of novel materials — ●MARIO BOLEY, SIMON TESHUVA, FELIX LUONG, LUCAS FOPPA, MATTHIAS SCHEFFLER
SYNM 1.3	Mon	16:00–16:30	H1	The Phase Diagram of All Inorganic Materials — ●CHRIS WOLVERTON
SYNM 1.4	Mon	16:45–17:15	H1	Automated data-driven upscaling of transport properties in materials — ●DANNY PEREZ, THOMAS SWINBURNE
SYNM 1.5	Mon	17:15–17:45	H1	Data-driven understanding of concentrated electrolytes — ●ALPHA LEE

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

Invited Talks of the joint Symposium Complexity and Topology in Quantum Matter (SYQM)

See SYQM for the full program of the symposium.

SYQM 1.1	Fri	9:30–10:00	H1	The role of crystalline symmetries in topological materials: the topological materials database — ●MAIA VERGNIORY
SYQM 1.2	Fri	10:00–10:30	H1	Microwave Bulk and Edge Transport in HgTe-Based 2D Topological Insulators — ●ERWANN BOCQUILLON, MATTHIEU C. DARTAILH, ALEXANDRE GOURMELON, HIROSHI KAMATA, KALLE BENDIAS, SIMON HARTINGER, JEAN-MARC BERROIR, GWENDAL FÈVE, BERNARD PLAÇAIS, LUKAS LUNCZER, RAIMUND SCHLERETH, HARTMUT BUHMANN, LAURENS MOLENKAMP
SYQM 1.3	Fri	10:30–11:00	H1	Spectral Sensitivity of Non-Hermitian Topological Systems — ●JAN CARL BUDICH
SYQM 1.4	Fri	11:15–11:45	H1	Topological photonics and topological lasers with coupled vertical resonators — ●SEBASTIAN KLEMBT
SYQM 1.5	Fri	11:45–12:15	H1	Spectroscopic Studies of the Topological Magnon Band Structure in a Skyrmion Lattice — ●MARKUS GARST

Sessions

DS 1.1–1.5	Mon	9:30–10:45	H14	Thin Film Properties: Structure, Morphology and Composition (XRD, TEM, XPS, SIMS, RBS, AFM, ...) 1
DS 2.1–2.4	Mon	9:30–11:15	H17	Focus Session: Innovative GaN-based High-power Devices: Growth, Characterization, Simulation, Application 1
DS 3.1–3.10	Mon	9:30–12:45	H36	2D Materials 1 (joint session HL/CPP/DS)
DS 4.1–4.3	Mon	11:00–11:45	H14	Thin Film Properties: Structure, Morphology and Composition (XRD, TEM, XPS, SIMS, RBS, AFM, ...) 2
DS 5.1–5.6	Mon	11:30–13:00	H17	Organic Thin Films, Organic-Inorganic Interfaces
DS 6.1–6.4	Mon	15:00–16:45	H17	Focus Session: Innovative GaN-based High-power Devices: Growth, Characterization, Simulation, Application 2
DS 7.1–7.12	Mon	15:00–18:30	H36	2D Materials 2 (joint session HL/CPP/DS)
DS 8.1–8.2	Mon	17:15–17:45	H38	2D Materials 3 (joint session CPP/DS)
DS 9.1–9.6	Tue	9:30–11:00	H14	Thin Film Properties: Structure, Morphology and Composition (XRD, TEM, XPS, SIMS, RBS, AFM, ...) 3
DS 10.1–10.3	Tue	9:30–11:30	H17	Gaede Prize Talks
DS 11.1–11.8	Tue	9:30–12:45	H34	Focus Session: Quantum Properties at Functional Oxide Interfaces 1 (joint session HL/DS)
DS 12.1–12.8	Tue	9:30–12:00	H36	2D Materials 4 (joint session HL/CPP/DS)
DS 13.1–13.5	Wed	9:30–10:45	H14	Thin Film Applications 2
DS 14.1–14.4	Wed	9:30–11:00	H17	Focus session: Quantum Properties at Functional Oxide Interfaces 2 (joint session DS/HL)
DS 15.1–15.9	Wed	9:30–12:00	H36	2D Materials 5 (joint session HL/CPP/DS)
DS 16.1–16.4	Wed	11:00–12:00	H14	Thin Film Applications 2
DS 17.1–17.7	Wed	11:15–13:00	H17	2D Materials 6 (joint session DS/CPP)
DS 18.1–18.4	Wed	15:00–16:00	H14	Thin Oxides and Oxide Layers 1
DS 19.1–19.4	Wed	15:00–16:00	H17	2D Materials 7 (joint session DS/CPP)
DS 20.1–20.52	Wed	16:00–18:00	P3	Poster
DS 21.1–21.4	Thu	9:30–10:30	H14	Layer Deposition (ALD, MBE, Sputtering, ...)
DS 22.1–22.8	Thu	9:30–11:30	H17	2D Materials 8 (joint session DS/CPP)
DS 23.1–23.6	Thu	10:45–12:15	H14	Optical Analysis of Thin Films (Reflection, Ellipsometry, Raman, IR-DUV Spectroscopy, ...)
DS 24.1–24.4	Thu	11:15–12:15	H36	2D Materials 9 (joint session HL/CPP/DS)
DS 25.1–25.4	Thu	15:00–16:00	H14	Transport Properties
DS 26.1–26.4	Thu	16:15–17:15	H14	Thin Oxides and Oxide Layers 2
DS 27.1–27.9	Fri	9:30–12:00	H36	2D Materials 10 (joint session HL/CPP/DS)