

## Thin Films Division Fachverband Dünne Schichten (DS)

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### Overview of Invited Talks and Sessions

(lecture rooms H2 and H8; poster A and D1)

#### Gaede Prize

DS 20.1 Wed 14:00–14:45 H36 **Photonic Metamaterials: Novel Optics with Artificial Atoms** — •STEFAN LINDEN

#### Invited Talks

DS 12.1 Tue 9:30–10:15 H8 **Preparation methods and thermoelectric properties of PbTe based nanocomposites containing an inclusion phase** — DENIS PETRI, CHRISTOPH ERK, •SABINE SCHLECHT, RALF HASSDORF, ECKHARD MÜLLER, GERT HOMM, MARKUS PIECHOTKA, FLORIAN GATHER, PETER J. KLAR

DS 18.1 Wed 9:30–10:15 H2 **X-ray Scattering Investigations of Ge Quantum-dot Crystals Deposited on Prepatterned Si Substrates** — •VACLAV HOLÝ, M. MIXA, J STANGL, T. FROMHERZ, R. T. LECHNER, E. WINTERSBERGER, G. BAUER, CH. DAIS, E. MÜLLER, D. GRÜTZMACHER

DS 21.1 Wed 15:00–15:45 H2 **Self-organization of noble-metal nanoparticles on rippled dielectric surfaces produced by low-energy ion erosion** — •DAVID BABONNEAU, SOPHIE CAMELIO, LIONEL SIMONOT

DS 30.1 Thu 9:30–10:15 H2 **Spin in organics, a new route to spintronics** — •BERT KOOPMANS

DS 32.1 Thu 14:00–14:45 H2 **Spintronics below one nanometer** — •LAURENT LIMOT

DS 34.1 Thu 16:15–17:00 H2 **Probing the structure and dynamics of biomolecules adsorbed on surfaces.** — •PETER WEIGHTMAN

DS 42.1 Fri 10:15–11:00 H2 **A molecular view of the interfaces of colloidal particles and nanoscopic oil droplets in water** — •SYLVIE ROKE

#### Invited talks of the joint symposium SYDF – Density Functional Theory and Beyond for Real Materials

See SYDF for the full program of the Symposium.

SYDF 1.1 Thu 14:45–15:15 H1 **Downfolded Self-Energy of Many-Electron Systems and the Hubbard U** — •FERDI ARYASETIAWAN

SYDF 1.2 Thu 15:15–15:45 H1 **LDA+Gutzwiller method for correlated electron systems** — •ZHONG FANG

SYDF 1.3 Thu 15:45–16:15 H1 **Localized and itinerant states in  $d/f$ -electron systems unified by  $GW@LDA+U$**  — •HONG JIANG

SYDF 1.4 Thu 16:30–17:00 H1 **Giant polaronic effects in solids and nanstructures** — •ANDREA MARINI

SYDF 1.5 Thu 17:00–17:30 H1 **Excitation energies with time-dependent density *matrix* functional theory** — •EVERT JAN BAERENDS, KLAAS J. H. GIESBERTZ, OLEG GRITSENKO, KATARZYNA PERNAL

SYDF 1.6 Thu 17:30–18:00 H1 **Calculations of multipoles in magnetic metals and insulators** — •LARS NORDSTRÖM

**Invited talks of the joint symposium SYNT – Nanotribology**

See SYNT for the full program of the Symposium.

SYNT 1.1	Fri	10:15–10:45	H1	<b>Atomic friction under ultrahigh vacuum conditions</b> — ●ERNST MEYER, ENRICO GNECCO, PASCAL STEINER, GREGOR FESSLER, SASCHA KOCH, THILO GLATZEL, ALEXIS BARATOFF, MIRCIN KISIEL, URS GYSIN, AKSHATA RAO, SHIGEKI KAWAI, SABINE MAIER
SYNT 1.2	Fri	10:45–11:15	H1	<b>Layering and Squeeze-out Damping in Confined Liquid Films</b> — ●FRIEDER MUGELE
SYNT 1.3	Fri	11:15–11:45	H1	<b>Wear on the nanoscale: mechanisms and materials</b> — ●BERND GOTS-MANN, MARK A. LANTZ, HARISH BHSKARAN, ABU SEBASTIAN, UTE DRECHSLER, MICHEL DESPONT, YUN CHEN, KUMAR SRIDHARAN, PAPOT JAROENAPIBAL, ROBERT CARPICK
SYNT 1.4	Fri	11:45–12:15	H1	<b>Friction at the Nanoscale: Insights from Atomistic Simulations</b> — ●IZABELA SZLUFARSKA, YIFEI MO, YUN LIU, MANEESH MISHRA
SYNT 1.5	Fri	12:15–12:45	H1	<b>The friction of wrinkles</b> — ●MARTIN H. MÜSER, HAMID MOHAMMADI
SYNT 1.6	Fri	12:45–13:15	H1	<b>Influence of humidity on nano- and micromechanical contact adhesion</b> — ●HANS-JÜRGEN BUTT

**Invited talks of the joint symposium SYGN – Spin-Orbit Coupling and Spin Relaxation in Graphene and Carbon Nanotubes**

See SYGN for the full program of the Symposium.

SYGN 1.1	Mon	14:00–14:35	H1	<b>Models for spin-orbit coupling in graphene</b> — ●FRANCISCO GUINEA
SYGN 1.2	Mon	14:35–15:10	H1	<b>Spin-orbit coupling and spin relaxation in carbon nanotube quantum dots</b> — ●FERDINAND KUEMMETH
SYGN 1.3	Mon	15:10–15:45	H1	<b>Spin-orbit interaction in carbon nanotubes probed in pulsed magnetic fields</b> — ●SUNGHO JHANG, MAGDALENA MARGANSKA, YURII SKOURSKI, DOMINIK PREUSCHE, BENOIT WITKAMP, MILENA GRIFONI, HERRE VAN DER ZANT, JOACHIM WOSNITZA, CHRISTOPH STRUNK
SYGN 1.4	Mon	16:00–16:35	H1	<b>Wigner molecules and spin-orbit coupling in carbon-nanotube quantum dots</b> — ●MASSIMO RONTANI
SYGN 1.5	Mon	16:35–17:10	H1	<b>Spin relaxation and decoherence in graphene quantum dots</b> — ●GUIDO BURKARD
SYGN 1.6	Mon	17:10–17:45	H1	<b>Spin transport in graphene field effect transistors</b> — ●BART VAN WEES

**Invited talks of the joint symposium SYPN – Polarization Field Control in Group III-Nitrides**

See SYPN for the full program of the Symposium.

SYPN 1.1	Thu	9:30–10:00	H1	<b>Growth and applications of N-polar (Al,Ga,In)N</b> — ●STACIA KELLER, UMESH K MISHRA
SYPN 1.2	Thu	10:00–10:30	H1	<b>Green light-emitting diodes and laser heterostructures on semi-polar GaN(11-22)/sapphire substrates</b> — ●ANDRE STRITTMATTER
SYPN 1.3	Thu	10:30–11:00	H1	<b>Pros and cons of green InGaN lasers on polar GaN substrates</b> — ●UWE STRAUSS, ADRIAN AVRAMESCU, TERESA LERMER, JENS MÜLLER, CHRISTOPH EICHLER, STEPHAN LUTGEN
SYPN 1.4	Thu	11:15–11:45	H1	<b>Molecular beam epitaxy as a method for the growth of free-standing zinc-blende GaN layers and substrates.</b> — ●SERGEI NOVIKOV, THOMAS FOXON, ANTHONY KENT
SYPN 1.5	Thu	11:45–12:15	H1	<b>Three-dimensional GaN for semipolar light emitters</b> — ●THOMAS WUNDERER, FRANK LIPSKI, STEPHAN SCHWAIGER, FERDINAND SCHOLZ, MARTIN FENEBERG, KLAUS THONKE, ANDREY CHUVILIN, UTE KAISER, SEBASTIAN METZNER, FRANK BERTRAM, JÜRGEN CHRISTEN, CLEMENS VIERHEILIG, ULRICH SCHWARZ

## Topical Talks

DS 1.1	Mon	10:15–10:45	H2	<b>Tunable Hollow Waveguides and Their Device Applications</b> — ●FUMIO KOYAMA
DS 1.2	Mon	10:45–11:15	H2	<b>Self-organized quantum dots as single and entangled photon emitters</b> — ●ERIK STOCK, WALDEMAR UNRAU, ANATOL LOCHMANN, JAN AMARU TÖFFLINGER, ANDREI SCHLIWA, IRINA OSTAPENKO, MURAT ÖZTÜRK, SVEN RODT, TILL WARMING, ASKHAT K. BAKAROV, ALEKSANDR I. TOROPOV, ILIA A. DEREBEZOV, VLADIMIR HAISLER, DIETER BIMBERG
DS 1.3	Mon	11:15–11:45	H2	<b>Nanostructures for Novel Quantum Cascade Structures</b> — ●K. UNTERRAINER, W. PARZ, T. MOLDaschl, A. BENZ, G. FASCHING, A.M. ANDREWS, G. STRASSER
DS 1.4	Mon	11:45–12:15	H2	<b>Quantum dot single-photon sources</b> — ●PETER MICHLER
DS 1.5	Mon	12:15–12:45	H2	<b>The Two Conflicting Narratives of Metal-Optics</b> — ●ELI YABLONOVITCH
DS 1.6	Mon	12:45–13:15	H2	<b>Fundamental formulation of nanoplasmonic lasers</b> — ●SHUN CHUANG
DS 2.1	Mon	14:00–14:30	H2	<b>High performance lasers realised by advanced nanofabrication technologies</b> — ●JOHANN PETER REITHMAIER
DS 2.2	Mon	14:30–15:00	H2	<b>High-brightness edge-emitting semiconductor lasers based on concepts of photonic band crystal and tiled wave lasers</b> — ●VLADIMIR KALOSHA, THORSTEN KETTLER, KRISTIAN POSILOVIC, DANIEL SEIDLITZ, VITALY SHCHUKIN, NIKOLAY LEDENTSOV, DIETER BIMBERG
DS 2.3	Mon	15:00–15:30	H2	<b>Semiconductor optical amplifiers (SOA) for linear and nonlinear applications</b> — ●WOLFGANG FREUDE, RENÉ BONK, THOMAS VALLAITIS, ANDREJ MARCULESCU, AMITA KAPOOR, CHRISTIAN MEUER, DIETER BIMBERG, ROMAIN BRENOT, FRANÇOIS LELARGE, GUANG-HUA DUAN, JUERG LEUTHOLD
DS 2.4	Mon	15:30–16:00	H2	<b>Controlling light on the Nanoscale</b> — ●NIKOLAY ZHELUDEV
DS 2.5	Mon	16:15–16:45	H2	<b>New developments of high power LEDs and challenges in lighting applications</b> — ●CHRISTIAN FRICKE
DS 2.6	Mon	16:45–17:15	H2	<b>High speed VCSELs for short reach DATACOM applications</b> — ●ALEX MUTIG, JAMES LOTT, SERGEY BLOKHIN, GERRIT FIOL, ALEXEY NADTOCHIY, VITALY SHCHUKIN, NIKOLAI LEDENTSOV, DIETER BIMBERG
DS 2.7	Mon	17:15–17:45	H2	<b>Long-Wavelength Vertical-Cavity Surface-Emitting Lasers with a High-Contrast Grating</b> — ●WERNER HOFMANN
DS 14.1	Tue	14:00–14:30	H8	<b>Thermal Conductivity of Thermoelectric Materials Embedded with Nanoparticles</b> — ●YEE KAN KOH, DAVID CAHILL
DS 19.1	Wed	10:30–11:00	H2	<b>Glancing angle deposition: Preparation, properties, and application of micro- and nanostructured thin films</b> — ●BERND RAUSCHENBACH, CHRISTIAN PATZIG, JENS BAUER, CHINMAY KHARE
DS 19.7	Wed	12:15–12:45	H2	<b>Synthesis of Nanostructured Films by Self-organization</b> — ●HANS HOFSSÄSS
DS 22.1	Wed	16:00–16:30	H2	<b>Self-organization during the growth of phase-separated nanostructured thin films</b> — ●GINTAUTAS ABRASONIS
DS 22.5	Wed	17:15–17:45	H2	<b>Self-organization and molecular diffusion processes in organic thin film growth</b> — ●CHRISTIAN TEICHERT
DS 31.1	Thu	10:30–11:00	H2	<b>Spintronics with Organic Semiconductors</b> — ●V. ALEK DEDIU
DS 31.2	Thu	11:00–11:30	H2	<b>Muon measurements of spin transport and dynamics in organic semiconductors</b> — ●ALAN DREW
DS 31.6	Thu	12:15–12:45	H2	<b>Role of the van der Waals interaction on the adsorption of organic molecules on surfaces</b> — ●NICOLAE ATODIRESEI
DS 33.1	Thu	15:00–15:30	H2	<b>Spin-dependent tunneling through a single molecule with intramolecular resolution</b> — ●ROLAND WIESENDANGER
DS 33.2	Thu	15:30–16:00	H2	<b>Tunneling through magnetic molecules: what can we learn from the master equation?</b> — ●CARSTEN TIMM, FLORIAN ELSTE, BINHE WU
DS 35.1	Thu	17:15–17:45	H2	<b>Surface enhanced infrared spectroscopy - pushing the detection limit towards zeptomolar sensitivity</b> — ●FRANK NEUBRECH, DANIEL WEBER, JÖRG BOCHTERLE, ANNEMARIE PUCCI
DS 35.5	Thu	18:30–19:00	H2	<b>Infrared spectroscopic ellipsometry for the in-situ investigation of responsive polymer brushes</b> — ●DENNIS AULICH, EVA BITTRICH, KLAUS-JOCHEN EICHHORN, PETRA UHLMANN, MANFRED STAMM, MARTIN BRÜCHER, ROLAND HERGENRÖDER, OLHA HOY, IGOR LUZINOV, NORBERT ESSER, KARSTEN HINRICHS
DS 43.1	Fri	11:15–11:45	H2	<b>High resolution studies of bio-molecules using TERS</b> — ●VOLKER DECKERT

DS 43.4	Fri	12:15–12:45	H2	<b>Molecular orientation in phthalocyanine films assessed by combined optical and magneto-optical investigations</b> — ●GEORGETA SALVAN, MICHAEL FRONK, BJÖRN BRÄUER, DIETRICH R. T. ZAHN, OLIVER G. SCHMIDT, JENS KORTUS
DS 43.8	Fri	13:30–14:00	H2	<b><i>In-silico</i> optimization of function and emissive properties of Silicon nanoparticles</b> — ●THOMAS NIEHAUS

## Sessions

DS 1.1–1.6	Mon	10:15–13:15	H2	<b>Nanophotonics - Devices I (Focused Session together with HL)</b>
DS 2.1–2.7	Mon	14:00–17:45	H2	<b>Nanophotonics - Devices II (Focused Session together with HL)</b>
DS 3.1–3.9	Mon	10:15–12:30	H8	<b>Organic Electronics and Photovoltaics I (Joint Session DS/CPP/HL/O)</b>
DS 4.1–4.6	Mon	14:00–15:30	H8	<b>Organic Electronics and Photovoltaics II (Joint Session DS/CPP/HL/O)</b>
DS 5.1–5.6	Mon	15:45–17:15	H8	<b>Nanoengineered Thin Films</b>
DS 6.1–6.7	Mon	16:00–17:45	H15	<b>[HL] Organic Semiconductors: Solar Cells (Joint Session DS/CPP/HL/O)</b>
DS 7.1–7.9	Mon	10:15–12:45	H3	<b>[MA] Multiferroics I (Joint Session of MA/DF/KR/DS)</b>
DS 8.1–8.14	Mon	14:00–17:45	H3	<b>[MA] Multiferroics II (Joint Session of MA/DF/KR/DS)</b>
DS 9.1–9.53	Mon	15:00–17:30	Poster D1	<b>Poster: Synthesis of Nanostructured Films by Self-organization, Thermoelectric Thin Films and Nanostructures, High-k and Low-k Dielectrics, Layer Deposition Processes, Layer Growth, Layer Properties, Application of Thin Films, Surface Modification, Hard and Superhard Coatings, Metal Layers</b>
DS 10.1–10.10	Tue	10:30–13:00	H2	<b>Plasmonics and Nanophotonics I (Joint Session DS/O/HL)</b>
DS 11.1–11.6	Tue	15:00–16:30	H2	<b>[O] Plasmonics and Nanophotonics II (Joint Session DS/O/HL)</b>
DS 12.1–12.1	Tue	9:30–10:15	H8	<b>Invited Schlecht</b>
DS 13.1–13.10	Tue	10:30–13:00	H8	<b>Thermoelectric Thin Films and Nanostructures I</b>
DS 14.1–14.5	Tue	14:00–15:30	H8	<b>Thermoelectric Thin Films and Nanostructures II</b>
DS 15.1–15.12	Tue	9:30–12:45	H15	<b>[HL] Organic Semiconductors: Transistors and OLEDs (Joint Session DS/CPP/HL/O)</b>
DS 16.1–16.12	Tue	9:30–12:45	H37	<b>[CPP] Organic Electronics and Photovoltaics I (Joint Session DS/CPP/HL/O)</b>
DS 17.1–17.10	Tue	13:45–16:15	H37	<b>[CPP] Organic Electronics and Photovoltaics II (Joint Session DS/CPP/HL/O)</b>
DS 18.1–18.1	Wed	9:30–10:15	H2	<b>Invited Holý</b>
DS 19.1–19.7	Wed	10:30–12:45	H2	<b>Synthesis of Nanostructured Films by Self-organization I (Focused Session)</b>
DS 20.1–20.1	Wed	14:00–14:45	H36	<b>Gaede-Prize Talk (Linden, Stefan)</b>
DS 21.1–21.1	Wed	15:00–15:45	H2	<b>Invited Babonneau</b>
DS 22.1–22.5	Wed	16:00–17:45	H2	<b>Synthesis of Nanostructured Films by Self-organization II (Focused Session)</b>
DS 23.1–23.6	Wed	9:30–11:00	H8	<b>High-k and Low-k Dielectrics I (Joint Session DS/DF)</b>
DS 24.1–24.6	Wed	11:15–12:45	H8	<b>High-k and Low-k Dielectrics II (Joint Session DS/DF)</b>
DS 25.1–25.4	Wed	16:00–17:00	H8	<b>Application of Thin Films</b>
DS 26.1–26.12	Wed	9:30–12:45	H37	<b>[CPP] Organic Electronics and Photovoltaics III (Joint Session DS/CPP/HL/O)</b>
DS 27.1–27.11	Wed	10:30–13:15	H32	<b>[O] Plasmonics and Nanooptics III (Joint Session DS/O/HL)</b>
DS 28.1–28.11	Wed	15:00–17:45	H32	<b>[O] Plasmonics and Nanooptics IV (Joint Session DS/O/HL)</b>
DS 29.1–29.56	Wed	15:00–17:30	Poster A	<b>Poster: Molecular Spintronics, Biomolecular and Functional Organic Layers, Organic Electronics and Photovoltaics, Plasmonics and Nanophotonics, Organic Thin Films, Nanoengineered Thin Films, Thin Film Characterisation,</b>
DS 30.1–30.1	Thu	9:30–10:15	H2	<b>Invited Koopmans</b>
DS 31.1–31.6	Thu	10:30–12:45	H2	<b>Molecular Spintronics - Current Status and Challenges I (Focused Session)</b>

DS 32.1–32.1	Thu	14:00–14:45	H2	<b>Invited Limot</b>
DS 33.1–33.2	Thu	15:00–16:00	H2	<b>Molecular Spintronics - Current Status and Challenges II (Focused Session)</b>
DS 34.1–34.1	Thu	16:15–17:00	H2	<b>Invited Weightman</b>
DS 35.1–35.5	Thu	17:15–19:00	H2	<b>Biomolecular and Functional Organic Layers I (Focused Session)</b>
DS 36.1–36.6	Thu	9:30–11:00	H8	<b>Thin Film Characterisation: Structure Analyse and Composition (XRD, TEM, XPS, SIMS, RBS, ...) I</b>
DS 37.1–37.6	Thu	11:15–12:45	H8	<b>Thin Film Characterisation: Structure Analyse and Composition (XRD, TEM, XPS, SIMS, RBS, ...) II</b>
DS 38.1–38.11	Thu	14:00–16:45	H8	<b>Layer Properties: Electrical, Optical and Mechanical Properties</b>
DS 39.1–39.4	Thu	17:00–18:00	H8	<b>Layer Deposition Processes &amp; Layer Growth</b>
DS 40.1–40.10	Thu	10:30–13:00	H32	<b>[O] Plasmonics and Nanooptics V (Joint Session DS/O/HL)</b>
DS 41.1–41.12	Thu	15:00–18:00	H32	<b>[O] Plasmonics and Nanooptics VI (Joint Session DS/O/HL)</b>
DS 42.1–42.1	Fri	10:15–11:00	H2	<b>Invited Roke</b>
DS 43.1–43.8	Fri	11:15–14:00	H2	<b>Biomolecular and Functional Organic Layers II (Focused Session)</b>
DS 44.1–44.6	Fri	10:15–11:45	H8	<b>Organic Thin Films I</b>
DS 45.1–45.4	Fri	12:00–13:00	H8	<b>Organic Thin Films II</b>
DS 46.1–46.9	Fri	14:00–16:15	H8	<b>Organic Thin Films III</b>
DS 47.1–47.7	Fri	11:15–13:00	H32	<b>[O] Plasmonics and Nanooptics VII (Joint Session DS/O/HL)</b>
DS 48.1–48.6	Fri	11:15–12:45	H40	<b>[O] Organic Electronics and Photovoltaics III (Joint Session DS/CPP/HL/O)</b>

### Annual General Meeting of the German Vacuum Society (DVG)

Monday 17:30–18:00 H8

### Annual General Meeting of the Thin Films Division (DS)

Monday 18:00–18:30 H8