

Semiconductor Physics Division Fachverband Halbleiterphysik (HL)

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Vice Chairs:
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Overview of Invited Talks and Sessions

(Lecture rooms: ER 164, ER 270, EW 54, EW 201, EW 202, and EW 203; Posters: B and F)

Invited Talks

HL 1.1	Sun	16:00–16:45	H 1058	Challenges in the theoretical description of structures and processes at electrochemical interfaces — •AXEL GROSS
HL 1.2	Sun	16:50–17:35	H 1058	Raman under water - Of photons, phonons and the fun of tuning the Fermi level — •KATRIN F. DOMKE
HL 1.3	Sun	17:40–18:25	H 1058	Scanning probe microscopies for electrochemical problems — •GUNTHER WITTSTOCK
HL 4.1	Mon	9:30–10:00	EW 201	Exploring the optical properties of 1D nanomaterials at sub-nanometer scale with a direct correlation to its structure at atomic scale — •JORDI ARBIOL
HL 4.7	Mon	11:30–12:00	EW 201	Studying single semiconductor nanowires using a hard X-ray nanoprobe — •GEMA MARTINEZ-CRIADO
HL 13.1	Mon	15:00–15:30	EW 201	Light-matter interaction in wire cavities - from Purcell effect to Bose-Einstein condensates — •RÜDIGER SCHMIDT-GRUND
HL 13.7	Mon	17:00–17:30	EW 201	Quantum Transport in Core/Shell Semiconductor Nanowires — •THOMAS SCHÄPERS, FABIAN HAAS, PATRICK ZELLEKENS, TORSTEN RIEGER, TOBIAS WENZ, YUSUF GÜNEL, ÖNDER GÜL, NATALIA DEMARINA, MIHAIL LEPSA, HANS LÜTH, DETLEV GRÜTZMACHER
HL 15.1	Mon	15:00–15:30	EW 203	Semiconductor-based plasmonics — •FRITZ HENNEBERGER, SASCHA KALUSNIAK, SERGEY SADOFEV
HL 22.1	Tue	9:30–10:00	ER 164	Ultrastrong coupling regime of excitons interacting with microcavity photons or localized surface plasmons — •SALVATORE SAVASTA
HL 31.1	Tue	10:30–11:00	EW 201	Bruno K. Meyer: Excitons, defects and impurities in nitrides and oxides — •AXEL HOFFMANN
HL 40.1	Wed	9:30–10:00	ER 164	Boon and bane of polarization induced effects in group III-nitride based heterostructures — •OLIVER AMBACHER
HL 40.5	Wed	10:45–11:15	ER 164	Overview of theoretical aspects of semi-polar and non-polar nitride surfaces — •JOHN NORTHRUP
HL 48.1	Wed	11:00–11:30	EW 201	Transformation Optics: From Fundamentals to Applications for Energy Harvesting — •MARTIN WEGENER, MARTIN SCHUMANN
HL 48.2	Wed	11:30–12:00	EW 201	Nanostructures and materials for intermediate band solar cells — •ANTONIO MARTÍ
HL 51.3	Wed	15:30–16:00	ER 164	Impact of reduced polarization fields on the optical properties of semipolar nitride quantum wells — •MITSURU FUNATO, YOICHI KAWAKAMI
HL 54.1	Wed	15:00–15:30	EW 201	Nanophotonic light harvesting concepts from the visible to the mid-infrared — •STEFAN A MAIER
HL 54.2	Wed	15:30–16:00	EW 201	Material Design of Luminescent Glasses and Glass Ceramics for White-LED Applications — •STEFAN SCHWEIZER, FRANZISKA STEUDEL, SEBASTIAN LOOS, BERND AHRENS, PETER NOLTE, FLORIAN WAGNER
HL 62.1	Thu	9:30–10:00	ER 270	Folded Graphene - Solid State Physics in a Nutshell — •ROLF J. HAUG, JOHANNES C. RODE, HENNRİK SCHMIDT, DMITRI SMIRNOV
HL 64.1	Thu	9:30–10:00	EW 202	Energy efficient optical interconnects for datacom and HPCs — •DIETER BIMBERG

HL 64.2	Thu	10:00–10:30	EW 202	Plasmonic and Metallic Cavity Semiconductor Nanolasers for Ultimate Miniaturization — ●C.Z. NING
HL 64.3	Thu	10:30–11:00	EW 202	Polymer waveguides for electro-optical integration in data centers — ●ROGER DANGEL, JENS HOFRICHTER, FOLKERT HORST, DANIEL JUBIN, ANTONIO LA PORTA, NORBERT MEIER, JONAS WEISS, BERT JAN OFFREIN
HL 64.4	Thu	11:15–11:45	EW 202	Silicon Photonics for Optical Interconnects — ●ROEL BAETS
HL 64.5	Thu	11:45–12:15	EW 202	Long wavelength VCSELs for optical interconnects — ●MARKUS AMANN
HL 78.1	Thu	12:30–13:00	ER 164	Electrical spin injection into high mobility 2DEG systems — MARTIN OLTSCHER, ●MARIUSZ CIORGA, JOSEF LOHER, DIETER SCHUH, DOMINIQUE BOUGEARD, DIETER WEISS
HL 82.1	Thu	15:00–15:30	EW 202	Group IV GeSn alloys - a viable solution for Si-based light emitters — ●DAN BUCA, STEPHAN WIRTHS, SIEGFRIED MANTL, DETLEV GRÜTZMACHER
HL 99.1	Fri	9:30–10:00	EW 202	Fractional quantum Hall effect states in ultrahigh mobility two-dimensional electron systems — ●WERNER WEGSCHEIDER, CHRISTIAN REICHL, JUN CHEN, WERNER DIETSCHKE, STEPHAN BAER, LARS TIEMANN, SZYMON HENNEL, CLEMENS RÖSSLER, THOMAS IHN, KLAUS ENSSLIN

Invited talks of the joint symposium SYOP

See SYOP for the full program of the symposium.

SYOP 1.1	Mon	15:00–15:30	H 0105	Formation mechanisms of covalent nanostructures — ●JONAS BJÖRK
SYOP 1.2	Mon	15:30–16:00	H 0105	Selective C-H Activation and C-C coupling on Metal Surfaces — ●LIFENG CHI
SYOP 1.3	Mon	16:00–16:30	H 0105	On-Surface Synthesis on Insulating Substrates — ●ANGELIKA KUEHNLE
SYOP 1.4	Mon	16:45–17:15	H 0105	On-surface polymerization - a synthetic route to 2D polymers — ●MARKUS LACKINGER
SYOP 1.5	Mon	17:15–17:45	H 0105	On-surface azide-alkyne click chemistry and a novel metal-organic network based on Cu adatom trimers — ●TROLLE LINDEROTH

Invited talks of the joint symposium SYNPN

See SYNPN for the full program of the symposium.

SYNPN 1.1	Tue	9:30–10:00	H 0105	Connectomics: The dense reconstruction of neuronal circuits — ●MORITZ HELMSTÄDTER
SYNPN 1.2	Tue	10:00–10:30	H 0105	Whole-brain imaging and analysis of network activity in behaving zebrafish — ●MISHA AHRENS
SYNPN 1.3	Tue	10:30–11:00	H 0105	Circuit neurophysics: Theory and biophysics of information-flow through large-scale neuronal systems — ●FRED WOLF
SYNPN 1.4	Tue	11:15–11:45	H 0105	Cognitive devices based on ion currents in oxide thin films — ●STUART PARKIN
SYNPN 1.5	Tue	11:45–12:15	H 0105	Distributed neuro-physical interfaces: technology and "exciting" biophysics — ●SHY SHOHAM

Invited talks of the joint symposium SYMM

See SYMM for the full program of the symposium.

SYMM 1.1	Thu	9:30–10:15	H 0105	From MAX to MXene - From 3D to 2D — ●MICHEL BARSOUM
SYMM 1.2	Thu	10:15–10:45	H 0105	Structure evolution during low temperature growth of nanolaminate thin films — ●J.M. SCHNEIDER, L. SHANG, H. BOLVARDI, Y. JIANG, A. AL GABAN, D. MUSIC, M. TO BABEN
SYMM 1.3	Thu	11:00–11:30	H 0105	Autonomous healing of crack damage in MAX phase ceramics — ●WILLEM G. SLOOF
SYMM 1.4	Thu	11:30–12:00	H 0105	Magnetic MAX phases from first principles and thin film synthesis — ●JOHANNA ROSEN
SYMM 1.5	Thu	12:00–12:30	H 0105	Weak Field Magneto-Transport Properties of Mn⁺1AX_n Phases — ●THIERRY OUISSE, LU SHI, BENOIT HACKENS, BENJAMIN PIOT, DIDIER CHAUSSENDE

Invited talks of the joint symposium SYME

See SYME for the full program of the symposium.

SYME 1.1	Fri	9:30–10:00	H 0105	Excitations and charge transfer phenomena in C based systems — •ELISA MOLINARI
SYME 1.2	Fri	10:00–10:30	H 0105	Towards optimal correlation factors for many-electron perturbation theories — •ANDREAS GRÜNEIS
SYME 1.3	Fri	10:30–11:00	H 0105	Towards an ab-initio description of high temperature superconductivity — •GARNET CHAN
SYME 1.4	Fri	11:15–11:45	H 0105	Correlation effects in unconventional superconductors: from micro- to nano- and macroscales. — •ROSER VALENTI
SYME 1.5	Fri	11:45–12:15	H 0105	Stochastic density functional and GW theories scaling linearly with system size — •ROI BAER, DANIEL NEUHAUSER, ERAN RABANI

Sessions

HL 1.1–1.3	Sun	16:00–18:25	H 1058	Tutorial: Electro chemistry 4 condensed matter physicists
HL 2.1–2.6	Mon	9:30–11:00	ER 164	Organic-inorganic perovskite semiconductors (with O)
HL 3.1–3.8	Mon	9:30–11:30	ER 270	Graphene: THz, NIR and transport properties (with O/TT)
HL 4.1–4.12	Mon	9:30–13:15	EW 201	Focus Session (with TT): Functional semiconductor nanowires I
HL 5.1–5.9	Mon	9:30–11:45	EW 202	Photovoltaics: CIGS and related compounds
HL 6.1–6.14	Mon	9:30–13:00	H 2032	Organic electronics and photovoltaics (DS with HL/CPP)
HL 7.1–7.13	Mon	9:30–13:00	H 3005	Transport: Quantum coherence and quantum information systems - Theory (TT with HL)
HL 8.1–8.9	Mon	9:30–12:00	A 053	Transport: Spintronics and magnetotransport (TT with HL)
HL 9.1–9.11	Mon	10:00–13:00	EW 203	Quantum dots: Optical properties
HL 10.1–10.7	Mon	11:15–13:00	ER 164	Photovoltaics: Kesterites and less widely used materials (with DF)
HL 11.1–11.5	Mon	11:45–13:00	ER 270	Transition-metal dichalcogenides and boron nitride (with O)
HL 12.1–12.9	Mon	15:00–17:15	ER 164	Graphene: mostly Theory (with O/TT)
HL 13.1–13.12	Mon	15:00–18:45	EW 201	Focus Session (with TT): Functional semiconductor nanowires II
HL 14.1–14.7	Mon	15:00–16:45	EW 202	Organic photovoltaics and electronics - mostly cell design (with DS)
HL 15.1–15.1	Mon	15:00–15:30	EW 203	Invited Talk Fritz Henneberger
HL 16.1–16.9	Mon	15:00–17:15	H 0110	Transport: Quantum coherence and quantum information systems - Experiments (TT with HL)
HL 17.1–17.9	Mon	15:00–17:45	A 053	Transport: Topological insulators 1 (TT with DS/HL)
HL 18.1–18.6	Mon	15:45–17:15	EW 203	Plasmons, plasmonic laser, and spaser
HL 19.1–19.8	Mon	17:00–19:00	EW 202	Organic photovoltaics and electronics - mostly properties of the absorber (with DS)
HL 20.1–20.22	Mon	15:00–20:00	Poster B	Poster IA (Ultrafast phenomena; Optical properties; Transport; Theory)
HL 21.1–21.33	Mon	15:00–20:00	Poster B	Poster IB (Oxide semiconductors; II-VI and group IV semiconductors; Nanotubes and Buckyballs)
HL 22.1–22.1	Tue	9:30–10:00	ER 164	Invited Talk Salvatore Savasta
HL 23.1–23.8	Tue	9:30–11:30	ER 270	Spintronics: Excitons and local spins (with MA/TT)
HL 24.1–24.13	Tue	9:30–13:00	EW 202	Thermoelectricity
HL 25.1–25.6	Tue	9:30–11:00	EW 203	Quantum dots: Microcavities and microlaser
HL 26.1–26.13	Tue	9:30–13:00	C 130	Organic electronics and photovoltaics: Transport of charges - from molecules to devices (CPP with HL/TT)
HL 27.1–27.7	Tue	9:30–13:00	H 2032	Doped Si nanostructures (DS with HL/TT)
HL 28.1–28.12	Tue	9:30–13:00	H 3005	Transport: Topological insulators 2 (TT with HL/DS)
HL 29.1–29.10	Tue	9:30–12:15	A 053	Transport: Graphene (TT with CPP/DS/DY/HL/O)
HL 30.1–30.6	Tue	10:15–11:45	ER 164	Photovoltaics: Nanostructured materials
HL 31.1–31.1	Tue	10:30–11:00	EW 201	Invited Talk in honor of Bruno K. Meyer: Axel Hoffman
HL 32.1–32.10	Tue	10:30–13:00	MA 041	Graphene: Growth & intercalation (O with HL/TT)
HL 33.1–33.11	Tue	10:30–13:30	MA 004	Frontiers of Electronic Structure Theory: Nuclear Dynamics, Methods
HL 34.1–34.7	Tue	11:15–13:00	EW 201	Nitrides: Dots, rods, and structures

HL 35.1–35.6	Tue	11:15–12:45	EW 203	Semiconductor laser
HL 36.1–36.7	Tue	14:00–16:00	C 130	Organic electronics and photovoltaics: OPV I (CPP with HL/TT)
HL 37.1–37.8	Tue	14:00–16:00	H 0110	Transport: Topological insulators 3 (TT with HL/DS)
HL 38.1–38.6	Tue	14:00–15:45	MA 004	Frontiers of electronic structure theory: Charge and spin dynamics
HL 39.1–39.38	Tue	14:00–20:00	Poster F	Posters II (Topological insulators; Graphene; Spintronics and spin physics; Quantum information science)
HL 40.1–40.5	Wed	9:30–11:15	ER 164	Focus Session: Role of polarization fields in nitride devices I
HL 41.1–41.8	Wed	9:30–11:30	ER 270	Topological insulators: Theory (with DS/MA/O/TT)
HL 42.1–42.9	Wed	9:30–12:00	EW 015	Devices
HL 43.1–43.5	Wed	9:30–10:45	EW 202	Ultra-fast phenomena
HL 44.1–44.13	Wed	9:30–13:00	EW 203	Quantum dots: Preparation and characterization
HL 45.1–45.13	Wed	9:30–13:00	C 130	Organic electronics and photovoltaics: OPV II (CPP with HL/TT)
HL 46.1–46.9	Wed	10:30–13:00	MA 041	Graphene: Dynamics (O with HL/TT)
HL 47.1–47.11	Wed	10:30–13:30	MA 004	Frontiers of electronic structure theory: Organics and materials
HL 48.1–48.6	Wed	11:00–13:00	EW 201	Focus Session (with O): Nanophotonic concepts and materials for energy harvesting - Plasmonics, transformation optics, upconversion, and beyond I
HL 49.1–49.8	Wed	11:00–13:00	EW 202	Quantum information systems: mostly concepts (with TT)
HL 50.1–50.5	Wed	11:45–13:00	ER 270	Topological insulators: Transport (with MA/O/TT)
HL 51.1–51.6	Wed	15:00–16:45	ER 164	Focus Session: Role of polarization fields in nitride devices II
HL 52.1–52.6	Wed	15:00–16:30	ER 270	Topological insulators: Structure and electronic structure (with DS/MA/O/TT)
HL 53.1–53.4	Wed	15:00–16:00	EW 015	Photonic crystals
HL 54.1–54.4	Wed	15:00–16:30	EW 201	Focus Session: Nanophotonic concepts and materials for energy harvesting - Plasmonics, transformation optics, upconversion, and beyond II
HL 55.1–55.7	Wed	15:00–16:45	EW 203	Quantum dots: Interaction with environment
HL 56.1–56.13	Wed	15:00–18:30	MA 004	Frontiers of electronic structure theory: Optical excitations
HL 57.1–57.7	Wed	16:15–18:00	EW 015	Optical properties of bulk semiconductors
HL 58.1–58.9	Wed	16:30–18:45	EW 202	OFETs, OLEDs, and organic optoelectronics
HL 59.1–59.8	Wed	16:45–18:45	ER 270	Graphene: Applications, luminescence and spin relaxation (HL with O/TT)
HL 60.1–60.6	Wed	17:15–18:45	EW 203	Quantum dots: Transport
HL 61.1–61.42	Wed	15:00–20:00	Poster F	Posters III (Organic-inorganic perovskite semiconductors; Organic photovoltaics and electronics; Photovoltaics; Energy science; New materials and concepts)
HL 62.1–62.1	Thu	9:30–10:00	ER 270	Invited Talk Rolf Haug
HL 63.1–63.8	Thu	9:30–11:30	EW 015	Group IV elements and compounds
HL 64.1–64.7	Thu	9:30–12:45	EW 202	Focus Session: Optical interconnects - Materials, devices, and integration
HL 65.1–65.9	Thu	9:30–12:45	H 2032	Focus Session (DS with HL): Oxide semiconductors I
HL 66.1–66.11	Thu	9:30–13:00	C 130	Focus Session (CPP with HL): Hybrid photovoltaics and perovskites I
HL 67.1–67.10	Thu	9:30–12:00	EB 202	Topological insulators I (MA with HL/TT)
HL 68.1–68.6	Thu	9:30–11:00	H 3010	Low-dimensional systems: Molecular conductors (TT with CPP/HL/MA/O)
HL 69.1–69.8	Thu	9:30–13:00	EB 407	GHz Dielectrics - Materials for mobile communication I (DF with HL/MM)
HL 70.1–70.9	Thu	10:00–12:30	ER 164	Spintronics: Mobile electrons and holes (with MA/TT)
HL 71.1–71.9	Thu	10:15–12:30	EW 201	New concepts and new materials
HL 72.1–72.6	Thu	10:15–11:45	EW 203	Quantum wires
HL 73.1–73.10	Thu	10:30–13:00	MA 041	Graphene: Structure (O with HL/TT)
HL 74.1–74.10	Thu	10:30–13:15	MA 004	Frontiers of electronic structure theory: 2D TMDC and excitonic effects

HL 75.1–75.8	Thu	11:00–13:00	A 053	Transport: Quantum dots, quantum wires, point contacts 1 (TT with HL)
HL 76.1–76.6	Thu	11:30–13:00	EW 015	Carbon nanotubes
HL 77.1–77.6	Thu	11:30–13:00	H 3010	Low-dimensional systems: Topological order 1 (TT with HL)
HL 78.1–78.1	Thu	12:30–13:00	ER 164	Invited Talk Mariusz Ciorga
HL 79.1–79.8	Thu	15:00–17:00	ER 164	Quantum information systems: Si vacancies and NV centers (with TT)
HL 80.1–80.9	Thu	15:00–17:15	EW 015	Challenges in semiconductor theory
HL 81.1–81.12	Thu	15:00–18:15	EW 201	Heterostructures and interfaces
HL 82.1–82.1	Thu	15:00–15:30	EW 202	Invited Talk Dan Buca
HL 83.1–83.12	Thu	15:00–19:00	H 2032	Focus Session: Oxide semiconductors II (DS with HL)
HL 84.1–84.10	Thu	15:00–18:15	C 130	Focus Session (CPP with HL): Hybrid photovoltaics and perovskites II
HL 85.1–85.11	Thu	15:00–17:45	EB 202	Topological Insulators 2 (MA with HL/TT)
HL 86.1–86.12	Thu	15:00–18:30	A 053	Transport: Quantum dots, quantum wires, point contacts 2 (TT with HL)
HL 87.1–87.13	Thu	15:00–18:30	H 3010	Low-dimensional systems: Topological order 2 (TT with DS/HL/MA/O)
HL 88.1–88.5	Thu	15:00–17:00	EB 407	GHz Dielectrics - Materials for mobile communication II (DF with DY/HL/MM)
HL 89.1–89.13	Thu	15:00–18:15	MA 041	Graphene: Electronic structure (O with HL/TT)
HL 90.1–90.14	Thu	15:00–18:45	H 0111	Phase change / resistive switching (DS with HL)
HL 91.1–91.13	Thu	15:00–18:30	MA 004	Frontiers of electronic structure theory: Many-body effects, methods
HL 92.1–92.8	Thu	15:45–17:45	EW 202	VCSELs, optical interconnects and Si photonics
HL 93.1–93.8	Thu	15:45–17:45	EW 203	III-V semiconductors (other than nitrides)
HL 94.1–94.13	Thu	14:00–20:00	Poster B	Poster IV A (Laser; Devices; Heterostructures; Surfaces, interfaces and defects)
HL 95.1–95.31	Thu	14:00–20:00	Poster B	Poster IV B (Quantum dots and wires: Preparation, characterization, optical properties, and transport)
HL 96.1–96.23	Thu	14:00–20:00	Poster B	Poster III C (III-V Semiconductors incl. Nitrides)
HL 97.1–97.6	Fri	9:30–11:00	ER 164	Quantum dots and wires: Pillars and cavities
HL 98.1–98.11	Fri	9:30–12:30	EW 201	Nitrides: Bulk material, films, surfaces and quantum wells
HL 99.1–99.1	Fri	9:30–10:00	EW 202	Invited Talk Werner Wegscheider
HL 100.1–100.10	Fri	9:30–12:15	EW 203	ZnO and its relatives
HL 101.1–101.5	Fri	9:30–12:15	H 0105	Frontiers of electronic structure theory: Many-body effects on the nano-scale
HL 102.1–102.7	Fri	9:30–12:00	C 130	Organic electronics and photovoltaics: Devices (CPP with HL/TT)
HL 103.1–103.9	Fri	9:30–12:00	EB 202	Spintronics incl. quantum dynamics (MA with HL/TT)
HL 104.1–104.10	Fri	9:30–12:15	H 0110	Transport: Molecular electronics (TT with CPP/HL/MA/O)
HL 105.1–105.10	Fri	9:30–12:15	H 0104	Transport: Majorana fermions (TT with DS/HL/MA/O)
HL 106.1–106.11	Fri	10:00–13:00	EW 202	Transport, magnetotransport and quantum Hall physics
HL 107.1–107.10	Fri	10:15–13:00	EW 015	Microcavities, polaritons and condensates
HL 108.1–108.9	Fri	10:30–12:45	MA 041	Graphene: Intercalation (O with HL/TT)
HL 109.1–109.8	Fri	11:15–13:15	ER 164	Quantum dots and wires: Quantum communication and quantum information science

Annual General Meeting of the Semiconductor Physics Division

Donnerstag 18:00–19:00 EW 015

- Bericht
- Wahl
- Verschiedenes