Semiconductor Physics Division
Fachverband Halbleiterphysik (HL)

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Overview of Invited Talks and Sessions

(Lecture halls EW 201, EW 202, EW 203, EW 015, EW 561, and ER 325; Posters E and F)

Invited Talks

HL 1.7	Mon	11:15–11:45	EW 015	**Strong light-matter interaction probed by cathodoluminescence spectroscopy** — •Fatemeh Chahshouri, Nahid Talebi
HL 3.1	Mon	9:30–10:00	EW 202	**Unraveling spin dynamics from charge fluctuations** — Eric Kleinherbers, •Jürgen König
HL 4.7	Mon	11:15–11:45	EW 203	**Influence of the Organic Cation Orientation on the Absorption Spectra of 2D Hybrid Organic-Inorganic Perovskites** — •Svenja Janke
HL 11.7	Mon	16:45–17:15	EW 203	**Strategic wafer-scale creation of telecom single-photon emitters in silicon for large-scale quantum photonic integrated circuits** — •Yonder Berencen
HL 20.1	Tue	9:30–10:00	EW 203	**Coherent ultrafast exciton dynamics mediated by vibronic couplings** — •Antonietta De Sio
HL 20.2	Tue	10:00–10:30	EW 203	**Merging electron microscopy with advanced photonics** — •Armin Feist, Guanhao Huang, Germaine Arend, Yujia Yang, Jan-Wilke Henke, Arslan Sajid Raja, F. Jasmin Kappert, Rui Ning Wang, Hugo Lourenço-Martins, Qiu Zheru, Junqiu Liu, Ofer Kfir, Tobias J. Kippenberg, Claus Ropers
HL 20.3	Tue	10:30–11:00	EW 203	**Nanotextured Surfaces Based on DNA** — •Irina Martynenko, Tim Liedl
HL 20.4	Tue	11:15–11:45	EW 203	**Advances in Quantum Light Generation for Quantum Communication** — •Tobias Heindel
HL 20.5	Tue	11:45–12:15	EW 203	**Membrane external-cavity surface-emitting lasers: A review at the first decade of research** — •Hermann Kahle
HL 28.1	Wed	9:30–10:00	EW 203	**Green-Kubo lattice dynamics approach to thermal transport in strongly anharmonic materials** — •Ivana Savić
HL 28.2	Wed	10:00–10:30	EW 203	**Hybrid crystal-glass heat conduction and radiative effects in disordered solids** — •Michele Simoncelli
HL 28.3	Wed	10:30–11:00	EW 203	**Engineering and probing phonons and thermal transport** — •Ilaria Zardo, Begoña Abad, Chaitanya Arya, Giulio de Vito, Yashpreet Kaur, Dominik M. Koch, Grazia Raciti, Aswathi K. Sivan, Jose M. Sojo, Johannes Trautvetter
HL 28.4	Wed	11:15–11:45	EW 203	**Challenges and opportunities of thermally anisotropic materials** — •Sebastian Reparaz
HL 29.1	Wed	9:30–10:00	EW 561	**Nonreciprocal charge transport on the edges of a quantum anomalous Hall insulator** — •Gertjan Lippertz, Anjana Uday, Andrea Bliesener, Lino Pereira, Alexey Taskin, Yoichi Ando
HL 40.7	Thu	11:15–11:45	EW 201	**Exciton transport in van der Waals antiferromagnet CrSBr** — •Florian Dirnberger, Sophia Terres, Akashdeep Kamra, Mikhail M. Glazov, Alexey Chernikov
HL 41.1	Thu	9:30–10:00	EW 202	**Quantum sensors and memories based on soft-clamped phononic membrane resonators** — •Albert Schliesser

HL 41.2	Thu	10:00–10:30	EW 202	**Quantum mechanics-free subsystem with mechanical oscillators** — •Laure Mercier de Lepinay, Caspar Ockeloen-Korppi, Matthew Woolley, Mika Sillanpää
HL 41.3	Thu	10:30–11:00	EW 202	**Electrothermally tunable metal-graphene-siliconnitride membrane mechanical device** — •Elke Scheer, Mengqi Fu, Fan Yang
HL 41.4	Thu	11:15–11:45	EW 202	**From Nanomechanics to Spins** — •Christian Degen
HL 41.5	Thu	11:45–12:15	EW 202	**Enhanced cooling efficiency in nonlinear cavity optomechanics** — •Anja Metelmann, Nicolas Diaz-Naufal, David Zoepfl, Lukas Deeg, Christian Schneider, Mathieu Juan, Gerhard Kirchmaier
HL 45.1	Thu	14:00–14:30	EW 203	**Compact, plug-and-play module to generate high-quality photon states from quantum dots** — •Vikas Remesh
HL 49.1	Thu	15:00–15:30	EW 561	**Dynamical laser properties of tunnel-injection devices.** — •Michael Lorke, Frank Jahnke, Gadi Eisenstein, Johann-Peter Reithmeier
HL 53.7	Fri	11:15–11:45	EW 201	**Correlated phases in the vicinity of tunable van Hove singularities in Bernal bilayer graphene** — •Anna Seiler, Nils Jacobsen, Martin Statz, Fabian Geisenhof, Felix Winterer, Isabell Weimer, Tianyi Xu, Zhiyu Dong, Leonid Levitov, Fan Zhang, Thomas Weitz
HL 54.1	Fri	9:30–10:00	EW 202	**Tunneling spectroscopy of a phase-tunable topological insulator Josephson junction** — •Jakob Schluck, Ella N. Nikodem, Anton Montag, Alexander Ziesen, Mahasweta Bagchi, Zhiwei Wang, Fabian Hassler, Yoichi Ando
HL 54.2	Fri	10:00–10:30	EW 202	**Robust Majorana modes in topological material-based nanoelectronic hybrid devices** — •Kristof Moors
HL 54.3	Fri	10:30–11:00	EW 202	**Thermal and electric response of superconducting topological materials; are Majorana states more widespread than expected?** — •Ewelina Hankiewicz
HL 54.4	Fri	11:15–11:45	EW 202	**Tunable Josephson coupling in HgTe nanodevices** — •Martin P. Stehno
HL 54.5	Fri	11:45–12:15	EW 202	**Superconducting proximity effect in topological Dirac materials** — •Chuan Li, Anqi Wang, Caizhen Li, Chhunguang Chu, Zhimin Liao, Alexander Brinkman
HL 54.6	Fri	12:15–12:45	EW 202	**Exploring Josephson Junctions made of Topological Insulator Wires and Superconductors** — •Dieter Weiss

Invited Talks of the joint Symposium SKM Dissertation Prize 2024 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30–10:00	H 1012	**Nonequilibrium dynamics in constrained quantum many-body systems** — •Johannes Feldmeier
SYSD 1.2	Mon	10:00–10:30	H 1012	**Controlled Manipulation of Magnetic Skyrmions: Generation, Motion and Dynamics** — •Lisa-Marie Kern
SYSD 1.3	Mon	10:30–11:00	H 1012	**Interactions within and between cytoskeletal filaments** — •Charlotta Lorenz
SYSD 1.4	Mon	11:00–11:30	H 1012	**Field theories in nonequilibrium statistical mechanics: from molecules to galaxies** — •Michael te Vrugt
SYSD 1.5	Mon	11:30–12:00	H 1012	**Lightwave control of electrons in graphene** — •Tobias Weitz

Invited Talks of the joint Symposium Advances in Ab-Initio Electronic Structure Theory of Time-Dependent and Non-Equilibrium Phenomena (SYES)

See SYES for the full program of the symposium.

SYES 1.1	Tue	9:30–10:00	H 0105	**Light control of charge transport and phase transitions** — •Sheng Meng
SYES 1.2	Tue	10:00–10:30	H 0105	**Probing the transport of the interacting electron-phonon system self-consistently and *ab initio*** — •Nakib Protik
SYES 1.3	Tue	10:30–11:00	H 0105	**In- and out-of-equilibrium ab initio theory of electrons and phonons** — •Gianluca Stefanucci
SYES 1.4	Tue	11:15–11:45	H 0105	**Phonon screening of excitons in semiconductors and insulators from first principles** — •Marina Rucsandra Filip

SYES 1.5	Tue	11:45–12:15	H 0105	**Light-matter control of quantum materials: from Floquet to cavity engineering** — •Michael Sentef

Invited Talks of the joint Symposium Emerging Materials for Renewable Energy Conversion (SYEM)

See SYEM for the full program of the symposium.

SYEM 1.1	Wed	9:30–10:00	H 0105	**Non-critical Materials Production for a Green Energy Transition** — •Anke Weidenkaff, Wenjie Xie, Marc Wiedenmeyer
SYEM 1.2	Wed	10:00–10:30	H 0105	**Strategies for the morphological design of photoactive oxynitride particles and electrodes for solar water-splitting.** — •Simone Pokrant
SYEM 1.3	Wed	10:30–11:00	H 0105	**Computational workflows for an accelerated design of novel materials and interfaces** — •Ivano Eligio Castelli
SYEM 1.4	Wed	11:30–11:45	H 0105	**Autonomous composition control of emerging nitride materials for solar energy conversion** — •Andriy Zakutayev
SYEM 1.5	Wed	11:45–12:00	H 0105	**Understanding and tailoring the catalytic activity of spinel and perovskite surfaces from first principles calculations** — •Rossitza Pentcheva
SYEM 1.6	Wed	12:00–12:15	H 0105	**Mastering Compositional Complexity in High Entropy Materials for Energy Applications - Towards Accelerated Materials Discovery by Integration of High-throughput Experimentation, Simulation, and Materials Informatics** — •Alfred Ludwig

Invited Talks of the joint Symposium Quantum Communication: Promises or Reality? (SYQC)

See SYQC for the full program of the symposium.

SYQC 1.1	Fri	9:30–10:00	H 0105	**Efficient Quantum Dot Micropillars for Quantum Networks** — David Dlaka, Petros Androvitsaneas, Andrew Young, Qirui Ma, Edmund Harbord, •Ruth Oulton
SYQC 1.2	Fri	10:00–10:30	H 0105	**Superconducting Single Photon Detectors - Limited only by the laws of physics** — •Andreas Fognini
SYQC 1.3	Fri	10:45–11:15	H 0105	**Laser triggering of quantum light sources using engineered optical pulses** — •Kimberley Hall
SYQC 1.4	Fri	11:15–11:45	H 0105	**Quantum Networks and Technologies** — •Rob Thew

Sessions

HL 1.1–1.12	Mon	9:30–13:00	EW 015	**Nitrides: Preparation and characterization I**
HL 2.1–2.13	Mon	9:30–13:00	EW 201	**2D Materials and Heterostructures: Photonic Aspects**
HL 3.1–3.11	Mon	9:30–12:45	EW 202	**Quantum Dots and Wires: Transport**
HL 4.1–4.12	Mon	9:30–13:00	EW 203	**Perovskite and Photovoltaics I (joint session HL/KFM)**
HL 5.1–5.8	Mon	9:30–11:45	EW 561	**Optical Properties I**
HL 6.1–6.10	Mon	9:30–12:45	HFT-FT 131	**Semiconductor Qubits (joint session QI/HL)**
HL 7.1–7.7	Mon	15:00–17:00	ER 325	**Transport properties I**
HL 8.1–8.11	Mon	15:00–18:00	EW 015	**Ultrafast Phenomena I**
HL 9.1–9.13	Mon	15:00–18:30	EW 201	**2D Materials and Heterostructures: Interlayer Excitons**
HL 10.1–10.11	Mon	15:00–18:00	EW 202	**Focus Session: Evolution of Topological Materials into Superconducting Nanodevices I (joint session HL/TT)**
HL 11.1–11.10	Mon	15:00–18:00	EW 203	**Materials and Devices for Quantum Technology I (joint session HL/QI)**
HL 12.1–12.7	Mon	15:00–16:45	EW 561	**Semiconductor Lasers I**
HL 13.1–13.60	Mon	15:00–18:00	Poster E	**Poster I**
HL 14.1–14.28	Mon	15:00–18:00	Poster F	**Poster II**
HL 15.1–15.6	Mon	16:45–18:15	H 3007	**Quantum Dots and Quantum Wires (joint session TT/HL)**
HL 16.1–16.8	Tue	9:30–11:45	ER 325	**Functional Semiconductors for Renewable Energy Solutions I**
HL 17.1–17.9	Tue	9:30–12:00	EW 015	**Organic Semiconductors**

HL 18.1–18.13	Tue	9:30–13:00	EW 201	**2D Materials and Heterostructures: Emerging Materials and Phenomena**
HL 19.1–19.12	Tue	9:30–13:00	EW 202	**Quantum Dots and Wires: Optics I**
HL 20.1–20.5	Tue	9:30–12:15	EW 203	**Focus Session: Young Semiconductor Forum**
HL 21.1–21.8	Tue	9:30–11:45	EW 561	**Heterostructures, Interfaces and Surfaces I**
HL 22.1–22.20	Tue	11:00–15:30	Poster F	**Focus Session: Young Semiconductor Forum**
HL 23.1–23.5	Tue	11:45–13:00	H 3007	**Focus Session: Nanomechanical Systems for Classical and Quantum Sensing I (joint session TT/DY/HL/QI)**
HL 24.1–24.7	Wed	9:30–11:15	H 3007	**Graphene and 2D Materials (joint session TT/HL)**
HL 25.1–25.11	Wed	9:30–12:45	ER 325	**Oxide Semiconductors I**
HL 26.1–26.10	Wed	9:30–12:15	EW 201	**2D Materials and Heterostructures: Quantum Emitters and Defects**
HL 27.1–27.7	Wed	9:30–11:30	EW 202	**Quantum Dots and Wires: Optics II**
HL 28.1–28.9	Wed	9:30–13:00	EW 203	**Focus Session: Heat transport at the nanoscale: theory meets experiment**
HL 29.1–29.8	Wed	9:30–12:00	EW 561	**Quantum Transport and Quantum Hall Effects**
HL 30.1–30.8	Wed	10:00–12:15	EW 015	**Ultrafast Phenomena II**
HL 31.1–31.5	Wed	11:45–13:00	EW 202	**Focus Session: Evolution of Topological Materials into Superconducting Nanodevices II (joint session HL/TT)**
HL 32.1–32.5	Wed	15:00–16:15	EW 015	**Spin Phenomena in Semiconductors**
HL 33.1–33.5	Wed	15:00–16:15	EW 201	**2D Materials and Heterostructures: Optoelectronics**
HL 34.1–34.10	Wed	15:00–17:45	EW 202	**Focus Session: Nanomechanical Systems for Classical and Quantum Sensing II (joint session HL/DY/TT/QI)**
HL 35.1–35.5	Wed	15:00–16:15	EW 203	**THz and MIR**
HL 36.1–36.60	Wed	18:00–20:30	Poster E	**Poster III**
HL 37.1–37.29	Wed	18:00–20:30	Poster F	**Poster IV**
HL 38.1–38.7	Thu	9:30–11:30	ER 325	**Oxide Semiconductors II**
HL 39.1–39.5	Thu	9:30–10:45	EW 015	**Outreach / Wissenschaftskommunikation**
HL 40.1–40.12	Thu	9:30–13:00	EW 201	**2D Materials and Heterostructures: Magnetic Properties**
HL 41.1–41.8	Thu	9:30–13:00	EW 202	**Focus Session: Nanomechanical Systems for Classical and Quantum Sensing III (joint session HL/DY/TT/QI)**
HL 42.1–42.14	Thu	9:30–13:15	EW 203	**Perovskite and Photovoltaics II (joint session HL/KFM)**
HL 43.1–43.8	Thu	9:30–11:45	EW 561	**Optical Properties II**
HL 44.1–44.11	Thu	14:00–17:00	EW 015	**Nitrides: Preparation and characterization II**
HL 45.1–45.9	Thu	14:00–16:45	EW 203	**Materials and Devices for Quantum Technology II (joint session HL/QI)**
HL 46.1–46.7	Thu	15:00–17:00	ER 325	**Transport properties II**
HL 47.1–47.8	Thu	15:00–17:00	EW 201	**2D Materials: Heterostuctures**
HL 48.1–48.6	Thu	15:00–16:30	EW 202	**Quantum Dots and Wires: Growth**
HL 49.1–49.6	Thu	15:00–16:45	EW 561	**Semiconductor Lasers II**
HL 50	Thu	17:00–18:30	EW 202	**Members' Assembly**
HL 51.1–51.6	Fri	9:30–11:00	ER 325	**Functional Semiconductors for Renewable Energy Solutions II**
HL 52.1–52.9	Fri	9:30–12:00	EW 015	**Nitrides: Devices**
HL 53.1–53.9	Fri	9:30–12:15	EW 201	**2D Materials and Heterostructures: (Twisted) Bilayers (joint session HL/TT)**
HL 54.1–54.6	Fri	9:30–12:45	EW 202	**Focus Session: Evolution of Topological Materials into Superconducting Nanodevices III (joint session HL/TT)**
HL 55.1–55.13	Fri	9:30–13:00	EW 203	**Perovskite and Photovoltaics III (joint session HL/KFM)**
HL 56.1–56.6	Fri	9:30–11:00	EW 561	**Heterostructures, Interfaces and Surfaces II**

Members' Assembly of the Semiconductor Physics Division

Thursday 17:00–18:30 EW 202

- Bericht
- Junges Halbleiter-Forum / Young Semiconductor Forum
- Verleihung des Posterpreises
- Verschiedenes