

Low Temperature Physics Division Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture halls HSZ/0003, HSZ/0101, HSZ/0103, HSZ/0105, CHE/0089, and CHE/0091; Poster P1 and P4)

Invited Talks

TT 27.1	Tue	9:30–10:00	HSZ/0105	Simulating high-temperature superconductivity in a triangular moiré lattice — ●KIN FAI MAK
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Topical Talks in Focus Sessions

Topical Talks of the Focus Session “New Routes to Localization and Quantum Non-Ergodicity” (joint session TT/DY)

TT 1.1	Mon	9:30–10:00	HSZ/0003	Eigenstate thermalization in thermal first-order phase transitions — ●MAKSYM SERBYN
TT 1.2	Mon	10:00–10:30	HSZ/0003	Stabilizing Floquet orders to infinite time — ●ANUSHYA CHANDRAN
TT 1.3	Mon	10:30–11:00	HSZ/0003	Dynamical landscape of out of equilibrium emergent lattice gauge theories in two dimensions — ●NILOTPAL CHAKRABORTY
TT 1.4	Mon	11:15–11:45	HSZ/0003	Interference, topology, and new Hilbert-space routes to quantum non-ergodicity — ●YI-PING HUANG
TT 1.5	Mon	11:45–12:15	HSZ/0003	Fock-space cages and their spectral signatures — ●CHERYNE JONAY

Topical Talks of the Focus Session “Tunable Correlations in van der Waals Quantum Materials” (joint session TT/DS/HL)

TT 12.1	Mon	15:00–15:30	HSZ/0003	Charge confinement in twisted bilayer graphene — ●CHRISTOPH STAMPFER
TT 12.2	Mon	15:30–16:00	HSZ/0003	Tuning Coulomb interactions and Hubbard bands in 1T-TaS₂ — ●ANNA GALLER
TT 12.3	Mon	16:00–16:30	HSZ/0003	Optical signatures of interlayer electron coherence in a bilayer semiconductor — ●NADINE LEISGANG
TT 12.4	Mon	16:45–17:15	HSZ/0003	Faithful modeling of quantum geometry and electronic correlations in van der Waals heterostructures — ●AMMON FISCHER
TT 12.5	Mon	17:15–17:45	HSZ/0003	Mesoscale Atomic Engineering in a Crystal Lattice — ●JULIAN KLEIN

Topical Talks of the Focus Session “Relaxation Timescales in Open Quantum Systems” (joint session TT/DY)

TT 18.1	Mon	15:00–15:30	CHE/0089	Markovian and non-Markovian approaches to quantum relaxation — ●HEINZ-PETER BREUER
TT 18.2	Mon	15:30–16:00	CHE/0089	Asymptotic relaxation in quantum Markovian dynamics — ●SUSANA HUELGA
TT 18.3	Mon	16:00–16:30	CHE/0089	Floquet engineering of open quantum Systems — ●ANDRÉ ECKARDT
TT 18.4	Mon	16:45–17:15	CHE/0089	Nonequilibrium thermodynamics of time-dependent quantum transport — ●JANINE SPLETTSTOESSER
TT 18.5	Mon	17:15–17:45	CHE/0089	Connecting time-nonlocal and time-local quantum master equations — ●MAARTEN WEGEWIJS

Topical Talks of the Focus Session “Quantum Sensing with Solid State Spin defects” (joint session TT/MA)

TT 24.1	Tue	9:30–10:00	HSZ/0003	Exploring nanoscale van der Waals magnetism using single spin microscopy — ●PATRICK MALETINSKY
TT 24.2	Tue	10:00–10:30	HSZ/0003	Optically addressable spin defects in two-dimensional materials — ●VLADIMIR DYAKONOV
TT 24.3	Tue	10:30–11:00	HSZ/0003	Nitrogen vacancy centers in diamond as novel sensing and imaging tool for magnetic nanostructures, in life science and chemistry — ●ELKE NEU-RUFFING
TT 24.4	Tue	11:15–11:45	HSZ/0003	Electron spin, nuclear spin, and optical properties of transition-metal defects in silicon carbide with perspectives for quantum technologies — ●GUIDO BURKARD
TT 24.5	Tue	11:45–12:15	HSZ/0003	Statics and dynamics of complex magnetic states in microstructures — ●AURORE FINCO

Topical Talks of the Focus Session “Nickelate Superconductivity: Insights into Unconventional Pairing and Correlation Effects” (joint session TT/DS/MA)

TT 39.1	Wed	9:30–10:00	HSZ/0003	Unconventional Superconductivity in Infinite-layer Samarium Nickelates — ●DANFENG LI
TT 39.2	Wed	10:00–10:30	HSZ/0003	Recent insights into infinite-layer nickelate heterostructures from x-ray spectroscopy — ●EVA BENCKISER
TT 39.3	Wed	10:30–11:00	HSZ/0003	Theory of infinite-layer nickelate superconductors — ●KARSTEN HELD
TT 39.4	Wed	11:15–11:45	HSZ/0003	Disorder and distortions: what electrons tell us about nickelate superconductivity — ●BERIT H. GOODGE
TT 39.5	Wed	11:45–12:15	HSZ/0003	Superconducting gap structure and bosonic mode in $\text{La}_2\text{PrNi}_2\text{O}_7$ thin films at ambient pressure — ●HAI-HU WEN

Topical Talks of the German-French Focus Session “Superconducting Junctions and Quantum Circuits”

TT 50.1	Wed	15:00–15:30	HSZ/0003	Josephson Quantum Tunneling at Odd Parity — ●JULIA S. MEYER
TT 50.2	Wed	15:30–16:00	HSZ/0003	Superconducting qubits and amplifiers resilient to Tesla-scale magnetic fields — ●IOAN POP
TT 50.3	Wed	16:00–16:30	HSZ/0003	Josephson metamaterials as near-quantum-limited microwave amplifiers — ●NICOLAS ROCH
TT 50.4	Wed	16:45–17:15	HSZ/0003	Second Order Topological Insulators probed with mesoscopic physics — ●SOPHIE GUERON
TT 50.5	Wed	17:15–17:45	HSZ/0003	Proximity superconductivity in chiral Kagome antiferromagnets — ●PIET BROUWER

Topical Talks of the Focus Session “High-Temperature Superconductivity in Hydride Materials at High Pressures” (joint session TT/DS)

TT 80.1	Thu	15:00–15:30	HSZ/0003	Computational searches for conventional high temperature superconductivity — ●CHRIS PICKARD
TT 80.2	Thu	15:30–16:00	HSZ/0003	High-pressure synthesis of hydrides and their characterisation by single-crystal X-ray diffraction — ●NATALIA DUBROVINSKAIA
TT 80.3	Thu	16:00–16:30	HSZ/0003	Electrical Transport Studies in bulk and thin-film hydride high-temperature superconductors — ●SVEN FRIEDEMANN
TT 80.4	Thu	16:45–17:15	HSZ/0003	Near room-temperature conventional superconductivity in hydrogen-rich compounds at high pressures: Experimental evidences — ●VASILY MINKOV
TT 80.5	Thu	17:15–17:45	HSZ/0003	Predictive T_c Calculations in Hydride Superconductors — ●CHRISTOPH HEIL

Invited Talks of the joint Symposium SKM Dissertation Prize 2026 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30–10:00	HSZ/0002	Stochastic-Calculus Approach to Non-equilibrium Statistical Physics — ●CAI DIEBALL
SYSD 1.2	Mon	10:00–10:30	HSZ/0002	Nonuniform magnetic spin textures for sensing, storage and computing applications — ●SABRI KORALTAN
SYSD 1.3	Mon	10:30–11:00	HSZ/0002	Anomalous Quantum Oscillations beyond Onsager’s Fermi Surface Paradigm — ●VALENTIN LEEB
SYSD 1.4	Mon	11:00–11:30	HSZ/0002	Coherent Control Schemes for Semiconductor Quantum Systems — ●EVA SCHÖLL
SYSD 1.5	Mon	11:30–12:00	HSZ/0002	On stochastic thermodynamics under incomplete information: Thermodynamic inference from Markovian events — ●JANN VAN DER MEER

Invited Talks of the joint Symposium Designing Quantum Materials with Light: From Floquet to Cavity Engineering (SYFC)

See SYFC for the full program of the symposium.

SYFC 1.1	Mon	9:30–10:00	HSZ/AUDI	Subcycle videography of strong-field controlled band structures — ●RUPERT HUBER
SYFC 1.2	Mon	10:00–10:30	HSZ/AUDI	Engineering Quantum Materials through Structured Cavity Vacuum Fluctuations — ●ANGEL RUBIO
SYFC 1.3	Mon	10:30–11:00	HSZ/AUDI	Floquet engineering of quantum materials: from semiconductors to semimetals — ●SHUYUN ZHOU
SYFC 1.4	Mon	11:15–11:45	HSZ/AUDI	(Quantum) Light Control of Materials — ●DANTE KENNES
SYFC 1.5	Mon	11:45–12:15	HSZ/AUDI	Lightwave-driven electrons in a Floquet topological insulator — ●PETER HOMMELHOFF

Invited Talks of the joint Symposium Fluids with Broken Time-Reversal Symmetry: Odd/Hall Viscosity between Active Matter and Electron Flows (SYBS)

See SYBS for the full program of the symposium.

SYBS 1.1	Tue	9:30–10:00	HSZ/AUDI	Odd viscosity in three-dimensional fluids: flows, wakes, and eddies — ●TALI KHAIN
SYBS 1.2	Tue	10:00–10:30	HSZ/AUDI	Odd viscosity in two-dimensional hydrodynamic electron transport — ●IGOR GORNYI
SYBS 1.3	Tue	10:30–11:00	HSZ/AUDI	Odd slip on chiral active surfaces — ●ANDREJ VILFAN
SYBS 1.4	Tue	11:15–11:30	HSZ/AUDI	Parity-odd transport in electron fluids — ●JOHANNA ERDMENGER
SYBS 1.5	Tue	11:30–11:45	HSZ/AUDI	Curved Odd Elasticity — ●PIOTR SURÓWKA

Invited Talks of the joint Symposium Interacting Degrees of Freedom in Ultrathin Quantum Films (SYQF)

See SYQF for the full program of the symposium.

SYQF 1.1	Fri	9:30–10:00	HSZ/AUDI	Exciton dressing by extreme nonlinear magnons in a layered semiconductor — ●GEOFFREY M. DIEDERICH
SYQF 1.2	Fri	10:00–10:30	HSZ/AUDI	A tale of demons and decay in two-dimensional (alter)magnets — ●ALEXANDER MOOK
SYQF 1.3	Fri	10:30–11:00	HSZ/AUDI	Magnetism, light and matter - Role of excitons in two-dimensional magnets — ●FLORIAN DIRNBERGER
SYQF 1.4	Fri	11:15–11:45	HSZ/AUDI	Advantages and challenges of resonance Raman scattering with infrared excitation energy — ●LEONETTA BALDASSARRE
SYQF 1.5	Fri	11:45–12:15	HSZ/AUDI	Shining light on 2D antiferromagnets — ●DMYTRO AFANASIEV

Sessions

TT 1.1–1.5	Mon	9:30–12:15	HSZ/0003	Focus Session: New Routes to Localization and Quantum Non-Ergodicity I (joint session TT/DY)
TT 2.1–2.11	Mon	9:30–12:30	HSZ/0101	Quantum-Critical Phenomena (joint session TT/DY)
TT 3.1–3.5	Mon	9:30–10:45	HSZ/0103	Correlated Electrons: Electronic Structure Calculations
TT 4.1–4.12	Mon	9:30–12:45	HSZ/0105	Graphene, 2D and Twisted Materials
TT 5.1–5.11	Mon	9:30–12:30	CHE/0089	Superconductivity: Sample Preparation and Characterization
TT 6.1–6.6	Mon	9:30–11:00	CHE/0091	Topological Superconductors
TT 7.1–7.9	Mon	9:30–12:00	POT/0351	Surface Magnetism and Topological Insulators (joint session MA/TT)
TT 8.1–8.1	Mon	9:30–10:15	TRE/PHYS	Topical Talk Wulfhekel (joint session O/TT)
TT 9.1–9.7	Mon	10:30–12:30	TRE/MATH	2D Materials: Electronic structure, excitations, etc. I (joint session O/HL/TT)
TT 10.1–10.7	Mon	11:00–12:45	HSZ/0103	Correlated Electrons: Other Theoretical Topics
TT 11.1–11.5	Mon	11:15–12:30	CHE/0091	PtBi₂
TT 12.1–12.7	Mon	15:00–18:15	HSZ/0003	Focus Session: Tunable Correlations in van der Waals Quantum Materials I (joint session TT/DS/HL)
TT 13.1–13.13	Mon	15:00–18:30	HSZ/0101	Correlated Electrons: Method Development I
TT 14.1–14.12	Mon	15:00–18:15	HSZ/0103	Superconductivity: Properties and Electronic Structure
TT 15.1–15.13	Mon	15:00–18:30	HSZ/0105	Topology: Majorana Physics
TT 16.1–16.11	Mon	15:00–17:45	HSZ/0204	2D Materials beyond graphene: Growth, structure and substrate interaction (joint session O/HL/TT)
TT 17.1–17.11	Mon	15:00–18:30	BEY/0245	Quantum Manybody Systems (joint session QI/TT)
TT 18.1–18.6	Mon	15:00–18:00	CHE/0089	Focus Session: Relaxation Timescales in Open Quantum Systems (joint session TT/DY)
TT 19.1–19.9	Mon	15:00–17:30	CHE/0091	Focus Session: New Routes to Localization and Quantum Non-Ergodicity II (joint session TT/DY)
TT 20.1–20.6	Mon	15:00–16:30	POT/0081	2D Materials II – Electronic and Transport Properties (joint session HL/TT)
TT 21.1–21.11	Mon	15:00–18:00	POT/0151	Electron Theory of Magnetism and Correlations (joint session MA/TT)
TT 22.1–22.37	Mon	18:00–20:00	P1	Superconductivity – Poster I
TT 23.1–23.35	Mon	18:00–20:00	P1	Correlated Electrons – Poster I
TT 24.1–24.7	Tue	9:30–12:45	HSZ/0003	Focus Session: Quantum Sensing with Solid State Spin defects I (joint session TT/MA)
TT 25.1–25.11	Tue	9:30–12:30	HSZ/0101	f-Electron Systems
TT 26.1–26.10	Tue	9:30–12:15	HSZ/0103	Correlated Magnetism – Frustrated Systems
TT 27.1–27.4	Tue	9:30–10:45	HSZ/0105	Focus Session: Tunable Correlations in van der Waals Quantum Materials II (joint session TT/DS/HL)
TT 28.1–28.12	Tue	9:30–12:45	CHE/0089	Superconducting Electronics: SQUIDS and other Josephson Circuits and Components
TT 29.1–29.12	Tue	9:30–12:45	CHE/0091	Unconventional Superconductors
TT 30.1–30.7	Tue	9:30–11:30	POT/0151	Caloric Effects in Ferromagnetic Materials (joint session MA/TT)

TT 31.1–31.11	Tue	9:30–12:30	POT/0361	Frustrated Magnets I (joint session MA/TT)
TT 32.1–32.10	Tue	10:00–12:45	POT/0051	Nanomechanical systems (joint session HL/TT)
TT 33.1–33.6	Tue	11:00–12:30	HSZ/0105	Correlated Magnetism – Dynamics and Spectroscopy
TT 34	Tue	14:00–15:30	HSZ/0101	Members’ Assembly
TT 35.1–35.6	Tue	14:00–15:30	POT/0151	Cooperative Phenomena: Spin Structures and Magnetic Phase Transitions (joint session MA/TT)
TT 36.1–36.6	Tue	14:00–15:30	POT/0361	Weyl Semimetals (joint session MA/TT)
TT 37.1–37.21	Tue	14:00–16:00	P2	Ultrafast electron dynamics at surface and interfaces – Poster (joint session O/TT)
TT 38.1–38.4	Tue	14:00–16:00	P2	Topology and symmetry protected materials & Topological insulators – Poster (joint session O/TT)
TT 39.1–39.7	Wed	9:30–12:45	HSZ/0003	Focus Session: Nickelate Superconductivity: Insights into Unconventional Pairing and Correlation Effects I (joint session TT/DS/MA)
TT 40.1–40.4	Wed	9:30–10:30	HSZ/0101	Focus Session: Quantum Sensing with Solid State Spin defects II (joint session TT/HL/MA)
TT 41.1–41.11	Wed	9:30–12:30	HSZ/0103	Topological Semimetals
TT 42.1–42.12	Wed	9:30–12:45	HSZ/0105	Other Transport Topics
TT 43.1–43.12	Wed	9:30–12:45	CHE/0089	Superconducting Electronics: Qubits
TT 44.1–44.12	Wed	9:30–12:45	CHE/0091	Nonequilibrium Quantum Systems I (joint session TT/DY)
TT 45.1–45.12	Wed	9:30–12:45	HÜL/S186	Many-body Systems: Equilibration, Chaos, and Localization (joint session DY/TT)
TT 46.1–46.11	Wed	9:30–12:45	POT/0112	Spin Transport and Orbitronics, Spin-Hall Effects I (joint session MA/TT)
TT 47.1–47.12	Wed	9:30–12:45	POT/0361	Frustrated Magnets II (joint session MA/TT)
TT 48.1–48.8	Wed	10:30–12:30	TRE/MATH	2D Materials: Electronic structure, excitations, etc. II (joint session O/HL/TT)
TT 49.1–49.8	Wed	10:45–12:45	HSZ/0101	Correlated Electrons: Charge Order
TT 50.1–50.8	Wed	15:00–18:30	HSZ/0003	German-French Focus Session: Superconducting Junctions and Quantum Circuits
TT 51.1–51.12	Wed	15:00–18:15	HSZ/0101	Correlated Electrons: Method Development II
TT 52.1–52.6	Wed	15:00–16:30	HSZ/0103	Heavy Fermions
TT 53.1–53.9	Wed	15:00–17:30	HSZ/0105	Nonequilibrium Quantum Systems II (joint session TT/DY)
TT 54.1–54.11	Wed	15:00–17:45	HSZ/0204	Graphene: Electronic structure, excitations, etc. (joint session O/TT)
TT 55.1–55.11	Wed	15:00–17:45	HSZ/0401	Topology and symmetry protected materials & Topological insulators (joint session O/HL/TT)
TT 56.1–56.13	Wed	15:00–18:30	CHE/0089	Superconductivity: Theory I
TT 57.1–57.12	Wed	15:00–18:15	CHE/0091	Correlated Magnetism – Kagome Systems
TT 58.1–58.5	Wed	15:00–16:15	POT/0006	Quantum Transport and Quantum Hall effects (joint session HL/TT)
TT 59.1–59.7	Wed	15:00–17:15	POT/0081	2D Materials V – Magnetic, spintronic, and topological properties (joint session HL/TT)
TT 60.1–60.10	Wed	15:00–18:00	POT/0112	Spintronics (other effects) (joint session MA/TT)
TT 61.1–61.14	Wed	15:00–17:00	P4	Topology – Poster
TT 62.1–62.12	Wed	15:00–17:00	P4	Correlated Electrons – Poster II
TT 63.1–63.15	Wed	15:00–18:00	P5	Quantum Dynamics and Many-body Systems – Poster (joint session DY/TT)
TT 64.1–64.6	Wed	16:45–18:15	HSZ/0103	BKT Physics
TT 65.1–65.7	Wed	18:00–20:00	P2	2D materials: Stacking and heterostructures – Poster (joint session O/TT)
TT 66.1–66.23	Wed	18:00–20:00	P2	2D Materials: Electronic structure, excitations, etc. – Poster (joint session O/TT)
TT 67.1–67.6	Wed	18:00–20:00	P2	2D Materials beyond graphene: Growth, structure and substrate interaction – Poster (joint session O/TT)
TT 68.1–68.9	Wed	18:00–20:00	P2	Graphene: Electronic structure, excitations, etc. – Poster (joint session O/TT)

TT 69.1–69.11	Thu	9:30–12:30	HSZ/0003	Focus Session: Nickelate Superconductivity: Insights into Unconventional Pairing and Correlation Effects II (joint session TT/DS/MA)
TT 70.1–70.5	Thu	9:30–10:45	HSZ/0101	Correlated Electrons: Method Development III
TT 71.1–71.7	Thu	9:30–11:15	HSZ/0103	Ultrafast Phenomena
TT 72.1–72.9	Thu	9:30–12:00	HSZ/0105	Correlated Magnetism – Spin Liquids I
TT 73.1–73.12	Thu	9:30–12:45	CHE/0089	Superconductivity: Tunneling and Josephson Junctions
TT 74.1–74.12	Thu	9:30–12:45	CHE/0091	Topological Insulators
TT 75.1–75.12	Thu	9:30–12:45	HÜL/S186	Many-body Quantum Dynamics I (joint session DY/TT)
TT 76.1–76.8	Thu	9:30–13:00	POT/0151	Focus Session: Curvilinear magnetism: Magnetism with nanoscale curved geometries (joint session MA/TT)
TT 77.1–77.1	Thu	9:30–10:15	TRE/PHYS	Topical Talk Bibes (joint session O/TT)
TT 78.1–78.7	Thu	11:00–12:45	HSZ/0101	Quantum Dots and Point Contacts (joint session TT/HL)
TT 79.1–79.5	Thu	11:30–12:45	HSZ/0103	Correlated Magnetism – Transport
TT 80.1–80.9	Thu	15:00–18:45	HSZ/0003	Focus Session: High-Temperature Superconductivity in Hydride Materials at High Pressures (joint session TT/DS)
TT 81.1–81.8	Thu	15:00–17:15	HSZ/0101	Correlated Electrons: Other Materials
TT 82.1–82.6	Thu	15:00–16:30	HSZ/0103	Cryogenic Detectors and Sensors
TT 83.1–83.13	Thu	15:00–18:30	HSZ/0105	Topology: Quantum Hall Systems
TT 84.1–84.11	Thu	15:00–17:45	HSZ/0204	2D Materials: Electronic structure, excitations, etc. III (joint session O/HL/TT)
TT 85.1–85.8	Thu	15:00–17:15	CHE/0089	Superconductivity: Yu-Shiba-Rusinov and Andreev Physics
TT 86.1–86.7	Thu	15:00–16:45	CHE/0091	Correlated Magnetism – Spin Liquids II
TT 87.1–87.6	Thu	15:00–16:30	HÜL/S186	Many-body Quantum Dynamics II (joint session DY/TT)
TT 88.1–88.8	Thu	15:00–17:00	POT/0361	Spin Transport and Orbitronics, Spin-Hall Effects II (joint session MA/TT)
TT 89.1–89.4	Thu	16:45–17:45	HSZ/0103	Cryotechnique: Refrigeration
TT 90.1–90.6	Thu	17:00–18:30	CHE/0091	Quantum Impurities and Kondo Physics
TT 91.1–91.4	Thu	17:30–18:30	HSZ/0101	Superconductivity: Theory II
TT 92.1–92.19	Thu	18:00–20:00	P4	Transport – Poster
TT 93.1–93.19	Thu	18:00–20:00	P4	Superconductivity – Poster II
TT 94.1–94.9	Fri	9:30–12:00	HSZ/0101	Correlated Magnetism – Low-Dimensional Systems
TT 95.1–95.8	Fri	9:30–11:45	HSZ/0103	Fe-based Superconductors
TT 96.1–96.12	Fri	9:30–12:30	HSZ/0401	2D Materials: Stacking and heterostructures (joint session O/HL/TT)
TT 97.1–97.9	Fri	9:30–12:00	CHE/0089	Superconducting Diodes and Ratchets
TT 98.1–98.8	Fri	9:30–11:45	CHE/0091	Altermagnets
TT 99.1–99.11	Fri	9:30–12:45	HÜL/S186	Quantum Chaos and Coherent Dynamics (joint session DY/TT)

Members' Assembly of the Low Temperature Physics Division

Tuesday 14:00–15:30 HSZ/0101

- Report
- Elections
- Outlook 2026
- Miscellaneous