

Low Temperature Physics Division Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture halls H6 and H7; Poster P)

Plenary Talks

PV II	Mon	9:00– 9:45	Audimax 2	Quantum thermodynamics - superconducting circuit approach — •JUKKA PEKOLA
PV VI	Tue	9:00– 9:45	Audimax 1	Correlated electrons with knots — •SILKE BÜHLER-PASCHEN
PV X	Wed	9:00– 9:45	Audimax 1	Revealing the topological nature of transport at mesoscopic scales with quantum interferences — •HELENE BOUCHIAT
PV XI	Wed	9:00– 9:45	Audimax 2	Quantum choreography to the beat of light — •RUPERT HUBER
PV XII	Thu	9:00– 9:45	Audimax 1	Quantum networks - from dreams to reality — •JIAN-WEI PAN
PV XVII	Fri	9:00– 9:45	Audimax 1	Superconductivity near room temperature — •MIKHAIL EREMETS

Invited Talks

TT 2.4	Mon	11:45–12:15	H7	Electronic instabilities of kagomé metals and density waves in the AV_3Sb_5 materials — •LEON BALENTS
TT 4.4	Mon	14:45–15:15	H7	2D Magnetism and Its Efficient Control — •CHENG GONG
TT 6.1	Tue	10:00–10:30	H7	Spin Triplet Superconductivity within Superconductors as Determined by FMR Spin pumping — •LESLEY COHEN
TT 21.1	Thu	13:30–14:00	H7	A new class of charge density wave superconductors in the topological kagome metals AV_3Sb_5 (A=K, Rb, Cs) — •STEPHEN WILSON

Invited talks of the joint symposium SKM Dissertation Prize 2021 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	10:00–10:25	Audimax 2	Avoided quasiparticle decay from strong quantum interactions — •RUBEN VERRESEN
SYSD 1.2	Mon	10:25–10:50	Audimax 2	Co-evaporated Hybrid Metal-Halide Perovskite Thin-Films for Optoelectronic Applications — •JULIANE BORCHERT
SYSD 1.3	Mon	10:55–11:20	Audimax 2	Attosecond-fast electron dynamics in graphene and graphene-based interfaces — •CHRISTIAN HEIDE
SYSD 1.4	Mon	11:20–11:45	Audimax 2	The thermodynamics of stochastic systems with time delay — •SARAH A.M. LOOS
SYSD 1.5	Mon	11:50–12:15	Audimax 2	First Results on Atomically Resolved Spin-Wave Spectroscopy by TEM — •BENJAMIN ZINGSEM

Invited talks of the joint symposium Potentials for NVs sensing magnetic phases, textures and excitations (SYNV)

See SYNV for the full program of the symposium.

SYNV 1.1	Mon	13:30–14:00	Audimax 2	Harnessing Nitrogen Vacancy Centers in Diamond for Next-Generation Quantum Science and Technology — ●CHUNHUI DU
SYNV 1.2	Mon	14:00–14:30	Audimax 2	Nanoscale imaging of spin textures with single spins in diamond — ●PATRICK MALETINSKY
SYNV 1.3	Mon	14:30–15:00	Audimax 2	Spin-based microscopy of 2D magnetic systems — ●JÖRG WRACHTRUP
SYNV 1.4	Mon	15:15–15:45	Audimax 2	Exploring antiferromagnetic order at the nanoscale with a single spin microscope — ●VINCENT JACQUES
SYNV 1.5	Mon	15:45–16:15	Audimax 2	Nanoscale magnetic resonance spectroscopy with NV-diamond quantum sensors — ●DOMINIK BUCHER

Invited talks of the joint symposium Novel phases and dynamical properties of magnetic skyrmions (SYMS)

See SYMS for the full program of the symposium.

SYMS 1.1	Tue	10:00–10:30	Audimax 2	Imaging skyrmions in synthetic antiferromagnets by single spin relaxometry — ●AURORE FINCO
SYMS 1.2	Tue	10:30–11:00	Audimax 2	Microwave spectroscopy of the skyrmionic states in a chiral magnetic insulator — ●AISHA AQEEL
SYMS 1.3	Tue	11:15–11:45	Audimax 2	Archimedean Screw in Driven Chiral Magnets — ●NINA DEL SER
SYMS 1.4	Tue	11:45–12:15	Audimax 2	Frustration-driven magnetic fluctuations as the origin of the low-temperature skyrmion phase in $\text{Co}_7\text{Zn}_7\text{Mn}_6$ — ●JONATHAN WHITE
SYMS 1.5	Tue	12:15–12:45	Audimax 2	Magnetic Skyrmions as Topological Multi-Media Influencers — ●SEBASTIÁN A. DÍAZ

Invited talks of the joint symposium Facets of many-body quantum chaos (SYQC)

See SYQC for the full program of the symposium.

SYQC 1.1	Tue	13:30–14:00	Audimax 2	Holographic interpretation of SYK quantum chaos — ●ALEXANDER ALTLAND
SYQC 1.2	Tue	14:00–14:30	Audimax 2	Non-Fermi liquids and the lattice — ●SEAN HARTNOLL
SYQC 1.3	Tue	14:30–15:00	Audimax 2	Dual-unitary circuits: non-equilibrium dynamics and spectral statistics — ●BRUNO BERTINI
SYQC 1.4	Tue	15:15–15:45	Audimax 2	Post-Ehrenfest many-body quantum interferences in ultracold atoms — ●STEVEN TOMSOVIC
SYQC 1.5	Tue	15:45–16:15	Audimax 2	Dynamics in unitary and non-unitary quantum circuits — ●VEDIKA KHEMANI

Prize talks of the joint Awards Symposium (SYAW)

See SYAW for the full program of the symposium.

SYAW 1.1	Wed	13:30–14:00	Audimax 1	Organic semiconductors - materials for today and tomorrow — ●ANNA KÖHLER
SYAW 1.2	Wed	14:00–14:30	Audimax 1	PbTe/CdTe nanocomposite as an attractive candidate for room-temperature infrared detectors — ●GRZEGORZ KARCZEWSKI
SYAW 1.3	Wed	14:40–15:10	Audimax 1	Fingerprints of correlation in electronic spectra of materials — ●LUCIA REINING
SYAW 1.4	Wed	15:10–15:40	Audimax 1	Artificial Spin Ice: From Correlations to Computation — ●NAËMI LEO
SYAW 1.5	Wed	15:40–16:10	Audimax 1	From microwave optomechanics to quantum transport – carbon nanotubes as highly versatile hybrid devices — ●ANDREAS K. HÜTTEL
SYAW 1.6	Wed	16:20–16:50	Audimax 1	Quantum spin dynamics of a spin-1/2 antiferromagnetic Heisenberg-Ising chain — ●ZHE WANG
SYAW 1.7	Wed	16:50–17:20	Audimax 1	Imaging the effect of electron transfer at the atomic scale — ●LAERTE PATERA

Invited talks of the joint symposium Spain as Guest of Honor (SYES)

See SYES for the full program of the symposium.

SYES 1.1	Wed	13:30–13:40	Audimax 2	DFMC-GEFES — ●JULIA HERRERO-ALBILLOS
SYES 1.2	Wed	13:40–14:10	Audimax 2	Towards Phononic Circuits based on Optomechanics — ●CLIVIA M. SOTOMAYOR TORRES
SYES 1.3	Wed	14:10–14:40	Audimax 2	Adding magnetic functionalities to epitaxial graphene — ●RODOLFO MIRANDA
SYES 1.4	Wed	14:45–15:15	Audimax 2	Bringing nanophotonics to the atomic scale — ●JAVIER AIZPURUA
SYES 1.5	Wed	15:15–15:45	Audimax 2	Hydrodynamics of collective cell migration in epithelial tissues — ●JAUME CASADEMUNT
SYES 1.6	Wed	15:45–16:15	Audimax 2	Understanding the physical variables driving mechanosensing — ●PERE ROCA-CUSACHS

Invited talks of the joint symposium Attosecond and coherent spins: New frontiers (SYAS)

See SYAS for the full program of the symposium.

SYAS 1.1	Thu	10:00–10:30	Audimax 2	Ultrafast Coherent Spin-Lattice Interactions in Iron Films — ●STEVEN JOHNSON
SYAS 1.2	Thu	10:30–11:00	Audimax 2	Ultrafast spin, charge and nuclear dynamics: ab-initio description — ●SANGEETA SHARMA
SYAS 1.3	Thu	11:15–11:45	Audimax 2	Light-wave driven Spin Dynamics — ●MARTIN SCHULTZE
SYAS 1.4	Thu	11:45–12:15	Audimax 2	All-coherent subcycle switching of spins by THz near fields — ●CHRISTOPH LANGE
SYAS 1.5	Thu	12:15–12:45	Audimax 2	Ultrafast optically-induced spin transfer in ferromagnetic alloys — ●STEFAN MATHIAS

Invited talks of the joint symposium Physics of van der Waals 2D heterostructures (SYWH)

See SYWH for the full program of the symposium.

SYWH 1.1	Thu	13:30–14:00	Audimax 2	Spin interactions in van der Waals topological materials and magnets — ●SAROJ DASH
SYWH 1.2	Thu	14:00–14:30	Audimax 2	Exciton optics, dynamics and transport in atomically thin materials — ●ERMIN MALIC
SYWH 1.3	Thu	14:30–15:00	Audimax 2	Correlated Electrons in van der Waals Superlattices: Control and Understanding — ●TIM WEHLING
SYWH 1.4	Thu	15:15–15:45	Audimax 2	Exciton manipulation and transport in 2D semiconductor heterostructures — ●ANDRAS KIS
SYWH 1.5	Thu	15:45–16:15	Audimax 2	Chern Insulators, van Hove singularities and Topological Flatbands in Magic-angle Twisted Bilayer Graphene* — ●EVA ANDREI

Invited talks of the joint symposium The Rise of Photonic Quantum Technologies – Practical and Fundamental Aspects (SYPQ)

See SYPQ for the full program of the symposium.

SYPQ 1.1	Fri	10:00–10:30	Audimax 2	Quantum dots operating at telecom wavelengths for photonic quantum technology — ●SIMONE LUCA PORTALUPI
SYPQ 1.2	Fri	10:30–11:00	Audimax 2	Photonic graph states for quantum communication and quantum computing — ●STEFANIE BARZ
SYPQ 1.3	Fri	11:00–11:30	Audimax 2	Rare-earth ion doped solids at sub-Kelvins: practical and fundamental aspects — ●PAVEL BUSHEV
SYPQ 1.4	Fri	11:45–12:15	Audimax 2	Quantum Light and Strongly Correlated Electronic States in a Moiré Heterostructure — ●BRIAN GERARDOT
SYPQ 1.5	Fri	12:15–12:45	Audimax 2	Quantum communication in fibers and free-space — ●RUPERT URSIN

Sessions

TT 1.1–1.8	Mon	10:00–12:45	H6	Focus Session: Disordered and Granular Superconductors: Fundamentals and Applications in Quantum Technology I
TT 2.1–2.5	Mon	10:00–12:45	H7	Focus Session: Exotic Charge Density Wave States of Matter: Correlations and Topology (joint session TT/HL)
TT 3.1–3.7	Mon	13:30–16:15	H6	Focus Session: Entanglement as a Probe for Correlated Quantum Matter
TT 4.1–4.8	Mon	13:30–16:15	H7	Focus Session: Correlated van-der-Waals Magnets
TT 5.1–5.32	Mon	13:30–16:00	P	Poster Session: Superconductivity
TT 6.1–6.6	Tue	10:00–12:45	H7	Focus Session: Emerging Phenomena in Superconducting Low Dimensional Hybrid Systems I
TT 7.1–7.8	Tue	13:30–16:15	H6	Focus Session: Disordered and Granular Superconductors: Fundamentals and Applications in Quantum Technology II
TT 8.1–8.10	Tue	13:30–16:15	H7	Focus Session: Emerging Phenomena in Superconducting Low Dimensional Hybrid Systems II
TT 9.1–9.43	Tue	13:30–16:00	P	Poster Session: Correlated Electrons
TT 10.1–10.9	Wed	10:00–12:45	H4	Materials and devices for quantum technology (joint session HL/TT)
TT 11.1–11.11	Wed	10:00–13:00	H6	Focus Session: Facets of Many-Body Quantum Chaos (organised by Markus Heyl and Klaus Richter) (joint session DY/TT)
TT 12.1–12.4	Wed	10:00–11:00	H7	New Experimental Techniques
TT 13.1–13.7	Wed	11:15–13:00	H7	Quantum Computing (joint session TT/DY)
TT 14.1–14.4	Wed	13:30–14:45	H6	Many-Body Quantum Dynamics I (joint session DY/TT)
TT 15.1–15.6	Thu	10:00–11:30	H2	Many-Body Quantum Dynamics II (joint session DY/TT)
TT 16.1–16.7	Thu	10:00–12:45	H5	PhD Focus Session: Symposium on Strange Bedfellows - Magnetism Meets Superconductivity" (joint session MA/AKjDPG) (joint session MA/TT)
TT 17.1–17.4	Thu	10:00–11:00	H6	Charge Density Wave Materials
TT 18.1–18.10	Thu	10:00–12:45	H7	Frustrated Magnets
TT 19.1–19.6	Thu	11:15–12:45	H6	Unconventional Superconductors
TT 20.1–20.10	Thu	13:30–16:30	H4	Quantum Dots and Wires (joint session HL/TT)
TT 21.1–21.7	Thu	13:30–16:00	H7	Focus Session: Topological Kagome Metals
TT 22.1–22.9	Thu	13:30–15:30	P	Poster Session: Disordered and Granular Superconductors: Fundamentals and Applications in Quantum Technology
TT 23.1–23.3	Thu	13:30–15:30	P	Poster Session: Emerging Phenomena in Superconducting Low Dimensional Hybrid Systems
TT 24.1–24.11	Thu	13:30–16:00	P	Poster Session: Transport
TT 25.1–25.18	Thu	13:30–16:00	P	Poster Session: Topology
TT 26	Thu	18:00–19:30	MVTT	Annual General Meeting of the Low Temperature Physics Division
TT 27.1–27.10	Fri	10:00–12:45	H7	Topological Insulators and Semimetals (joint session TT/KFM)
TT 28.1–28.6	Fri	13:30–15:00	H6	Transport (joint session TT/DY)
TT 29.1–29.6	Fri	13:30–15:00	H7	Topological Superconductors

Annual General Meeting of the Low Temperature Physics Division

Thursday 18:00–19:30 MVTT

- Bericht
- Wahl
- Verschiedenes