Low Temperature Physics Division
Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture halls H2, H4, H7, H22, H23, H48, and Theater; Poster D)

Tutorial "Next generation of SI-Units (joint session VA/TT/TUT)"

VA 1.1	Sun	16:00–16:35	H2	**A Quantum-Based Pressure Standard for a New SI Realization of the Pascal** — •Jay Hendricks
VA 1.2	Sun	16:35–17:10	H2	**Redefinition of the Kelvin - With what accuracy can temperatures be measured?** — •Steffen Rudtsch
VA 1.3	Sun	17:10–17:45	H2	**The new kilogram - Now approachable for extraterrestrials and nonhumans** — •Frank Härting
VA 1.4	Sun	17:45–18:20	H2	**Counting electrons for the new ampere** — •Frank Hohls

Plenary Talks

PLV I	Mon	8:30– 9:15	H1	**Linking the International System of Units to Fundamental Constants** — •Joachim Ullrich
PLV V	Tue	17:15–18:00	H1	**The Dark Energy of Quantum Materials** — •Laura H Greene
PLV IX	Wed	14:00–14:45	H2	**Vestigial order in quantum materials** — •Jörg Schmalian
PLV XII	Thu	14:00–14:45	H1	**Quantum computing - progress towards applications** — •Heike Riel

Invited talks of the joint Symposium SKM Dissertation-Prize 2019

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30– 9:50	H2	**Synchronization and Waves in Confined Complex Active Media** — •Jan Frederik Totz
SYSD 1.2	Mon	9:50–10:10	H2	**Spin scattering of topologically protected electrons at defects** — •Philipp Rüssmann
SYSD 1.3	Mon	10:10–10:30	H2	**Beyond the molecular movie: Revealing the microscopic processes behind photo-induced phase transitions** — •Chris W. Nicholson
SYSD 1.4	Mon	10:30–10:50	H2	**Thermodynamic bounds on current fluctuations** — •Patrick Pietzonka
SYSD 1.5	Mon	10:50–11:10	H2	**Lightwave-driven quasiparticle acceleration** — •Fabian Langer
SYSD 1.6	Mon	11:10–11:30	H2	**Ultrafast plasmon-driven point-projection electron microscopy** — •Jan Vogelsang
SYSD 1.7	Mon	11:30–11:50	H2	**Helimagnets, sand patterns and fingerprints linked by topology** — •Peggy Schönherr

Invited talks of the joint Symposium Geometry, Topology, and Condensed Matter

See SYGT for the full program of the symposium.

SYGT 1.1	Tue	9:30–10:00	H1	**Thermal Properties of Vortices on Curved Surfaces** — •José Lorenzana
SYGT 1.2	Tue	10:00–10:30	H1	**Curvature–induced effects in manomagnets** — •Denis Sheka
SYGT 1.3	Tue	10:30–11:00	H1	**Magnetization configurations and reversal of individual ferromagnetic nanotubes** — •Martino Poggio

SYGT 1.4	Tue	11:15–11:45	H1	**An experimental perspective on topology and nanoelectronics in graphene and related 2D materials.** — •Ivan J. Vera-Marun
SYGT 1.5	Tue	11:45–12:15	H1	**Roles of the curvature in two-dimensional nematic films** — •Gaetano Napoli

Invited talks of the joint Symposium Hydrodynamic Electronics: Transport in ultra-pure Quantum Systems

See SYHE for the full program of the symposium.

SYHE 1.1	Wed	9:30–10:00	H1	**Hydrodynamic theory of dissipative magnetophonons** — •Sean Hartnoll
SYHE 1.2	Wed	10:00–10:30	H1	**Unconventional transport in mesostructures of ultra-pure delafossite metals** — •Andrew Mackenzie
SYHE 1.3	Wed	10:30–11:00	H1	**Topological Materials with liquid electrons** — •Claudia Felser
SYHE 1.4	Wed	11:15–11:45	H1	**Hydrodynamic approach to electronic transport** — •Boris Narozhny
SYHE 1.5	Wed	11:45–12:15	H1	**Electron hydrodynamics in graphene: introduction and status** — •Denis Bandurin

Invited talks of the joint Symposium Czech Republic as Guest of Honor

See SYCZ for the full program of the symposium.

SYCZ 1.1	Thu	9:30–10:00	H4	**Crystal symmetries and transport phenomena in antiferromagnets** — •Tomas Jungwirth
SYCZ 1.2	Thu	10:00–10:30	H4	**Terahertz subcycle charge and spin control** — •Rupert Huber
SYCZ 1.3	Thu	10:30–11:00	H4	**1D molecular system on surfaces** — •Pavel Jelinek
SYCZ 1.4	Thu	11:15–11:45	H4	**Tunneling microscopy on insulators provides access to out-of-equilibrium charge states** — •Jascha Repp
SYCZ 1.5	Thu	11:45–12:15	H4	**Occam's razor and complex networks from brain to climate** — •Jaroslav Hlinka
SYCZ 1.6	Thu	12:15–12:45	H4	**Long range temporal correlations in complex systems** — •Holger Kantz

Invited talks of the joint Symposium Interactions and Spin in 2D Heterostructures

See SYIS for the full program of the symposium.

SYIS 1.1	Thu	15:00–15:30	H1	**Magic Angle Graphene: a New Platform for Strongly Correlated Physics** — •Pablo Jarillo-Herrero
SYIS 1.2	Thu	15:30–16:00	H1	**Bilayer Graphene Quantum Devices** — •Klaus Ensslin
SYIS 1.3	Thu	16:00–16:30	H1	**Light-Matter interaction in van der Waals heterostructures** — •Tobias Korn
SYIS 1.4	Thu	16:45–17:15	H1	**Spin transport in Van der Waals materials and heterostructures** — •Bart Van Wees
SYIS 1.5	Thu	17:15–17:45	H1	**Flipping the valley in graphene quantum dots** — •Markus Morgenstern

Invited talks of the joint Symposium Identifying Optimal Physical Implementations for beyond von Neumann Computing Concepts

See SYCC for the full program of the symposium.

SYCC 1.1	Fri	9:30–10:00	H1	**On the Link Between Energy and Information for the Design of Neuromorphic Systems** — •Narayan Srinivasa
SYCC 1.2	Fri	10:00–10:30	H1	**Encoding neural and synaptic functionalities in electron spin: A pathway to efficient neuromorphic computing** — •Kaushik Roy
SYCC 1.3	Fri	10:30–11:00	H1	**Neuromorphic computing with spintronic nano-oscillators** — •Philippe Talatchian
SYCC 1.4	Fri	11:15–11:45	H1	**Artifcial Intelligence and beyond von Neumann architectures, a mutual opportunity** — •Mirko Prezioso
SYCC 1.5	Fri	11:45–12:15	H1	**Brain-inspired approaches in ultrafast magnetism** — •Johan H. Mentink

Focus Session "New Bright Sources of Quantum Microwaves"

TT 10.1	Mon	15:00–15:30	H2	**Quantum dynamics of a microwave resonator strongly coupled to a tunnel junction** — •Jérôme Esteve
TT 10.2	Mon	15:30–16:00	H2	**Quantum optics with artificial atoms in an open space** — •Oleg Astafiev
TT 10.3	Mon	16:00–16:30	H2	**Quantum microwaves with a DC-biased Josephson junction** — •Fabien Portier
TT 10.4	Mon	16:45–17:15	H2	**Photodetectors and metamaterials for on-chip microwave photonics** — •Frank K. Wilhelm-Mauch
TT 10.5	Mon	17:15–17:45	H2	**Correlated Cooper pair transport and microwave photon emission in the Coulomb blockade** — •Juha Leppäkangas

Focus Session "Quantum Dynamics of Kinetically Constrained Many-Body Systems"

TT 21.1	Tue	9:30–10:00	H2	**Quantum dynamics, scars, and integrability in constrained Rydberg systems** — •Vedika Khemani
TT 21.2	Tue	10:00–10:30	H2	**DMRG investigation of constrained models: from quantum dimer and quantum loop ladders to hard-boson and Fibonacci anyon chains** — •Natalia Chepiga
TT 21.3	Tue	10:30–11:00	H2	**Localization in Fractonic Random Circuits** — •Michael Pretko
TT 21.4	Tue	11:15–11:45	H2	**Many-body localization dynamics from gauge invariance** — •Markus Heyl
TT 21.5	Tue	11:45–12:15	H2	**Slow dynamics due to kinetic constraints, from classical to quantum** — •Juan Garrahan

Focus Session "Topology in 3D Reciprocal Space: Beyond Dirac and Weyl Quasiparticles"

TT 43.1	Wed	15:00–15:30	H2	**Novel optical and electrical responses in topological semimetals** — •Joel Moore
TT 43.2	Wed	15:30–16:00	H2	**Beyond the elementary particles and the 10-fold classification of non-interacting topological phases** — •Alexey Soluyanov
TT 43.3	Wed	16:00–16:30	H2	**Direct optical detection of Weyl fermion chirality in a topological semimetal** — •Nuh Gedik
TT 43.4	Wed	16:45–17:15	H2	**Evidence for an axionic charge density wave in the Weyl semimetal $(TaSe_4)_2I$** — •Johannes Gooth
TT 43.5	Wed	17:15–17:45	H2	**Investigations of Dirac/Weyl semimetals under external stimuli** — •Ece Uykur

Focus Session "Broken Time Reversal Symmetry in Multiband Superconductors"

TT 51.1	Thu	9:30–10:00	H2	**Evaluation of chiral superconductivity in Sr_2RuO_4** — •Clifford Hicks
TT 51.2	Thu	10:00–10:30	H2	**Magnetic excitations and their possible role in the superconducting pairing in Sr_2RuO_4** — •Markus Braden
TT 51.3	Thu	10:30–11:00	H2	**Topologically protected Bogoliubov Fermi surfaces** — •Daniel Agterberg
TT 51.4	Thu	11:15–11:45	H2	**Time-reversal symmetry breaking in Fe-based superconductors** — •Andrey Chubukov
TT 51.5	Thu	11:45–12:15	H2	**Emerging superconductivity with broken time reversal symmetry inside a superconducting s-wave state** — •Vadim Grinenko

Invited Talks not included in Focus Sessions

TT 11.4	Mon	15:45–16:15	H4	**Majorana states in carbon nanotubes** — •Magdalena Marganska
TT 14.8	Mon	17:00–17:30	H22	**Gate-defined quantum point contacts and quantum dots in bilayer graphene** — •Christoph Stampfer
TT 15.10	Mon	17:30–18:00	H23	**Theory of superconducting pairing in iron-based superconductors** — •Andreas Kreisel
TT 22.10	Tue	12:00–12:30	H7	**Superconducting films and interfaces: Novel features from spin imbalance and Rashba spin-orbit coupling** — •Gertrud Zwicknagl
TT 29.1	Tue	14:00–14:30	H2	**Mesoscopic quantum electrodynamics with carbon nanotubes** — •Takis Kontos

TT 29.2	Tue	14:30–15:00	H2	**Nanomechanical characterization of the Kondo charge dynamics in a carbon nanotube** — •Andreas K. Hüttel
TT 38.1	Wed	9:30–10:00	H23	**A new heavy-fermion superconductor $CeRh_2As_2$ with Rashba and quadrupolar interactions** — •Seunghyun Khim
TT 66.1	Fri	9:30–10:00	H2	**Non-equilibrium superconductivity: from post-quench dynamics to controlling competing orders** — •Peter P. Orth

Sessions

TT 1.1–1.4	Sun	16:00–18:20	H2	**Next generation of SI-Units (joint session VA/TT/TUT)**
TT 2.1–2.13	Mon	9:30–13:00	H7	**Correlated Electrons: Electronic Structure Calculations and Other Theoretical Topics**
TT 3.1–3.13	Mon	9:30–13:00	Theater	**Topological Insulators (joint session TT/MA)**
TT 4.1–4.12	Mon	9:30–12:45	H22	**Nonequilibrium Quantum Many-Body Systems 1 (joint session TT/DY)**
TT 5.1–5.13	Mon	9:30–13:00	H23	**Superconductivity: Fe-based Superconductors - FeSe and 122**
TT 6.1–6.14	Mon	9:30–13:15	H53	**Surface magnetism and magnetic coupling phenomena (joint session MA/O/TT)**
TT 7.1–7.11	Mon	10:00–13:00	H19	**Dynamics in many-body systems: Equilibration and localization I (joint session DY/TT)**
TT 8.1–8.9	Mon	10:30–13:00	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge I (joint session O/TT/CPP/DS)**
TT 9.1–9.9	Mon	10:30–13:00	H24	**Graphene I: Structure and Growth (joint session O/TT)**
TT 10.1–10.9	Mon	15:00–18:45	H2	**Focus Session: New Bright Sources of Quantum Microwaves**
TT 11.1–11.13	Mon	15:00–18:45	H4	**Majorana Physics**
TT 12.1–12.10	Mon	15:00–17:30	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge II (joint session O/TT/DS/CPP)**
TT 13.1–13.14	Mon	15:00–18:45	Theater	**Frustrated Magnets - Spin Liquids (joint session TT/MA)**
TT 14.1–14.14	Mon	15:00–19:00	H22	**Graphene**
TT 15.1–15.14	Mon	15:00–19:00	H23	**Superconductivity: Fe-based Superconductors - Other Materials and Theory**
TT 16.1–16.12	Mon	15:00–18:00	H24	**Graphene II: Excitations and Nanoribbons (joint session O/TT)**
TT 17.1–17.49	Mon	15:00–18:30	Poster D	**Poster Session: Correlated Electrons 1**
TT 18.1–18.13	Mon	15:00–18:30	Poster D	**Poster Session: Topological Topics (joint session TT/MA)**
TT 19.1–19.3	Mon	15:00–18:30	Poster D	**Poster Session: Disordered Quantum Systems**
TT 20.1–20.9	Mon	15:30–18:00	H19	**Dynamics in many-body systems: Equilibration and localization II (joint session DY/TT)**
TT 21.1–21.8	Tue	9:30–13:00	H2	**Focus Session: Quantum Dynamics of Kinetically Constrained Many-Body Systems (joint session TT/DY)**
TT 22.1–22.10	Tue	9:30–12:30	H7	**Superconductivity: Theory**
TT 23.1–23.13	Tue	9:30–13:00	Theater	**Frustrated Magnets - General 1 (joint session TT/MA)**
TT 24.1–24.10	Tue	9:30–12:15	H22	**Molecular Electronics and Photonics**
TT 25.1–25.6	Tue	9:30–11:00	H23	**Disordered Quantum Systems**
TT 26.1–26.9	Tue	10:30–13:00	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge III (joint session O/CPP/DS/TT)**
TT 27.1–27.7	Tue	10:30–12:45	H15	**Focus Session: Designer Quantum Systems I (joint session O/TT)**
TT 28.1–28.6	Tue	11:15–12:45	H23	**Cryotechnique: Refrigeration and Thermometry**
TT 29.1–29.6	Tue	14:00–16:00	H2	**Nanotubes and Nanoribbons**
TT 30.1–30.7	Tue	14:00–15:45	H4	**Correlated Electrons: 1D Theory**
TT 31.1–31.10	Tue	14:00–16:45	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge IV (joint session O/CPP/DS/TT)**
TT 32.1–32.5	Tue	14:00–15:45	H15	**Focus Session: Designer Quantum Systems II (joint session O/TT)**
TT 33.1–33.8	Tue	14:00–16:00	Theater	**Frustrated Magnets - General 2 (joint session TT/MA)**
TT 34.1–34.8	Tue	14:00–16:00	H22	**Nonequilibrium Quantum Many-Body Systems 2**
TT 35.1–35.8	Tue	14:00–16:00	H23	**Spintronics (joint session TT/MA/DY)**
TT 36.1–36.4	Wed	9:30–10:30	H7	**Fluctuations, Noise and Quantum Coherence**
TT 37.1–37.11	Wed	9:30–12:30	H22	**Topological Semimetals - Theory (joint session TT/MA)**

TT 38.1–38.11	Wed	9:30–12:45	H23	**f-Electron Systems and Heavy Fermions**
TT 39.1–39.9	Wed	9:30–12:30	H32	**Focus Session: Direct-Write Nanofabrication and Applications I (Electron Beam Induced Processing) (joint session DS/TT)**
TT 40.1–40.13	Wed	9:30–13:00	H48	**Superconductivity: Qubits 1**
TT 41.1–41.9	Wed	10:30–13:15	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge V (joint session O/CPP/DS/TT)**
TT 42.1–42.7	Wed	10:45–12:30	H7	**Nano- and Optomechanics**
TT 43.1–43.7	Wed	15:00–18:15	H2	**Focus Session: Topology in 3D Reciprocal Space: Beyond Dirac and Weyl Quasiparticles (joint session TT/MA)**
TT 44.1–44.15	Wed	15:00–19:00	H7	**Correlated Electrons: Method Development**
TT 45.1–45.11	Wed	15:00–17:45	H9	**Frontiers of Electronic-Structure Theory: Focus on the Interface Challenge VI (joint session O/DS/CPP/TT)**
TT 46.1–46.13	Wed	15:00–18:30	H22	**Quantum Dots, Quantum Wires, Point Contacts**
TT 47.1–47.14	Wed	15:00–18:45	H23	**Quantum Magnets, Molecular Magnets and Skyrmions**
TT 48.1–48.9	Wed	15:00–18:00	H32	**Focus Session: Direct-Write Nanofabrication and Applications II (Electron Beam Induced Processing) (joint session DS/TT)**
TT 49.1–49.50	Wed	15:00–18:30	Poster D	**Poster Session: Superconductivity**
TT 50.1–50.26	Wed	15:00–18:30	Poster D	**Poster Session: Correlated Electrons 2**
TT 51.1–51.8	Thu	9:30–13:00	H2	**Focus Session: Broken Time Reversal Symmetry in Multiband Superconductors**
TT 52.1–52.12	Thu	9:30–12:45	H7	**Quantum Impurities and Kondo Physics**
TT 53.1–53.13	Thu	9:30–13:00	Theater	**Frustrated Magnets - Strong Spin-Orbit Coupling (joint session TT/MA)**
TT 54.1–54.13	Thu	9:30–13:00	H22	**Correlated Electrons: Complex Oxides and Other Materials**
TT 55.1–55.13	Thu	9:30–13:00	H23	**Superconductivity: Tunneling and Josephson Junctions**
TT 56.1–56.10	Thu	15:00–17:45	H2	**Topological Semimetals - Experiment (joint session TT/MA)**
TT 57.1–57.11	Thu	15:00–18:00	H7	**Superconductivity: Properties and Electronic Structure**
TT 58.1–58.13	Thu	15:00–18:30	Theater	**Superconductivity: Qubits 2**
TT 59.1–59.11	Thu	15:00–18:00	H22	**Complex Oxides Interfaces and Charge Order**
TT 60.1–60.11	Thu	15:00–18:00	H23	**Quantum-Critical Phenomena (joint session TT/DY)**
TT 61.1–61.9	Thu	15:00–17:45	H24	**Topology and Symmetry-Protected Materials (joint session O/MA/TT)**
TT 62.1–62.8	Thu	15:00–17:45	H32	**Direct-Write Nanofabrication and Applications III (Electron Beam Induced Processing) (joint session DS/TT)**
TT 63.1–63.13	Thu	15:00–18:30	Poster D	**Poster Session: Cryogenic Particle Detectors and Cryotechnique**
TT 64.1–64.17	Thu	15:00–18:30	Poster D	**Poster Session: Transport**
TT 65	Thu	18:30–20:00	H7	**Annual General Meeting of the Low Temperature Physics Division**
TT 66.1–66.11	Fri	9:30–12:45	H2	**Ultrafast Dynamics of Light-Driven Systems**
TT 67.1–67.10	Fri	9:30–12:00	H4	**Cryogenic Particle Detectors and Other Superconducting Electronics**
TT 68.1–68.10	Fri	9:30–12:15	H22	**Topology: Other Topics**
TT 69.1–69.8	Fri	9:30–11:30	H23	**Cold Atomic Gases and Superfluids**

Annual General Meeting of the Low Temperature Physics Division

Thursday 18:30–20:00 H7

- Bericht
- Verschiedenes