

Low Temperature Physics Division Fachverband Tiefe Temperaturen (TT)

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Overview of Invited Talks and Sessions

(Lecture Rooms HSZ 03, HSZ 105, HSZ 201, HSZ 301, and HSZ 304; Poster Areas P1, P3, P4)

Invited Talks

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|---------|-----|-------------|---------|--|
| TT 1.1 | Mon | 10:30–11:00 | HSZ 03 | Spin-orbit coupling in graphene: single layer, bilayer, trilayer, and graphite — ●JAROSLAV FABIAN |
| TT 26.1 | Tue | 14:00–14:30 | HSZ 301 | Quantum paradoxes in quantum transport — ●WOLFGANG BELZIG |
| TT 31.1 | Wed | 10:30–11:00 | HSZ 301 | New insights into the spin Hall effect — ●PETER SCHWAB |
| TT 34.7 | Wed | 15:45–16:15 | HSZ 03 | Coupled evolution and coherence of two-electron spin qubits — ●HENDRIK BLUHM |
| TT 60.3 | Fri | 11:00–11:30 | HSZ 301 | Engineering Atomic-Scale Spin Systems — ●SEBASTIAN LOTH |

Invited and Topical Talks of the Focused Session “Frontiers in Classical and Quantum Spin Liquids”

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| TT 6.1 | Mon | 14:00–14:45 | HSZ 03 | Magnetolyte Properties of Spin Ice — ●STEVE BRAMWELL |
| TT 6.2 | Mon | 14:45–15:30 | HSZ 03 | Kitaev-Heisenberg Model on a Honeycomb Lattice: Possible Exotic Phases in Iridium Oxides $A_2\text{IrO}_3$ — ●GEORGE JACKELI |
| TT 6.3 | Mon | 15:45–16:30 | HSZ 03 | Disorder in a quantum spin liquid: flux binding and local moment formation — ●JOHN CHALKER |
| TT 6.4 | Mon | 16:30–17:15 | HSZ 03 | Fractional spin textures in the frustrated magnet $\text{SrCr}_{9p}\text{Ga}_{12-9p}\text{O}_{19}$ — ●KEDAR DAMLE |
| TT 6.5 | Mon | 17:15–18:00 | HSZ 03 | Quantum Criticality and E8 symmetry in an Ising Chain — ●ALAN TENNANT |

Invited Talks of the Focused Session “50 Years of Flux Quantization”

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|---------|-----|-------------|--------|---|
| TT 20.1 | Tue | 10:30–11:00 | HSZ 03 | The discovery of fluxoid quantization: $2e$ or not $2e$ — ●DIETRICH EINZEL |
| TT 20.2 | Tue | 11:00–11:30 | HSZ 03 | Fluxoid Quantization and the Superconducting Quantum Interference Device — ●JOHN CLARKE |
| TT 20.3 | Tue | 11:40–12:10 | HSZ 03 | Flux Quantization driving Fractional Flux Quantum Generation — ●HANS HILGENKAMP |
| TT 20.4 | Tue | 12:10–12:40 | HSZ 03 | Quantum information with quantized fluxoids: flux qubits — ●JOHAN E. MOOLJ |
| TT 20.5 | Tue | 12:40–13:10 | HSZ 03 | Flux quantization and the quantum Hall effect — ●KLAUS VON KLITZING |

Invited and Topical Talks of the Focused Session “100 Years of Superconductivity”

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|---------|-----|-------------|--------|---|
| TT 45.1 | Thu | 10:30–11:00 | HSZ 03 | Pairing fermions with population imbalance — ●PETER FULDE |
| TT 45.2 | Thu | 11:00–11:30 | HSZ 03 | Unconventional Superconductivity - Aspects of Symmetry and Topology — ●MANFRED SIGRIST |

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| TT 45.3 | Thu | 11:40–12:10 | HSZ 03 | Large Scale Applications of Superconductors and the Challenges that they have posed — •DAVID LARBALESTIER |
| TT 45.4 | Thu | 12:10–12:40 | HSZ 03 | Weak Superconductivity and Superconductor Electronics — •KONSTANTIN LIKHAREV |

Invited Talks of the SKM-Symposium “Spincaloric Transport” (SKM-SYST)

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|--------------|-----|-------------|--------|--|
| SKM-SYST 1.1 | Mon | 14:30–15:00 | TRE Ma | On the theory of the spin wave Seebeck effect — •GERRIT BAUER |
| SKM-SYST 1.2 | Mon | 15:00–15:30 | TRE Ma | Spin Seebeck effect in metals and insulators — •KEN-ICHI UCHIDA |
| SKM-SYST 1.3 | Mon | 15:30–16:00 | TRE Ma | Spin-Seebeck effect: Local nature of thermally induced spin currents in GaMnAs — •ROBERTO MYERS |
| SKM-SYST 1.4 | Mon | 16:00–16:30 | TRE Ma | Heat conduction of low-dimensional quantum magnets — •CHRISTIAN HESS |
| SKM-SYST 1.5 | Mon | 16:30–17:00 | TRE Ma | Evidence of spin polarized heat current acting on magnetization — •JEAN-PHILIPPE ANSERMET |

Invited Talks of the SKM-Symposium “Topological Insulators” (SKM-SYTI)

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|--------------|-----|-------------|--------|--|
| SKM-SYTI 1.1 | Wed | 10:30–11:00 | TRE Ma | Topological insulators and topological superconductors — •SHOUCHENG ZHANG |
| SKM-SYTI 1.2 | Wed | 11:00–11:30 | TRE Ma | Dirac Fermions in HgTe Quantum Wells — •LAURENS MOLENKAMP |
| SKM-SYTI 1.3 | Wed | 11:30–12:00 | TRE Ma | Interaction, disorder, and quantum criticality in Z_2 topological insulators — •ALEXANDER MIRLIN |
| SKM-SYTI 1.4 | Wed | 12:00–12:30 | TRE Ma | Disorder and Interactions in Topological Insulators — •ALLAN H. MACDONALD |
| SKM-SYTI 1.5 | Wed | 12:30–13:00 | TRE Ma | Tunable multifunctional topological insulators in ternary Heusler and related compounds — •CLAUDIA FELSER |

Invited Talks of the Intersectional Symposium “Hybrid Quantum Systems – Interfacing Atoms, Solids and Light” (SYHQ)

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|----------|-----|-------------|--------|--|
| SYHQ 1.1 | Thu | 10:30–11:00 | HSZ 01 | Circuit Quantum Electrodynamics with Electrons on Helium — •DAVID SCHUSTER |
| SYHQ 1.2 | Thu | 11:00–11:30 | HSZ 01 | Strong coupling of a spin ensemble to a superconducting resonator — •PATRICE BERTET |
| SYHQ 1.3 | Thu | 11:30–12:00 | HSZ 01 | Interfacing ultracold atoms and micromechanical oscillators — •PHILIPP TREUTLEIN |
| SYHQ 1.4 | Thu | 12:00–12:30 | HSZ 01 | Interfacing Optomechanics and Atoms — •KLEMENS HAMMERER |
| SYHQ 1.5 | Thu | 12:30–13:00 | HSZ 01 | Ultracold Atoms near Carbon Nanotubes — •ANDREAS GÜNTHER |

Invited Talks of the Intersectional Symposium “Cavity meets Circuit Quantum Electrodynamics” (SYQE)

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| SYQE 1.1 | Fri | 10:30–11:00 | HSZ 01 | The driven Jaynes-Cummings system: from atoms and cavities to circuits — •HOWARD CARMICHAEL |
| SYQE 1.2 | Fri | 11:00–11:30 | HSZ 01 | Light shifts of ground-state quantum beats in Cavity QED, a consequence of quantum jumps. — •LUIS OROZCO |
| SYQE 1.3 | Fri | 11:30–12:00 | HSZ 01 | Tomography and Correlation Function Measurements of Propagating Microwave Photons — •ANDREAS WALLRAFF |
| SYQE 1.4 | Fri | 12:00–12:30 | HSZ 01 | Artificial atom in 1D open space — •YASUNOBU NAKAMURA |
| SYQE 1.5 | Fri | 12:30–13:00 | HSZ 01 | Quantum dot based bright sources of quantum light. — •PASCALE SENELLART |

Sessions

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| TT 1.1–1.8 | Mon | 10:30–13:00 | HSZ 03 | TR: Graphene 1 (jointly with MA, HL, and DY) |
| TT 2.1–2.9 | Mon | 10:30–13:00 | HSZ 301 | SC: Properties, Electronic Structure, Mechanisms 1 |
| TT 3.1–3.10 | Mon | 10:30–13:15 | HSZ 304 | CE: Charge Density Wave & Peierls Instability |
| TT 4.1–4.9 | Mon | 10:30–13:00 | HSZ 201 | CE: Quantum-Critical Phenomena 1 |
| TT 5.1–5.10 | Mon | 10:30–13:00 | HSZ 02 | Micro Mechanical Oscillator 1 (jointly with Q) |
| TT 6.1–6.5 | Mon | 14:00–18:00 | HSZ 03 | Focused Session: Frontiers in Classical and Quantum Spin Liquids |
| TT 7.1–7.9 | Mon | 14:00–16:15 | HSZ 301 | SC: Properties, Electronic Structure, Mechanisms 2 |
| TT 8.1–8.16 | Mon | 14:00–18:30 | HSZ 304 | TR: Graphene 2 (jointly with MA, HL, and DY) |
| TT 9.1–9.15 | Mon | 14:00–18:15 | HSZ 201 | CE: (General) Theory 1 |
| TT 10.1–10.57 | Mon | 14:00–18:00 | P4 | Poster Session: Superconductivity |
| TT 11.1–11.22 | Mon | 14:00–18:00 | P4 | Poster Session: Matter at Low Temperature |
| TT 12.1–12.3 | Mon | 14:30–15:15 | HSZ 02 | Micro Mechanical Oscillator 2 (jointly with Q) |
| TT 13.1–13.8 | Mon | 14:45–17:00 | HSZ 04 | Multiferroics I (jointly with DF, DS, KR, MA) |
| TT 14.1–14.7 | Mon | 17:00–18:45 | HSZ 04 | Multiferroics II (jointly with DF, DS, KR, MA) |
| TT 15.1–15.6 | Mon | 16:30–18:00 | HSZ 301 | SC: Fabrication and Characterization |
| TT 16.1–16.6 | Mon | 18:15–19:45 | HSZ 03 | TR: Nanoelectronics III - Molecular Electronics 1 |
| TT 17.1–17.7 | Mon | 18:15–20:00 | HSZ 301 | SC: Fe-based Superconductors - 1111 |
| TT 18.1–18.6 | Mon | 18:30–20:00 | HSZ 201 | CE: Low-dimensional Systems - Materials 1 |
| TT 19.1–19.4 | Mon | 18:45–19:45 | HSZ 304 | CE: Quantum Impurities, Kondo Physics |
| TT 20.1–20.5 | Tue | 10:30–13:10 | HSZ 03 | Focused Session: 50 Years of Flux Quantization |
| TT 21.1–21.9 | Tue | 10:30–13:00 | HSZ 301 | TR: Nanoelectronics III - Molecular Electronics 2 |
| TT 22.1–22.9 | Tue | 10:30–13:00 | HSZ 304 | CE: Low-dimensional Systems - Materials 2 |
| TT 23.1–23.9 | Tue | 10:30–13:00 | HSZ 105 | CE: Quantum-Critical Phenomena 2 |
| TT 24.1–24.1 | Tue | 10:15–10:45 | HSZ 04 | Multiferroics III (jointly with DF, DS, KR, MA) |
| TT 25.1–25.6 | Tue | 10:45–12:15 | HSZ 04 | Multiferroics IV (jointly with DF, DS, KR, MA) |
| TT 26.1–26.5 | Tue | 14:00–15:30 | HSZ 301 | TR: Fluctuations and Noise |
| TT 27.1–27.6 | Tue | 14:00–15:30 | HSZ 304 | SC: Fe-based Superconductors - LiFeAs |
| TT 28.1–28.6 | Tue | 14:00–15:30 | HSZ 105 | CE: (General) Theory 2 |
| TT 29.1–29.11 | Tue | 18:00–21:00 | P1 | Poster Session: Quantum Information Systems, Quantum Coherence (jointly with SAMOP) |
| TT 30.1–30.9 | Wed | 10:30–13:00 | HSZ 03 | TR: Quantum Coherence and Quantum Information Systems 1 (jointly with MA and HL) |
| TT 31.1–31.8 | Wed | 10:30–13:00 | HSZ 301 | TR: Nanoelectronics II - Spintronics and Magnetotransport 1 (jointly with HL and MA) |
| TT 32.1–32.9 | Wed | 10:30–13:00 | HSZ 304 | SC: Fe-based Superconductors - Theory |
| TT 33.1–33.9 | Wed | 10:30–13:00 | HSZ 105 | CE: Metal-Insulator Transition 1 |
| TT 34.1–34.16 | Wed | 14:00–18:45 | HSZ 03 | TR: Quantum Coherence and Quantum Information Systems 2 (jointly with MA and HL) |
| TT 35.1–35.20 | Wed | 14:00–19:45 | HSZ 301 | CE: Low-dimensional Systems - Materials 3 |
| TT 36.1–36.16 | Wed | 14:00–18:30 | HSZ 304 | SC: Fe-based Superconductors - 122 - Properties, Electronic Structure, Mechanisms |
| TT 37.1–37.14 | Wed | 14:00–18:00 | HSZ 105 | MLT: Quantum Liquids, Bose-Einstein Condensates, Ultracold Atoms, ... |
| TT 38.1–38.41 | Wed | 14:00–18:00 | P3 | Poster Session Transport |
| TT 39.1–39.5 | Wed | 14:00–16:30 | HSZ 04 | Spin Structures/ Skyrmions (jointly with MA) |
| TT 40.1–40.10 | Wed | 16:45–19:15 | HSZ 04 | Topological Insulators (jointly with HL, MA) |
| TT 41.1–41.5 | Wed | 18:15–19:30 | HSZ 105 | CE: Spin Systems and Itinerant Magnets 1 |
| TT 42.1–42.5 | Wed | 18:45–20:00 | HSZ 304 | SC: Fe-based Superconductors - Fe(Se,Te) |
| TT 43.1–43.5 | Wed | 19:00–20:15 | HSZ 03 | TR: Nanoelectronics II - Spintronics and Magnetotransport 2 (jointly with HL and MA) |
| TT 44.1–44.89 | Thu | 10:00–13:00 | P1 | Poster Session Correlated Electrons |
| TT 45.1–45.4 | Thu | 10:30–12:40 | HSZ 03 | Focused Session: 100 Years of Superconductivity |
| TT 46.1–46.9 | Thu | 10:30–13:00 | HSZ 301 | SC: Tunneling, Josephson Junctions, SQUIDs 1 |
| TT 47.1–47.9 | Thu | 10:30–13:00 | HSZ 304 | TR: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 1 |
| TT 48.1–48.9 | Thu | 10:30–13:00 | HSZ 105 | CE: Metal-Insulator Transition 2 |
| TT 49.1–49.17 | Thu | 14:00–18:45 | HSZ 03 | CE: Spin Systems and Itinerant Magnets 2 |
| TT 50.1–50.5 | Thu | 14:00–15:15 | HSZ 301 | SC: Tunneling, Josephson Junctions, SQUIDs 2 |

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| TT 51.1–51.6 | Thu | 14:00–15:30 | HSZ 304 | TR: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 2 |
| TT 52.1–52.8 | Thu | 14:00–16:15 | HSZ 105 | CE: Low-dimensional Systems - Models 1 |
| TT 53.1–53.7 | Thu | 15:15–17:00 | HSZ 401 | Graphene (jointly with DY, DS, HL, MA, O) |
| TT 54.1–54.7 | Thu | 15:30–17:15 | HSZ 301 | SC: Heterostructures, Andreev Scattering, Proximity Effect |
| TT 55.1–55.4 | Thu | 16:00–17:00 | HSZ 304 | TR: Topological Insulators 1 (jointly with HL and MA) |
| TT 56.1–56.9 | Thu | 16:30–19:00 | HSZ 105 | CE: Heavy Fermions |
| TT 57.1–57.6 | Thu | 17:15–18:45 | HSZ 304 | SC: Fe-based Superconductors - 122 - Thin Films |
| TT 58.1–58.6 | Thu | 17:30–19:00 | HSZ 301 | SC: Vortex Dynamics, Vortex Phases, Pinning |
| TT 59.1–59.9 | Fri | 10:30–13:00 | HSZ 03 | TR: Topological Insulators 2 (jointly with HL and MA) |
| TT 60.1–60.9 | Fri | 10:30–13:15 | HSZ 301 | SC & MLT: Cryodetectors |
| TT 61.1–61.8 | Fri | 10:30–12:45 | HSZ 304 | TR: Nanoelectronics I - Quantum Dots, Wires, Point Contacts 3 |
| TT 62.1–62.10 | Fri | 10:30–13:15 | HSZ 105 | CE: Low-dimensional Systems - Models 2 |

Annual General Meeting Low Temperature Physics Division

Thursday 19:00–20:30 HSZ 304