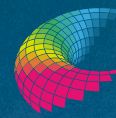


Bilderberg Bellevue Hotel Dresden

Sep 23 – 27, 2024



ct.qmat

Complexity and Topology
in Quantum Matter

CT.QMAT 24

International Conference
on Complexity and Topology
in Quantum Matter

Conference Booklet

Valid as of August 30 – for all updates
please visit ctqmat24.de!



ct.qmat

The **Würzburg-Dresden Cluster of Excellence ct.qmat – Complexity and Topology in Quantum Matter** is a strategic **alliance of leading quantum matter research institutions in Würzburg and Dresden**. It aims to **systematically unravel the complexities of topological phenomena in physics, discover and develop materials** in which these phenomena can be observed in the laboratory, and pioneer initial applications for these groundbreaking materials.

Founded by principal investigators from two universities and five research institutes, ct.qmat is funded within the Excellence Strategy of the German federal and state governments. It brings together over 300 scientists in condensed matter physics, photonics, materials science, chemistry, and nanoscience from over 30 nations, all dedicated to **understanding, controlling, and utilizing fundamentally new states of quantum matter**.

For more details, please visit ctqmat.de

SFB 1143

The **Collaborative Research Center 1143 Correlated Magnetism: From Frustration to Topology** explores a unique class of magnets characterized by competing interactions known as frustration. These interactions prevent the formation of simple, conventionally ordered states, leading instead to a variety of complex and fascinating behaviors. These includes topological phases such as fractionalized spin liquids and their descendants. Established in 2015 and funded by the German Research Foundation (DFG), the center coordinates 19 individual and collaborative research projects.

It is based at Technische Universität Dresden (TUD) with contributions from the Leibniz Institute for Solid State and Materials Research Dresden (IFW), the Max Planck Institute for the Physics of Complex Systems (MPI-PKS), the Max Planck Institute for Chemical Physics of Solids (MPI-CPfS), the Helmholtz Center Dresden-Rossendorf (HZDR), and Technische Universität Berlin (TU Berlin).

For further details, please see tu-dresden.de/mn/physik/sfb1143

DFG Deutsche
Forschungsgemeinschaft

International Conference on Complexity and Topology in Quantum Matter

CT.QMAT24 is an international conference on emerging quantum phenomena resulting from topological physics and its interplay with many-body interactions in diverse quantum matter settings, from topological electron materials to quantum spin systems and photonics. Related contributions from other novel platforms (e.g., topological circuits, topological phononics and magnonics, ultracold atoms, etc.) are also highly welcome. The idea of **CT.QMAT24** is to bring together experts from different communities and review the present state of the field of topological physics.

The conference is organized by the Würzburg-Dresden Cluster of Excellence **ct.qmat – Complexity and Topology in Quantum Matter** and **SFB 1143 Correlated Magnetism: From Frustration to Topology**. It is planned as **in-person event** from **September 23 to 27, 2024** and is held at **Dresden's Bilderberg Bellevue Hotel, Germany**.



Topics

- Topological electrons
- Quantum magnetism
- Topological photonics
- Topological phononics and magnonics
- Topoelectric circuits
- Topological physics with ultracold atoms
- Tailoring topological functionality

Organization Team

- Kerstin Brankatschk
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- Alina Markova
- Nora Termer
- Matthias Vojta
ct.qmat & SFB 1143 spokesperson
- Anna-Leoni Werle

Program Committee

- Jan Budich
- Alexey Chernikov
- Ralph Claessen
- Claudia Felser
- Sebastian Klemmt
- Giorgio Sangiovanni
- Björn Trauzettel
- Matthias Vojta



Content

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Program overview

Sunday, Sep 22, 2024	
From 15:00	Hotel check-in
18:30 – 21:00	Welcome reception *

Monday Sep 23, 2024	Tuesday Sep 24, 2024	Wednesday Sep 25, 2024	Thursday Sep 26, 2024	Friday Sep 27, 2024
9:00 Opening	Session 5	Session 9	Session 12	Session 16
Session 1	09:00 Flore Kunst	09:00 Henrik Rønnow	09:00 Riccardo Comin	09:00 Zi Yang Meng
09:10 Satoru Nakatsuji	09:30 Joseph Dufouleur	09:30 Achim Rosch	09:30 Ronny Thomale	09:30 Hanno Weitering
09:40 Igor Herbut	09:50 Federico Roccati	10:00 Roser Valenti	09:50 Michele Fabrizio	10:00 David Moser
10:10 Siddarth Parameswaran	10:10 Sebastian Klemmt		10:20 Harini Radhakrishnan	

 Coffee break

Session 2	Session 6	Session 10	Session 13	Session 17
11:10 Atac Imamoglu	11:00 Philip Moll	11:00 Katharina Franke	11:10 Liang Fu	11:00 Vivien Zapf
11:40 Jeong Min Park	11:30 Katja Nowack	11:30 Hélène Bouchiat	11:40 Ion Cosma Fulga	11:30 Christopher Laumann
12:10 Shahal Ilani	12:00 Roderich Moessner	12:00 Benoit Jouault	12:00 Ashley Cook	11:50 Shun Okumura
	12:20 Michael Potthoff	12:20 Anastasiia Chyzhykova	12:20 Johanna Erdmenger	12:10 Kazuki Okigami

 Lunch

Session 3	Session 7	Free time	Session 14	Session 18
14:00 Hui Deng	14:00 Andrey Chubukov	14:00 – 15:30 optional sightseeing tour	14:00 Joel Moore	14:00 Yasir Iqbal
14:30 Karyn Le Hur	14:30 Abhishodh Prakash		14:30 Frank Pollmann	14:30 Daniel Lozano Gómez
15:00 David Whittaker	14:50 Roshan Krishna Kumar		15:00 Francesca Paoletti	14:50 Closing remarks
15:20 Thorsten Feichtner			15:20 Tobias Hofmann	

 Coffee break

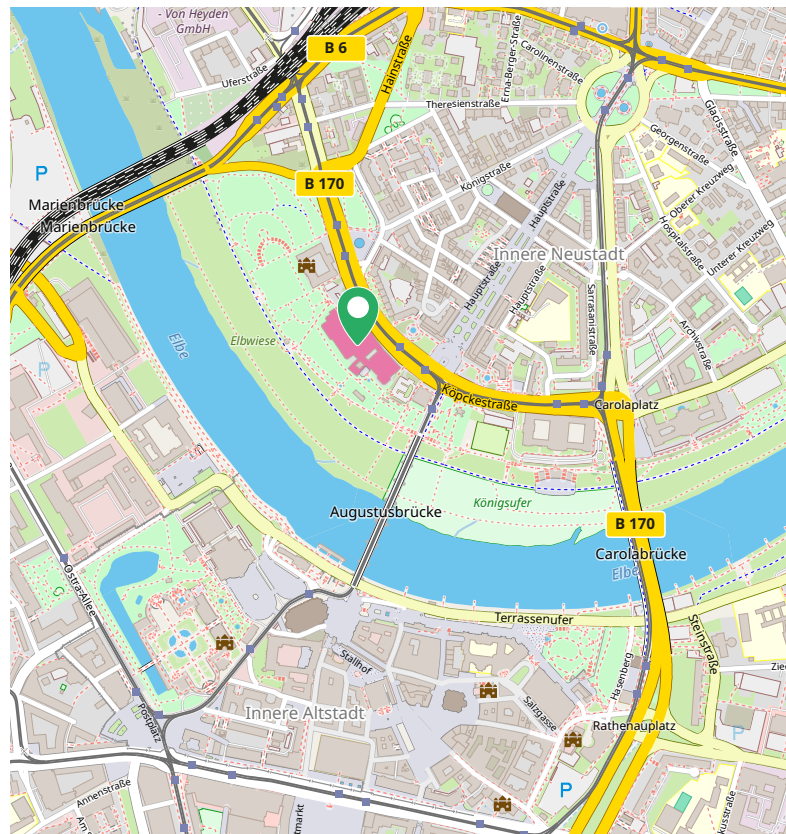
Session 4	Session 8	Session 11	Session 15
16:10 Ana Akrap	16:00 Roni Ilan	16:00 Leslie Schoop	16:10 Daniel Loss
16:40 Wolfram Brenig	16:30 Mathias Scheurer	16:30 Peter Liljeroth	16:40 Lorenzo Crippa
17:00 Carsten Timm	17:00 Sota Kitamura	17:00 – 20:00 Posters & buffet	17:00 Lukas Janssen
17:20 Maximilian Ünzelmann	17:20 Sebastian Schimmel		
17:40 Tatiana A. Uaman Svetikova	17:40 Lukasz Plucinski		
18:00 – 21:00 Posters & buffet	19:00 Conference Dinner	19:00 GHN get-together *	19:00 Social Event

* by invitation

Venue & maps

Accommodation will be provided for all participants in Dresden's Bilderberg Bellevue Hotel, which will also act as the conference venue. Conveniently located in downtown Dresden, this iconic hotel blends historical charm with modern luxury, offering stunning views of Dresden's baroque skyline.

Full details of how to reach the venue can be found on ctqmat24.de under **Travel & Navigation!**



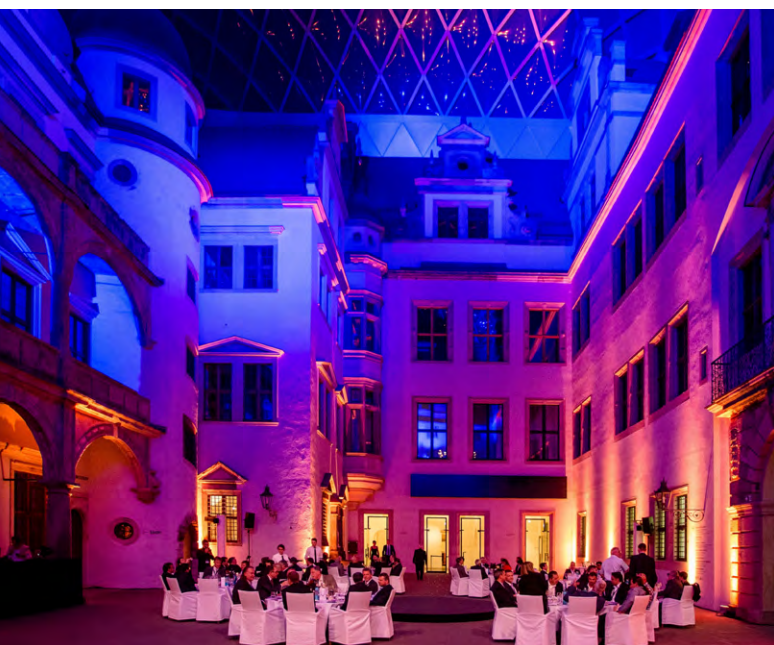
Bilderberg Bellevue Hotel Dresden

Grosse Meissner Strasse 15 / 01097 Dresden / bilderberg-bellevue-dresden.de

Further information

Coffee & lunch breaks

Coffee, tea, and light snacks will be served during coffee breaks. A buffet-style lunch will be served Monday through Friday in the conference hotel, including complimentary non-alcoholic beverages.



Conference Dinner

The Conference Dinner will be held on Tuesday, September 24, at 19:00 at Kleiner Schlosshof, located within Dresden's Royal Palace. Dating back to the 1590s, this historic courtyard is protected from the elements by a transparent dome. Please make your own way to Kleiner Schlosshof, which is 10 minutes' walk from the hotel. Use the entrance near the taxi stand. For GPS directions, enter "Taxistand Kempinski, Taschenberg 2, Dresden." The Conference Dinner is included in your conference fee.

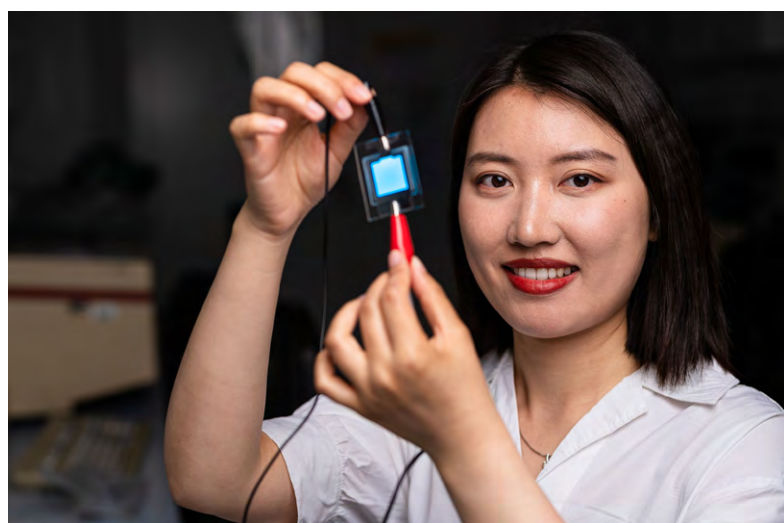
Group picture

A group photo has been scheduled for Tuesday, September 24.

Grete Hermann Network – GHN

The GHN is the first international network of female scientists in topological condensed matter physics, with over 50 members ranging from early-career researchers to seasoned professors, working on quantum materials with unique electrical, magnetic, and optical properties. A members-only get-together is scheduled for the evening of Wednesday, September 25, in the Platzhirsch restaurant's Radeberger Lounge (Schlossstrasse 10, 01067 Dresden), about 10 minutes' walk from the hotel. Attendance is by invitation only, with invitations sent prior to the conference.

During the poster sessions, a preview of the exhibition "Rethinking Physics" will be shown. This exhibition, marking the United Nations International Year of Quantum Science and Technology 2025, will initially be displayed in Würzburg and Dresden. It will explore the transformative role of quantum physics from female perspectives. If you've any questions about the GHN or the exhibition, please contact Alina Markova from the ct.qmat team.



Information Desk

If you have any questions regarding conference organization, social events or administrative issues, please visit the **CT.QMAT24** Information Desk.

Further information

Internet

Complimentary Wi-Fi is provided throughout the hotel. Connect to the “Bilderberg” network and accept the terms and conditions to access the internet.

Participants

A complete list of participants will be available on the website shortly before the conference.

Poster Sessions

Presenters will receive their poster ID (1–100) shortly before the conference. The Poster Session on Monday, September 23, will focus on posters with odd numbers, the one on Wednesday, September 25, on those with even numbers. Beverages and buffet will be available during these sessions. All posters will remain on display in the conference area until Friday, September 27.

Sightseeing

Guided tours of central Dresden will be offered in English or German on Wednesday, September 25, at 14:00. Tours depart from the **CT.QMAT24** Information Desk and will cover famous sights within a 10-minute walk from the hotel. Places are limited, so please sign up beforehand at the information desk to take part.



Social Event

Join us on Thursday, September 26 at 19:00 for a splendid evening at Schloss Wackerbarth. Meet in the hotel foyer at 18:15 for shuttle transport to this baroque masterpiece, home of the Saxon State Winery. Enjoy a guided tour (in English and German) followed by a buffet dinner. For those not taking the faster shuttle, travel details will be available on the conference website. Please note: It takes approximately 40 minutes to get from Dresden to Schloss Wackerbarth by public transport.

Public transport to and from Schloss Wackerbarth will be posted shortly before the conference on ctqmat24.de under Venue!






Conference program

Sunday, Sep 22, 2024

From 15:00 Hotel check-in
18:30 – 21:00 Welcome reception (by invitation)

Monday, Sep 23, 2024

From 08:00 Registration
09:00 – 09:10 Opening
09:10 – 10:40 Chair: N. N. _____ Session 1
09:10 – 09:40 **Satoru Nakatsuji**
Manipulation of correlated Weyl fermions in the chiral antiferromagnet Mn_3Sn
09:40 – 10:10 **Igor Herbut**
Unification of orders of Dirac fermions in 2+1 dimensions
10:10 – 10:40 **Siddharth Parameswaran**
Majorana edge reconstruction and the $\nu=5/2$ thermal Hall puzzle
 **Coffee break**
11:10 – 12:40 Chair: N. N. _____ Session 2
11:10 – 11:40 **Atac Imamoglu**
Semiconductor Moiré materials: Kinetic origin of magnetism in a strongly correlated electron system
11:40 – 12:10 **Jeong Min Park**
Interlayer tunneling spectroscopy of Moiré superconductivity
12:10 – 12:40 **Shahal Ilani**
News from the quantum twisting microscope
 **Lunch**
14:00 – 15:40 Chair: N. N. _____ Session 3
14:00 – 14:30 **Hui Deng**
Topological states with photonic systems
14:30 – 15:00 **Karyn Le Hur**
Topological phases with interactions and light
15:00 – 15:20 **David Whittaker**
Topology and disorder physics in coaxial cable networks
15:20 – 15:40 **Thorsten Feichtner**
Nano-scale plasmonic Su–Schrieffer–Heeger chains
 **Coffee break**

Conference program

Monday, Sep 23, 2024

16:10 – 18:00 **Chair: N. N. _____** **Session 4**

16:10 – 16:40

Ana Akrap

Magneto-optical insights into quantum materials

16:40 – 17:00

Wolfram Brenig

Two-dimensional coherent nonlinear spectroscopy of frustrated magnets

17:00 – 17:20

Carsten Timm

Bogoliubov Fermi surfaces in superconductors

17:20 – 17:40

Maximilian Ünzelmann

Twisted electrons in momentum space: A photoemission perspective on orbital angular momentum in quantum materials

17:40 – 18:00

Tatiana A. Uaman Svetikova

Efficient broadband THz upconversion in topological HgTe

18:00 – 21:00

Posters (focus on odd numbers)

Beverages and buffet snacks will be provided.

Conference program

Tuesday, Sep 24, 2024

09:00 – 10:30 **Chair: N. N.** _____ **Session 5**

09:00 – 09:30 **Flore Kunst**
Exceptional non-Hermitian topology

09:30 – 09:50 **Joseph Dufouleur**
Non-Hermitian topology in multi-terminal devices:
From fundamentals to applications

09:50 – 10:10 **Federico Roccati**
Hermitian and non-Hermitian topology from photon-mediated interactions

10:10 – 10:30 **Sebastian Klemmt**
Topological edge and corner modes in polariton lattices



Coffee break

11:00 – 12:40 **Chair: N. N.** _____ **Session 6**

11:00 – 11:30 **Philip Moll**
Deforming quantum materials on the microscale

11:30 – 12:00 **Katja Nowack**
Direct visualization of electronic transport in a quantum
anomalous Hall insulator

12:00 – 12:20 **Roderich Moessner**
Where the current flows in a Chern insulator

12:20 – 12:40 **Michael Potthoff**
Bound states and local topological phase diagram of classical impurity
spins coupled to a Chern insulator



Lunch

14:00 – 15:20 **Chair: N. N.** _____ **Session 7**

14:00 – 14:30 **Andrey Chubukov**
Unconventional discontinuous transitions in isospin systems

14:30 – 14:50 **Abhishodh Prakash**
Charge pumps, edge modes and the necessity of unnecessary criticality

14:50 – 15:20 **Roshan Krishna Kumar**
Twisted quantum photovoltaics



Coffee break

Conference program

Tuesday, Sep 24, 2024

16:00 – 18:00	Chair: N. N. _____	Session 8
16:00 – 16:30	Roni Ilan Excitons in topological materials	
16:30 – 17:00	Mathias Scheurer Pairing in the absence of time-reversal symmetry	
17:00 – 17:20	Sota Kitamura Floquet topological superconductivity induced by chiral many-body interaction	
17:20 – 17:40	Sebastian Schimmel Topological Fermi arcs and surface superconductivity in trigonal PtBi ₂ revealed by scanning tunneling spectroscopy	
17:40 – 18:00	Lukasz Plucinski On the origin of circular dichroism in ARPES spectra from graphene, WSe ₂ , and other quantum materials	
19:00 – 23:00	Conference Dinner	

Conference program

Wednesday, Sep 25, 2024

09:00 – 10:30 **Chair: N. N.** _____ **Session 9**

09:00 – 09:30 **Henrik Rønnow**
Neutron studies of $\text{SrCu}_2(\text{BO}_3)_2$ under extreme conditions – a fruit fly for quantum many-body physics

09:30 – 10:00 **Achim Rosch**
Dynamics of visons and vison pairs in Kitaev spin liquids

10:00 – 10:30 **Roser Valenti**
Twisted bilayer graphene: A platform for heavy-fermion physics



Coffee break

11:00 – 12:40 **Chair: N. N.** _____ **Session 10**

11:00 – 11:30 **Katharina Franke**
Diode effect in Josephson junctions with a single magnetic atom

11:30 – 12:00 **Hélène Bouchiat**
Probing orbital currents in 2D materials

12:00 – 12:20 **Benoit Jouault**
Multi-probe analysis for separating edge and bulk currents in inverted three-layer InAs/GaSb quantum wells

12:20 – 12:40 **Anastasiia Chyzhykova**
Chiral interference pattern in tunneling junctions and SQUIDs made of time-reversal-invariant Weyl superconductors



Lunch

14:00 – 15:30 **Free time**
optional sightseeing tour



Coffee break

16:00 – 17:00 **Chair: N. N.** _____ **Session 11**

16:00 – 16:30 **Leslie Schoop**
The chemistry of quantum materials

16:30 – 17:00 **Peter Liljeroth**
Designer quantum materials with van der Waals heterostructures

17:00 – 20:00 **Posters (focus on even numbers)**
Beverages and buffet snacks will be provided.

From 19:00 **GHN get together**
by invitation

Conference program

Thursday, Sep 26, 2024

09:00 – 10:40 **Chair: N. N. _____** **Session 12**

09:00 – 09:30 **Riccardo Comin**
Correlation physics from lattice-driven flat bands

09:30 – 09:50 **Ronny Thomale**
The kagome paradigm of correlated electron systems

09:50 – 10:20 **Michele Fabrizio**
The Luttinger surface scenario and the conundrum of SmB_6 and YbB_{12}
topological Kondo insulators

10:20 – 10:40 **Harini Radhakrishnan**
The two-body density matrix of a Luttinger liquid



Coffee break

11:10 – 12:40 **Chair: N. N. _____** **Session 13**

11:10 – 11:40 **Liang Fu**
Topological bounds on energy gap and structure factor

11:40 – 12:00 **Ion Cosma Fulga**
Topological fine structure of an energy band

12:00 – 12:20 **Ashley Cook**
Quantum skyrmion Hall effect

12:20 – 12:40 **Johanna Erdmenger**
AdS/CFT correspondence for hyperbolic lattices and metamaterials



Lunch

14:00 – 15:40 **Chair: N. N. _____** **Session 14**

14:00 – 14:30 **Joel Moore**
Spin dynamics as a probe of new hydrodynamics and topological states

14:30 – 15:00 **Frank Pollmann**
Exploring the dynamics of quantum phases of matter on
quantum processors

15:00 – 15:20 **Francesca Paoletti**
Topological gap opening without symmetry breaking from dynamical
quantum correlations

15:20 – 15:40 **Tobias Hofmann**
Towards a more fundamental understanding of eigenstate thermalization



Coffee break

Conference program

Thursday, Sep 26, 2024

16:10 – 17:20	Chair: N. N. _____ Session 15
16:10 – 16:40	Daniel Loss Fractional spin quantum Hall effect in weakly coupled spin-chain arrays
16:40 – 17:00	Lorenzo Crippa Heterogeneous Ta-dichalcogenide bilayer: Heavy fermions or doped Mott physics?
17:00 – 17:20	Lukas Janssen Twist-tuned quantum criticality in bilayer graphene
19:30 – 23:00	Social Event

Conference program

Friday, Sep 27, 2024

09:00 – 10:20 **Chair: N. N.** _____ **Session 16**

09:00 – 09:30

Zi Yang Meng

Quantum phase transitions and collective excitations in the fractional quantum anomalous Hall states emerging for correlated flat bands

09:30 – 10:00

Hanno Weitering

Chiral superconductivity on silicon

10:00 – 10:20

David Moser

Continuous order-to-order quantum phase transitions from fixed point annihilation



Coffee break

11:00 – 12:30 **Chair: N. N.** _____ **Session 17**

11:00 – 11:30

Vivien Zapf

Quantum simulation and Kitaev behavior in Co magnets

11:30 – 11:50

Christopher Laumann

Hybrid dyons, inverted Lorentz force and magnetic Nernst effect in quantum spin ice

11:50 – 12:10

Shun Okumura

Emergent magnetic monopole-antimonopole lattices in centrosymmetric metals

12:10 – 12:30

Kazuki Okigami

Exploring topological spin order by using machine learning: A new stabilization mechanism for square skyrmion crystals



Lunch

14:00 – 14:50 **Chair: N. N.** _____ **Session 18**

14:00 – 14:30

Yasir Iqbal

Gapless Z_2 spin liquid in the Shastry-Sutherland model

14:30 – 14:50

Daniel Lozano Gómez

A classical chiral spin liquid from chiral interactions on the pyrochlore lattice

14:50 – 15:00

Closing remarks

List of posters

Presenters will receive their poster ID (1–100) shortly before the conference. Turn to [page 8](#) for more information.

Name	Title
Al Saati, Sariah	Quantum Hall and light responses in a 2D topological semimetal
Albert, Nico	Truncated-Hilbert-space approach for simulating dynamics in perturbed quantum Ising chains
Besproswanny, Julia	STM studies on the Weyl semimetal and superconductor trigonal PtBi ₂
Bestha, Kranthi Kumar	Magnetic phase diagram of Kitaev quantum spin-liquid candidate Na ₃ Co ₂ SbO ₆
Borutta Janarthanaraman, Hariprasaad	A tractable spin-1 model on a pyrochlore lattice
Carrillo, Eduardo	Emergent coupled states in a crystalline multilayer heterostructure
Chaturvedi, Raghav	Non-Hermitian topology of transport
Chuang, Chien-Wen	Exchange-field-induced spin splitting in unoccupied electronic states of topological ferromagnet (Cr _x Sb _{1-x}) ₂ Te ₃
Chung, Kristian	Higgs phases and boundary criticality
Cônsoli, Pedro	Disorder effects in spiral spin liquids: Long-range textures, Friedel-like oscillations, and spiral spin glasses
Das, Rathindra Nath	Chaos and integrability in triangular billiards
Das, Michael	Interference effect in HgTe-based quantum point contacts
Dittmar, Marco	Growth and spectroscopy of altermagnetic MnTe
Dürrnagel, Matteo	Crossover from electronic correlations to phonon-dominated physics in a Cr-based kagome metal
Dyakonov, Vladimir	Relaxation dynamics of optically-pumped spin centers in 2D hexagonal boron nitride
Erhardt, Jonas	Edge spectroscopy of the quantum spin-Hall insulator indenene at the atomic scale
Feuerpfel, Andreas	Generalization of the Calogero-Sutherland model to the Read-Rezayi series
Firouzmandi, Reza	Thermal transport in multiferroics

List of posters

Name	Title
Fischer, Max	Local moments: From continuous hybridisations to discrete energy levels
Flores Calderon, Rafael Alvaro	Topological quantum criticality from multiplicative topological phases
Francini, Niccolo	Novel order-by-disorder nematic phase in Kramers Hamiltonian on pyrochlore lattice
Ganser, Romana	Moiré phases of an epitaxial honeycomb monolayer AgTe/Ag(111)
Ge, Jianfeng	Atomic-scale confinement and breakdown of electronic charge density modulation
Gehrig, Lukas	Graphene intercalation of the large-gap quantum spin Hall insulator bismuthene
Granberg Cauchi, Sabastian	Phase diagram of the decorated-honeycomb Kitaev model in a magnetic field
Guehne, Robin	Orbital-selective commensurate modulation of the local density of states in the kagome metal ScV_6Sn_6
Heßdörfer, Johannes	Flat-band surface states on a kagome-terminated weak topological insulator
Hohmann, Hendrik	Universality of sublattice-modulated superconductivity
Hooley, Chris	A generalised Haldane map from the matrix-product-state path integral to the critical theory of the J_1 - J_2 chain
Ikeda, Yuya	Photocurrent induced by a two-frequency drive in Dirac systems
Jakubczyk, Fabian	Multiphase superconductivity and magnetism in the heavy-fermion superconductor CeRh_2As_2
Joy, Aprem	Dynamical gauge fields in multilayer Kitaev spin liquids
Karl, Jonathan	Discrete JT gravity as an Ising model
Keßler, Philipp	Absence of magnetic order in RuO_2 : Insights from μSR spectroscopy and neutron diffraction
Kinvig, Benjamin	Observing Dyson and Gade singularities in coaxial cable networks
Klauss, Hans-Henning	Chiral superconductivity in the van der Waals heterostructure 4Hb-TaS_2

List of posters

Name	Title
Kocsis, Vilmos	Magnetic, magnetoelectric, and magnetoelastic properties of the quantum spin-liquid candidate $\text{Na}_2\text{Co}_2\text{TeO}_6$
Köhler, Fabian	Frustrated Ising models in hyperbolic space
Krüger, Wilhelm	Triple-q order in $\text{Na}_2\text{Co}_2\text{TeO}_6$ from proximity to hidden-SU(2)-symmetric point
Kultaeva, Anastasiia	Charge-separation-induced spin centers in photocatalytic UiO-66 MOF
Kumar, Ankit	Planar Hall and anomalous planar Hall effects up to room temperature in $t\text{-PtBi}_2$
Lapp, Clara Johanna	Time evolution of surface-state wave packets in nodal noncentrosymmetric superconductors
Lei, Karen	Determining ground-state spin textures of the Kondo lattice model: Toward the quantum anomalous Hall effect
Lenggenhager, Patrick	Hyperbolic spin liquid
Leon, Andrea	Tuning altermagnetic phases in $\text{Ca}_3\text{Ru}_2\text{O}_7$ under strain
Li, Changan	Anomalous Andreev spectrum and transport in non-Hermitian Josephson junctions
Lindenthal, Jakob	All-optical light-propagation switching
Link, Julia	Bogoliubov Fermi surfaces in 2D heterostructures
Liu, Zihong	Disorder operator and Rényi entanglement entropy of symmetric mass generation
López Rojo, Eva	Instabilities driven by electron-electron interactions in Weyl semimetals
Lu, Xin	Emergent superconductivity and competing charge orders in hole-doped square-lattice $t\text{-J}$ model
Lu, Hongyu	Roton condensation in fractional quantum anomalous Hall states
Ma, Libo	Topological phase manipulation in 1-3D photonic systems
Maity, Atanu	Quantum spin-liquid candidates in spin-1 diamond antiferromagnet

List of posters

Name	Title
Maurya, Krishna Chand	Towards robust transport of entangled photons in a Floquet topological waveguide
Meng, Tobias	Black hole mirages: tilt-tronics and electron lensing devices in Weyl semimetals
Meyer, Manuel	Quantum spin Hall effect at elevated temperatures in InAs/GaInSb/Inas trilayer quantum wells
Miranda, Michel	Kondo screening in Kitaev spin liquids with a Fermi surface
Mistonov, Alexander	Crystal structure of high-Tc ferromagnetic van der Waals material Fe_4GeTe_2
Müller, Louis	Signatures of skyrmions in MnSb_2Te_4 studied by STXM imaging
Naichuk, Eduard	Non-hermitian XY model with clock anisotropy
Orio, Hibiki	Linear and circular dichroism of angle-resolved photoelectron spectroscopy on the charge-density-wave material TiSe_2
Paiva, Carolina	The quantum geometry of exciton states
Pal, Adipta	Multiplicative topological semimetals
Parui, Kaushick	Frustrated magnetism in Copper hydroxy sulphate minerals
Peets, Darren C.	Magnetic phase diagrams and dimensionality of magnetic interactions in rouaite, $\text{Cu}_2(\text{OH})_3(\text{NO}_3)$
Pongsangangan, Kitinan	Quantum oscillations in magneto-thermoelectrical conductivities: The Keldysh field-theoretical approach
Potten, Janik	Keldysh functional renormalization group for Heisenberg and Kitaev systems
Quade, Robin	Exchangeless braiding in Kitaev chain systems
Richter, Fabian	Exceptional points at X-ray wavelengths
Rieß, Christian	Resonators for reading out topological qubits
Roy, Anand	Topological semimetal nanowires: From growth to devices

List of posters

Name	Title
Sahoo, Manaswini	Ubiquitous order-disorder transition in the Mn antisite sublattice of the magnetic topological insulators
Sankeshwar, Vijayalaxmi	Magnetic domain structure of europium films grown on W(110) by STM
Sarkar, Rajib	Magnetism in quantum spin-liquid candidates RuBr_3 and NaYbS_2
Scheppach, Henri	Symmetry-resolved operator algebras
Schulze, Manuel	A previously unnoticed RE-TM antimonide: CeFeSb_3
Seewald, Felix	Non-collinear magnetism and Fe-R interaction in $\text{R}_3\text{Fe}_3\text{Sb}_7$
Sharma, Shailja	Anomalous electronic properties of flux-grown ZrTe_5 single crystals
Shyta, Vira	Axion electrodynamics of time-reversal-invariant and time-reversal-breaking Weyl superconductors
Sturm, Jonathan	Topological quantum optics in atomic emitter arrays
Suman, Smriti Prakash	Electron transport in quantum-point-contact-based systems defined in 2D HgTe-CdTe quantum wells
Sun, Junsong	Strain-induced pseudo-Landau levels beyond graphene
Sun, Haipeng	Field-enhanced critical current in altermagnetic Josephson junctions
Tcakaev, Abdul-Vakhab	Intermixing-driven surface and bulk ferromagnetism in $\text{MnBi}_6\text{Te}_{10}$
Thirugnanasambandam Masilamani, Muthu Prasath	Utilizing matrix-element effects to study the orbital texture of Dirac surface state in PtTe_2
Umlauf, Torsten	Fabrication and low-temperature characterization of HgTe -based quantum-well heterostructures in ring geometries
Veyrat, Louis	A stencil-lithography station all-in-UHV for the nanofabrication of air-sensitive thin films
Wang, Yu	Observation of zero-energy modes in Gd atomic chains on superconducting Nb (110)
Weber, Manuel	Tunable criticality and pseudocriticality across the fixed-point annihilation in a quantum dissipative spin system

List of posters

Name	Title
Weinhold, Tillmann	Aluminum electric-field gradient influenced by actual rare-earth element in RAlSi Weyl semimetals
Wenger, Anja	Kagome-metal candidate with m-type van Hove singularity at Fermi level: Theoretical exploration and electronic features
Winter, Joe	Topological textures in momentum space and their entanglement properties
Xian, Zhuo-Yu	Wormhole-induced effective coupling in SYK chains
Yang, Yuan	Superconductivity of the bilayer t-J ladder
Ye, Mai	Raman study of the collective excitations in topological systems
Zhu, Xingchuan	Exact demonstration of pair-density-wave superconductivity in the σ_z -Hubbard model
Zimmermann, Hanns	Designing a topological thin-film X-ray cavity

Dresden essentials



Capital of Saxony

Dresden, a city steeped in history and reborn as a dynamic hub of innovation, welcomes scientists from around the globe. Known for its baroque architecture and rich cultural heritage, Dresden now thrives as a center of scientific research and technological advancement, merging its historical grandeur with a forward-looking spirit.

visit-dresden-elbland.de/en

Historic Dresden

Explore downtown Dresden on your own and discover famous landmarks – all within a 10-minute walk from the hotel. They include the rebuilt Church of Our Lady, Semper Opera House, Zwinger Palace, and the Royal Palace.

Interestingly, some of the jewels stolen from the Green Vault in a notorious heist in 2019 are now back on display. To see them, you'll need to book tickets in advance – go to gruenes-gewoelbe.skd.museum/en



Neustadt nightlife

Just a 15-minute walk from your hotel, Dresden Neustadt offers an exciting array of pubs and bars. Begin your night on Alaunstraße, filled with vibrant options, then turn right into Louisenstraße for even more nightlife choices. If you still haven't found the right spot, veer left into Görlitzer Straße and check out the eclectic bars in Kunsthofpassage. Don't miss this neighborhood's energetic charm!

Program overview

Monday Sep 23, 2024		Tuesday Sep 24, 2024		Wednesday Sep 25, 2024		Thursday Sep 26, 2024		Friday Sep 27, 2024	
09:00	Opening	Session 5		Session 9		Session 12		Session 16	
09:10	Session 1	09:00	Flore Kunst	09:00	Henrik Rønnow	09:00	Riccardo Comin	09:00	Zi Yang Meng
09:40	Satoru Nakatsuji	09:30	Joseph Dufouleur	09:30	Achim Rosch	09:30	Ronny Thomale	09:30	Hanno Weitering
10:10	Igor Herbut	09:50	Federico Roccati	10:00	Roser Valenti	09:50	Michele Fabrizio	10:00	David Moser
	Siddarth Parameswaran	10:10	Sebastian Klembt			10:20	Harini Radhakrishnan		



Coffee break

Session 2		Session 6		Session 10		Session 13		Session 17	
11:10	Atac Imamoglu	11:00	Philip Moll	11:00	Katharina Franke	11:10	Liang Fu	11:00	Vivien Zapf
11:40	Jeong Min Park	11:30	Katja Nowack	11:30	Hélène Bouchiat	11:40	Ion Cosma Fulga	11:30	Christopher Laumann
12:10	Shahal Ilani	12:00	Roderich Moessner	12:00	Benoit Jouault	12:00	Ashley Cook	11:50	Shun Okumura
		12:20	Michael Potthoff	12:20	Anastasiia Chyzykova	12:20	Johanna Erdmenger	12:10	Kazuki Okigami



Lunch

Session 3		Session 7		Session 14		Session 18	
14:00	Hui Deng	14:00	Andrey Chubukov	Freetime		14:00	Joel Moore
14:30	Karyn Le Hur	14:30	Abhishodh Prakash	14:00 – 15:30 optional sightseeing tour		14:30	Frank Pollmann
15:00	David Whittaker	14:50	Roshan Krishna Kumar			15:00	Francesca Paoletti
15:20	Thorsten Feichtner			15:20	Tobias Hofmann	Closing remarks	



Coffee break

Session 4		Session 8		Session 11		Session 15	
16:10	Ana Akrap	16:00	Roni Ilan	16:00	Leslie Schoop	Session 15	
16:40	Wolfram Brenig	16:30	Mathias Scheurer	16:30	Peter Liljeroth	16:10	Daniel Loss
17:00	Carsten Timm	17:00	Sota Kitamura	17:00 – 20:00 Posters & buffet		16:40	Lorenzo Crippa
17:20	Maximilian Ünzelmann	17:20	Sebastian Schimmel			17:00	Lukas Janssen
17:40	Tatiana A. Uaman Svetikova	17:40	Lukasz Plucinski	19:00 GHN get-together*		Social Event	
18:00 – 21:00 Posters & buffet		Conference Dinner				19:00	

* by invitation



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