



Correlations and Topology in Moiré Materials

Monte Verità, Ascona, Switzerland, 27 – 30 July 2025



Scope

This workshop will bring together leading experimentalists and theorists in the field of strongly correlated and topological moiré materials: a new class of quantum materials with highly tunable properties. In particular twisted bilayer graphene and bilayer transition-metal dichalcogenides have shown to realize unconventional electron phases, ranging from strange metals, fractional Chern insulators to exotic magnetic states, Mott insulators and heavy fermion physics. Understanding these phases is one of the key questions of quantum matter research. Our workshop will focus on comparing theory to experiments of correlated moiré materials, and enhancing collaboration within the moiré community through intensive discussions. The goal of this workshop is to establish the current state-of-the-art knowledge for correlated moiré materials, and relevant open research questions for future research.

Invited speakers

Strange metals

Dmitri Efetov - Ludwig Maximilian University of Munich

Antoine Georges - Flatiron Institute - Collège de France
- Ecole Polytechnique - Université de Genève

Fractional quantum Hall states

Xiaodong Xu - University of Washington

Sid Parameswaran - University of Oxford

Spin liquids and exotic magnetic states

Kostya Novoselov - National University of Singapore
- University of Manchester

Leon Balents - University of California
- Kavli Institute of Theoretical Physics

Mott insulators

Atac Imamoglu - ETH Zürich

Leni Bascones - Instituto de Ciencia de Materiales de Madrid

Kondo lattices

Jie Shan - Cornell University

Aline Ramires - Paul Scherrer Institute

Organizers

Laura Classen - Max Planck Institute for Solid State Research

Louk Rademaker - Université de Genève

Cecile Repellin - Laboratory of Physics and Modeling of Condensed Matter CNRS

Glenn Wagner - ETH Zürich

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Deadlines

Application and abstract submission until **February 17th 2025**.

Notification of acceptance by **end of March 2025**.

Location

The workshop will take place in **Congressi Stefano Franscini (CSF)** center in Monte Verità, Ascona, Ticino, Switzerland.