

**Programme on
“Topological Phases of Quantum Matter”**

organized by

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Schedule of Final Conference: September 8 - 12, 2014:

• **Monday, September 8, 2014**

09:00 – 09:10 **Opening**

09:10 – 10:00 **Yosi Avron**

Braiding fluxes in Pauli Hamiltonians

10:10 – 11:00 **Jakob Yngvason**

Incompressibility estimates in the Laughlin phase

11:10 – 11:40 *coffee/tea break*

11:40 – 12:20 **Robert Seiringer**

Validity of spin wave theory for the quantum Heisenberg model

12:30 – 14:00 *lunch break*

14:00 – 14:50 **Sebastian Diehl**

Dissipatively induced quantum phases of atomic fermions

15:00 – 15:50 **Johannes Kellendonk**

Topological interpretation of Levinson’s theorem

16:00 – 16:20 *coffee/tea break*

16:20 – 17:10 **Alexander Altland**

Quantum criticality of the Anderson insulator

17:20 – 18:00 **Ricardo Kennedy**

Homotopy theory of topological insulators

• **Tuesday, September 9, 2014**

09:00 – 09:50 **Jean Bellissard**

Periodic approximant to aperiodic Hamiltonian

10:00 – 10:50 **Paul Fendley**

Parafermions and topological order

11:00 – 11:30 *coffee/tea break*

11:30 – 12:20 **Karsten Flensberg**

Tunneling spectroscopy of Majorana bound states

12:30 – 14:00 *lunch break*

14:00 – 14:50 **Reinhold Egger**

Topological Kondo effect

15:00 – 15:50 **Alan Huckleberry**

Constructions in low-dimensional complex geometry related to topological insulators and their symmetry classes

16:00 – 16:20 *coffee/tea break*

16:20 – 17:10 **Simon Trebst**

Chiral spin liquids, network models, and fractional quantum Hall states

17:20 – 18:00 **Maria Hermanns**

Majorana metals and quantum spin liquids

● **Wednesday, September 10, 2014**

09:00 – 09:50 **Christoph Schweigert**

Topological surface defects, symmetries and dualities

10:00 – 10:50 **Zheng-Cheng Gu**

Emergence of $p + ip$ superconductivity in 2D strongly correlated Dirac fermions

11:00 – 11:30 *coffee/tea break*

11:30 – 12:20 **Gian-Michele Graf**

Bulk-boundary duality for topological insulators

12:30 – 14:30 *lunch break*

14:30 – 18:30 **Organized Social Event**

19:00 **Conference Dinner**

● **Thursday, September 11, 2014**

09:00 – 09:50 **Xiao-Liang Qi**

Generalized Kitaev models and slave genons

10:00 – 10:50 **Achim Rosch**

Skyrmions and emergent monopoles in chiral magnets

11:00 – 11:30 *coffee/tea break*

11:30 – 12:20 **Immanuel Bloch**

Probing and controlling topological Bloch bands using ultracold quantum gases

12:30 – 14:00 *lunch break*

14:00 – 14:50 **Thomas Quella**

Topological aspects of $SU(N)$ magnetism and its cold atom realization

15:00 – 15:50 **Anton Akhmerov**

Breaking Kramers degeneracy by superconducting phase differences

16:00 – 16:20 *coffee/tea break*

16:20 – 17:10 **Jürg Fröhlich**

Gauge theory of states of matter – old and new

17:20 – 18:00 **Roberto Bondesan**

Lattice conformal fields at quantum Hall transitions

• **Friday, September 12, 2014**

09:00 – 09:50 **Bruno Nachtergaele**

Invariants for gapped ground state phases in dimensions one and higher

10:00 – 10:50 **Eddy Ardonne**

Constructing critical spin chains using modular invariance

11:00 – 11:30 *coffee/tea break*

11:30 – 12:20 **Hermann Schulz-Baldes**

Invariants of disordered topological insulators

12:30 – 14:00 *lunch break*

14:00 – 14:50 **Heinz Siedentop**

Dipoles in 2d have infinitely many bound states

15:00 – 15:50 **Ilya Eremin**

Proximity-induced magnetization dynamics, interaction effects, and phase transitions on a topological surface

16:00 – 16:30 *coffee/tea*

All talks take place at the ESI, Boltzmann Lecture Hall