

TOPOLOGICAL QUANTUM MATTER

(9 – 21 FEB 2015)



HARISH-CHANDRA RESEARCH INSTITUTE ALLAHABAD

The last couple of decades have seen a tremendous increase in the use of topological concepts in condensed matter physics. In this school, we intend to focus on basic ideas in the field of topological matter, including its connection to quantum information theory.

LECTURERS

- A. Altland : Symmetry Classes and Topology
J. Eisert : Quantum Information Theory
I. Gruzberg : Topological Insulators
A. de Martino : Relativistic Conductors
C. Mudry : Interactions in Topological Matter
I. Sivan : Interference in the Quantum Hall Effect
S. Trebst : Non-Abelian Statistics

SEMINAR SPEAKERS

- D. Bagrets : Harish-Chandra Spherical Functions, Topology and Mesoscopics
S. Diehl : Topology by Dissipation in Ultracold Quantum Gases
Y. Gefen : Topological Numbers of Neutral Modes
I. Gornyi : Interaction and Disorder in Topological Insulators
N. Lindner : Floquet Topological Insulators
V. Madhavan : Massless and Massive Dirac Fermions in Condensed Matter Systems
G. Murthy : Analytical Approaches to Chern Bands
B. Rosenow : Interferometry with Anyons

- Applications are invited from students, post-doctoral fellows and faculty members in order to initiate and foster research in this area.
- Students would need to have a basic knowledge of condensed matter physics including topics like second quantisation and quantum Hall effect.

ONLINE APPLICATIONS START - 15 AUG 2014
LAST DATE OF APPLICATION - 15 OCT 2014

EMAIL - cmschool@hri.res.in
URL - http://www.hri.res.in/~cmschool/topological_matter/

- Convenor : S. Rao (HRI, India)
Co-Convenors : A. Altland (University of Koeln, Germany)
Y. Gefen (Weizmann Institute, Israel)
G. Murthy (University of Kentucky, U.S.A.)
Local Organising Committee : V. Pai
T. Pareek
S. Rao