



The Abdus Salam
**International Centre
for Theoretical Physics**
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Conference on Interactions and Topology in Dirac Systems

3 – 9 August 2016

(Miramare - Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics in cooperation with Deutsche Forschungsgemeinschaft (DFG) is organizing a *Conference on Interactions and Topology in Dirac Systems* to be held at ICTP, Trieste, Italy, from 3 to 9 August 2016.

The conference will host the Dirac Prize Ceremony with keynote lectures of the 2015 Dirac Medal Awardees:

Alexei Kitaev (California Institute of Technology)
Gregory W. Moore (Rutgers University)
Nicholas Read (Yale University)

Purpose and Topics

The physics of interacting Dirac systems has witnessed an explosion of activity in recent years, with the focus clearly shifting from the description of topologically non-trivial band structures and single-particle physics to the many-body and non-equilibrium effects. This includes the emerging understanding of the Hubbard model on honeycomb lattice, nodal semimetals and Weyl elementary excitations, graphene in effective magnetic fields, systems with the quadratic band touching points, and alike. The Conference will focus on different aspects of the interplay between interactions and topology including but not limited to the discussion of:

- ✦ Topological phases of interacting Dirac systems
- ✦ Effects of disorder and Anderson localization
- ✦ Real and artificial magnetic fields coupled to Dirac fermions
- ✦ Effects of long-range interaction in real and artificial 2D and 3D materials
- ✦ Non-equilibrium dynamics and quantum transport in Dirac and Weyl systems
- ✦ Engineering of interaction-induced topological states

The goal of this conference is to bring together a diverse group of theorists and experimentalists actively working on the above and related problems, for a week of talks and discussions. The program will include invited and contributed talks and a poster session. Time will be reserved for informal discussions within several round tables devoted to both “smoking-gun” experiments and theories. The poster session with short presentation of posters will give an opportunity for young scientists to present their recent results.

Participation

Applicants from all countries that are members of the United Nations, UNESCO or IAEA may attend. As the Workshop will be conducted in English, participants should have an adequate working knowledge of this language. Although the main purpose of the Centre is to help research workers from developing countries through a programme of training activities within a framework of international cooperation, a limited number of students and post-doctoral scientists from developed countries are also welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by their home institutions. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only to those attending the entire activity. ***There is no registration fee.***

HOW TO APPLY FOR PARTICIPATION

The Online Application can be accessed at: <http://indico.ictp.it/event/7605/>
Comprehensive instructions will guide you step-by-step on how to fill out and submit the application form. Kindly send all file attachments in Word or Acrobat format.

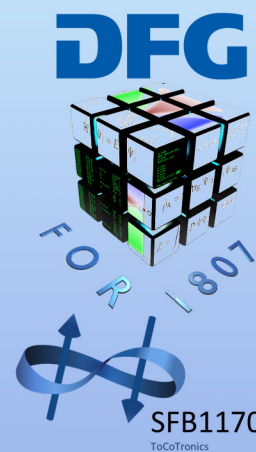
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ICTP Home Page: <http://www.ictp.it>

February 2016

Co-sponsored by



Organizers

Igor Herbut
(Simon Fraser Univ., Canada)

Balazs Dora
(Budapest University of Technology
and Economics, Hungary)

Fakher Assaad
(Universität Würzburg, Germany)

Local organizer

Mikhail Kiselev
(ICTP, Trieste, Italy)

Speakers

Anton Andreev (Univ of Washington Seattle)
Anton Burkov (University of Waterloo)
Shailesh Chandrasekharan (Duke Univ)
Tilman Esslinger (ETH Zurich)
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Oscar Vafeek (Florida State University)
Julia Zeuner (Friedrich-Schiller Univ Jena)

(*to be confirmed)

DEADLINE
to request participation
1 May 2016

