

# International Workshop on Interactions, Disorder, and Topology in Quantum Hall Systems

June 7 - 11, 2010

*Scientific coordination:*

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Quantum Hall systems remain one of the most important research areas of modern physics. Novel fractional quantum Hall correlated states with remarkable properties (such as fractional charge and topological order with non-abelian statistics of excitations) are at the focus of current research, also in connection with quantum computation.

Another outstanding development is the theoretical prediction and the experimental discovery of 2D and 3D topological insulators (generalizing the physics of quantized Hall states) and, in particular, of the quantum spin Hall effect. Graphene remains a topic of enormous research activity, including the anomalous quantum-Hall and localization properties of Dirac fermions and, most recently, the fractional quantum Hall effect. Unconventional bulk properties of these systems have profound consequences for their edges, thus motivating research in the field of correlated 1D systems. Fascinating developments in the physics of cold atomic gases open new avenues towards engineering and investigating fractional quantum Hall states and offer new experimental tools to study disorder and quantum interference phenomena.



The goal of the workshop is to bring together leading experts in the field, including both experimentalists and theorists, in order to discuss past progress and future perspectives.

*Invited speakers\*:*

E. Altman (Rehovot)  
M. Büttiker (Geneva)  
E. Demler (Harvard)  
M.P.A. Fisher (Santa Barbara)  
L. Glazman (New Haven)  
B. Halperin (Harvard)  
M. Inguscio (Florence)  
P. Kim (New York)  
M. Lukin (Harvard)  
R. Moessner (Dresden)  
Y. Oreg (Rehovot)  
J. Schmiedmayer (Vienna)  
J. Smet (Stuttgart)  
R. Willett (Murray Hill)  
U. Zeitler (Nijmegen)

E. Andrei (Piscataway)  
J. Chalker (Oxford)  
K. Efetov (Bochum)  
A. Furusaki (Wako)  
I. Gornyi (Karlsruhe)  
M. Hasan (Princeton)  
C. Kane (Pennsylvania)  
L. Levitov (Boston)  
C. Marcus (Harvard)  
L. Molenkamp (Würzburg)  
M. Raikh (Salt Lake City)  
M. Shayegan (Princeton)  
A. Stern (Rehovot)  
A. Yacoby (Harvard)  
S.-C. Zhang (Stanford)

A. Bernevig (Princeton)  
J. Checkelsky (Princeton)  
V. Falko (Lancaster)  
Y. Gefen (Rehovot)  
I. Gruzberg (Chicago)  
M. Heiblum (Rehovot)  
W. Kang (Chicago)  
A. Ludwig (Santa Barbara)  
F. Marquardt (München)  
C. Nayak (Santa Barbara)  
A. Savchenko (Exeter)  
S. Simon (Oxford)  
S. Trebst (Santa Barbara)  
K. Yang (Tallahassee)

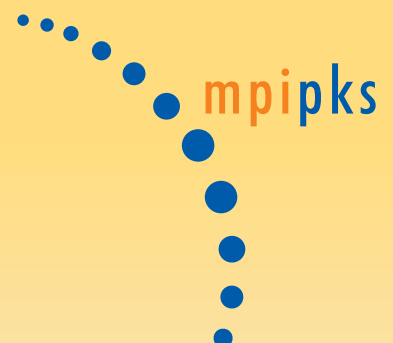
\*to be confirmed in some cases

**Applications** are welcome and should be made by using the application form on the workshop web page (please see URL below). The number of attendees is limited. The **registration fee** for the workshop is **100 €** and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute for the Physics of Complex Systems. Limited funding is available to partially cover travel expenses. Please note that childcare is available upon request.

**Deadline for applications is February 28, 2010.**



**For further information please contact:**  
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