



# Topology and Entanglement in Correlated Quantum Systems

**International Seminar  
July 14 - August 8, 2014  
Embedded Workshop  
July 21 - 25, 2014**

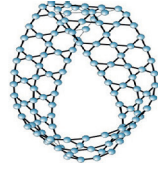
In recent years it has been discovered that topology can play a crucial role in understanding certain phases of matter. In these phases, the system does not break any symmetries, yet some hidden form of order and exotic excitations are present. This seminar and workshop program brings together leading scientists working on topological phenomena in condensed matter.

## Topics include

- Topological orders
- Classification of topological phases
- Symmetry protected topological phases
- Symmetry enriched topological phases
- Fractional quantum Hall
- Optical lattice realizations of topological phases
- Topological spin liquids
- Numerical simulations of topologically ordered systems
- Detection of topological orders
- Topological quantum computing



Virtual Institute: New States of Matter  
and their Excitations

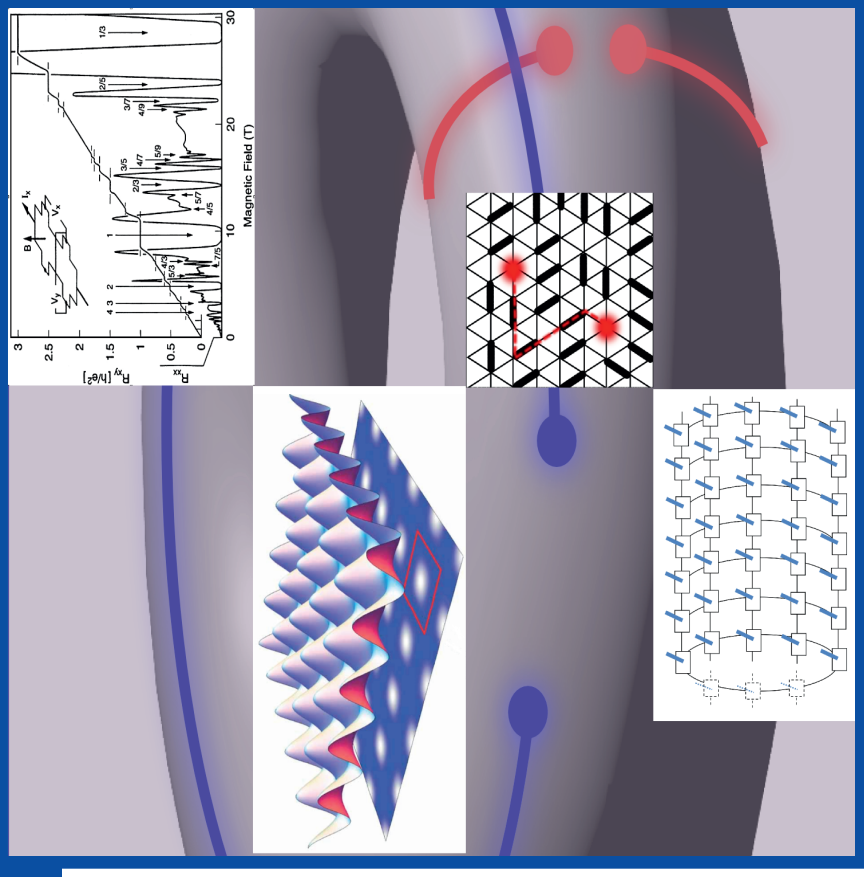


Applications received before May 15, 2014  
are considered preferentially.

Applications are welcome and should be made by using the application form on the conference web page (please see URL below). The number of attendees is limited. The registration fee for the international workshop is 120 Euro and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses. Please note that childcare is available upon request.

## For further information please contact:

Visitors Program – Esther-Sharon Bartsch  
MPI for the Physics of Complex Systems  
Nöthnitzer Str. 38, D-01187 Dresden  
Tel: +49-351-871-1934  
Fax: +49-351-871-2199  
tcqs14@pks.mpg.de  
www.pks.mpg.de/~tcqs14/



## Invited speakers

D. Abanin (Canada)  
J. Alicea (USA)  
E. Altman (Israel)  
F. Assaad (Germany)  
L. Aycock (USA)  
L. Balents (USA)  
M. Barkeshli (USA)  
A. Bernevig (USA)  
F. Burnell (USA)  
C. Chamon (USA)  
X. Chen (USA)  
I. Cirac (Germany)  
L. Fidkowski (USA)  
F. Gerbier (France)  
T. Grover (USA)  
Z.-C. Gu (Canada)  
V. Gurarie (USA)  
M. Hafezi (USA)  
M. Heiblum (Israel)  
Y.-B. Kim (Canada)  
A. Läuchli (Austria)  
M. Levin (USA)  
N. Lindner (Israel)  
M.A. Metlitski (USA)  
R. Moessner (Germany)  
R. Mong (USA)  
J. Moore (USA)

O. Motrunich (USA)  
T. Neupert (USA)  
Y. Oreg (Israel)  
M. Oshikawa (Japan)  
D. Poilblanc (France)  
S. Rachel (Germany)  
G. Refael (USA)  
N. Regnault (France)  
S. Ryu (USA)  
K. Schoutens (Netherlands)  
K. Shtengel (USA)  
S. Simon (UK)  
A. Stern (Israel)  
R. Thomale (Germany)  
S. Todadri (USA)  
S. Trebst (Germany)  
A. Turner (USA)  
C. Xu (USA)  
A. Young (USA)

## Scientific coordinators

Erez Berg  
Rehovot, Israel  
Nigel Cooper  
Cambridge, UK  
Frank Pollmann  
Dresden, Germany  
Xiao-Gang Wen  
Cambridge, USA

## Organisation

Esther-Sharon Bartsch, MPIPKS