



International Seminar and Workshop on  
**Spin Orbit Entanglement: Exotic States  
of Quantum Matter in Electronic Systems**

15 July - 2 August 2013

*Scientific coordination*

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*Organisation*

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It has become increasingly appreciated in recent years that entirely new states of matter can be formed which originate from the entanglement of spin and orbital degrees of freedom. Beyond the prominent example of topological band insulators, this motif has repeated itself across a variety of underlying electronic states resulting e.g. in the emergence of skyrmion lattices in the chiral metal MnSi, multiferroics, or unconventional Mott physics in 5d transition metal oxides such as the Iridates. The aim of this program is to further deepen our understanding of spin-orbit induced phenomena, to explore new directions in material science, and provide an opportunity for young researchers to immerse themselves in this rapidly developing field.

**List of invited participants** (\* to be confirmed)

Anton Akhmerov* (Netherlands)	Charles Kane* (USA)	Pavel Ostrovsky (Germany)
Fakher Assaad (Germany)	Giniyat Khaliullin (Germany)	Arun Paramekanti (Canada)
Leon Balents (USA)	Daniel Khomskii (Germany)	Siddharth Parameswaran (USA)
Andrei Bernevig (USA)	Yong-Baek Kim (Canada)	Christian Pfleiderer (Germany)
Claudio Chamon (USA)	Alexei Kitaev* (USA)	Stephan Rachel (Germany)
Joseph Checkelsky (Japan)	Karyn LeHur (France)	Patrik Recher (Germany)
Radu Coldea (UK)	Daniel Loss (Switzerland)	Nicolas Regnault (France)
Ilya Eremin (Germany)	Andreas Ludwig (USA)	Achim Rosch (Germany)
Claudia Felser (Germany)	Roman Lutchyn* (USA)	Shinsei Ryu (USA)
Greg Fiete (USA)	Igor Mazin (USA)	Hidenori Takagi (Japan)
Lars Fritz (Germany)	Peter Milde* (Germany)	Oskar Vafek (USA)
Philipp Gegenwart (Germany)	Roderich Moessner (Germany)	Roser Valenti (Germany)
Antoine George* (France)	Laurens Molenkamp (Germany)	Jeroen van den Brink (Germany)
M. Zahid Hasan (USA)	Satoru Nakatsuji (Japan)	Shoucheng Zhang (USA)
George Jackeli (Germany)	Yuval Oreg* (Israel)	

**Applications** for participation are welcome and should be made by using the application form on the event's webpage (please see URL below). The number of attendees is limited. The registration fee for the event is 120 € 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 registration/application is 30 April 2013**

**For further information please contact:**

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