

Flat Bands: Design, Topology, and Correlations (FLAT2013)

06 – 09 March 2013

Last update: 04/03/2013

March 5 Tuesday	March 6 Wednesday	March 7 Thursday	March 8 Friday	March 9 Saturday	March 10 Sunday
		opening			
<p style="color: red;">Arrival & registration (Tue-Fri 08:00-16:30)</p>	09:00		Ch. Mudry	N. Cooper	S. Huber
	09:30	discussions			
	10:00		R. Roy	L.J. LeBlanc	A. Mielke
	10:30	Coffee break			
	11:00	discussions	E. Bergholtz	Ph. Brydon	L. Hormozi
	11:30			A. Damascelli	M. Milovanovic
	12:00		K. Sun	M. Hohenadler	G. Murthy
	12:30	Lunch break			
	13:00	Lunch break			
	13:30	Lunch break			
	14:00		G. Volovik	D.M. Stamper-Kurn	B. Douçot
	14:30	Tutorial: N.Regnauld			
	15:00		D. Bercioux	Ch. Laumann	M. Oshikawa
	15:30	Coffee break			
	16:00	Coffee break			
16:30	Poster session	Z. Gulácsi	R. Thomale	H. Godfrin	
17:00				J.Chalker	
17:30		M. Maksymenko	M. Daghofer		
18:00				H. Manoharan	
18:30	Poster session			closing	
19:00	welcome reception				
19:30		Supper		Supper	
20:00					
20:30			Social Dinner		
21:00		Poster session			
21:30					
Supper					departure

Tuesday, March 5

19:00 – 20:30 Supper

Wednesday, March 6

07:30 – 09:00 Breakfast

09:00 – 10:30 Discussions

10:30 – 11:00 Coffee break

11:00 – 12:30 Discussions

12:30 – 14:30 Lunch break

14:30 – 15:30 **Tutorial: Nicolas Regnault**

Fractional topological insulators: 2D and beyond

15:30 – 16:30 Coffee break

16:30 – 19:00 Poster session

19:00 – 21:00 Welcome reception

Thursday, March 7

07:30 – 09:00 Breakfast

08:45 – 09:00 Opening

09:00 – 09:45 **Christopher Mudry**

Fractional topological insulators: A progress report

09:45 – 10:30 **Rahul Roy**

Fractional Chern insulators: The role of band geometry

10:30 – 11:00 Coffee break

11:00 – 11:45 **Emil Bergholtz**

Fractional Chern insulators: Aspects beyond conventional Landau level physics

11:45 – 12:30 **Kai Sun**

Adiabatic continuity between Hofstadter and Chern insulator states

12:30 – 14:00 Lunch break

14:00 – 14:45 **Grigori Volovik**

Weyl semimetals: From standard model to flat band

14:45 – 15:30 **Dario Bercioux**

Flat bands in quasi-one- and two-dimensional lattices

15:30 – 16:30 Coffee break

16:30 – 17:15 **Zsolt Gulacsi**

Exact results via positive semidefinite operators relating bare and effective flat bands

17:15 – 18:00 **Mykola Maksymenko**

Flat-band ferromagnetism as a Pauli-correlated percolation

18:00 – 21:30 Poster session

19:00 – 20:30 Supper

Friday, March 8

07:30 – 09:00 Breakfast

09:00 – 09:45 **Nigel Cooper**

Designing topological bands for ultracold atomic gases

09:45 – 10:30 **Lindsay J. LeBlanc**

Engineering dispersion relationships for ultracold atoms with Raman transitions

10:30 – 11:00 Coffee break

11:00 – 11:30 **Philip Brydon**

Zero-energy flat bands in noncentrosymmetric superconductors

11:30 – 12:00 **Andrea Damascelli**

Layer-by-layer entangled spin-orbital texture of the topological surface state in Bi₂Se₃

12:00 – 12:30 **Martin Hohenadler**

Quantum Monte Carlo approach to the Kane-Mele-Hubbard model

12:30 – 14:00 Lunch break

14:00 – 14:45 **Dan Stamper-Kurn**

Ultracold atoms in an optical superlattice

14:45 – 15:30 **Chris Laumann**

Fractional Chern insulators in dipolar systems

- 15:30 – 16:30 Coffee break
- 16:30 – 17:15 **Ronny Thomale**
Pseudopotential formalism for fractional Chern insulators
- 17:15 – 18:00 **Maria Daghofer**
Spontaneous fractional quantum-Hall state in strongly correlated multiorbital systems
- 19:00 – 22:00 **Social Dinner**

Saturday, March 9

- 07:30 – 09:00 Breakfast
- 09:00 – 09:45 **Sebastian Huber**
Bose condensation and its suppression in flat bands
- 09:45 – 10:30 **Andreas Mielke**
Characterization of ground states in fermionic Hubbard models with flat bands
- 10:30 – 11:00 Coffee break
- 11:00 – 11:30 **Layla Hormozi**
Fractional quantum Hall effect of lattice bosons near commensurate flux
- 11:30 – 12:00 **Milica Milovanovic**
On the geometrical description of fractional Chern insulators based on static structure factor calculations
- 12:00 – 12:30 **Ganpathy Murthy**
Hamiltonian theory of fractionally filled chern bands
- 12:30 – 14:00 Lunch break
- 14:00 – 14:45 **Benoit Doucot**
Multicomponent skyrmion lattices and their excitations
- 14:45 – 15:30 **Masaki Oshikawa**
Ground-state energies of spinless free Fermions and hard-core Bosons
- 15:30 – 16:30 Coffee break
- 16:30 – 17:00 **Henri Godfrin**
Experimental evidence for flat bands in strongly interacting 2D liquid ^3He
- 17:00 – 17:45 **John Chalker**
Anderson localisation in flat bands
- 17:45 – 18:30 **Hari Manoharan**
Designer Dirac fermions, topological phases, and Gauge fields in molecular graphene
- 18:30 – 18:45 [Closing](#)
- 19:00 – 20:30 Supper

Sunday, March 10

- 08:00 – 10:00 Breakfast