

THIS IS PRELIMINARY

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## Quantum Connections in Sweden

[A week of workshops at the frontiers of quantum physics.](#)

*8-14 June 2016, at AlbaNova University Center, Stockholm.*

NOTE: This is a workshop - there will be limited number of talks and even senior talks are limited to 30 minutes. The aim of talks is to present a subject/problem/issue that can be then discussed in less formal/more open format.

Where: [http://www.nordita.org/guests/during/on\\_arrival/index.php](http://www.nordita.org/guests/during/on_arrival/index.php)

During 8-11 June the lectures are at Nordita main building Seminar room, during 13-14 June the lectures are at Alba Nova – room to be informed.

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### Wednesday 8th June

Informal discussions at Alba Nova/Nordita

Registration available at Nordita - see link above

A get-together late afternoon - A welcome BBQ in the evening

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### Thursday 9th June

Registration starts at 09:00 at Nordita- see link above

09:00 -11:00 Coffee/discussion

11:00 Opening of the meeting - Frank Wilczek with others

Followed by discussions

12:00 - 13:30 Lunch

13:30 - 14:00 Boris Svistunov

Supertransport and Quantum Plasticity in an Imperfect Helium-4 Crystal

14:00 - 14:30 discussion/coffee

Time reserved for informal discussions – Colloquium at Alba Nova (external)

16:30 - 17:00 Egor Babaev  
17:00 - 17:30 Discussion

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**Friday 10th June**

10:00 - 10:30 Jordan Cotler  
10:30 - 11:00 Discussion/coffee

Session of Sweden-China Project/Junior participant presentations  
(10 minutes talk/10 minutes discussion)

11:00 - 11:20 Johan Nilsson  
Two-site equation of motion technique - a Hubbard model study

11:20 - 11:40 Max Arzamasov  
Odd-frequency superconductivity in the Bose-Fermi mixture

11:40 - 12:00 Annica Black Schaeffer  
Majorana fermions in condensed matter systems

12:00 - 13:30 lunch break

13:30 - 13:50 Xuguang Yue  
Probing critical correlation with interference

13:50 - 14:10 Maksim Ulybyshev  
Graphene phase diagram in strong magnetic field and recent advances in numerical algorithms for Quantum Monte Carlo

14:10 - 14:30 Xianqing Lin  
Calculation of topological invariant  $Z_2$  based on projected Wannier functions: transition metal dichalcogenides alloys with  $1T'$  structure as an example

Time for informal discussion

15:30 - 16:00 Dmitry Kharzeev  
16:00 - 16:30 Discussion/coffee

16:30 - 17:00 Cristiane Morais Smith  
New directions in topological states of matter  
17:00 - 17:30 discussion

Time for informal discussion

18:30 – Workshop barbecue on Nordita grounds (weather permitting)

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**Saturday 11 th June**

10:00 - 10:30 Andreas Hemmerich  
Orbital Optical Lattices

10:30 - 11:00 Discussion/coffee

11:00 - 11:30 Biao Wu  
Dynamical relaxation of an isolated quantum system

11:30 - 12:00 Discussion/coffee

12:00 - 14:00 Lunch

14:00 transport to Nobelmuseum

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**Sunday 12 th June**

Excursion by boat to Artipelag

<http://www.artipelag.se/>

Boat M/S Delfin 4 departs from Strandvägen harbor (center of Stockholm) at boat stand 13

Departure time 11:00

Followed by dinner

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**Monday 13 th June --- LOCATION CHANGE Alba Nova room FP 22**

10:00 - 10:30 Al Shapere  
10:30 - 11:00 Discussion/coffee

11:00 - 11:30 Dominic Else  
11:30 - 12:00 Discussion/coffee

12:00 - 13:30 Lunch

13:30 - 14:00 Xiong-Jun Liu  
Progress of spin-orbit coupling and topological phases for cold atoms  
14:00 - 14:30 Discussion/coffee

14:30 - 15:00 Ji Feng  
Spin and valley on honeycomb lattices: first principle studies  
15:00 – 15:30 Discussion/coffee

15:30 – 16:00 Ewelina Hankiewicz  
Parity anomaly in solid state physics

16:00 – 16:20 Thomas Kvorning  
Gometric Josephson Effect

Evening - dinner somewhere?

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**Tuesday 14 th June --- LOCATION CHANGE Alba Nova room FP 54**

10:00 - 10:20 Anne Pertsova  
Non-equilibrium many-body effects in driven Dirac materials

10:20 - 10:40 Erhai Zhao  
Order versus disorder in a super-Kitaev model of quantum spins on the honeycomb lattice:  
Insights from tensor networks

10:40 – 11:00 Coffee

11:00 - 12:00 Hans Hansson and Biao Wu  
Summary talks including closing remarks

12:00 lunch followed by informal discussions

13:30 - if there are new speakers, afternoon program can be introduced

14:30 - 15:30 — coffee hour/get-together for those who are around