

# International Workshop: Localization, Interactions and Superconductivity

Chernogolovka, Russia, June 27 - July 1, 2016

<http://intgroup.itp.ac.ru/conf2016.html>

## Monday, June 27

- 9:00 - 9:20 Registration  
9:20 - 9:30 Opening  
9:30 - 10:35 *A. Kitaev* — Emergent  $SL(2, \mathbb{R})$  symmetry in a system of fermions  
10:35 - 11:10 *D. Feldman* — Particle-hole symmetry without particle-hole symmetry in the quantum Hall effect at  $\nu=5/2$   
11:10 - 11:40 Coffee break  
11:40 - 12:15 *A. Finkel'stein* — Thermal transport in the disordered electron liquid  
12:15 - 12:50 *P. Ostrovsky* — Weak localization in the anomalous Hall effect  
13:00 - 15:00 Lunch break  
15:00 - 15:35 *C. Tian* — Emergence of integer quantum Hall effect from chaos in the kicked rotor  
15:35 - 16:10 *T. Kovacs* — Anderson localization in QCD  
16:10 - 16:40 Coffee break  
16:40 - 17:15 *M. Feigel'man* — Low-temperature anomalies in disordered superconducting films close to upper critical field  
17:30 - 18:30 Welcome Party

## Tuesday, June 28

- 9:30 - 10:35 *F. Pollman* — Many-Body Localization: Entanglement and efficient numerical simulations  
10:35 - 11:10 *M. Serbyn* — A criterion for many-body localization transition  
11:10 - 11:40 Coffee break  
11:40 - 12:15 *S. Banerjee* — Variable-range hopping through marginally localized phonons  
12:15 - 12:50 *I. Protopopov* — Two-level systems with power-law interactions: relaxation and energy transport  
13:00 - 15:00 Lunch break  
15:00 - 15:35 *K. Tikhonov* — Anderson localization on random regular graphs  
15:35 - 16:10 *V. Kravtsov* — Non-ergodic phases in strongly disordered random regular graphs  
16:10 - 16:40 Coffee break  
16:40 - 17:15 *L. Ioffe* — Non-ergodic phases in strongly disordered random regular graphs  
17:20 - 19:20 Poster Session

## Wednesday, June 29

- 9:30 - 10:35 *K. Behnia* — Scattering and pairing in a shallow Fermi sea  
10:35 - 11:05 Coffee Break  
11:05 - 11:55 *A. Frydman* — Specific Heat Measurements through the Superconductor-Insulator Quantum Phase Transition  
11:55 - 12:45 *C. Strunk* — Superconductor/insulator transition in TiN nanowires  
12:45 - 12:50 Conference photo  
13:00 - 15:00 Lunch break  
15:00 - 15:35 *M. Mueller* — Magnetoresistance in insulators close to the superconductor-insulator transition  
15:35 - 16:10 *M. Skvortsov* — Superconductivity suppression in disordered films: 3D vs 2D  
16:10 - 16:40 Coffee break  
16:40 - 17:15 *I. Gornyi* — Local density of states and its mesoscopic fluctuations near the transition to a superconducting state in disordered systems  
17:15 - 18:05 *B. Sacepe* — Quantum point contact in graphene in the integer and fractional quantum Hall regimes  
18:30 - 22:00 Conference Dinner

## Thursday, June 30

- 9:30 - 10:35 *C. Marcus* — A 2D semiconductor-semiconductor system: a new tool to study the superconductor-insulator transition  
10:35 - 11:05 Coffee-break  
11:05 - 11:55 *I. Tamir* — Transport catastrophe near the superconductor-insulator transition  
11:55 - 12:45 *T. Klapwijk* —  $4\pi$  Josephson-emission from two superconductors coupled by a HgTe based 2D-TI  
13:00 - 15:00 Lunch break  
15:00 - 15:50 *N. Katz* — Superconducting circuits - coupling, control and decoherence  
15:50 - 16:25 *B. Spivak* — Chiral anomaly and classical negative magnetoresistance of Weyl metal  
16:25 - 16:55 Coffee break  
16:55 - 17:30 *M. Foster* — Universal transport at the edge: Disorder, interactions, and topological protection  
17:30 - 18:20 *M. Gershenson* — Parity-protected superconducting qubits

## Friday, July 1

9:30 - 10:35 *G. Biroli* — The nature of the glass transition and amorphous solids: state of the art and new results

10:35 - 11:05 Coffee break

11:05 - 11:55 *J. Pekola* — Maxwell's Demon in a circuit - refrigerator powered by information

11:55 - 12:30 *V. Kachorovskii* — Thermal expansion coefficient and specific heat of graphene

12:30 - 13:05 *L. Faoro* — Out-of-time order correlator in solid state physics

13:05 - 13:10 Closing

13:20 Lunch

### Poster session:

P1 *Sergey Aksenov* — The dependence of spin-polarized transport via Majorana bound states on the magnetic field orientation

P2 *Charlotte Boettcher* — A semiconductor based 2D superconductor-insulator system

P3 *Alexey Dmitriev* — TBA

P4 *Klaus Kronfeldner* — Multiple criticality in thin TiN-films at the B-driven superconductor-insulator transition

P5 *Taras Mogilyuk* — Slow oscillations of transverse magnetoresistance in anisotropic quasi-two-dimensional conductors

P6 *Thuong Nguyen* — Giant magnetoresistance peak in a Cooper pair insulator

P7 *Ramil' Niyazov* — Tunneling into and between helical edge states - fermionic approach

P8 *Stanislau Piaturusha* — Shot noise of the edge states in two-dimensional topological insulators

P9 *Igor Poboiko* — Spin correlations and decay of quasiparticles in XXZ model at  $T > 0$

P10 *Eugene Repin* — Mesoscopic fluctuations of single-particle Green's function at Anderson transitions with Coulomb interaction

P11 *Alexander Semenov* — Coherent excited states in superconductors due to a microwave field

P12 *Maksim Shustin* — A set of Majorana zero modes on topological superconducting wires

P13 *Alexander Svetogorov* — Non-adiabatic geometric phases and dephasing in an open quantum system

P14 *Eugene Tikhonov* — Local noise in a diffusive conductor

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