Conference on
« Disordered Quantum Systems »
June 18th – 22nd, 2012
ENS - Salle Dussane
45, Rue D’Ulm, 75005 Paris

Registration on Monday will take place at Salle Dussane at the corner of rue Erasme and rue d’ULM

Organizers:
Boris Altshuler (Columbia University), Benoît Doucot (University Paris 6, LPTHE), Marc Mézard (University Paris-Sud, LPTMS), Gora Shlyapnikov (University Paris-Sud, LPTMS)

Chairs:
I. Aleiner (Columbia University), B. Altshuler (Columbia University), B. Doucot (University Paris 6, LPTHE), I. Lerner (University of Birmingham), V. Pokrovsky (Texas A&M University), G. Shlyapnikov (University Paris-Sud, LPTMS), A. Tsvelik (Brookhaven National Laboratory)

Speakers:
I. Aleiner (Columbia University), G. Biroli (IPhT CEA Saclay), V. Bouchiat (LPS, Orsay), C. Castellani (Università di Roma La Sapienza), L. Cugliandolo (Université Paris 6, LPTHE), V. Falko (Lancaster University), M. Fink (LOA – ESPCI, Paris), S. Flach (Max Planck Ins.), A. Georges (CPHT – Ecole Polytechnique), M. E. Gershenson (Rutgers University), T. Giamarchi (University of Geneva), L. Glazman (Yale University), S. Gueron (LPS, Orsay), V. Gurarie (University of Colorado at Boulder), J. Imbrie (University of Virginia), V. Josse (Institut d'Optique, Palaiseau), F. Klopp (IMJ, UPMC), A. Lagendijk (FOH Institute, Amsterdam), C. Marcus (Harvard/Copenhagen), A. Millis (Columbia University), G. Modugno (LENS, University of Florence), L. Ponomarenko (University of Manchester), H. Pothier (SPEC CEA, Saclay), M. Segev (SPEC CEA, Saclay), D. Shahar (Weizmann Institute), D. Stone (Yale University), C. Texier (LPS, Orsay), B. Van Tiggelen (LPMMC, Grenoble), A. Yazdani (Princeton University)

Program

Lectures (except Tuesday afternoon) will take place at Salle Dussanne:
45, rue d’ULM, 75005 Paris

and all the others events: Coffee or Tea break, Poster sessions and Cocktail will take place at IHP:
11, rue Pierre et Marie Curie, 75005 Paris

Monday June 18th

08.30 am – 08.30 am Registration (corner of rue Erasme and rue d’Ulm)
08.50 am Opening of the conference

"Quantum fluids, superconductors, and waves in disorder” Chair G. Shlyapnikov

09.00 am – 09.50 am T. Giamarchi Dirty bosons in one dimension.
09.50 am – 10.40 am G. Modugno Experiments with interacting bosons in 1D quasiperiodic lattices.
10.40 am – 11.20 am Coffee Break - IHP Ground floor
11.20 am – 12.10 am V. Josse Localization of Ultracold Atoms in Disorder: 3D Localization and Coherent Backscattering.
12.10 pm – 01.00 pm M. E. Gershenson Superconductor-insulator transition in Josephson junction arrays.

01.00 pm – 02.30 pm Lunch

02.30 pm – 03.20 pm A. Millis Superconductivity and the Pseudogap in the two dimensional Hubbard Model and in copper-oxide superconductors.
Tuesday June 19th “Mesoscopic structures” Chair B. Altshuler

Morning lecture at Salle Dussane
09.00 am – 09.50 am  L. Glazman  Electron backscattering in a generic helical edge.
09.50 am – 10.40 am  I. Aleiner  Localization and critical diffusion of quantum dipoles in two dimensions.
10.40 am – 11.20 am  C. Marcus  Proximity effect in semiconductor nanowires.
11.20 am – 12.10 pm  C. Castellani  Superfluid density and current patterns in disordered superconductors.
01.00 pm – 03.00 pm  Lunch

Afternoon lecture at IHP Hermite Amphitheatre
03.00 pm – 03.50 pm  H. Pothier  Energy relaxation and dephasing in diffusive wires: a review.
03.50 pm – 04.40 pm  C. Texier  Quantum transport and electronic interactions in mesoscopic metallic networks.
04.40 pm – 05.30 pm  A. Yazdani  Visualizing Disordered Quantum Systems on the Nanoscale.
05.30 pm – 06.10 pm  Tea break – IHP Ground floor and Poster Session IHP – Ground floor in Rooms 01 & 05 from 5.30pm to 7pm

Wednesday June 20th “Spin and electron glasses” Chair I. Aleiner
09.00 am – 09.50 am  L. Cugliandolo  From non equilibrium quantum Brownian motion to impurity dynamics in exotic quantum liquid baths.
09.50 am – 10.40 am  G. Biroli  Difference between level statistics, ergodicity and localization transition on the Bethe lattice.
10.40 am – 11.30 am  D. Shahar  Little-Parks Oscillations in an Insulator.

Thursday June 21st "Mathematical problems in disordered systems" Chair A. Tsvelik
09.00 am – 09.50 am  F. Klopp  Mathematical results on the statistics for eigenlevels and resonances in large one-dimensional ergodic systems.
09.50 am – 10.40 am  J. Imbrie  A mathematical approach to many-body localization.
10.40 am – 11.20 am  Coffee break – IHP Ground floor

"Strongly correlated systems" Chair I. lerner
11.20 am – 12.10 pm  A. Georges  Interaction-induced impeding of decoherence and anomalous diffusion in a cold atom system.
12.10 pm – 01.00 pm  V. Gurarie  SU(N) symmetric magnets and chiral spin liquid.
01.00 pm – 01.50 pm  Lunch

"Physics of graphene" Chair V. Pokrovsky
03.00 pm – 03.50 pm  V. Falko  Weak and strong localisation in graphene.
03.50 pm – 04.40 pm  S. Gueron  The Superconducting Proximity Effect through graphene from zero field to the Quantum Hall regime.
04.40 pm – 05.20 pm  Tea break and Poster session – IHP – Ground floor in Rooms 01 & Cafétéria
06.30 pm Cocktail – IHP Ground floor

Friday June 22nd "Physics of graphene" (continuation)
09.00 am – 09.50 am  L. Ponomarenko  Electronic properties of graphene double-layer structures.
09.50 am – 10.40 am  V. Bouchiat  Electrical control of superconductivity in tin decorated graphene.
10.40 am – 11.20 am  Coffee break – IHP Ground floor

"Waves in disorder" Chair B. Doucot
11.20 am – 12.10 pm  B. Van Tiggelen  3D Anderson localization of Cold Atoms.
12.10 pm – 01.00 pm  M. Fink  Controlling waves in space and time at subwavelength scales through complex media.
01.00 pm – 01.50 pm  M. Segev  Anderson localization of Light.