

Condensed Matter Physics in the Cities 2019

week 2: 8 - 11 July, Paris

Institut Pierre Gilles De Gennes, 6 rue Jean Calvin and ESPCI, 10 rue Vauquelin

Practical informations

Conference website:

<https://www.royalholloway.ac.uk/research-and-teaching/departments-and-schools/physics/physics-events/2019-07-01-condensed-matter-physics-in-the-city/>

Conference address:

Grand Amphi
Institut Pierre Gilles De Gennes,
6 rue Jean Calvin
75005 Paris

Amphi "Holweck" at ESPCI
Located in LPEM lab, 1st floor Building C.
10 rue Vauquelin
75005 Paris

Here is the distance between them
<https://goo.gl/maps/BVTGiXqsDU4mVvH2A>

How to reach the Institut Pierre Gilles De Gennes:

Map at [this link](#)

Subway access: Metro line 7 (stop "Censier Daubenton", 4 minutes walk), or also line 10 (stop "Cardinal Lemoine", 10 mins walk) or RER B (stop "Luxembourg", 10 mins walk)

Programme

Monday 8 July

Morning: Amphi "Holweck" at ESPCI, LPEM lab, 1st floor Building C

09:30 - 10:00	Registration
10:00 - 10:40	Kamran Behnia (ESPCI), Signatures of quasi-particle hydrodynamics in thermal transport
10:40 - 11:00	Discussion
11:00 - 11:15	<i>Coffee/Tea and discussions</i>
11:15 - 11:35	Adam Walker (UCL), Treating fluctuation-driven orders in the quantum order-by-disorder framework, ICAM award student
11:35 - 11:45	Discussion
11:45 - 12:25	Yuji Matsuda (Kyoto University), Half-integer quantized thermal Hall conductance in a chiral spin liquid
12:25 - 12:45	Discussion

Lunch break

Afternoon: Institut Pierre Gilles De Gennes, 6 rue Jean Calvin - Grand Amphi

- 14:30 - 15:10 **Kazumasa Miyake** (Osaka University), Valence Skipping, Charge Kondo Effect, and Superconductivity
- 15:10 - 15:30 Discussion
- 15:30 - 15:50 **Mikolaj Uryszek** (UCL), Fermionic quantum criticality in two dimensional topological phase transitions, **ICAM award student**
- 15:50 - 16:00 Discussion
- 16:00 - 16:30 *Coffee/Tea and discussions*
- 16:30 - 17:10 **Premi Chandra** (Rutgers University), Quantum Order by Disorder in Frustrated Spin Nanotubes
- 17:10 - 17:30 Discussion

Tuesday 9 July Morning: Institut Pierre Gilles De Gennes, 6 rue Jean Calvin - Grand Amphi

Mottronics, neuromorphic and oxitronics day

- 10:00 - 10:40 **Ivan Schuller** (UCSD), Mott Physics Based Neuromorphic Functionalities
- 10:40 - 11:00 Discussion
- 11:00 - 11:15 *Coffee/Tea and discussions*
- 11:15 - 11:55 **Julie Grollier** (Thales Plaiseau), Brain-inspired computing with spintronic nano-oscillators
- 11:55 - 12:15 Discussion
- 12:15 - 12:55 **Juan Trastoy** (Thales Plaiseau), Magnetic-field frustration: a smoking gun of the metal-insulator transition in V₂O₃
- 12:55 - 13:15 Discussion
- Lunch break

Afternoon: Amphi "Holweck" at ESPCI, LPEM lab, 1st floor Building C

- 14:30 - 15:10 **Laurent Cario** (University of Nantes), Towards microelectronic applications of Mott insulators
- 15:10 - 15:30 Discussion
- 15:30 - 16:10 **Andres Santander** (CSNSM Orsay), Novel 2D electron systems at the surface of functional oxides: electronic structure and transport characteristics
- 16:10 - 16:30 Discussion
- 16:30 - 17:00 *Coffee/Tea and discussions*
- 17:00 - 17:40 **Marc Gabay** (LPS Orsay), Spintronics on demand in perovskite oxide 2DEGs
- 17:40 - 18:00 Discussion

Wednesday 10 July Morning: Institut Pierre Gilles De Gennes, 6 rue Jean Calvin - Grand Amphi

- 10:00 - 10:40 **Eoin Quinn** (LPS Orsay), Capturing strong correlations in electronic, spin and local moment systems
- 10:40 - 10:55 Discussion
- 10:55 - 11:10 *Coffee/Tea and discussions*

11:10 - 11:50 **Liling Sun** (Institute of Physics, Beijing), Anomalous phenomena and physics in pressurized superconducting materials
11:50 - 12:05 Discussion
12:05 - 12:45 **Alain Sacuto** (Paris Diderot), Energy scale of the charge density waves in cuprates
12:45 - 13:00 Discussion
Lunch break

Afternoon: Amphi “Holweck” at ESPCI, LPEM lab, 1st floor Building C

14:00 - 14:40 **Marcello Civelli** (LPS Orsay), Correlation-driven Lifshitz transition at the emergence of the pseudogap phase in cuprates
14:40 - 14:55 Discussion
14:55 - 15:35 **Catherine Pepin** (CEA Saclay), Entangling two kinds of pre-formed pairs and the pseudo gap of cuprate superconductors
15:35 - 15:50 Discussion

Evening lecture at Salle Jean Jaures, 29 rue d’ULM, ENS, 75005 Paris

19:00 - 20:00 **Julien Bobroff** (LPS Orsay), outreach event, “Les 3 plus belles expériences quantiques !” **Mandatory registration** at [this link](#).

Thursday 11 July Morning: Institut Pierre Gilles De Gennes, 6 rue Jean Calvin - Grand Amphi

10:00 - 10:40 **Luca de’ Medici** (ESPCI), Electronic compressibility and high-T_c superconductivity: new links
10:40 - 11:00 Discussion
11:00 - 11:15 *Coffee/Tea and discussions*
11:15 - 11:55 **Taka Shibauchi** (University of Tokyo), Electronic nematicity in the pseudogap state in cuprates
11:55 - 12:15 Discussion
12:15 - 12:55 **Andrew Green** (UCL), Anisotropy in Critical Itinerant Ferromagnets
12:55 - 13:15 Discussion

Lunch break

Afternoon: Amphi “Holweck” at ESPCI, LPEM lab, 1st floor Building C

14:30 - 15:10 **Matthias Eschrig** (Greifswald University), Modelling iron-based superconductors
15:10 - 15:30 Discussion
15:30 - 15:50 **Elliot Christou** (UCL), Lattice Symmetry Breaking Dirac Fermion Quantum Criticality, **ICAM award student**
15:50 - 16:00 Discussion
16:00 - 16:30 *Coffee/Tea and discussions*
16:30 - 17:10 **Girsh Blumberg** (Rutgers University), title tba
17:10 - 17:30 Discussion

**Friday 12 July
Free day**