

First SEPnet Summer Program: Condensed Matter Physics in the City

July 5-30, 2010 London

Royal Holloway, University of London, Rutherford Appleton Laboratory, London Centre for Nanotechnology

Week 1 (July 05-July 09)	Superfluids and Superconductors
Tues, July 06, 10:00-17:00	Workshop on Cold atoms and quantum fluids I, room G3.11 Bedford Square
10:00-11:00	
11:00-11:20	Tea+Coffee
11:20-12:20	Dimitri Gangardt (Birmingham) "Dark solitons: a model of impurity-phonon interactions in quantum liquids"
12:20-13:20	Janne Ruostekoski (Southampton) "Optical lattices - quantum optics meets condensed matter physics"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Fabian Essler (Oxford) "Threshold Singularities in the One Dimensional Hubbard Model"
Weds, July 07, 10:00-17:00	Workshop on Cold atoms and quantum fluids II, room G3.11 Bedford Square
10:00-11:00	Marzena Szymanska (Warwick) "Novel superfluid phenomena in semiconductor microcavities"
11:00-11:20	Tea+Coffee
11:20-12:20	Nigel Cooper (Cambridge) "Topological Superfluid Phase of Polar Fermionic Molecules"
12:20-13:20	Zoran Hadzibabic (Cambridge) "2D atomic Bose gases - Current understanding and open questions"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Michael Koehl (Cambridge) "Impurities in degenerate Bose gases"
Thurs, July 08, 10:00-17:00	Open forum, discussions at RHUL
14:00-15:00	Michel Roger (Saclay)
Fri, July 09, 11:00-17:00	Mini Workshop on Correlated Superconductivity at RAL, room R80 (Target Station-2 building)
11:00-11:45	Joerg Schmalian (Ames Laboratory / RHUL) "Unconventional pairing in the iron pnictides"
11:45-12:30	Adrian Hillier (ISIS) "Time reversal symmetry-breaking in superconductors with and without a centre of inversion"
12:30-14:00	Lunch (in the RAL restaurant)
14:00-14:45	Piers Coleman (Rutgers University / RHUL) "Tandem Pairing in Heavy Fermion Superconductors"
14:45-15:30	Stephen Blundell (Oxford) "Magnetism meets superconductivity in iron arsenide superconductors"
15:30-16:15	Amalia Coldea (Bristol) "quantum oscillations in iron pnictides"
16:15-17:00	Informal discussions + refreshments

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Week 2 (July 12-July 16)	Material Physics
Mon, July 12, 10:00-17:00	Workshop on correlated materials I, room G3, 11 Bedford Square
10:00-11:00	Gabe Aeppli (UCL / LCN)
11:00-11:20	Tea+Coffee
11:20-12:20	Gabi Kotliar (Rutgers) "Towards an ab-initio theory of correlated materials. The challenge of the iron pnictides."
12:20-13:20	Nigel Hussey (Bristol)
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Jon Goff (RHUL) "Patterning of ions and the control of electrons in thermoelectric oxides"
17:00-18:00	Toby Perring (ISIS-RAL)
Tues, July 13, 10:00-17:00	Workshop on correlated materials II, room G3, 11 Bedford Square
10:00-11:00	Premi Chandra (Rutgers)
11:00-11:20	Tea+Coffee
11:20-12:20	Steven Hayden (Bristol) "Magnetic Excitations in the Cuprates"
12:20-13:20	Suchitra Sebastian (Cambridge) "Compensated electron and hole pockets in a hole-doped cuprate"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Philipp Niklowitz (RHUL)
Weds, July 14, 10:00-17:00	Open forum, discussions at RHUL
Thurs, July 15, 11:00-17:00	RAL, room R22 (Pickavance Lecture Theatre building): seminar + informal discussion
	Gabi Kotliar (Rutgers) "Towards an ab-initio theory of correlated materials. The challenge of the cuprates."

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Week 3 (July 19-July 23)	Quantum Criticality
Mon, July 19, 10:00-17:00	Workshop on quantum criticality I, room G3, 11 Bedford Square
10:00-11:00	
11:00-11:20	Tea+Coffee
11:20-12:20	Jorge Quintanilla (Kent/ISIS)
12:20-13:20	John Saunders (RHUL) "Quantum criticality in Helium thin films"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Jason Ho (Ohio State) "Signature of Quantum Criticality in Cold Atom Systems"
Tues, July 20, 10:00-17:00	Workshop on quantum criticality II, room G3, 11 Bedford Square
10:00-11:00	Senthil (MIT)
11:00-11:20	Tea+Coffee
11:20-12:20	Andrew Green (St Andrews) "Are itinerant electron quantum critical points intrinsically multi-critical?"
12:20-13:20	Miguel Cazalilla (San Sebastian) "Quantum criticality driven by and in the presence of quantum dissipation: Lessons from 1D"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	Jason Ho (Ohio State) "Synthetic Abelian and Non-abelian Gauge Field in Cold Atom"
Weds, July 21, 10:00-17:00	Open forum, discussions at RHUL
Thurs, July 22, 11:00-17:00	RAL, room R22 (Pickavance Lecture Theatre building): seminar + informal discussion
	Senthil (MIT)
	Jason Ho (Ohio State) "Quantum Simulation with Cold Atoms: Challenges and Opportunities "

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Week 4 (July 26-July 30)	Quantum Magnetism
Tues, July 27, 10:00-17:00	Workshop on quantum magnetism I, room G3, 11 Bedford Square
10:00-11:00	Alexei Tsvelik (Brookhaven)
11:00-11:20	Tea+Coffee
11:20-12:20	John Chalker (Oxford) "Spin dynamics in geometrically frustrated Heisenberg magnets"
12:20-13:20	Claudio Castelnovo (Oxford) "Magnetic monopole physics in spin ice materials"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	TBA
Weds, July 28, 10:00-17:00	Workshop on quantum magnetism II, room G3, 11 Bedford Square
10:00-11:00	Christian Ruegg (UCL) "Neutron and Xray Scattering Studies of Model Magnets"
11:00-11:20	Tea+Coffee
11:20-12:20	Steve Kivelson (Stanford)
12:20-13:20	Nic Shannon (Bristol) "Numerical evidence for U(1) liquid phases in three dimensions : Does quantum ice have monopoles, too ?"
13:20-14:20	Lunch
14:20-16:00	Discussion
16:00-17:00	TBA
Thurs, July 29, 10:00-17:00	Open forum, discussions at RHUL
Fri, July 30, 11:00-17:00	RAL, room R22 (Pickavance Lecture Theatre building): seminar + informal discussion
	Alexei Tsvelik (Brookhaven)