

# Second SEPnet Summer Program: Condensed Matter Physics in the City

May 23 - June 17, 2011 London

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

Week 1 (May 23 - 27)	Quantum Phase Transitions
Tues, May 24	<b>Workshop on Quantum Phase Transitions, 11 Bedford Square, Room F3</b>
11:00-11:45	Achim Rosch (Cologne) "Quantum phase transitions in quantum wires and topological insulators"
12:00-13:30	Lunch
13:30-14:15	Steve Hayden (Bristol) "Magnetic Excitations in an Itinerant Ferromagnet near Quantum Criticality"
14:30-15:00	Tea+Coffee
15:00-15:45	Andrew Berridge (St. Andrew's) "Bandstructure and apparent non-Fermi liquid behaviour in itinerant metamagnets"
16:00-17:00	Discussion
Weds, May 25	<b>Workshop on Quantum Phase Transitions, 11 Bedford Square, Room F3</b>
11:00-11:45	Andrew Green (St. Andrew's) "Quantum order-by-disorder and the partially ordered phase of MnSi"
12:00-13:30	Lunch
13:30-14:15	Yeong-Ah Soh (Imperial College) "Quantum phase transition and non-Fermi liquid behaviour in a "simple" metal"
14:30-15:00	Tea+Coffee
15:00-15:45	Chandra Varma "Quantum-criticality of the dissipative xy and Ashkin-Teller Model with application to Cuprates"
16:00-17:00	Discussion
Thurs, May 26	<b>Workshop on Quantum Phase Transitions, RAL: CR16/17 (R80, ISIS TS-2 building)</b>
11:00-11:45	Achim Rosch (Cologne) "Spintorques and skyrmions in chiral magnets"
12:00-13:30	Lunch
13:30-14:15	Joe Bhaseen (Cambridge) "Quantum Phase Transitions in Pairing Systems"
14:30-15:00	Tea+Coffee
15:00-15:45	Joseph Betouras (Loughborough) "On the Lifshitz transition in a model of 2D dipolar fermions and in $\text{Na}_x\text{CoO}_2$ "
16:00-17:00	Discussion
Fri, May 27	<b>Workshop on Quantum Phase Transitions, RHUL, Egham HLT2</b>
11:00-12:00	Piers Coleman (Rutgers, RHUL) "Topology, quantum criticality and hidden order: a grab bag of correlated electron mysteries revealed by f-electron materials"
12:00-12:35	Chris Hooley (St. Andrews) "Complex temperature: correlation functions and quantum critical points"

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Week 2 (May 30-June 3)	New Materials and Superconductivity
Weds, June 1 15:00	RAL: W. Ketterle (MIT) (RAL Lecture. Organiser: <a href="mailto:Nikitas.Gidopoulos@STFC.ac.uk">Nikitas.Gidopoulos@STFC.ac.uk</a> )
Thurs, June 2	<b>Workshop on New Materials and Superconductivity</b> , <a href="#">RAL: CR16/17 (R80, ISIS TS-2 building)</a>
10:00-10:45	Andrew Briggs (Oxford) “Quantum Mesoscopics”
11:00-11:45	Andrew Boothroyd (Oxford) “Magnetic fluctuations in Fe-based superconductors”
12:00-12:45	Suchitra Sebastian (Cambridge) “Nodal pockets revealed by quantum oscillations in underdoped YBCO”
13:00-14:00	Lunch
14:00-14:45	Discussion
15:00-15:30	Tea+Coffee
15:30-16:15	Elizabeth Blackburn (Birmingham) “The superconducting states of CeCoIn5”
16:30-17:00	Discussion
Fri, June 3	<b>Workshop on New Materials and Superconductivity</b> , <a href="#">11 Bedford Square, Room F1</a>
10:00-10:45	Nigel Hussey (Bristol) “Remarkable properties of the quasi-1D purple bronze material Li <sub>0.9</sub> Mo <sub>6</sub> O <sub>17</sub> ”
11:00-11:45	Mark Ellerby (UCL) “Structure and excitations in superconducting graphite intercalation compounds”
12:00-13:30	Lunch
13:30-14:15	Karen Yates (Imperial) “Spectroscopy and transport measurements of iron-based superconductors”
14:30-15:00	Tea+Coffee
15:00-15:45	Balazs Gyorffy (Bristol) “Berry phases, connections and curvatures of Bloch electrons”
16:00-16:45	Gabriel Aeppli (LCN/UCL) “Fresh and reheated mysteries about cuprate superconductors”

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Week 3 (June 6-10)	Novel Mesoscopics
Thurs, June 9	<b>Workshop on Novel Mesoscopics</b> , <a href="#">11 Bedford Square, Room G3</a>
10:00-10:45	Priya Sharma (RHUL) “Quantum effects of bulk and boundary scattering in 3He films”
11:00-11:20	Tea+Coffee
11:20-12:05	John Chalker, (Oxford) “Quantum Hall edge states far from equilibrium”
12:20-13:05	Boris Altshuler (Columbia)
13:20-14:20	Lunch
14:20-15:05	Tomas Lofwander (Chalmers) “Quantum transport in graphene”
15:20-16:05	Mark Blamire (Cambridge) “Spin active tunnel barriers”
16:00-17:00	Discussion
Fri, June 10	<b>Workshop on Novel Mesoscopics</b> , <a href="#">RHUL, Egham</a>
10:00-10:45	Boris Altshuler (Columbia)
11:00-11:20	Tea+Coffee
11:20-12:05	Victor Petrashov (RHUL) “Experiments with hybrid superconducting/ferromagnetic nanostructures”
12:20-13:05	Jason Robinson (Cambridge) “Long-Lived Supercurrents in Ferromagnets”
13:20-14:20	Lunch
14:20-15:05	Masaya Kataoka (NPL) “Quantum dynamics in single-electron pumps”
15:20-16:05	Igor Lerner (Birmingham) “Impurity scattering in a Luttinger liquid with electron-phonon coupling”

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Week 4 (June 13-17)	Frustrated Magnetism
Mon, June 13	<b>Workshop on Frustrated Magnetism</b> , <a href="#">11 Bedford Square, Room G3</a>
10:00-10:45	James Annett (Bristol) “Orbital magnetism and chiral superconductivity in Sr <sub>2</sub> RuO <sub>4</sub> ”
11:00-11:20	Tea+Coffee
11:20-12:05	Christopher Marrows (Leeds) “Artificial spin ice”
12:20-14:00	Lunch
14:00-14:45	Des McMorrow (UCL) “Quantum criticality in the heavy fermion compound YbAgGe”
15:00-15:45	Qimiao Si (Rice) “Magnetism in metals on the verge of Mott transition and quantum criticality in parent pnictides”
16:00-17:00	Discussion
Tues, June 14	<b>Workshop on Frustrated Magnetism</b> , <a href="#">11 Bedford Square, Room G3</a>
10:00-10:45	Martin Long (Birmingham) “The magnetic structure of Gd <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> ”
11:00-11:45	Francis Pratt (ISIS) “Magnetic and non-magnetic phases of quantum spin liquids revealed by mSR”
12:00-13:30	Lunch
13:30-14:15	Cyrus Hirjibehedin (UCL) “The impact of the local environment on the Kondo screening of a high-spin atom”
14:30-15:00	Tea+Coffee
15:00-15:45	Nic Shannon (Bristol) “Are Fe pnictides frustrated magnets ?”
16:00-17:00	Discussion
Thurs, June 16	Theoretical and Experimental Magnetism Meeting: <a href="#">RAL</a>
Fri, June 17	Theoretical and Experimental Magnetism Meeting: <a href="#">RAL</a>