

# **16<sup>th</sup> Theoretical and Experimental Magnetism Meeting (TEMM) and IOP Magnetism-TCM joint group symposium**

<https://www.isis.stfc.ac.uk/Pages/Excitations-Meetings.aspx>

## **23-25 July 2017, The Cosener's House, Abingdon**

### **Monday 23<sup>rd</sup> July**

**09:45 – 10:30 Registration, and coffee and tea**

**10:30 – 12:30 Session 1: Unconventional superconductivity and quantum magnetism-1**  
**Chairman: Russell Ewings**

- 10:30 Seamus Davis (Cornell University)  
*Spin noise Spectroscopy*
- 11:00 Catherine Pepin (IPhT, France)  
*Five questions about the pseudo-gap phase of the cuprates*
- 11:30 Tim Ziman (ILL, France)  
*Magnetic Oscillations in the superconducting cuprates:  
Fermi surface reconstruction versus inter-planar coupling?*
- 12:00 Andreas Rost (St Andrews University)  
*Topological band structures in a magnetic semimetal –  
creating and controlling Weyl fermions*

**12:30 – 14:00 Lunch + Group Photo + Posters**

**14:00 – 16:00 Session 2: Unconventional superconductivity and quantum magnetism-2**  
**Chairman: Andrew Boothroyd**

- 14:00 Philippe Bourges (LLB, France)  
*Loop Currents in Superconducting Cuprates and Iridates*
- 14:30 Richard Waite (University of Bristol)  
*Field-controlled spin-density wave order and anisotropic transport in  $Sr_3Ru_2O_7$*
- 15:00 Andrea Severing (University of Cologne)  
*Crystal-electric field potentials of  $CeRu_4Sn_6$  and Kondo insulator  $SmB_6$  studied  
with soft-RIXS*
- 15:30 Qimiao Si (Rice University)  
*Magnetism and Topology in Strongly Correlated Metals*

**16:00 – 16:30 Coffee and Tea**

**16:30 – 18:30 Session 3: Quantum magnetism and Spin Liquids**  
**Chairman: Giovanni Sordi**

- 16:30 Roger Johnson (Oxford University)  
*The evolution of magneto-orbital order upon electron doping in  
quadruple perovskite manganites*
- 17:00 Manuel Brando (MPI-CPfS, Dresden)  
*Kondo-lattice ferromagnets and their peculiar order along the magnetically hard axis*
- 17:30 Lucy Clark (University of Liverpool)  
*Spin Liquid Behaviour on the Emergent Honeycomb Lattice of  $TbInO_3$*
- 18:00 Veronika Sunko (St Andrews University)  
*Angle Resolved Photoemission on Delafossite Oxides*

**18:30 – 19:30 Posters and Drinks**

**19:30 – 21:00 Conference Dinner**

### **Tuesday 24<sup>th</sup> July**

**8:45 – 10:45 Session 4: Quantum Spin Liquids**  
**Chairman: Frank Kruger**

- 08:45 Danny Mannix (European Spallation Source)  
*X-ray and Neutron Magnetic Scattering Studies of Iridate Epitaxial Films*
- 09:15 Hide Takagi (MPI-FKF, Stuttgart)  
*Spin-orbital quantum liquid on honeycomb lattice*
- 09:45 Yong-Baek Kim (University of Toronto)  
*From Kitaev Spin Liquids to Topological Superconductivity*
- 10:15 Jeroen van den Brink (IFW, Dresden)  
*Spin liquids in honeycomb iridates and  $RuCl_3$*

**10:45 – 11:15 Coffee and Tea**

**11:15 – 12:40 Session 5: Strongly correlated electron systems & novel instrumentation**  
**Chairman: Claudio Castelnovo**

- 11:15 Clemens Ritter (ILL, France)  
*Direct determination by neutron diffraction of the ordered magnetic moment of  $Ir^{4+}$  in the pyrochlores  $Nd_2Ir_2O_7$  and  $Tb_2Ir_2O_7$*
- 11:35 Pascal Manuel (ISIS Facility)  
*New WISH diffractometer at ISIS*
- 11:50 Andrew Princep (ISIS Facility)  
*Prospects for engineered metal-organic lattices to explore fundamental magnetism*
- 12:10 Rob Bewley (ISIS Facility)  
*Future direction in Excitations Instruments*
- 12:25 Liu Hao Tjeng (MPI-CPfS, Dresden)  
*Direct imaging of orbitals using non-resonant inelastic x-ray scattering*

**12:50 – 14:10 Lunch**

**14:10 – 16:00 Session 6: Novel materials & novel instrumentation**  
**Chairman: Adrian Hillier**

- 14:10 Elena Garlatti (ISIS Facility)  
*Portraying entanglement between molecular qubits with four-dimensional inelastic neutron scattering*
- 14:30 Peter Baker (ISIS Facility)  
*Super-MuSR: Extending the capabilities of ISIS muons*
- 14:45 Christopher Patrick (Warwick University)  
*Rare-earth transition-metal magnets from first principles - magnetisation and anisotropy at finite temperature*
- 15:15 Alex Gibbs (ISIS Facility)  
*HRPD-X: new opportunities for magnetism*
- 15:30 Elizabeth Blackburn (Birmingham University)  
*Low-dimensional magnetism in vanadates*

**16:00 Transport to Heathrow and Didcot**

**Wednesday 25<sup>th</sup> July**

**9:00 – 10:30 Session 7: Quantum spin liquids, defects and excitations**

**Chairman: Jon Goff**

- 9:00 Ray Bishop (University of Manchester)  
*Magnetic order and its loss on frustrated honeycomb monolayers and bilayers:  
An illustrative use of the Coupled Cluster Method*
- 9:20 Joe Paddison (Cambridge University)  
*Structural Frustration in the Quantum Spin-Liquid Candidate YbMgGaO<sub>4</sub>*
- 9:40 Franziska Kirschner (Oxford University)  
*The dynamics of magnetic monopoles in spin ice*
- 10:00 Mike Zhitomirsky (CEA Grenoble)  
*Multiple  $k$  structures in kagome and spinels*

**10:30 – 11:10 Coffee and Tea**

**11:10 – 12:30 Session 8: Frustrated spin systems**

**Chairman: Claudio Castelnovo**

- 11:10 Dmitry Kovrizhin (Oxford University)  
*Magnetic zero-point energy with a twist: from Skyrmions to spirals*
- 11:30 Jon Goff (RHUL)  
*Role of defects in determining the magnetic ground state of ytterbium titanate*
- 12:00 Kemp Plumb (Brown University)  
*Continuum of magnetic excitations in a three-dimensional  $S=1$  Heisenberg magnet*

**12:30 – 14:00 Lunch**

**14:00 – 15:40 Session 9: HTSC and Magnetism in MOFs**

**Chairman: Jeroen van den Brink**

- 14:00 Seamus Davis (Cornell University)  
*Discovery and Exploration of the Cuprate Pair Density Wave State*
- 14:30 Garry Goldstein (Cambridge University)  
*Quantum dimer models for the Pseudogap phase of Cuprate superconductivity:  
applications to quantum oscillations and Hall conductivity*
- 14:50 Jorge Quintanilla (University of Kent)  
*Time-reversal symmetry breaking in superconductors through loop  
Josephson-current order*
- 15:20 Helen Walker (ISIS Facility)  
*Getting what you want from multiferroic MOFs?*

**15:40 – Close**