

***“International Workshop on Unconventional Metals, Magnets
and Superconductors”***

August 28th – August 30th, 2024

**Harnack House
The Conference Venue of the Max Planck Society
Berlin, Germany**

Wednesday, August 28th, 2024

9.30 – 12.00	<i>REGISTRATION – Welcome Coffee</i>
10.30 – 11.15	<i>C. Hooley – Tutorial - Theory</i>
11.15 – 11.30	<i>Coffee Break</i>
11.30 – 12.15	<i>A. W. Rost – Tutorial - Experiment</i>
12.30 – 13.50	<i>LUNCH</i>
13:50 – 14.00	<i>OPENING</i>
	Setting the Stage – A. P. Mackenzie
14.00 – 14.20	G. S. Boebinger <i>High-Temperature Superconductivity from a Fellow Scottish Highlander</i>
14.20 – 14.40	S. H. Simon <i>Kekulé Spirals in Twisted Graphene</i>
14.40 – 15.00	Y. Maeno <i>30 years of mysterious superconductivity in Sr₂RuO₄</i>
15.00 – 15.20	J. Schmalian <i>Puzzles in Sr₂RuO₄: A Superconducting Whodunit</i>
15.20 – 15.40	M. Vojta <i>Emergent chiral metal near a Kondo breakdown quantum phase transition</i>
15.40 – 16.20	<i>COFFEE BREAK</i>
	Unconventional Magnetism I – E. Zhakina
16.20 – 16.40	J. Orenstein <i>Universal spin wavepacket propagation in antiferromagnets</i>
16.40 – 17.00	E. Gati <i>Strain tuning of unconventional magnets</i>
17.00 – 17.20	V. Sunko <i>Linear magneto-conductivity: a transport signature of time reversal symmetry breaking</i>
17.20 – 17.40	I. R. Fisher <i>Feeling the strain: quadrupoles, octupoles and beyond</i>
17.40 – 18.00	B. Normand <i>Calculating the complete spectral functions of quantum magnetic models and materials</i>
18.30 – 20.30	<i>DINNER</i>
20.30 – 21.30	<i>Discussions</i>

Thursday, August 29th, 2024

	Pseudogaps, Density Waves and Competing Orders – H. Sakai
9.00 – 9.20	B. Keimer <i>Neutron resonances in the pseudogap state</i>
9.20 – 9.40	Y. Ando <i>Electron Nematicity</i>
9.40 – 10.00	A. Carrington <i>Too much of a good thing. What we have learnt from overdoped cuprates</i>
10.00 – 10.20	Z.-X. Shen <i>Anomalous normal state gap in an electron-doped cuprate</i>
10.20 – 10.50	COFFEE BREAK
	Strontium Ruthenate – N. Kikugawa
10.50 – 11.10	F. Baumberger <i>Non Fermi liquid quasiparticles in strain-tuned Sr_2RuO_4</i>
11.10 – 11.30	H. Noad <i>Stress-strain as a thermodynamic probe of quantum materials</i>
11.30 – 11.50	P. H. McGuinness <i>Phonons softening near a Lifshitz transition in Sr_2RuO_4</i>
11.50 – 12.10	T. Scaffidi <i>Hierarchy of relaxation times in Fermi liquids: the case of Sr_2RuO_4</i>
12.10 – 12.30	S. Brown <i>NQR as a probe of time-reversal symmetry breaking</i>
12.30	CONFERENCE PHOTO
12.30 – 14.00	LUNCH
	Unconventional Superconductivity – E. Svanidze
14.00 – 14.20	J. C. S. Davis <i>Phase-resolved QPI demonstration of bulk p-wave topological superconductivity and visualization of consequent topological surface-state, in UTe_2</i>
14.20 – 14.40	E. Hassinger <i>Controlling two-phase superconductivity in $CeRh_2As_2$</i>
14.40 – 15.00	J. G. Checkelsky <i>Natural Superlattice Design of Modulated Superconductors</i>
15.00 – 15.20	B. Goodge <i>Nickelate superconductivity: order, disorder, and the stuff in between</i>
15.20 – 15.40	H. Zhang <i>Two-dimensional superconductivity beyond atomic-scale thickness</i>
15.40 – 16.20	COFFEE BREAK

	Unconventional Fermi Fluids – R. Perry
16.20 – 16.40	S. Hartnoll <i>Electrons and phonons in unconventional metals</i>
16.40 – 17.00	S. Julian <i>Planckian and "anti-Planckian" transport in ruthenates and intermetallic compounds</i>
17.00 – 17.20	S. A. Kivelson <i>Emergent Gauge Fields from strong Electron Phonon Coupling</i>
17.20 – 17.40	P. D. C. King <i>ARPES microscopy of electron-boson coupling at delafossite oxide surfaces</i>
17.40 – 18.00	C. W. Hicks <i>Energy-efficient direct air capture of CO₂</i>
18.30 – 20.30	CONFERENCE DINNER
20.30 – 21.30	<i>After Dinner Talks and Discussions</i>

Friday, August 30th, 2024

	Unconventional Magnetism II – R. A. Borzi
9.00 – 9.20	K. A. Modic <i>Thermodynamics of Quantum Materials at the Microscale</i>
9.20 – 9.40	N. B. Perkins <i>Exploring Quantum Spin Liquids: From Theory to Experiment</i>
9.40 – 10.00	C. Donnelly <i>Three-dimensional reconstruction of magnetic fields</i>
10.00 – 10.20	R. Moessner <i>Fractionalisation and fractals</i>
10.20 – 10.50	<i>COFFEE BREAK</i>
	Topology and Band Structure Engineering – I. Marković
10.50 – 11.10	P. J. W. Moll <i>Magnetic field-switchable chiral transport</i>
11.10 – 11.30	A. Gibbs <i>Symmetry mode analysis for band structure engineering</i>
11.30 – 11.50	S. A. Grigera <i>Topological transitions in a frustrated magnet</i>
11.50 – 12.10	B. Douçot <i>Hall current patterns in Chern insulators: edge versus bulk conduction</i>
12.10 – 12.30	A. Chubukov <i>Unconventional transitions in 2D spin/valley systems</i>
12.30 – 13.50	<i>LUNCH</i>
13.50	<i>CLOSING - Summary</i>