Condensed Matter and Quantum Materials 2024

Programme

Tuesday 2 July 2024

Time	Room	Programme
8:00 am - 9:00 am	School of Physics and Astronomy Building Foyer	**Registration and Arrival Refreshments**
9:00 am to 10:00 am	Booth Lecture Theatre, Medical Sciences Building	**Plenary Speaker: Silvia Picozzi** Multiferroicity and magnetoelectricity in the flatland
10.00 am to 10:30 am	Physics and Astronomy Building and Medical Sciences Building	**Morning Break**
10:30 am to 12:30 pm	Theatre B, School of Physics and Astronomy Building	**New Materials 1** **10:30 am - 11:05 am Finlay Morrison:** Antiferroelectric-like behaviour in tetragonal tungsten bronzes **11:05 am - 11:25 am Yin Chen:** Material with Random Layer Lattice - A State between the Crystalline and Amorphous States **11:25 am - 11:45 am DYaze Wu:** Sliding induced multiple polarization states in two-dimensional ferroelectrics **11:45 am - 12:05 pm Nilanthy Balakrishnan:** Synthesize of Iron selenide layers via salt-assisted chemical vapor deposition **12:05pm – 12:40pm Sang-Wook Cheong**: Altermagnetism and Kinetomagnetism
	Theatre C, School of Physics and Astronomy Building	**Polaritons** **10:30 am - 11:05 am Francesca Maria Marchetti:** Charge-Imbalanced Polaritons **11:05 am - 11:25 am Andreas Mischok:** Breaking the angular dispersion limit in thin film optoelectronics by ultra-strong light-matter coupling **11:25 am - 11:45 am Rakesh Arul:** Bridging the visible and mid-IR with exciton plasmon-polaritons for mid-IR detection **11:45 am - 12:05 pm Gunda Kipp:** Cavity electrodynamics of van der Waals heterostructures **12:05 pm - 12:40 pm Daniele Sanvitto:** Exploring new superfluid phenomena in polariton condensates
	Booth Lecture Theatre, Medical Sciences Building	**Magnetism 1** **10:30 am - 11:05 am Julie Staunton:** Computational materials modelling of rare earth - transition metal magnets **11:05 am - 11:25 am Chris Stock:** jeff=1 magnetism and spin-orbit excitations in FeGa2S4 **11:25 am - 11:45 am Harry Lane:** Kernel Polynomial Method for Linear Spin Wave Theory **11:45 am - 12:05 pm Joe Crossley**: What is the origin of the specific heat capacity of the spin-liquid candidate Ca_{10} Cr_{7} O_{28}? **12:05 pm - 12:40 pm Tetsuo Hanaguri**: Spectroscopic-imaging scanning tunneling microscopy on quantum liquid crystals
12:30 pm to 2:00 pm	Physics and Astronomy Building and Medical Sciences Building	**Lunch (Allergen Menu Served In MSB)**

2:00 pm - 4:00 pm	Theatre A	**Superconductivity 1** **2:00 pm - 2:35 pm Antony Carrington:** Charge Order in Cuprate Superconductors **2:35 pm - 2:55 pm Rebecca Nicholls:** Low-temperature in-plane anisotropy of the electrical resistivity in YBa2Cu3O7-δ **2:55 pm - 3:15 pm Stephen Hayden:** Low-energy spin fluctuations in the strange metal state of an overdoped cuprate superconductor **3:15 pm - 3:50 pm Peter Hirschfeld:** H Ultranodal state in multiband spin-1/2 superconductors
	Theatre B	**New materials/unconventional superfluids** **2:00 pm - 2:35 pm Sian Dutton:** Jahn-Teller Distortions in NaNiO2 **2:35 pm - 2:55 pm Magdalena Sobota:** Investigation of anti-corrosion properties of iron alloys by XPS and Mössbauer Spectroscopy **2:55 pm - 3:15 pm Rodrigo Soto Garido:** Fragile dislocation modes **3:15 pm - 3:35 pm Piotr Sobota:** New family of Ti-rich HEA superconductors with high upper critical field **3:35 pm - 3:55 pm Kadin Thompson:** Odd-frequency superfluidity from a particle-number-conserving perspective **3:55 pm - 3:15 ap Petri Heikkinen:** QUEST-DMC: Modelling early-Universe phase transitions in superfluid helium-3 under nanofluidic confinement
	Theatre C	**Polaritons 2 and cavity QED** **2:00 pm - 2:35 pm Jeremy Baumberg:** Extreme light-matter coupling: What happens when light is confined to the atom scale? **2:35 pm - 2:55 pm Roman Potjan:** Tunable superconductivity in 300 mm CMOS-compatible ZrN nanoconstrictions **2:55 pm - 3:15 pm Shima Poorgholam Khanjari:** The development of high-Q tantalum superconducting microwave coplanar waveguide resonator arrays **3:15 pm - 3:35 pm Arturo Camacho Guardian:** Intercavity polariton slows down dynamics in strongly coupled cavities **3:35 pm - 4:10pm Dmitry. N. Krizhanovskii**: Towards single polariton optical nonlinearity in semiconductor microcavities
	Booth Lecture Theatre	**Magnetism 2** **2:00 pm - 2:35 pm Chiara Ciccarelli:** Extracting spin from an antiferromagnet at picosecond timescales **2:35 pm - 2:55 pm Manuel Fernández López:** Bad Weyl semimetals and spinon Fermi arcs in a model for pyrochlore iridates **2:55 pm - 3:15 pm Clifford Hicks:** Topological Hall Effect in Mn3Pt and Mn3Sn **3:15 pm - 3:35 pm Bhaskaran Muralidharan:** Quantum transport theory for 2D-topological electronics: translating quantum matter into emerging device paradigms **3:35 pm - 3:55 pm Nabil Menai:** Large Spin Hall Angle in Mn-based Antiferromagnetic Alloys
4:00 pm - 4:30 pm	Physics and Astronomy Building and Medical Sciences Building	**Afternoon Break - Physics and Astronomy Building and Medical Sciences Building**
4:30 pm - 5:30 pm	Booth Lecture Theatre	**Plenary Speaker: Sir Richard Friend** Coulomb interactions in organic semiconductors
5:30 pm - 8:30 pm	Physics and Astronomy Building and Medical Sciences Building	**Poster Session, Whisky Tasting, Buffet and Drinks Reception** 5:40pm: Whisky lecture in Booth Lecture Theatre, Medical Sciences Building 6pm –7pm: Whisky tasting in Medical Sciences Building 6pm - 8:30pm: Drinks reception and poster session in Medical Sciences Building (Posters in Seminar Room 1) 7pm – 8:30pm: Drinks reception, buffet and poster session in Physics and Astronomy Building (Posters outside Theatres A and C)