

## Programme: Tuesday 24 June 2025

8:00 AM - 8:45 AM	Registration and Arrival Refreshments
8:45 AM - 9:00 AM	Welcome by Sven Friedemann, University of Bristol, UK (Room: B.H05. Sponsored by Kiutra)
9:00 AM - 10:00 AM	Plenary Speaker: Christopher Marrows, University of Leeds, UK Session Chair: Chris Bell (Room: B.H05. Sponsored by Kiutra) Skyrmions in chiral magnetic multilayers
10:00 AM - 10:30 AM	Morning Break
10:30 AM - 12:50 PM	<p><b>Superconductivity I (IOP SC Group)</b> Session Chair: Simon Bending (Room: B.H05. Sponsored by Kiutra)</p> <p><b>10:30 AM - 11:00 AM Sun-Woo Kim (Invited Speaker):</b> Predictive Modeling of Superconductors: From High-Pressure Hydrides to Nickelates</p> <p><b>11:00 AM - 11:20 AM Harry Morgan:</b> Understanding quantum materials through chemical bonding models</p> <p><b>11:20 AM - 11:40 PM Andreas Rost:</b> Superconducting phases of CeRh<sub>2</sub>As<sub>2</sub> in clean microcrystals</p> <p><b>11:40 AM - 12:00 PM Thomas Sheerin:</b> Higher-harmonic superconductivity driven by van Hove singularities in the third-nearest-neighbour square-lattice Hubbard model</p> <p><b>12:00 PM - 12:05 PM Andreas Rost:</b> IOP Superconductivity Thesis Prize Introduction</p> <p><b>12:05 PM - 12:35 PM Sam Cross (IOP Superconductivity Thesis Prize Talk):</b> High-temperature superconductivity in thin-film metal hydrides at megabar pressures</p>
	<p><b>Magnetism</b> Session Chair: Rhea Stewart (Room: LT2)</p> <p><b>10:30 AM - 11:00 AM Peter Wadley (Invited Speaker):</b> Altermagnetism imaged and controlled down to the nanoscale</p> <p><b>11:00 AM - 11:20 AM Habib Rostami:</b> Collective Excitations in Altermagnets: A Fermi Liquid Approach</p> <p><b>11:20 AM - 11:40 AM Clifford Hicks:</b> Triangular antiferromagnetism under uniaxial stress: a study of PdCrO<sub>2</sub></p> <p><b>11:40 AM - 12:00 PM George Wood:</b> A Magnon Band Analysis of GdRu<sub>2</sub>Si<sub>2</sub> in the Field-Polarised State</p> <p><b>12:00 PM - 12:20 PM Leonie Woodland:</b> From continuum excitations to sharp magnons via transverse magnetic field in the spin-1/2 Ising-like triangular lattice antiferromagnet Na<sub>2</sub>BaCo(PO<sub>4</sub>)<sub>2</sub></p> <p><b>12:20 PM - 12:50 PM Andreas Kreisel (Invited Speaker):</b> Minimal Models for Altermagnetism: Mechanisms and experimental consequences</p>

	<p><b>Nanoscale and 2D Session Chair: Roman Gorbachev (Room: G.H01)</b></p> <p><b>10:30 AM - 11:00 AM Graham Baker (Invited Speaker):</b> Size-restricted magneto-transport in PdCoO<sub>2</sub></p> <p><b>11:00 AM - 11:20 AM Joshua Coop:</b> Manipulating quantum states in multi-gated 1D systems</p> <p><b>11:20 AM - 11:40 AM Vivek Kumar:</b> Investigation of correlation effects mediated by impurity in a one-dimensional quantum wire via dc source-drain bias spectroscopy</p> <p><b>11:40 AM - 12:00 PM Yingshi Duo:</b> Quantised conductance in one-dimensional quantum wires</p> <p><b>12:00 PM - 12:20 PM Elisabeth Bancroft:</b> On-surface bottom-up growth of graphene nanoribbons on SiO<sub>2</sub></p> <p><b>12:20 PM - 12:50 PM Henry Legg (Invited Speaker):</b> Can we build a topological qubit in 2025?</p>
<b>12:50 PM - 2:15 PM</b>	<b>Lunch</b>
<b>2:15 PM - 4:05 PM</b>	<p><b>Spin-Orbit Session Chair: Radu Coldea (Room: B.H05. Sponsored by Kiutra)</b></p> <p><b>2:15 PM - 2:45 PM Aleksandra Krajewska (Invited Speaker):</b> Spin-orbital phases in 4d pyrochlore oxides</p> <p><b>2:45 PM - 3:05 PM Daniel Prestwood:</b> Spintronic Kapitza pendulum: dynamical stability by spin transfer</p> <p><b>3:05 PM - 3:25 PM Thomas Saunderson:</b> Orbital Rashba induced triplet superconductivity in elemental superconductors</p> <p><b>3:25 PM - 3:45 PM Thomas Robinson:</b> A Low Energy uSR study of proximity superconductivity in a high spin orbit coupling semiconductor 2DEG</p> <p><b>3:45 PM - 4:05 PM Charlie Freeman:</b> Tunable Ultra-Strong Magnon-Magnon Coupling Approaching the Deep-Strong Regime in a van der Waals Antiferromagnet</p>
	<p><b>2D Materials and Topological Devices Session Chair: Henry Legg (Room: LT2)</b></p> <p><b>2:15 PM - 2:45 PM Roman Gorbachev (Invited Speaker):</b> Ultraclean van der Waals Heterostructures</p> <p><b>2:45 PM - 3:05 PM Benjamin Dewes:</b> Scalable two-dimensional semiconductors: From photo-gating to deep UV optoelectronics</p> <p><b>3:05 PM - 3:25 PM Joshua Thompson:</b> Enhancing optoelectronic devices with exciton topology</p> <p><b>3:25 PM - 3:45 PM Amalia Patane:</b> Fast Ultraviolet-C Photonics: Sensing Laser Pulses on Femtosecond Timescales</p> <p><b>3:45 PM - 4:05 PM Soumya Sarkar:</b> Ultraclean contacts for two-dimensional spintronic and ferroelectric memory devices</p>

	<p><b>Strongly Correlated Materials</b> Session Chair: Lev Levitin (Room: G.H01)</p> <p><b>2:15 PM - 2:45 PM Igor Markovic (Invited Speaker):</b> Electronic response to a current-induced insulator-to-metal transition in <math>\text{Ca}_2\text{RuO}_4</math></p> <p><b>2:45 PM - 3:05 PM Alexandre Chaduteau:</b> Momentum-space modulated symmetries in the Chiral Luttinger liquid</p> <p><b>3:05 PM - 3:25 PM Seohyun Kong:</b> Extracting Topological Information from the Interface Green's Function</p> <p><b>3:25 PM - 3:45 PM Mingee Chung:</b> Magnetised Haldane Chain</p> <p><b>3:45 PM - 4:05 PM Chris Bell:</b> Physics and materials science of elemental uranium thin films and alloys</p>
<b>4:05 PM - 4:30 PM</b>	<b>Afternoon Break</b>
<b>4:30 PM - 5:30 PM</b>	<p><b>Plenary Speaker: Lilia Boeri,</b> Sapienza Università di Roma, Italy</p> <p>Session Chair: Andreas Rost (Room: B.H05. Sponsored by Kiutra)</p> <p>Pressure-quenching as a practical strategy to design new high-<math>T_c</math> conventional superconductors</p>
<b>5:30 PM - 7:30 PM</b>	<b>Poster Session, Exhibition, Drinks Reception and Buffet</b>