

Condensed Matter and Quantum Materials 2024

Programme

Wednesday 3 July 2024

Time	Room	Programme
9:00 am to 10:00 am	Booth Lecture Theatre, Medical Sciences Building	Plenary Speaker: Ulrike Diebold Surface Science of Functional Oxides
10.00 am to 10:30 am	Physics and Astronomy Building and Medical Sciences Building	Morning Break
10:30 am to 12:40 pm	Theatre A, Physics and Astronomy Building	Electronic Structure 1 10:30 am - 11:05 am Chris Pickard : A computational hunt for conventional high temperature superconductivity 11:05 am - 11:25 am Luke Soneji : Electronic Behaviour at Commensurate Interfaces between Semi-Infinite Graphite Crystals 11:25 am - 11:45 am Alok Shukla : Theory of Electronic Structure and Optical Properties of Graphene Quantum Dots 11:45 am - 12:05 pm Llorenç Serra : Conductance asymmetry and current distributions in proximitized magnetic topological insulator junctions with Majorana modes 12:05 pm - 12:40 pm Timur Kim : Holstein polarons, Rashba-like spin splitting and Ising superconductivity in electron-doped MoSe ₂
	Theatre B, Physics and Astronomy Building	Materials for Quantum Technologies - Materials Horizon Scanning (10:45am - 12:40pm) 10:45 am - 11:20 am Alice Bowen : Electron Paramagnetic Resonance as a tool for characterising molecular qubit systems and implementing quantum gates 11:20 am - 11:40 am Sai Kiran Rajendran : Towards Rydberg mediated quantum applications in cuprous oxide 11:40 am - 12:00 pm Soham Pal : Nitrogen Vacancy Centres, a Versatile Testbed for Quantum Sensing and Simulations 12:00 pm - 12:35 pm Ivan Vera Marun : Quantized transport in one-dimensional nanowire-graphene spin injectors
	Theatre C, Physics and Astronomy Building	Hybrid Organic/Inorganic 10:30 am - 11:05 am Akshay Rao : Probing Quantum Processes in Condensed Matter with Extreme Spatiotemporal Precision 11:05 am - 11:25 am Fangxin Zou : Stretch-Induced Tunability of Electrical Transport in 3D Graphene Foam 11:25 am - 11:45 pm Mairi McCauley : Modification of surface phenomena at hybrid Bi ₂ Se ₃ /organic interfaces 11:45 am - 12:05pm Muhammad Zia : Charge Transport in Molecular Junctions 12:05 pm - 12:40 pm Sam Stranks : Charge Carrier Recombination and Transport in Halide Perovskite Semiconductors
	Booth Lecture Theatre, Medical Sciences Building	2D Materials 1 10:30 am - 11:05 am Johannes Lischner : Electrons, excitons and phonons in moiré materials 11:05 am - 11:25 am Anirudh Chandrasekaran : Interplay of flat bands and higher order Van Hove singularities in Kagome metals 11:25 am - 11:45 pm Olivia Armitage : Probing the magnetism of CrTe ₂ using quasiparticle interference

		<p>11:45 am - 12:05 pm Matthew Watson: Evidence of folded pseudo-chiral Fermi surface in the layered charge density wave of 4Hb-TaSe₂</p> <p>12:05 pm - 12:40 pm Carolina de Almeida Marques: Dispersion of flat-bands at the 1T-termination of 4Hb-TaS₂ probed by quasiparticle interference</p>
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	<p>Superconductivity 2</p> <p>2:00 pm - 2:35 pm Pascal Pupal: Synthesis and crystal growth in extreme conditions: Around perovskite and Ruddlesden-Popper Nickelates</p> <p>2:35 pm - 2:55 pm Maximilian Tobermory Pelly: Nanocalorimetry of CeRh₂As₂</p> <p>2:55 pm - 3:15 pm Joseph Alec Wilcox: Unique interplay between magnetic irreversibility and vortex behaviour in the ferromagnetic Fe-based superconductor EuFe₂(As_{1-x}Px)₂</p> <p>3:15 pm - 3:35 pm Morgan Grant: Fully-gapped superconductivity in quasi-1D spin-triplet candidate Li_{0.9}Mo₆O₁₇</p> <p>3:35 pm - 4:10pm Mark Golden: Momentum dependent scaling exponents of cuprate strange-metal self energies: ARPES meets semi-holography</p>
	Theatre B	<p>Non-equilibrium and Quantum Thermodynamics</p> <p>2:00 pm - 2:35 pm Peter Littlewood: Non-reciprocal phase transitions</p> <p>2:35 pm - 2:55 pm Christian Spanslatt: Charge and heat current fluctuations of quantum Hall edge channels in the heat Coulomb blockade regime</p> <p>2:55 pm - 3:15 pm Jan Knapp: Non-ergodicity of nuclear spins in a dilute system of two dimensional ³He impurities</p> <p>3:15 pm - 3:50pm Juliette Monsel: Energy transport and refrigeration with driven quantum dots</p>
	Theatre C	<p>Surface Physics/2D Materials</p> <p>2:00 pm - 2:35 pm Reinhard Maurer: Controlling charge transfer in metastable nanostructures and topological 2D materials</p> <p>2:35 pm - 2:55 pm James Broadhurst: Evaluation of the exchange properties of transition metal phthalocyanines using broken symmetry density functional theory</p> <p>2:55 pm - 3:15 pm Aaron Coe: Unraveling the influence of polarized terminations on the surface states of YbB₆ using STM</p> <p>3:15 pm - 3:35 pm Daniel Halliday: Surface structure of the strontium ruthenates</p> <p>3:35 pm - 3:55pm Muntaser Naamneh: Low dimensional electronic state at the surface of a transparent conductive oxide</p>
	Booth Lecture Theatre	<p>Strongly Correlated</p> <p>2:00 pm - 2:35 pm Alix McCollam: Ferromagnetic quantum criticality in Fe(Ga_{1-x}Gex)₃</p> <p>2:35 pm - 2:55 pm Harshit Agarwal: Incommensurately modulated charge density wave structure of BaAl₄ type compounds</p> <p>2:55 pm - 3:15 pm Jahnatta Dasini: Discovery of Dynamical Heterogeneity in a Magnetic Monopole Fluid</p> <p>3:15 pm - 3:35 pm Chris Hooley: Non-Fermi Liquids Arising from Magnetic Field Interactions: A Functional Renormalisation Group Analysis</p> <p>3:35 pm - 4:10pm Priyanka Yogi: The pressure-induced CDW transition in CeTe₃ probed by time-resolved spectroscopy</p>
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	<p>Plenary Speaker: Andrew Goodwin</p> <p>Correlated Disorder in Functional Materials</p>