Programme: Wednesday 25 June 2025

9:00 AM - 10:00 AM	**Plenary Speaker: Philip King**, University of St Andrews, UK (sponsored by M4QN) (Room: B.H05. Sponsored by Kiutra) Probing and controlling collective states of 2D quantum materials
10:00 AM - 10:30 AM	**Morning Break 2**
10:30 AM - 12:50 PM	**M4QN I** (Room: B.H05. Sponsored by Kiutra) **10:30 AM - 11:00 AM Neil Curson (Invited Speaker):** Fabrication of atomic-scale devices in silicon for quantum computing **11:00 AM - 11:30 AM Frank Schindler (Invited Speaker):** Topological excitons in 1D **11:30 AM - 12:00 PM Chiara Ciccarelli (Invited Speaker):** Extracting spin from compensated magnets at picosecond timescales **12:00 PM - 12:20 PM Demininggus Pekei:** High Sensitivity Broadband Fibre-Integrated Waveguide Magnetometry in Diamond **12:20 PM - 12:40 PM Ella Mann-andrews:** An emerging security technology: using quantum dots to produce Optical Physically Unclonable Functions
	Statistical and Nonlinear (Room: LT2) **10:30 AM - 11:00 AM Alice Thorneywork (Invited Speaker):** As simple as one, two three? Probing self and collective dynamics by counting colloids **11:00 AM - 11:20 AM Michael Faulkner:** Breaking symmetry to save symmetry with rejection-free Monte Carlo **11:20 AM - 11:40 AM Hubert Naguszewski:** Optimal parallelisation strategies for flat histogram Monte Carlo sampling **11:40 AM - 12:00 PM David Martin:** Semiclassical Trace Formula for Lieb-Liniger Model **12:00 PM - 12:20 PM Alexis Darras:** Competing aggregation and iso-density equilibrium lead to band patterns in density gradients **12:20 PM - 12:50 PM Dwaipayan Chakrabarti (Invited Speaker):** Programming Self-Assembly for Colloidal Photonic Crystals

	Computational Physics (Room: G.H01) **10:30 AM - 11:00 AM Gesa-Roxanne Siemann (Invited Speaker):** Understanding the ultrafast electron dynamics and CDW transition in LaTe3 using machine learning **11:00 AM - 11:20 AM Christopher Woodgate:** Crystallographic orderings in the AlTiVNb and AlTiCrMo refractory high-entropy superalloys: first-principles theory and atomistic simulations **11:20 AM - 11:40 AM Sam Harley:** Variational Autoencoder Representation Learning for Break-Junction Data Analysis **11:40 AM - 12:00 PM Adam Fisher:** What a drag: computational investigation of highly sluggish diffusion in Fe-Ni alloys **12:00 PM - 12:30 PM Laura Ratcliff (Invited Speaker):** Exploring Disorder using Density Functional Theory and X-ray Photoelectron Spectroscopy
12:50 PM - 2:15 PM	Lunch 2
2:15 PM - 4:05 PM	**M4QN II** (Room: B.H05. Sponsored by Kiutra) **2:15 PM - 2:45 PM Christoforos Moutafis (Invited Speaker):** Towards Skyrmionic Artificial Synapses for Neural Network Hardware **2:45 PM - 3:15 PM Christina Psaroudaki (Invited Speaker):** Harnessing Chirality: Skyrmions as a New Frontier for Quantum Computing **3:15 PM - 3:45 PM Leon Ross (Invited Speaker):** Silicon qubits fabricated using industrial 300mm wafer processes **3:45 PM - 4:05 PM Joseph Prentice:** Understanding environmental effects on crystalline defects for quantum technology
	2D Materials (Room: LT2) **2:15 PM - 2:45 PM Pengcheng Dai (Invited Speaker):** Room temperature spin nematic phase and anomalous Hall effect in tetragonal lattice AMnBi2 (A = Ca, Yb) **2:45 PM - 3:05 PM Bruno Saika:** Electronic structure and charge-density wave modulation in monolayer TiSe2 **3:05 PM - 3:25 PM Luke Rhodes:** Probing moiré electronic structures through quasiparticle interference **3:25 PM - 3:45 PM David Perkins:** Topological Singularities in Twisted Kagome Bilayers **3:45 PM - 4:05 PM James Wilson:** Investigation of magnetic field-induced quantum transport phenomena in tungsten ditelluride

	Thin-Films (Room: G.H01) **2:15 PM - 2:45 PM Rhea Stewart (Invited Speaker):** Characterising superconducting proximity effects using low energy muon spin spectroscopy **2:45 PM - 3:05 PM Charlie Wells:** Changing the Seebeck Coefficient Polarity of a Self-Assembled Monolayer by Surface Interaction **3:05 PM - 3:25 PM Richa Arjariya:** Improving the stability of thin films for molecular electronics through on-surface cross-linking **3:25 PM - 3:45 PM James Newson:** Enhancing the thermoelectric performance of molecular layers via π-π stacking **3:45 PM - 4:05 PM Nilanthy Balakrishnan:** A comprehensive study on the multi-band emission of zinc sulfide thin film grown by aerosol-assisted chemical vapour deposition
4:05 PM - 4:30 PM	**Afternoon Break 2** **Healthy snacks provided and sponsored by M4QN**
4:30 PM - 5:30 PM	**Plenary Speaker: Juan P Garrahan**, University of Nottingham, UK (Room: B.H05. Sponsored by Kiutra) Circuits as a simple platform for the emergence of hydrodynamics in many-body systems
5:30 PM - 7:00 PM	**Evening Lecture: Steve Simon**, University of Oxford, UK Anyons: New Types of Particles in Quantum Physics Powell Lecture Theatre, School of Physics Building, Tyndall Avenue, Bristol, BS8 1TL