QLIME 2024: Detailed Program

Time	Venue	Day 1: Monday 9th of December 2024
9.00-9.30	**State Lobby**	**Registration**
9.30-9.45	**State 3**	**Welcome**
9.45-10.30	**State 3**	**Stéphane Kéna-Cohen (École Polytechnique de Montréal) -** Nonlocality and collective effects in optical resonators
10.30-11	**State 1-2**	**Morning Tea**
11-11.45	**State 3**	**Fedor Jelezko (Ulm University)** - Quantum registers based on spin qubits in diamond
11.45-12.10	**State 3**	**Michael Barson (Monash) -** Frequency mixing using the nitrogen-vacancy centre in diamond
12.10-12.35	**State 3**	**Olivier Bleu (Monash)** - Rabi-driven Fermi mixtures: from two to many bodies
12.35-2	**State 1-2**	**Lunch**
2.00-2.45	**State 3**	**Stephan Rachel (University of Melbourne) -** Chiral superconductivity in Sn/Si(111) and Chern-number landscape on the triangular lattice
2.45-3.30	**State 3**	**Xanthe Croot (University of Sydney)** - High Performance Superconducting Qubits
3.30-4	**State 1-2**	**Afternoon Tea**
4.00-4.45	**State 3**	**Bent Weber (Nanyang Technological University)** - Tunable Many-Body Interactions in the Topological Excitonic Insulator WTe2
4.45-5.30	**State 3**	**Jack Saywell (Q-CTRL)** - Resilient quantum sensing for assured navigation
5.30-7.30	**Lake Room**	**Cocktail/Welcome Event and Poster Session**

Time	Venue	Day 2: Tuesday 10th of December 2024
9.00-9.45	**State 3**	**Yuanbo Zhang (Fudan University)** - Quantized Topological States in Intrinsic Magnetic Topological Insulator MnBi2Te4
9.45-10.30	**State 3**	**Jiong Lu (National University of Singapore)** - Imaging gate-tunable electron-hole crystals in a 2D Mott insulator
10.30-11	**State 1-2**	**Morning Tea**
11-11.45	**State 3**	**Brendon Lovett (University of St Andrews) -** Tensor networks for modelling non-Markovian open quantum systems and applications to optimal control
11.45-12.10	**State 3**	**Oliver Clark (Monash)** - Creation and control of asymmetric topologically non-trivial 2D material heterostructures
12.10-12.35	**State 3**	**Angus Southwell (Monash)** - Quantum computing for topological data analysis and signal processing
12.35-2	**State 1-2**	**Lunch**

2.00-2.45	**State 3**	**Francesca Marchetti (Autonomous University of Madrid)** - Probing and tuning Fermi polaron polaritons
2.45-3.30	**State 3**	**Daria Smirnova (Australian National University)** - Topological metasurfaces for manipulating light and matter
3.30-4	**State 1-2**	**Afternoon Tea**
4.00-4.45	**State 3**	**Sarang Gopalakrishnan (Princeton University)** - Tensor networks for modelling non-Markovian open quantum systems and applications to optimal control
4.45-5.30	**State 3**	**Maja Cassidy (University of New South Wales, Sydney)** - TBC
5.30-6.30	**Lake Room 1-4**	**Poster Session**
7.00-10.00	**State 1-2**	**Conference Dinner**

Time	**Venue**	**Day 3: Wednesday 11th of December 2024**
9.00-9.45	**State 3**	**Eugene Demler (ETH Zurich)** - Photons for many body physics: a platform and probe
9.45-10.30	**State 3**	**Sue Coppersmith (University of New South Wales, Sydney)** - Quantum stochastic resonance of individual Fe atoms
10.30-11	**State 1-2**	**Morning Tea**
11-11.45	**State 3**	**Yi Du (Beihang University)** - Two-Dimensional Frustrated Materials with Electronic Flat Bands: Design and Realization
11.45-12.10	**State 3**	**Grace Causer (Monash)** - One-dimensional magnetic soliton layers in a cubic chiral magnet
12.10-12.35	**State 3**	**Mengting Zhao (Monash)** - Realization of flat band in ultra-thin Kagome metal Mn3Sn film
12.35-2	**State 1-2**	**Lunch**
2.00-2.45	**State 3**	**Dmitri Basov (Columbia University)** - Nano-optical phenomena at van der Waals interfaces
2.45-3.30	**State 3**	**Chris Vale (CSIRO) -** TBC
3.30-4	**State 1-2**	**Afternoon Tea**
4.00-6.00		**Breakout Session/Free time**

Time	**Venue**	**Day 4: Thursday 12th of December 2024**
9.00-9.45	**State 3**	**Sile Nic Chormaic (Okinawa Institute of Science and Technology)** - Towards the generation of a 1D Rydberg atom array near an optical nanofibre
9.45-10.30	**State 3**	**Soo-Hyon Phark (QNS)** - Quantum sensing with atomic-scale resolution
10.30-11	**State 1-2**	**Morning Tea**

11-11.45	**State 3**	**Xia-Ji Liu (Swinburne University of Technology)** - Exact spectral properties of Fermi polarons in one-dimensional lattices
11.45-12.10	**State 3**	**Emily Vu (Monash)** - Imaging topological polar structures in marginally twisted 2D semiconductors
12.10-12.35	**State 3**	**Gary Beane (Monash)** - Unconventional broadband THz conductivity of charge-neutral graphene
12.35-12.45	**State 3**	**Closing Ceremony**
12.45-2	**State 1-2**	**Lunch**