

**1st Australian workshop on Quantum Light Information Matter and Electronics**  
**QLIME Program, 9-12 Dec 2024**

Time (AEST)	Venue	Day 1: Monday 9th of December 2024
		<b>Chair: Meera Parish</b>
9.00-9.30	State Lobby	<b>Registration</b>
9.30-9.45	State 3	<b>Welcome</b>
9.45-10.30	State 3	<b>Stéphane Kéna-Cohen</b> (École Polytechnique de Montréal) - Nonlocality and collective effects in optical resonators
10.30-11	State 1-2	Morning Tea
		<b>Chair: Kris Helmersen</b>
11-11.45	State 3	<b>Jean-Philippe Tetienne</b> (RMIT University) - Optically addressable spins for quantum sensing and imaging
11.45-12.10	State 3	<b>Michael Barson</b> (Monash) - Frequency mixing using the nitrogen-vacancy centre in diamond
12.10-12.35	State 3	<b>Olivier Bleu</b> (Monash) - Rabi-driven Fermi mixtures: from two to many bodies
12.35-2	Windows	Lunch
		<b>Chair: Brendan Mulkerin</b>
2.00-2.45	State 3	<b>Stephan Rachel</b> (University of Melbourne) - Chiral superconductivity in Sn/Si(111) and Chern-number landscape on the triangular lattice
2.45-3.30	State 3	<b>Xanthe Croot</b> (University of Sydney) - High Performance Superconducting Qubits
3.30-4	State 1-2	Afternoon Tea
		<b>Chair: Agustin Schiffrin</b>
4.00-4.45	State 3	<b>Bent Weber</b> (Nanyang Technological University) - Tunable Many-Body Interactions in the Topological Excitonic Insulator WTe <sub>2</sub>
4.45-5.30	State 3	<b>Jack Saywell</b> (Q-CTRL) - Resilient quantum sensing for assured navigation
5.30-7.30	Lake Room 1-4	<b>Cocktail/Welcome Event and Poster Session</b>

Time (AEST)	Venue	Day 2: Tuesday 10th of December 2024
		<b>Chair: Mark Edmonds</b>
9.00-9.45	State 3	<b>Yuanbo Zhang</b> (Fudan University) - Quantized Topological States in Intrinsic Magnetic Topological Insulator MnBi <sub>2</sub> Te <sub>4</sub>
9.45-10.30	State 3	<b>Jiong Lu</b> (National University of Singapore) - Imaging gate-tunable electron-hole crystals in a 2D Mott insulator
10.30-11	State 1-2	Morning Tea
		<b>Chair: Kavan Modi</b>
11-11.45	State 3	<b>Brendon Lovett</b> (University of St Andrews) - Tensor networks for modelling non-Markovian open quantum systems and applications to optimal control
11.45-12.10	State 3	<b>Oliver Clark</b> (Monash) - Creation and control of asymmetric topologically non-trivial 2D material heterostructures
12.10-12.35	State 3	<b>Angus Southwell</b> (Monash) - Quantum computing for topological data analysis and signal processing
12.35-2	Windows	Lunch
		<b>Chair: Meera Parish</b>
2.00-2.45	State 3	<b>Francesca Marchetti</b> (Autonomous University of Madrid) - Probing and tuning Fermi polaron polaritons
2.45-3.30	State 3	<b>Daria Smirnova</b> (Australian National University) - Topological metasurfaces for manipulating light and matter

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3.30-4	State 1-2	Afternoon Tea
		<b>Chair: Jesper Levinsen</b>
4 -4.45	State 3	<b>Maja Cassidy</b> (University of New South Wales, Sydney) - TBC
4.45-6.30	Lake Room 1-4	<b>Poster Session</b>
7.00-10.00	State 1-3	<b>Conference Dinner</b>

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

Time (AEST)	Venue	Day 4: Thursday 12th of December 2024
		<b>Chair: Lincoln Turner</b>
9.00-9.45	State 3	<b>Sile Nic Chormaic</b> (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	<b>Soo-Hyon Phark</b> (QNS) - Quantum sensing with atomic-scale resolution
10.30-11	State 1-2	Morning Tea
		<b>Chair: Mengting Zhao</b>
11-11.45	State 3	<b>Hui Hu</b> (Swinburne University of Technology) - Fermi polarons in optical lattices
11.45-12.10	State 3	<b>Emily Vu</b> (Monash) - Imaging topological polar structures in marginally twisted 2D semiconductors
12.10-12.35	State 3	<b>Gary Beane</b> (Monash) - Unconventional broadband THz conductivity of charge-neutral graphene
12.35-12.45	State 3	<b>Closing Ceremony</b>
12.45-2	Windows	Lunch