

FEMRA2023 | 22 - 24 March 2023 | Level 4 Auditorium, Green Chemical Futures, Monash Clayton
FUTURE ELECTRONIC MATERIALS RESEARCH IN AUSTRALIA WORKSHOP
<https://www.fleet.org.au/femra>

| Date | Time Block | Start | Speaker | Title | |
|--|--|---|--|--|--|
| Wednesday 22 Mar 2023 | | | | | |
| Symposium 1 - Topological phases of matter | Chairs: Kirilly Rule & Oleg Tretiakov | 1:30-3:25PM | 1:30 pm Michael Fuhrer, Monash | Workshop opening | |
| | | 1:45 pm Stuart Parkin, MPI-MSP | Chiral spin textures on the racetrack | | |
| | | 2:25 pm Julie Karel, Monash | Topological Spintronics for Low Energy Computing | | |
| | | 2:55 pm Zhenxiang Cheng, UOW | Magnetolectric coupling in 2D heterostructures | | |
| | 3:25 pm Break | | | | |
| | 4:00-5:30PM | 4:00 pm Jean-Philippe Tetienne, RMIT | Probing magnetic phases with defect-based quantum sensors | | |
| Chairs: Kirilly Rule & | 4:30 pm Nagy Valanoor, UNSW | New topologies and ferroelectric phases in epitaxial multiferroic bismuth ferrite thin films | | | |
| | 5:00 pm Discussions | Discussions | | | |
| DINNER 6:30 PM The Nott - The Pavilion - 260 Ferntree Gully Road - sponsored by FLEET | | | | | |
| Thursday 23 Mar 2023 | | | | | |
| Symposium 2 - Materials for quantum simulation | Chair: Agustin Schiffrin | 9:00 - 10:30AM | 9:00 am Linda Ye, Stanford | Dirac fermions and flat bands in kagome lattice metals | |
| | | 9:30 am Ben Powell, UQ | Crystal engineering in metal-organic frameworks: metals, insulators, superconductors, and beyond | | |
| | | 9:50 am Elena Ostrovskaya, ANU | Exciton polaritons in artificial superlattices | | |
| | | 10:10 am Jean-Philippe Tetienne, RMIT | Optically controlled electronic spins in 2D materials as a platform for quantum simulations | | |
| | 10:30 am Break | | | | |
| | 11:00-12:30PM | 11:00 am Feng Miao, Nanjing | Atomic Lego for Future Computing | | |
| Chair: Mark Edmonds | 11:30 am Larry Lu, ANU | Complexes of Dipolar Excitons in Moiré Superlattices | | | |
| | 11:50 am Alex Hamilton, UNSW | Creating designer artificial quantum matter in 2D materials | | | |
| | 12:10 pm Discussions | Discussions | | | |
| 12:30 pm Lunch | | | | | |
| Symposium 3 - Materials for quantum technologies | Chairs: Carla Verdi & Xiaolin Wang | 1:45-3:15PM | 1:45 pm Jared Cole, RMIT | Designing, simulating and fabricating materials for Quantum Technology | |
| | | 2:15 pm Emma Mitchell, CSIRO | Properties and applications of YBCO, an unconventional superconductor | | |
| | | 2:35 pm Peter Jacobson, UQ | Near-field investigations of superconducting circuits | | |
| | | 2:55 pm Dongchen Qi, QUT | Engineering diamond surfaces for quantum diamondtronics | | |
| | 3:15 pm Break | | | | |
| | 4:00-5:30PM Chair: Peter Jacobson | 4:00 pm Igor Aharonovich, UTS | What can defects in van der Waals crystals do for us | | |
| 4:30 pm Carla Verdi, Sydney | Predicting quantum materials properties with first-principles methods and machine learning | | | | |
| 4:50 pm David Jamieson, Melbourne | From single donor spin qubits in isotopically engineered silicon to a large-scale quantum device | | | | |
| 5:10 pm Discussions | Discussions | | | | |
| DINNER 6:30 PM The Nott - Beer Garden - 260 Ferntree Gully Road - own cost | | | | | |
| Friday 24 Mar 2023 | | | | | |
| Symposium 4 - Light-controlled quantum phases in materials | Chairs: Jeff Davis & Sumeet Walia | 9:00 - 10:30AM | 9:00 am Jeff Davis, Swinburne | Topic overview | |
| | | 9:10 am Victor Galitski, JQI, Maryland | Engineering higher-temperature superconductivity | | |
| | | 9:30 am Elena Ostrovskaya, ANU | Light-controlled (quantum) phases in exciton-polariton systems | | |
| | | 9:50 am Stefan Maier, Monash | Nanoantennas for light harvesting in low-dimensional materials | | |
| | 10:10 am Meera Parish, Monash | The dark side of light-matter systems: harnessing optically dark states to control quantum phases | | | |
| | 10:30 am Break | | | | |
| 11:00-12:30PM | 11:00 am Girish Lakhwani, Sydney | Chiroptical phenomena in molecular materials | | | |
| Chairs: Jeff Davis & Sumeet Walia | 11:20 am Xia-Ji Liu, Swinburne | Making Strongly Interacting Photons | | | |
| | 11:40 am Thomas Voltz, Macquarie | Quantum polaritonics with mechanically tunable fiber cavities | | | |
| | 12:00 pm Discussions | Discussions | | | |
| 12:30 pm Lunch | | | | | |
| Planning for future funding opportunities | 1:45-3:15PM | 1:45 pm Discussions | Discussions | | |
| 3:15 pm Break | | | | | |
| 4:00-5:30PM | 4:00 pm Discussions | Discussions | | | |



VISITOR PARKING

- ◆ N1 Multi-level carpark, Research Way
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NEARBY CAFES

- ◆ Saporo: 20 Research Way
- ◆ Cinque Lire: 15 Innovation Walk
- ◆ Secret Garden: 13 College Walk