

24th Australian Institute of Physics Congress

Tuesday 13 December 2022

AIP: Condensed Matter, Materials and Surface Physics: CMM 1 - Room R3 (11:00 - 12:30)

-Conveners: Gunther Andersson

time	[id] title	presenter
11:00	[835] Topological non-colinear magnetism in reduced sample dimensions	Dr CAUSER, Grace
11:30	[837] Spin gapless semiconductors --- an emerging quantum matter for next-generation spintronic and electronics technologies	Prof. WANG, Xiaolin
12:00	[371] Radiation of Single Emitters Near Topological insulators	Mr DVORQUEZ, EITAN
12:15	[758] Intrinsic, robust, and isolated flat bands present at half-filling in the minimal model of the superconducting metal-organic framework, Cu-BHT	OHLRICH, Miriam

AIP: Condensed Matter, Materials and Surface Physics: CMM 2 - Room R3 (14:00 - 15:30)

-Conveners: Kirrily Rule

time	[id] title	presenter
14:00	[443] Photoemission Electron Microscopy and Momentum Microscopy of 2D Transition Metal Chalcogenides	HARMER, Sarah
14:30	[894] Magnetic bandgap fluctuations in the intrinsic quantum anomalous hall insulator MnBi ₂ Te ₄	EDMONDS, Mark
15:00	[256] Glowworm Capture Threads Studied by AFM	Prof. KANE, Deb
15:15	[762] Suppression of Phosphine-Protected Au ₉ Clusters Agglomeration on SrTiO ₃ Particles Using a Chromium Hydroxide Layer	ALOTABI, Abdulrahman S.

AIP: Condensed Matter, Materials and Surface Physics: CMM 3 - Room R3 (16:00 - 17:30)

-Conveners: Sarah Harmer

time	[id] title	presenter
16:00	[838] Organic molecular materials in one and two dimensions	Dr MACLEOD, Jennifer
16:30	[761] Probing the Spatiotemporal Variation of Hyperfine Spin Properties in Fluorescent Molecular Materials	PAPPAS, Billy
16:45	[43] Optical Interaction of the NV- Centre in Diamond with a Plasmonic Metal Nanoparticle	Dr HAPUARACHCHI, Harini
17:00	[239] Electrically tuneable terahertz metasurface enabled by a graphene/gold bilayer structure	SQUIRES, Andrew
17:15	[242] Cobalt Phthalocyanine Active Site Tuning via Atomic Linker Immobilisation for CO ₂ Electroreduction	CONQUEST, Oliver

Wednesday 14 December 2022

AIP: Condensed Matter, Materials and Surface Physics: CMM 4 - Room R4 (11:00 - 12:30)

-Conveners: Jennifer MacLeod

time	[id] title	presenter
11:00	[198] Vibrational Properties Beyond Debye Model	YU, Dehong
11:30	[531] Rydberg Exciton-Polaritons in a Magnetic Field	LAIRD, Emma
11:45	[433] Bogoliubov excitations of a polariton condensate in dynamical equilibrium with an incoherent reservoir.	BLEU, Olivier
12:00	[665] Time evolution of spatial coherence in exciton-polariton condensates	FABRICANTE, Bianca Rae
12:15	[276] Theory of emergent inductance in spiral magnets	Dr KUREBAYASHI, Daichi

AIP: Condensed Matter, Materials and Surface Physics: CMM 5 - Hall A (14:00 - 15:30)

-Conveners: Karina Hudson

time	[id] title	presenter
14:00	[209] Prediction of exciton condensation in biased bilayer graphene	SUSHKOV, Oleg
14:30	[438] Quantum to classical behavior of exciton-polarons	MULKERIN, Brendan
14:45	[92] Modelling transport properties of a transverse magnetic focusing system with spin-orbit coupling	LEE, Yik Kheng
15:00	[630] Introducing the Pair-Angle Distribution Function: many-atom statistics of crystals and disordered materials	Dr MARTIN, Andrew

AIP: Condensed Matter, Materials and Surface Physics: CMM 6 - Hall A (16:00 - 17:30)

-Conveners: Jared Cole

time	[id] title	presenter
16:00	[514] Engineering the Two-Dimensional Hole Gas on Diamond by Surface Transfer Doping for Future Carbon Electronics	QI, Dongchen
16:30	[757] Interactions Between Exciton-Polarons in Monolayer WS ₂	Prof. DAVIS, Jeffrey
16:45	[403] Spatially resolved transport spectroscopy of few donor clusters in silicon	ST MÉDAR, Dominique Didier
17:00	[258] Non-adiabatic transitions between valley states in a Si/SiGe heterostructure	Mr MONAGHAN, Ross
17:15	[616] Understanding the complex magnetic effects in a low-dimensional frustrated magnet through various experimental and theoretical techniques	ALLEN, Jackson

Thursday 15 December 2022

AIP: Condensed Matter, Materials and Surface Physics: CMM 7 - Hall C (11:00 - 12:30)

-Conveners: Dongchen Qi

time	[id] title	presenter
11:00	[834] Device design for detecting topological signatures in quantum wires	Dr HUDSON, Karina
11:30	[89] The effect of pinholes on Josephson transport in AlOx tunnel junctions	BAYROS, Karen
11:45	[193] Origin of Discontinuous Negative Differential Resistance in Metal-Oxide-Metal Devices	Dr NANDI, Sanjoy
12:00	[377] Observing varied magnetic phases in a van der Waals antiferromagnet using widefield nitrogen-vacancy centre microscopy	HEALEY, Alex
12:15	[640] Skyrmion nucleation on a surface of topological insulators	Dr TRETIAKOV, Oleg

Friday 16 December 2022

AIP: Condensed Matter, Materials and Surface Physics: CMM 8 - Hall A (09:00 - 10:30)

-Conveners: Dehong Yu

time	[id] title	presenter
09:00	[836] Materials for qubits: challenges of computer modelling for quantum technology	Prof. COLE, Jared
09:30	[574] New insulating and superconducting states in metal-organic frameworks and covalent organic frameworks	Prof. POWELL, Ben
09:45	[597] Magnetic Raman scattering in quasi-one-dimensional antiferromagnets	BELLWOOD, Oliver
10:00	[620] Optical voltage imaging with charge-coupled fluorescence of diamond colour-centres.	DONTSCHUK, Nikolai
10:15	[578] Modelling quantum dot structures in electromagnetic fields	Mr SULLIVAN, Hugh