

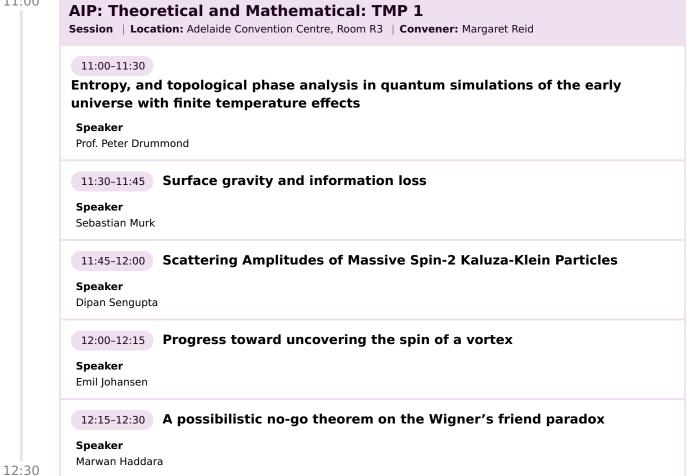
11-16 Dec 2022



24th Australian Institute of Physics Congress *AIP: Theoretical and Mathematical*

Monday 12 December

11:00



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Wednesday 14 December

11:00 AIP: Theoretical and Mathematical: TMP 2 Session | Location: Adelaide Convention Centre, Room R2 | Convener: Murray Batchelor 11:00-11:30 Topology, quantum gravity and particle physics Archil Kobakhidze 11:30-11:45 Bohmian trajectories and nonlocality in relativistic two-photon interactions Speaker Joshua Foo 11:45-12:00 Quantum Central Limit Theorems, Emergence of Classicality and Time-dependent **Differential Entropy** Speaker Tien Kieu 12:00-12:15 Particle-like Interactions of Two-Dimensional Solitary Waves in Continuous Media Speaker Yury Stepanyants 12:15-12:30 Universal Behavior in the Stock Market - Order in Chaos Speaker Ayse Kizilersu 12:30 14:00 AIP: Theoretical and Mathematical: TMP 3 Session | Location: Adelaide Convention Centre, Room R2 | Convener: XiaJi LIU 14:30-14:45 Grassmann Phase Space Theory for the BEC/BCS Crossover in Cold Fermionic **Atomic Gases** Speaker Bryan Dalton 15:00-15:15 Fermions with long and finite-range interactions on a quantum ring Speaker Cedric Simenel 15:15-15:30 On two particular N-state generalizations of the quantum Ising model Speaker

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Murray Batchelor

15:30

16:00

AIP: Theoretical and Mathematical: TMP 4 Session | Location: Adelaide Convention Centre, Room R2 | Convener: Prof. Archil Kobakhidze 16:00-16:15 Black Hole Thermodynamics in de Sitter Spacetimes Speaker Fil Simovic 16:15-16:30 Physical black holes in modified theories of gravity Speaker Sebastian Murk 16:30-16:45 Unruh-DeWitt Detectors with Relativistic Centre of Mass Speaker Evan Gale 16:45-17:00 Quantum asymmetry between space and time: Phenomenological emergence of Lorentz invariance Speaker Dr Fatema Tanjia 17:00-17:15 Quantised mass-energy effects in a particle detector Speaker Carolyn Wood 17:15-17:30 Bandlimtied quantum fields and their continuous and discrete properties Speaker **Dominic Lewis**

17:30