

## Schedule - Observers and Causality in Quantum Gravity

Tuesday - 21st April		Wednesday - 22nd April		Thursday - 23rd April		Friday - 24th April	
8:00 - 8:30	Registration desk opens		Chair: Esteban Castro-Ruiz:		Chair:		Chair:
8:30 - 8:45	Opening remarks: Natália S. Móller Chair: Natália S. Móller	8:30 - 9:10	Nelson Yokomizo: Proper time, events and indefinite order in a superposition of geometries	8:30 - 9:05	Kristina Giesel: Relational Dynamics in Quantum Gravity: The Role of Dynamical Reference Frames	8:30 - 9:05	Caslav Brukner: Quantum incompatibility of relative frequencies
8:45 - 9:25	Fay Dowker: Quantum Causality without Observers	9:10 - 9:45	V. Vilasini: How to model quantum observers consistently: implications for relative notions of events, localisation and causality	9:05 - 9:40	Fedele Lizzi: Quantum observers and reference frames for quantum spacetime	9:05 - 9:40	Giulia Gubitosi: TBA
9:25 - 10:00	Charis Anastopolous: Final Conditions in Quantum Cosmology	9:45 - 10:00	Amrapali Sen: Superluminal Transformations and Indeterminism	9:40 - 9:55	Matt Wilson: The Spatio-Temporal Logic of Agents, Actions, and Observations	9:40 - 9:55	Anne-Catherine de la Hamette: Information Trade-Offs Between Observers in Quantum Reference Frames
		10:00 - 10:15	Carla Ferradini: Emergent causal order and time direction: bridging causal models and tensor networks	9:55 - 10:10	Veronika Baumann: Interventions and causality across multiple temporal reference frames	9:55 - 10:10	Giacomo Rosati: Observers and locality in relativistic quantum spacetime
10:00 - 10:35	Coffee break Chair: Charis Anastopolous	10:15 - 10:45	Coffee break	10:10 - 10:50	Coffee break Chair:	10:10 - 10:50	Coffee break Chair:
10:45 - 11:25	Eleni Kontou: Restrictions on wormholes from energy conditions	10:45 - 12:15	Discussion time. Chair: Fabio Costa	10:50 - 11:25	Renato Renner: The paradox of the third particle is classical	10:50 - 11:25	T. Rick Perche: Local quantum information protocols in QFT: Theoretical, Operational, and Experimental progress in vacuum entanglement
11:25 - 12:00	Daniele Oriti: Causality and emergent relational dynamics from discrete quantum gravity			11:25 - 12:00	Esteban Castro-Ruiz: The perspective of a non-ideal quantum reference frame	11:25 - 12:00	David Kubiznak: Pushing the limits of black hole thermodynamics
12:00 - 14:00	Lunch	12:15 - 14:00	Lunch	12:00 - 14:00	Lunch	12:00 - 14:00	Lunch
14:00 - 15:40	Discussion time. Chair Adrian Kent		Chair: Anne-Catherine de la Hamette	14:00 - 15:30	Discussion time. Chair: Giulia Gubitosi	14:00 - 15:30	Discussion time. Chair: Lin-Qing Chen
		14:00 - 14:35	Ying Zhao [online]: The Hartle-Hawking state and quantum mechanics for de Sitter observers				
		14:35 - 15:10	Kasia Rajzner: Quantum reference frames and semi-local observables in QFT				
15:40 - 15:55	Sotirios Mygdalas: Spacetime Quasicrystals: a new class of ordered causal sets	15:10 - 18:00	Excursion - Devin Castle	15:30 - 16:15	Coffee break	15:30 - 16:00	Coffee break
15:55 - 18:00	Poster session and coffee break			16:15 - 16:30	Adrian Kent: Problems and possibilities for semi-classical gravity theories	16:00 - 16:30	Closing remarks and what's next?
				16:30 - 16:45	Vittorio D'Esposito: Doubly Quantum Mechanics and Indefinite Probabilities		
		16:45 - 17:00	Nadia Koliopoulou: Measurement, Causality, and the Emergence of Time in Relativistic Quantum Fields: A QTP Approach				
		19:30 - 22:00	Conference Dinner	17:00h - 17:30h	WG3 meeting		