

PAFT24 - Quantum Gravity and Information Program

Sunday March 24th	
14:00-14:20	Welcome
14:20-15:00	Seth Lloyd - Quantum gravity as spacetime tensor network
15:00-15:40	Daniele Oriti - Quantum information structure of spacetime: combinatorics, algebra, entanglement, proto-causality and holography
15:40-16:05	Antonino Marcianò - Topological and out-of-equilibrium QFTs, and quantum computing
16:05-16:20	Ana Alonso Serrano - Thermodynamics as a tool for (quantum) gravitational dynamics
16:20-16:35	Ali Akil - Entanglement Swapping Via Black Holes
16:35-17:00	Coffee break
17:00-17:40	Masahide Yamaguchi - Quantum tunneling in curved spacetime
17:40-17:55	Michiru Uwabo - Formation of defects associated with both spontaneous and explicit symmetry breaking
17:55-18:10	Fabiano Feleppa - Charged particle scattering near the black hole horizon
18:10-18:25	Pedro Meert - Thermodynamic and configurational entropy of quantum Schwarzschild geometries
18:25-18:40	Francesco Del Porro - Hawking Radiation without Lorentz Invariance
18:40-18:55	Manuel Del Piano - Quantum Black Hole Physics from the Event Horizon

Monday March 25th: morning session	
9:00-9:40	Flaminia Giacomini - Quantum effects in gravity beyond the Newton potential from a delocalised quantum source
09:40-9:55	Lorenzo Braccini - Quantum Gravity-induced Entanglement of Masses and Generalization to Arbitrary Spins of Stern-Gerlach Interferometry
9:55-10:10	Anne-Catherine de la Hamette - Identification is pointless: Localization of systems and events in superpositions of spacetimes
10:10-10:25	Paolo Perinotti - Quantum Cellular Automata and emergent Field Theories
10:25-10:40	Alessandro Capurso - Memoro Ergo Sum
10:40-11:10	Coffee break
11:10-11:35	Adrian Kent - Tests of semi-classical gravity in novel regimes
11:35-11:50	Flavio Del Santo - Towards a measurement theory in QFT: "Impossible" quantum measurements are possible but not ideal
11:50-12:05	Samuel Fedida - Semiclassical gravity and information
12:05-12:20	Jan Glowacki - Towards relational foundations for relativistic quantum theory
12:20-12:35	Sébastien Garmier - Transformations between perfect and imperfect quantum reference frames
12:35-14:20	Lunch

Monday March 25th: afternoon session	
14:20-15:00	Roberto Emparan - Universal black hole microstates
15:00-15:40	Vincenzo Branchina - Quantum gravity, Dark Dimension, and EFT
15:40-15:55	Alicia Castro - JT Gravity and Virasoro strings as random geometries
15:55-16:10	Yukie Matsumoto - Analogue Unruh effect in annular quantum Josephson circuits
16:10-16:25	Massimiliano Spadafora - Deep in the Knotted Black Holes
16:25-17:00	Coffee break
17:00-17:40	Gia Dvali - Saturons
17:40-17:55	Raphael Mothe - On correlations and quantum processes with dynamical causal orders
17:55-18:10	Alessandra D'Alise - Entanglement entropy in conformal quantum mechanics
18:10-18:25	Marco De Cesare - Noncommutative spacetime and bimetric gravity

18:25-18:40	Salvatore Ribisi - Light-cone thermodynamics
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Tuesday March 26th: morning session

9:00-9:40	Roberto Percacci - The effective potential with dimensionless cutoffs
9:40-10:05	Petr Jizba - Weak equivalence principle violation for mixed particles
10:05-10:20	Folkert Kuipers - Quantum Theory on Curved Spacetime: the case for Second Order Geometry
10:20-10:35	Nicòlas Medina Sánchez - Random classical gravity as a generalized probabilistic theory
10:35-11:15	Coffee break
11:15-11:40	Giacomo Rosati - Quantum group symmetries emerging from Chern-Simons (2+1)D gravity with cosmological constant
11:40-11:55	Diego Buccio - Physical running in quadratic gravity
11:55-12:10	Cesar Garcia-Perez - Heat kernel resummation
12:10-12:25	Vania Vellucci - Hearts of Darkness: probing the regularization of space-time singularities
12:25-12:40	Domenico Frattulillo - A quantum-spacetime model with kinematical IR/UV mixing and its phenomenology
12:40-14:20	Lunch

Tuesday March 26th: afternoon session

14:20-15:00	Markus Aspelmeyer - Quantum Sources of Gravity: Why and How
15:00-15:40	Guglielmo Tino - Testing gravitational quantum physics with atomic sensors
15:40-16:05	Lorenzo Maccone - Geometric Event-Based Quantum Mechanics
16:05-16:35	Coffee Break
16:35-16:50	Lionel Martellini - Quantum Delay in the Time of Arrival of Free-Falling Atoms
16:50-17:05	Tomohiro Fujita - Towards the optimal experiment of gravity-induced quantum entanglement
17:05-17:20	Thomas Galley - Any consistent coupling between classical gravity and quantum matter is fundamentally irreversible
17:20-17:35	Vittorio D'Esposito - Fundamental decoherence from quantum spacetime

Wednesday March 27th	
9:00-9:40	Angel Ballesteros - Quantum groups, noncommutative worldlines and quantum reference frames
9:40-9:55	Giuseppe Fabiano - Multiparticle states in braided k-lightlike QFT
9:55-10:10	Riccardo Falcone - Nonrelativistic limit of QFT in curved spacetime
10:10-10:25	Raghendra Singh - Decoherence due to spacetime curvature
10:25-11:00	Coffee break
11:00-11:40	Leonardo Castellani - Space and time entanglement in quantum histories
11:40-11:55	Cristina Matrella - Complete Complementarity Relations for quantum correlations in neutrino oscillations
11:55-12:10	Max Joseph Fahn - A toy model for gravitationally induced decoherence in the context of neutrino oscillations
12:10-12:25	Bruno Micciola - Entanglement distribution in Bhabha scattering process
12:25-12:40	Hari Kadukuttymadathil - Role of curvature in entanglement between quantum probes
12:40-13:00	Closing remarks
13:00-14:20	Lunch