

Quantum Workshops - 6th International Conference on New Frontiers in Physics 2017

Monday 21 August 2107		
09:00-09:45		conference plenary talk
09:45-10:30		conference plenary talk
10:30-11:00		Coffee Break
Continuous Variables and Relativistic Quantum Information Workshop (in parallel to the main conference)		
11:00-11:30	Maria Chekhova	Phase supersensitivity in an unbalanced SU(1,1) interferometer
11:30-12:00	Ulrik Andersen	Squeezed light enhanced sensing of a micro-mechanical oscillator
12:00-12:30	Radim Filip	Highly nonlinear quantum optics and optomechanics
12:30-13:00	Christian Müller	From Quantum-Limited Measurements towards Quantum Squeezing Detection over Satellite Links
13:00-15:00		Lunch Break
15:00-15:20	Vladimir Shevchenko	Quantum measurements in finite space-time domain
15:20-15:40	Aurelian Isar	Dynamics of quantum correlations in two-mode Gaussian open quantum systems
15:40-16:00	Tatiana Mihaescu	Gaussian quantum steering of two bosonic modes in a squeezed thermal environment
16:00-16:30		Coffee Break
16:30-17:00	Ladislav Mista	Gaussian intrinsic entanglement
17:00-17:30	Petros Wallden	Relativistic and Device Independent Verifiable Quantum Computation
17:30-17:50	Matthew Thornton	Gigahertz quantum signatures compatible with telecommunication technologies
17:50-18:10	Tom Douce	Quantum advantage and fault tolerant universal quantum computing in continuous variables
19:30-20:30		Poster Session
20:30		dinner
Tuesday 22 August 2017		
08:30-09:00	Angelo Bassi	Models of spontaneous wave function collapse: what they are and how they can be tested
09:00-09:45 (conference plenary)	Yakir Aharonov	Finally making sense of the double-slit experiment
09:45-10:30 (conference plenary)	Michael Berry	TBD
10:30-11:00		Coffee Break
Continuous Variables and Relativistic Quantum Information Workshop (in parallel to the main conference)		
11:00-11:30	Claude Fabre	Quantum Frequency Combs: generation, characterization and applications
11:30-12:00	Nicolas Menicucci	Continuous quantum variables: from quantum computing to relativistic quantum information
12:00-12:30	David Bruschi	Work is the source of gravity
12:30-13:00	Sorin Paraoanu	Tripartite continuous-variables coherence and entanglement from vacuum fluctuations
13:00-15:00		Lunch Break
15:00-15:20	Cedric Beny	Information-disturbance tradeoff in quantum field theory
15:20-15:40	Avi Pe'er	Ultrafast Quantum Key Distribution with Ultra-Broad Squeezed Light
15:40-16:00	Theo Torres	Observing superradiance in a vortex flow
16:00-16:30		Coffee Break
16:30-17:00	Andrzej Dragan	Counting Unruh particles
17:00-17:20	Maxime Jacquet	Mixing of positive and negative frequency waves at the optical horizon
17:20-17:40	Mischa Woods	Autonomous quantum machines and finite sized clocks
17:40-18:10	Vesna Berc	Quantum networks: topology and spectral characterization
20:30		dinner
Wednesday 23 August 2017		
08:30-09:00	Eliahu Cohen	Novel aspects of nonlocality - theory and experiment
09:00-09:45 (conference plenary)	Ivette Fuentes	Gravity in the quantum lab
09:45-10:30 (conference plenary)	Jens Eisert	Boson sampling, quantum simulators and the quest for superior quantum devices
10:30-11:00		Coffee Break
Continuous Variables and Relativistic Quantum Information Workshop and Quantum Foundations and Quantum Information Workshop (Joint Session)		
11:00-11:30	Lorenzo Macconne	Quantum time mechanism, towards quantum spacetime
11:30-12:00	Ralf Schützhold	Fundamental quantum effects in the laboratory?
12:00-12:30	Ady Stern	Condensed matter systems for topological quantum computation
12:30-13:00	Yuval Gefen	Manifestation and detection of discord in nanostructures
13:00-14:45		Lunch Break
14:50-15:00		Opening words (Quantum Foundations and Quantum Information workshop)
15:00-15:30	Alessandro Romito	Ubiquitous non-local entanglement with Majorana bound states
15:30-16:00	Yutaka Shikano	Quantum dynamical simulation by quantum walk
16:00-16:30		Coffee Break
16:30-17:00	Lajos Diosi	Pure state post-selection is universal
17:00-17:30	Angelo Bassi	Wave function collapse and gravity
17:30-18:00	Ron Folman	Matter waves exposed to the external world: Decoherence, gravity, complementarity and time irreversibility
18:00-18:30	Andrea Alberti	Testing the superposition principle with individual trapped atoms
20:00-23:00		Conference Dinner with Cretan Music and Dance

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Thursday 24 August 2017		
Quantum Foundations and Quantum Information Workshop (in parallel to the main conference)		
09:00-09:30	Ryo Okamoto	One quantum shutter can close two slits simultaneously
09:30-10:00	Avshalom Elitzur	Novel manifestations of quantum oblivion
10:00-10:30	Daniel Rohrlich	Locality and nonlocality in the interaction-free measurement
10:30-11:00		Coffee Break
11:00-11:30	Yakir Aharonov	The fascinating properties of weak values
11:30-12:00	Michael Berry	Faster than Fourier (pre)visited: vorticulture, noise, fractals...
12:00-12:30	Lev Vaidman*	TBD
12:30-13:00	Justin Dressel	What does the measured record of a continuously monitored qubit really show?
13:00-14:55		Lunch Break
15:00-15:30	Sorin Paraoanu	Experimental realization of a shortcut to adiabaticity by synthetic Aharonov-Bohm effect in a qutrit
15:30-16:00	Daniel Sheehan	Statistical superdegeneracy and quantum foundations
16:00-16:30		Coffee Break
16:30-17:00	Maurice de Gosson	Planck's constant as a cosmological variable: transitions from the quantum to the classical
17:00-17:30	David Ellerman	Logical information theory: New foundations for classical and quantum information theory
17:30-18:00	Giuseppe Castagnoli	Fundamental mechanism of the quantum computational speedup
20:00-22:00		Dinner + Opera Gala
Friday 25 August 2017		
Quantum Foundations and Quantum Information Workshop (in parallel to the main conference)		
09:00-09:30	Shao-Ming Fei	Quantum uncertainty relations and related
09:30-10:00	Eliahu Cohen	Quantum mechanics is at most two-thirds local-realistic
10:00-10:30	Avishy Carmi	Invariance of uncertainty determines quantum nonlocality
10:30-11:00		Coffee Break
11:00-11:30	Yuji Hasegawa	Counter-intuitive phenomena in quantum mechanics emerging in matter-wave optical experiments
11:30-12:00	Fabrizio Piacentini	Weak measurements: From measuring non-commuting observables and testing quantum contextuality to protective measurements
12:00-12:30	Avi Pe'er	Ultrafast Optical Homodyne - Measuring the Fundamental Variables of Quantum Optics 10 ⁵ Times Faster
12:30-13:00	Ebrahim Karimi	Quantum cryptography with structured photons
13:00-14:30		Lunch Break
14:30-15:00 (parallel session 1)	Mohammed Sanduk	The analogy of equation of rotation in complex plane with the Dirac equation, and its foundation
15:00-15:30 (parallel session 1)	Mark Mitchison	Autonomous quantum clocks: does thermodynamics limit our ability to measure time?
14:30-15:00 (parallel session 2)	Chuan-Feng Li	Solid state quantum memory
15:00-15:30 (parallel session 2)	Sergey Mironov	Towards topological quantum computer
14:30-15:00 (parallel session 3)	Luis Gonzalez-Mestres	The nature and origin of quantum mechanics
15:00-15:30 (parallel session 3)	Cristi Stoica	Wavefunction collapse, conservation laws, and unitary evolution
15:30-15:55		Coffee break + Closing words
16:00-23:00		Excursion to Chania