

Conference Programme at a glance

Time	Monday	Tuesday	Wednesday	Thursday	Friday
09.00	<i>Welcome</i>	Joerg Wrachtrup	Karol Zyczkowski	Christof Wunderlich	Stephan Ritter
	Julien Laurat	Luca Pezze'	Barbara Kraus	Giovanna Morigi	Valentina Parigi
	Filippo Caruso	Daniela Buono	Leonardo Ferro	Marco Barbieri	Michele Dall'Arno
	Michele Avalle	Marco Cianciaruso	Roberto Pierini	Matteo Rizzi	Paolo Villoresi
10.35 (Mon. 10.30)	Coffe Break (30')				
	Mauro Paternostro	Wojciech Roga	Marcello Dalmonte	Philipp Hauke	Giuseppe Bimonte
	Francesco Marin	Tony John George Apollaro	Luca Tagliacozzo	Alessia Allevi	Stefano Pirandola
	Alessandro Farace	Pino Falci	Matteo Bina	Francesco Vincenzo Pepe	Giuseppe Luca Celardo
	Cosmo Lupo	Pasquale Scarlino	Alessio Avella	Leonardo Mazza	Massimo Palma
12.25 (Mon. 12.20)	LUNCH (on site)				
14.30 (Wed. 14.15)	Alessandro Zavatta	Geza Toth	Fabrizio Illuminati	Frank Pollman	
	Dominique Spehner	Salvatore Marco Giampaolo	Francesco Guerra	Pietro Silvi	
	Marco Genoni	Lorenzo Maccone	David Vitali	Virginia D'Auria	
	Marcus Cramer	Paola Verrucchi Sandro Donadi	Rosario Fazio	Elsa Passaro	
15.50 (Tues. 16.10, Thur. 16.05)	Coffe Break (30')				
	Claudia Benedetti	POSTER SESSION	Giorgio Parisi	Chiara Macchiavello	
	Sabrina Maniscalco		Paolo Mataloni	Davide Vodola	
	Ebrahim Karimi		Alessio Serafini	Francesco Ciccarello	
	Filippo Cardano		Matteo Paris	Nicolò Spagnolo	
			Saverio Pascazio		
Ending time	17.40	18.30	18.15	17.55	
			CONFERENCE DINNER (Starts 20.00)		

Bold names – keynote and special guests (30'+5' discussion)

Regular speakers (20' including discussion)

Conference Programme



MONDAY 15/9

Morning session 9.00 – 12.20

Afternoon session 14.30 – 17.40

Registration desk will be open
the all day since 8.30

9.00	9.15	Welcome addresses	
9.15	9.50	Optical Hybrid Quantum Information	Julien Laurat
9.50	10.10	Suppression of quantum locking and momentum rejuvenation as super-boosts for quantum transport	Filippo Caruso
10.10	10.30	State and energy transfer through noisy quantum cellular automata	Michele Avalle
10.30	11.00	<i>Coffee break</i>	
11.00	11.20	Non-interferometric Test of Collapse Models in Optomechanical Systems	Mauro Paternostro
11.20	11.40	Opto-mechanics toward quantum physics	Francesco Marin
11.40	12.00	Steady-state entanglement activation in optomechanical cavities	Alessandro Farace
12.00	12.20	From quantum data locking to the quantum enigma machine	Cosmo Lupo
12.20	14.30	<i>Lunch break (on site)</i>	
14.30	14.50	Generating continuous variables qubits using arbitrary quantum superpositions of single- photon operations	Alessandro Zavatta
14.50	15.10	Geometric quantum discords	Dominique Spehner
15.10	15.30	Stochastic unravelling of the thermal master equation	Marco Genoni
15.30	15.50	Scalable Quantum State Tomography	Marcus Cramer
15.50	16.10	<i>Coffee break</i>	
16.10	16.30	Decoherence, non-Markovianity and quantum estimation in qubit systems subject to colored noise	Claudia Benedetti
16.30	16.50	Non-Markovian quantum dynamics: when the past comes back	Sabrina Maniscalco
16.50	17.10	Structured light: concepts and applications	Ebrahim Karimi
17.10	17.40	Twisted photons for simulating quantum walks and probing their effective band structure	Filippo Cardano

Conference Programme



Tuesday 16/9

Morning session 9.00 – 12.25

Afternoon session 14.30 – 18.30

Registration desk will be open
8.30 – 11.05

9.00	9.35	Quantum information processing and metrology using diamond spins	Joerg Wrachtrup
9.35	9.55	Useful Entanglement in Quantum Metrology	Luca Pezze'
9.55	10.15	Gaussian Quantum Discord: Theory and Experiments	Daniela Buono
10.15	10.35	Understanding freezing of quantum correlations from first principles	Marco Cianciaruso
10.35	11.05	<i>Coffee break</i>	
11.05	11.25	Geometric measures of quantum correlations: characterization, quantification, and comparison by metrics and operations	Wojciech Roga
11.25	11.45	Quantum State Routing and many-qubit Quantum State Transfer via a single channel	Tony John George Apollaro
11.45	12.05	Lambda Scheme for Population Transfer in Superconducting Qubits	Pino Falci
12.05	12.25	Electrical control of a long-lived spin qubit in a Si/SiGe quantum dot	Pasquale Scarlino
12.25	14.30	<i>Lunch break</i>	
14.30	14.50	Detecting multiparticle entanglement of Dicke states	Geza Toth
14.50	15.10	Quantum Frustration in complex systems	Salvatore Marco Giampaolo
15.10	15.30	Entanglement and complementarity	Lorenzo Maccone
15.30	15.50	Quantum environment for a longer coherence time	Paola Verrucchi
15.50	16.10	Radiative properties of matter in collapse models	Sandro Donadi
16.10	16.40	<i>Coffee break</i>	
16.40	18.30	POSTER SESSION*	

* A list of the posters is available on a separate sheet

Conference Programme



Wednesday 17/9

Morning session 9.00 – 12.25

SPECIAL SESSION 14.15 – 18.15

Registration desk will be open
8.30 – 9.30

9.00	9.35	On entropic uncertainty relations	Karol Zyczkowski
9.35	9.55	Certain aspects of multipartite entanglement	Barbara Kraus
9.55	10.15	Origin of spontaneous symmetry breaking: classicality, monogamy, and convertibility	Leonardo Ferro
10.15	10.35	Preserving Information from the Beginning to the End of Time in a Robertson-Walker Universe	Roberto Pierini
10.35	11.05	<i>Coffee break</i>	
11.05	11.25	The cold atom lattice gauge toolbox: emergent nuclear physics in Bose mixtures	Marcello Dalmonte
11.25	11.45	Gauge theories and Tensor Networks	Luca Tagliacozzo
11.45	12.05	Real-time phase monitoring for quasi-optimal coherent-state receiver	Matteo Bina
12.05	12.25	Absolute calibration of an EMCCD camera from the analog to single photon regime	Alessio Avella
12.25	14.15	<i>Lunch break</i>	
<i>Special session on the occasion of Silvio De Siena's 65th birthday</i>			
14.15	14.35	Introduction to the special session	Fabrizio Illuminati
14.35	15.10	Heisenberg uncertainty principle in the stochastic interpretation of de Falco-De Martino-De Siena	Francesco Guerra
15.10	15.30	Certified entanglement between distant microwave fields with opto-electro-mechanical systems	David Vitali
15.30	15.50	Non-equilibrium dynamics and thermalisation of string order in quantum spin-1 chains	Rosario Fazio
15.50	16.20	<i>Coffee break</i>	
16.20	16.55	Statistical mechanics of maximally entangled states	Giorgio Parisi
16.55	17.15	3-dimensional integrated photonic quantum simulation	Paolo Mataloni
17.15	17.35	General diffusive conditional dynamics	Alessio Serafini
17.35	17.55	Single- and two-mode quantumness at a beam splitter	Matteo Paris
17.55	18.15	Quantum typicality	Saverio Pascazio

Conference dinner: at 20.00 a bus service leaving from the center of Salerno will take all the participants to the Restaurant “La Fattoria” located in the village of Dragonea. Dinner will start around 20.30. The buses will take participants back to the city center at the end of the dinner.

Conference Programme



Thursday 18/9

Morning session 9.00 – 12.25

Afternoon session 14.30 – 17.55

Registration desk will be open
8.30 – 9.30

9.00	9.35	Elements of Quantum Simulations with Trapped Ions using MAGIC	Christof Wunderlich
9.35	9.55	Quantum crystals of photons and atoms	Giovanna Morigi
9.55	10.15	Multimode state characterization by weak-field homodyning	Marco Barbieri
10.15	10.35	Optimal persistent currents for interacting bosons on a 1D ring with a gauge field	Matteo Rizzi
10.35	11.05	<i>Coffee break</i>	
11.05	11.25	Many-body localization and ergodicity in disordered long-range Ising models	Philipp Hauke
11.25	11.45	Schmidt modes description of the radiation field produced by high-gain parametric down conversion	Alessia Allevi
11.45	12.05	Interference in a Bose-Einstein condensate is typical	Francesco Vincenzo Pepe
12.05	12.25	Out-of-equilibrium dynamics and thermalization of string order	Leonardo Mazza
12.25	14.30	<i>Lunch break</i>	
14.30	15.05	Characterizing topological orders in quantum matter	Frank Pollman
15.05	15.25	Simulating Lattice Gauge field theories with Tensor Networks	Pietro Silvi
15.25	15.45	Ultrafast quantum optics based on telecommunication technologies	Virginia D'Auria
15.45	16.05	Randomness evaluation and certification in a steering scenario	Elsa Passaro
16.05	16.35	<i>Coffee break</i>	
16.35	16.55	Randomized Graph States and their Entanglement Properties	Chiara Macchiavello
16.55	17.15	Kitaev chains with long-range pairing	Davide Vodola
17.15	17.35	Measuring the reservoir spectral density via photon scattering	Francesco Ciccarello
17.35	17.55	Efficient experimental validation of photonic Boson Sampling	Nicolò Spagnolo

Conference Programme



Friday 19/9

Morning session 9.00 – 12.30

9.00	9.35	A quantum gate between a flying optical photon and a single trapped atom	Stephan Ritter
9.35	9.55	Photonic States Manipulation In Atomic Ensembles	Valentina Parigi
9.55	10.15	Accessible Information of Quantum Ensembles and Informational Power of Quantum Measurements	Michele Dall'Arno
10.15	10.35	Extending the Quantum Communications toward the Space exploiting Satellite Links	Paolo Villoresi
10.35	11.05	<i>Coffee break</i>	
11.05	11.25	The Casimir effect: present status, theoretical puzzles and future perspectives	Giuseppe Bimonte
11.25	11.45	A quantum information approach to the black-hole information paradox	Stefano Pirandola
11.45	12.05	Robustness of collective properties to disorder: the case of Superradiance. Applications to light harvesting systems	Giuseppe Luca Celardo
12.05	12.25	Transitionless quantum driving in open quantum systems	Massimo Palma
12.25	12.30	<i>Concluding remarks</i>	

Conference Programme



POSTER LIST

Tuesday 16.40 – 18.30

Adeline Orieux	Experimental recovery of entanglement by local operations
Carlo Ottaviani	Measurement-device independent quantum cryptography with continuous variables: security of the symmetric configuration
Fulvio Flamini	Efficient experimental validation of photonic Boson Sampling
Gaetana Spedalieri	Quantum Hoeffding bound for Gaussian states
Giuseppe Vallone	Finite-size QKD and Quantum Randomness from the Uncertainty Principle
Luca Taddia	Dynamics of entanglement entropy and entanglement spectrum crossing a quantum phase transition
Maria Maffei	Observation of topological phenomena in photonic quantum walk with twisted light
Mario Arnolfo Ciampini	Path-polarization hyperentanglement characterization on chip
Michele Dall'Arno	Universal Optimal Quantum Correlator
Nicola Malossi	Electro-opto-mechanics with SiN membrane
Salvatore Lorenzo	Correlations and Heat fluxes in a collisional model
Stefano Olivares	About the use of fidelity to assess quantum resources
Stefano Pirandola	Towards end-to-end quantum cryptography
Giuseppe Buonaiuto	Quantum entanglement and quantum discord dynamics in non-Markovian channels
Sara Di Martino	Strong Monogamy of Entanglement
Martí Cuquet	Entanglement and nonclassical properties of hypergraph states
Gaetano Nocerino	Experimental Entanglement birth in the mixing of Gaussian states: a matter of Fidelity
Thomas Bromley	The universal freezing phenomenon of geometric bipartite correlations