

**Saturday 24**

**Quantum Information & Information Geometry**

Chair: Ercolessi / Facchi

9:00 9:45	F.M. Ciaglia	The space of quantum states, relative entropies and metric tensors
9:45 10:30	A. De Pasquale	A dynamical approach to noisy evolution
10:30 11:00	Coffee Break	
11:00 11:45	G. Magnifico	Topological QED in 1+1 dimensions
11:45 12:30	D. Pomarico	Bound states and entanglement generation in waveguide quantum electrodynamics
	Lunch	
15:00 15:45	F. Ciccarello	Open dynamics of a quantum system driven by a single photon
15:45 16:30	G. Scarpa	Computational complexity of PEPS zero testing
16:30 17:00	Coffee Break	
17:00 17:45	L. Catani	Csirelson's bounds as a refinement of Landauer's principle

**Sunday 25**

**Quantum Information & Information Geometry**

Chair: Ercolessi / Facchi

9:00 9:45	S. Pascazio	Entanglement critical length at the many-body localization transition
9:45 10:30	D. Vodola	Twins Percolation for Qubit Losses in Topological Color Codes
10:30 11:00	Coffee Break	
11:00 11:45	S. Pappalardi	Scrambling and entanglement spreading in long-range spin chains
11:45 12:30	D. Rossini	Chiral edge modes and crystalline phases in atomic synthetic ladders

**Monday 26**

**Gravitational waves**

Chair: Ferrari / Gualtieri

9:30 10:05	P. Astone	Present results and future challenges with the network of gravitational wave detectors
10:05 10:30	S. Piranomonte	GW170817 optical/NIR follow-up observations: the first evidence of kilonovae existence
10:40 11:05	Coffee break	
11:05 11:40	W. Del Pozzo	Tests of general relativity from binary black hole coalescences
11:40 12:15	M. De Laurentis	Constraining alternative theories of gravity using GW150914 and GW151226
12:15 12:30	T. Abdelsalhin	Tidal deformations in inspiralling compact binary systems
12:30 12:45	F. Jimenez Forteza	Indistinguishability of high-PN tidal effects on BNS waveform models.
12:45 13:00	C. Pacilio	Quasinormal modes of general Einstein-Maxwell-dilaton theory
	Lunch	
14:30 15:05	R. Schneider	The formation and coalescence sites of the first gravitational wave events
15:05 15:40	F. Haardt	Massive black holes in galactic nuclei: dynamics, cosmic evolution and gravitational wave emission
15:40 16:10	Coffee break	
16:10 16:45	A. Maselli	Solving the relativistic inverse stellar problem through gravitational wave observations of binary neutron stars
16:45 17:20	A. Perego	Multimessenger constraints on the equation of state of neutron stars

**Tuesday 27**

**Topics in nonperturbative Quantum Field Theory**

Chair: Rosa / Percacci

9:00 9:45	V. Mastropietro	Anomalies, Constructive QFT and Universality in solid state physics
9:45 10:30	C. Dappiaggi	On the role of boundary conditions in the quantization of Bosonic field theories on AdS spacetime
10:30 11:00	Coffee Break	
11:00 11:45	R. Percacci	Asymptotic safety
11:45 12:30	G.P. Vacca	Selected topics on the functional renormalization group and its applications
	Lunch	
	Chair: Vacca / Mastropietro	
15:00 15:45	F. Siringo	Exploring Non-Perturbative QCD by Perturbation Theory: an Analytical Study of the Yang-Mills Sector in the IR
15:45 16:30	M. Panero	An overview of the lattice approach to strongly coupled quantum field theory
16:30 17:00	Coffee Break	
17:00 17:45	F. Becattini	Thermodynamic equilibrium with acceleration and the Unruh effect
17:45 18:05	L. Petruzzello	On the role of neutrino mixing in accelerated proton decay
18:05 18:30	L. Smaldone	Dynamical generation of fermion mixing

**Wednesday 28**

**Cosmology and Theories of gravity**

Chair: Zerbini / Cianci / Scardigli

9:00 9:30	M. Della Valle	Probing the Transient Universe with Supernovae, Hypernovae and Kilonovae in the GWs era
9:30 10:00	G. Covone	Is Dark Matter really collisionless? Recent insights from astronomical observations
10:00 10:30	M. De Laurentis	Test-particle dynamics in general spherically symmetric black hole spacetimes

Wednesday 28

Cosmology and Theories of gravity

Chair: Zerbini / Cianci / Scardigli

10:30		
11:00	L. Amati	THESEUS mission
11:00		
11:30		Coffee Break
11:30		
12:00	L. Fatibene	Observability and tests in Palatini $f(R)$ -theories
12:00		
12:30	R. Giambò	Black holes from gravitational waves
12:30		
13:00	A. Mazumdar	Singularity free, Ghost free & Infinite derivative gravity
13:00		
		Lunch
14:30		
15:00	M. Rinaldi	Scale-invariant gravity and inflation
15:00		
15:30	P. Mastrolia	Diagrammatic approach to the gravitational two-body dynamics
15:30		
16:00	G. Esposito	Looking for a new test of general relativity in the solar system. I/II
16:00	A. Tartaglia	
16:00		
16:30	E.	Cosmology with high redshift distance probes: A Gamma-Ray Bursts and Quasars Hubble diagram
16:30	Piedipalumbo	
16:30		
17:00		
17:30	L. Sebastiani	Action growth for static black holes in modified gravity
17:30		
18:00		
18:30	C. Stornaiolo	Tomographic analysts of the quantum cosmological models of the de Sitter universes
18:00		
18:20	L. Buoninfante	Insights into infinite derivative gravity from curvature tensors
18:20		
18:40		
18:40	G. Harmsen	Quasinormal modes for spin-3/2 fields near an N-dimensional Reissner-Nordstrom black hole.
18:40		
19:00		
19:00	F. Di Filippo	Minimally modified theories of gravity: a playground for testing the uniqueness of general relativity
19:00		
19:20		
19:20	R. D'Agostino	Cosmic acceleration from Anton-Schmidt's equation of state
19:20		
19:30	O. Luongo	TBA
19:30		

PAFT 2018 Problemi Attuali di Fisica Teorica

Current Problems in Theoretical Physics

Quantum Mechanics, Fields, Gravity, Cosmology,  
Gravitational waves

XXIV Edition - March 24 - 28, 2018

Lloyd's Baia Hotel- Vietri sul Mare (Italy)

24 - 25 March

Quantum Information & Information Geometry

Chairpersons: E. Ercolessi, P. Facchi

26 March

Gravitational waves

Chairpersons: V. Ferrari, L. Gualtieri

27 March

Topics in non perturbative Quantum Field Theory

Chairperson: L. Rosa

28 March

Cosmology and Theories of gravity

Chairperson: S. Capozziello

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