

**FIRST INTERNATIONAL CONFERENCE ON
 QUANTUM GASES, FUNDAMENTAL INTERACTIONS, AND COSMOLOGY
 PISA, 25-27 OCTOBER 2017**

**WEDNESDAY
 25 OCTOBER
 2017**

08.30-09.00	WELCOME	
09.00-09.40	ERIC CORNELL The three-body problem, exotic materials, quantum computing and baryogenesis. What happens when Atomic physics escapes!	KEYNOTE SPEECHES Chairwoman: Marilyn CHIOFALO
09.40-10.20	GUIDO TONELLI <i>Perspectives in particle physics</i>	
10.20-11.00	SABINO MATARRESE <i>Inflation</i>	
11.00-11.30	COFFEE BREAK	
11.30-12.30	GENERAL DISCUSSION	
	LUNCH	
14.00-14.25	M. KOEHL, <i>Higgs mode in strongly-interacting Fermi gases</i>	TALKS ON SPECIFIC TOPICS Chairwoman: Angela DI VIRGILIO
14.25-14.50	S. GALLERANI, <i>Super Massive Black Holes in the early Universe</i>	
14.50-15.15	F. SORRENTINO, <i>Gravity tests with antimatter: the AEGIS experiment</i>	
15.15-15.35	A. KOSHELKIN, <i>The octet of pseudoscalar mesons in term of SU(N) Gauge Invariant Lagrangian</i>	
15.35-16.05	COFFEE BREAK	
16.05-16.30	C. BRAGGIO, <i>Detection of axion dark matter in solid state materials: exploiting the axion-electron coupling</i>	
16.30-16.55	C. BONATI, <i>From QCD to cosmology: theta dependence, axions and dark matter</i>	
16.55-17.20	G. Clemente, <i>Spectral methods in Causal Dynamical Triangulations</i>	
17.20-17.45	P. JALUVKOVA, <i>The generalized LTB solutions in modeling the cosmological black holes</i>	
19.00-21.30	SOCIAL DINNER @ CANTINA JAZZ (SPECIAL FOOD&WINE + LIVE JAZZ) http://www.cantinajazz.com/	
21.30-22.00	AFTER-DINNER SPEECH by FEDERICO FERRINI (Director of the European Gravitational Observatory) <i>GW: Toward the New Astronomy</i>	

THURSDAY
26 OCTOBER
2017

09.00-09.40	HOLGER MULLER <i>Precision Measurements in Fundamental Physics</i>	KEYNOTE SPEECHES
09.40-10.20	GUIDO MARTINELLI <i>Flavor Physics: Overview and Perspectives</i>	
10.20-11.00	GIANFRANCO BERTONE <i>Dark Matter</i>	
11.00-11.30	COFFEE BREAK	
11.30-12.30	GENERAL DISCUSSION	
	LUNCH	
14.30-14.55	M. VIVIANI , <i>Study of time-reversal violation in the two-nucleon system</i>	TALKS ON SPECIFIC TOPICS
14.55-15.20	V. FLEUROV , <i>Analogue Hawking radiation in a "flow of light"</i>	
15.20-15.45	A. DI VIRGILIO , <i>Ginger</i>	
15.45-16.15	COFFEE BREAK	
16.15-16.40	A. KIEVSKY , <i>Efimov spectrum for N bosons</i>	
16.40-17.05	E. TRINCHERINI , <i>An Effective Field Theory for Black Hole perturbations: testing extensions to GR with gravitational waves</i>	
17.05-17.30	L. SALASNICH , <i>Quantized vortices in two-dimensional ultracold Fermi gases</i>	
17.30-17.55	M. NORI , <i>AX-Gadget, a N-Body hydrodynamical code for axion cosmology simulations</i>	
21.00-22.30	SOCIAL PROGRAM: CONCERT OF THE PISA UNIVERSITY ORCHESTRA https://orchestra.unipi.it/ (Music from Mozart and Schostakovich) @ TEATRO VERDI http://www.teatrodipisa.pi.it/	

Chairman:
Andrea FERRARA

Chairman:
Massimo D'ELIA

FRIDAY
27 OCTOBER
2017

09.00-09.40	IACOPO CARUSOTTO <i>The Exciting Adventure of Condensed-Matter and Optical Analogs of Gravitational systems</i>	KEYNOTE SPEECHES Chairman: Guglielmo TINO
09.40-10.20	VOLKER BROMM <i>Large-scale Structure</i>	
10.20-11.00	DMITRI KHARZEEV <i>The Chiral Magnetic Effect: from quark-gluon plasma to Dirac semimetals</i>	
11.00-11.30	COFFEE BREAK	
11.30-12.30	GENERAL DISCUSSION	
	LUNCH	
14.00-15.00	SOCIAL ACTIVITY. WALKING ON TOP OF THE ANCIENT PISA WALLS, FROM THE LEANING TOWER TO ARNO RIVER: A TOP VIEW OF THE HISTORICAL TOWN	
15.00-15.25	B. PATRICELLI, <i>Advanced LIGO and Advanced Virgo first results</i>	TALKS ON
15.25-15.50	G. ROSI, <i>Gravitational tests using simultaneous atom interferometers</i>	SPECIFIC TOPICS
15.50-16.20	COFFEE BREAK	
16.20-16.45	D. ROSSINI, <i>Chiral edge modes and crystalline phases in atomic synthetic ladders</i>	Chairman: Dario GRASSO
16.45-17.10	D. COLOSI, <i>General Boundary Formulation of Quantum Theory</i>	
17.10-17.35	P.T. HOW, <i>Universal Non-Analytic Fermi Liquid Behavior of an SU(N) Fermi Gas</i>	
18.30-20.00	SOCIAL PROGRAM: ESCHER EXHIBITION @ PALAZZO BLU http://palazzoblu.it/	