

# PAFT 2016 - Problemi Attuali di Fisica Teorica Current Problems in Theoretical Physics

XXII Edition - March 18 - 23, 2016  
Lloyd's Baia Hotel - Vietri sul Mare (Italy)

## PROGRAM

**String Theory - Chairpersons: G. Bonelli - F. Pezzella - A. Tomasiello**

### Friday, 18th March

14.30 - 15.00 **Registration**

15.00 - 15.40 Andrea Campoleoni  
*Higher spins in three dimensions and BMS symmetry*  
15.40 - 16.20 Massimo Taronna  
*Higher Spins, Holography and Locality: The Bulk Side*

16.20 - 16.40 **Coffee break**

16.40 - 17.30 Michela Petrini  
*Geometrical structures in supergravity and string theory*  
17.30 - 18.10 Stefano Massai  
*Non-geometric heterotic vacua from F-theory*  
18.10 - 18.50 Patricia Ritter  
*Higher gauge theory interpretation of an M5-brane model*

### Saturday, 19th March

09.30 - 10.20 Alberto Zaffaroni  
*AdS4 black holes and 3d gauge theories*  
10.20 - 11.00 Fabrizio Nieri  
*Deformed Virasoro algebras in supersymmetric gauge theories*

11.00 - 11.30 **Coffee break**

11.30 - 12.10 Lorenzo Di Pietro  
*Universal Properties of Cylinder Partition Functions*

12.10 - 12.50 Guglielmo Lockhart  
*Instanton strings of minimal 6d SCFTs*

12.50 - 15.00 **Lunch**

15.00 - 15.50 Camillo Imbimbo  
*Some Applications of Topological Gravity to Supersymmetric Quantum Field Theories*

15.50 - 16.30 Marco Bertolini  
*A new class of (0,2) superconformal field theories*

16.30 - 17.00 **Coffee break**

17.00 - 17.40 Luigi Tizzano  
*6d fixed points from holography*

17.40 - 18.20 Simone Giacomelli  
*T-branes through 3d mirror symmetry*

## Sunday, 20th March

09.30 - 10.20 Dimitri Sorokin  
*Spontaneously broken supergravity, constrained superfields and branes*

10.20 - 11.00 Marco Scalisi  
*Inflation and attractors in supergravity*

11.00 - 11.30 **Coffee break**

11.30 - 12.10 Marco Chiodaroli  
*Scattering amplitudes in N=2 Maxwell-Einstein and Yang-Mills-Einstein supergravities*

12.10 - 12.50 Alessandra Gnechchi  
*Black branes in AdS4 and a quantum critical point*

## Noncommutative Geometry - Chairperson: L. Castellani

12.50 - 15.00 **Lunch**

15.00 - 15.45 Giovanni Landi  
*Line bundles over noncommutative spaces*

15.45 - 16.30 Francesco D'Andrea  
*Non-associative deformations of circle bundles*

16.30 - 17.00 **Coffee break**

17.00 - 17.45 Rita Fioresi  
*Quantum Homogeneous Spaces and Superspaces*

17.45 - 18.30 Pietro Antonio Grassi  
*The Geometry of Supermanifolds and Applications*

## Monday, 21st March

09.30 - 10.15 Paolo Aschieri

*Cartan's structure equations and Levi-Civita connection in Noncommutative Geometry from Drinfeld Twist*

10.15 - 11.00 Chiara Pagani

*A sheaf theoretic description of quantum principal bundles*

11.00 - 11.30 **Coffee break**

11.30 - 12.15 Francesco Bonechi

*Quantum projective spaces from quantization of integrable models*

12.15 - 13.00 Alberto Cattaneo

*Perturbative BV-BFV theories on manifolds with boundary*

13.00 - 15.00 **Lunch**

## Loop Quantum Gravity and Group Field Theory - Chairperson: D. Oriti

15.00 - 15.45 Emanuele Alesci

*Loop Quantum Gravity*

15.45 - 16.30 Daniele Oriti

*Group field theory: foundations and emergent cosmology*

16.30 - 17.00 **Coffee break**

17.00 - 17.50 Daniele Pranzetti

*Black hole entropy in loop quantum gravity*

17.50 - 19.00 **Round table and general discussion on Quantum Gravity**

## Tuesday, 22nd March

09.30 - 10.15 Goffredo Chirco

*Exploring the pre-geometric quantum texture of space-time with entanglement*

10.15 - 11.00 Francesco Cianfrani

*Cosmological implications of quantum geometry in LQG*

11.00 - 11.30 **Coffee break**

11.30 - 12.15 Andrea Dapor

*Effective Spacetimes from Quantum Cosmology*

12.15 - 13.00 Riccardo Martini

*Functional Renormalisation Group analysis of Tensorial Group Field Theories*

13.00 - 15.00 **Lunch**

## Gravitational Waves - Chairperson: V. Ferrari

15.00 - 15.30 – Fulvio Ricci

*GW150914. the first direct detection of gravitational waves*

15.30 - 15.55 – Sebastiano Bernuzzi

*How loud are neutron star mergers in the gravitational wave window?*

15.55 - 16.20 – Paolo Pani

*Tidal deformations of compact objects and their impact for gravitational-wave astronomy*

16.20 - 16.50 – **Coffee break**

16.50 - 17.15 – Andrea Maselli

*Relativistic tidal effects in non standard Kerr space-time*

17.15 - -17.40 – Leonardo Gualtieri

*Testing gravity with gravitational wave observations*

17.40 - 18.05 – Enrico Barausse

*Gravitational waves from supermassive black-hole binaries*

18.05 - 18.30 – Alessandro Nagar

*Interfacing effective-one-body and numerical relativity results for coalescing binaries*

## Wednesday, 23h March

9.30 - 9.55 – Paola Leaci

*Gravitational Wave Astronomy with second generation interferometric detectors*

9.55 - 10.20 – Cristiano Palomba

*Search for continuous gravitational waves from spinning neutron stars in the advanced detector era*

10.20 - 10.45 – Salvatore Capozziello

*Massive, massless and ghost modes of gravitational waves from higher-order gravity*

10.45 - 11.15 – **Coffee break**

11.15 - 11.40 – Mariafelicia De Laurentis

*Pulsar dynamics in general black-hole spacetimes: spherically symmetric case*

11.40 - 12.05 – Riccardo Ciolfi

*Electromagnetic emission from long-lived BNS merger remnants*

12.05 - 12.30 – Francesco Maione

*Modeling Equal and Unequal Mass Binary Neutron Star Mergers Using Public Codes*

12.30 - 12.45 – Alessandro Lovato

*From few to many: the effective interaction approach*

12.45 - 13.05 – Giovanni Camelio

*Gravitational waves from proto-neutron stars evolution*

13.05 - 13.30 – Giuseppe Greco

*Multi-Messenger Astronomy with gravitational waves and electromagnetic transients*