



Physics Ph.D. Students Workshop

Friday 25 January 2019, from 9:00 a.m. – Dept. of Physics, Aula Caianello (-2Ma05)

Physics Ph.D students present their current and future research work

32nd cycle

1st Session

Chair: A. Miano

- 9:20 a.m. **Professor Salvatore CAPOZZIELLO** *Introduction*
- 9:30 a.m. **Elaheh ALLAHYARI** *"The generation and characterization of surface structures produced by ultrashort laser pulses."*
- 9:45 a.m. **Loris Maria CANGEMI** *"Dissipative dynamics of a qubit beyond Born-Markov approximation."*
- 10:00 a.m. **Bruno CIMMINO** *"Dark Matter search: the neutron Veto in the Xenon detector upgrade."*
- 10:15 a.m. **Michele CORVINO** *"Measurement of the lepton flavour universality ratio R_K with NA62 experiment at CERN."*
- 10:30 a.m. **Andrea ESPOSITO** *"Chromatin architecture code inferred by machine learning and polymer physics."*
- 10:45 a.m. **Antonio GIANNINI** *"Seaches of new physics in diboson semi-leptonic final states with VBS/VBF signatures in pp collisions at $s=13$ TeV with the ATLAS detector."*
- 11:00 a.m. **Marco LAVORGNA** *"Searches for heavy ZZ and ZW resonances in semileptonic final states with the ATLAS detector at LHC."*
- 11:15 a.m. **Mattia MANFREDONIA** *"Localization and reference frames in k-Minkowski spacetime."*
- 11:30 a.m. **Coffee BREAK**

2nd Session

Chair: G. De Somma

- 12:00 p.m. **Alessandro PULCINI** *"Fission and quasi-fission dynamics near the Coulomb barrier: gamma rays as probe for separation."*
- 12:15 p.m. **Maria Angela RAJ** *"Evolution and Structure of Late Type Galaxies inside the virial radius of the Fornax Cluster."*
- 12:30 p.m. **Oleksandra RAZIM** *"Galaxy classification with machine learning methods."*
- 12:45 p.m. **Daniela SALVONI** *"SNSPD detectors and Lidar application."*
- 1:00 p.m. **Chiara SCHIATTARELLA** *"Optical characterization of functional nanomaterials for biomedical applications."*
- 1:15 p.m. **Manjot SINGH** *"Biological interactions of biocompatible and water dispersed MoS2 nano sheets with bacteria and human cells."*
- 1:30 p.m. **Lunch (on your own)**

33rd cycle

1st Session

Chair: E. Allahyari

- 2:30 p.m. **Halima Giovanna AHMAD** *"Dissipation and unconventional superconductivity in spin-filter Josephson junctions."*
- 2:40 p.m. **Francesco ALESSIO** *"The fuzzy celestial sphere."*
- 2:50 p.m. **Francesco BAJARDI** *"Topological field theories and their applications."*
- 3:00 p.m. **Marcello CAMPAJOLA** *"Search for Invisible Decays of a Z' produced in $e+e-$ collisions at Belle II."*
- 3:10 p.m. **Angela CAPACCIO** *"Enhanced Raman-based spectroscopy for analysis of bio-systems."*
- 3:20 p.m. **Achille DAMASCO** *"Optimization and improvement of carbon-based and graphene-based supercapacitors."*
- 3:30 p.m. **Pegah DARVEHI** *"Increasing the efficiency of coupling light into an optical fiber."*
- 3:40 p.m. **Agostino DE IORIO** *"Search for new physics contributions and measurements of CKM matrix elements in single-top production with the CMS experiment at LHC."*
- 3:50 p.m. **Giulia DE SOMMA** *"A theoretical analysis of systematics affecting the Hubble constant tension: from the stellar to the cosmological route."*
- 4:00 p.m. **Coffee BREAK**

2nd Session

Chair: L. M. Cangemi

- 4:30 p.m. **Luca FIORILLO** *"Ensamble and single-cell DNA 3D structure: a polymer-physics-based exploration."*
- 4:40 p.m. **Antonio IULIANO** *"Emulsion detector for the SHiP experiment: current status and future plans."*
- 4:50 p.m. **Alessandro MIANO** *"Novel routes for the control of superconducting hybrid devices."*
- 5:00 p.m. **Gianluca PASSARELLI** *"Quantum annealing, AQC and open quantum systems."*
- 5:10 p.m. **Olena TORBANIUK** *"Identification of candidate AGNs in multiband digital sky surveys."*
- 5:20 p.m. **Pasquale TRINCHESE** *"A portable EEG-BCI framework enhanced by machine learning techniques."*
- 5:30 p.m. **Professor Salvatore CAPOZZIELLO** *Greetings*