

III International Workshop on recent LHC Physics results and related topics in Tirana

10-12 October 2018

III International Workshop on recent LHC results and related topics

TOPICS

- Physics at LHC in Standard Model and Beyond
- Higgs properties
- Lattice QCD
- Development on Astrophysics and Cosmology
- Experimental techniques in Physics

Organizing committee

Acad. Vasil Tole (Tirana), Acad. Floran Vila (Tirana), Acad. Salvator Bushati (Tirana), Prof. M. Koni (Tirana), Prof. S. Drushku (Tirana), Prof. P. Dhoqina (Tirana), Prof. A. Borici (Tirana), Prof. M. Hafizi (Tirana), Dr. Ch. Schaefer (CERN), Dr. D. Denegri (CERN), Dr. L. Dobrzynski (Paris), Prof. G. Iaselli (Bari), Prof. N. De Filippis (Bari)

Academy of Sciences, Tirana, Albania
10-12 October 2018



WORKSHOP PROGRAMME

Day 1, Wednesday, 10 October

- 09:00 – 09:30** **Registration**
- 09:30 – 10:30** **Opening session:**
Chair: Acad. Salvator Bushati,
Prof. Dr. Spiro Drushku,
Assoc. Prof. Polikron Dhoqina
- 09:30 – 10:10 Official greetings from:
- Mrs. Lindita Nikolla, Minister of Education and Sports
 - Acad. Vasil Tole, Scientific Secretary of the Academy of Sciences
 - Prof. Mynyr Koni, Rector of University of Tirana
 - Representatives of Embassies of France, Italy and Switzerland
 - Prof. Christoph Schaefer, CERN representative
- 10:10 – 10:20 Prof. Dr. Mimoza. Hafizi: *Astrophysics and Cosmology activity in Albania*
- 10:20 – 10:30 Prof. Dr. Artan Boriçi: *Lattice QCD and particle physics activity in Albania*

10:30-11:00 **Exhibition “The Origin of the Universe”**

Prof. Ludwik Dobrzynski, Palaiseau, France
Prof. Daniel Denegri CERN/IRFU, Saclay, France

11:00 – 11:30 **Coffee Break**

11:30 – 13:00 **Session 1: Lattice QCD**

Chair: Prof. Tilo Wettig

11:30 – 12:10 Philippe de Forcrand, ETH Zurich, Switzerland: *Progress toward the phase diagram of QCD from the lattice*

12:10 – 12:50 Leonardo Giusti, Milano, Italy: *Factorization of fermions and the consequent multi-level integration*

12:50 – 13:30 Artan Boriçi, Tirana, Albania: *A solvable Yang-Mills theory and asymptotic QCD dual to holography*

13:30– 14:30 **Lunch Break**

14:30 - 16:45 **Session 2: Astrophysics and cosmology and LHC**

Chair: Prof. Dr. Mimoza Hafizi

14:30 – 15:15 Francesco Loparco, Bari, Italy: *Dark matter searches with the Fermi LAT*

15:15 – 16:00 Mimoza Hafizi, Tirana: *Selected highlights in Astrophysics*

16:00 – 16:45 Eva Barbara Holzer, CERN: *LHC description, performance and prospects*

16:45 – 17:15 **Coffee Break**

17:15 – 18:15 **Session 3: New researchers’ session:**

Chair: Dr. Rudina Osmanaj

17:15 – 17:35 Ilirjan Margjeka, Bari, Italy: *Double Higgs production*

17:35 – 17:55 Rea Dalipi, ETH Zurich, Switzerland: *The magnetic configuration of iCar*

17:55 – 18:15 Megi Hysenlli, Tirana, Albania: *Large N QCD at strong coupling*

Day 2, Thursday, 11 October

09:00 - 11:30 **Session 1: The LHC project**

Chair: Prof. D. Denegri

09:00 – 09:50 Tadeusz Kurtyka, CERN: *LHC and future CERN projects. Engineering challenges*

09:50 – 10:40 Ludwik Dobrzynski, Palaiseau, France: *LHC detectors and their performances*

10:40 – 11:30 Chiara Mariotti, CERN: *LHC Physics*

11:30 -12:00 **Coffee Break**

12:00 - 13:30 **Session 2: LHC. Contribution to Physics**

Chair: Prof. Christoff Schaefer

- 12:00 – 12:45 Daniel Denegri CERN/IRFU, Saclay, France: *Overview of Standard Model probing with LHC results*
- 12:45 – 13:30 Nicola De Filippis, Bari, Italy: *Higgs search and discovery*
- 13:30 – 14:30 Lunch break**
- 14:30 – 16:00 Session 3: Lattice QCD**
Chair: Prof. Philippe de Forcrand
- 14:30 – 15:15 Christof Gatttringer, Graz, Austria: *Low temperature condensation and scattering data*
- 15:15 – 16:00 Tilo Wettig, Regensburg, Germany: *Multi-grid algorithms and their implementation*
- 16:00 – 16:30 Coffee Break**
- 16:30 – 18:30 Session 4: Astrophysics**
Chair: Prof. Francesco Loparco
- 16:30 – 17:30 Eda Gjergo, Trieste, Italy: *Cosmology, simulations, large scale structures, dark matter and dark energy*
- 17:30 – 17:50 Lindita Hamolli, Tirana, Albania: *Free floating planets in our Galaxy*
- 17:50 – 18:10 Klaudio Peqini, Tirana, Albania: *Flow at the Core-Mantle Boundary and Jerks*

Day 3, Friday, 12 October

- 09:00 - 11:15 Session 1: LHC Contribution to Physics**
Chair: Prof. Christof Gatttringer
- 09:00 – 09:45 Nicola De Filippis, Bari, Italy: *Search for Dark Matter at the LHC*
- 09:45 – 10:30 Daniel Denegri CERN/IRFU, Saclay, France: *Overview of BSM searches at LHC*
- 10:30 – 11:15 Ludwik Dobrzynski, Palaiseau, France: *LHC detectors and their upgrades*
- 11:15 - 11:45 Coffee Break**
- 11:45 - 13:00 Session 2: Lattice QCD**
Chair: Prof. Nicola De Filippis
- 11:45 – 12:15 Rudina Osmanaj, Tirana, Albania: *Lattice fermions, MDF an alternative for simulation*
- 12:15 – 12:45 Dafina Hyka, Tirana, Albania: *Chiral fermions algorithms in QCDCALAB2*
- 12:45 – 14:00 Lunch break**
- 14:00 – 15:30 Session 3: Particle phenomenology**
Chair: Prof. Dr. Artan Boriçi
- 14:00 – 14:45 Abaz Kryemadhi, Messiah, USA: *Search for exotic features in cosmic ray showers*
- 14:45 – 15:30 Bianka Meçaj, Mainz: *Soft Collinear EFT in BSM applications*
- 15:30 - 16:00 Coffee Break**

16:00 – 17:00

Session 4: New researchers' session

Chair: Dr. Dafina Hyka

16:00 – 16:15

Malvina Marku, Tirana, Albania: *First step into modelling biological systems: discrete models*

16:15 – 16:30

Klotilda Nikaj, Shkodra, Albania: *Structural analysis of the popularity on a technical-social complex network*

16:30 – 16:40

Sergei Çelaj, Tirana, Albania: *The period of simple pendulum*

16:40 – 16:50

Florian Millo, Tirana, Albania: *Molecular dynamics and simple pendulum*

16:50 – 17:00

Giulio Boraku, Tirana, Albania: *Heisenberg uncertainty principle*

17:00 – 17:15

Panel discussion

17:15

End of workshop