Wednesday, July 4

Lectures. 8:45

1. Opening. — 15 min.

2. David Blaschke  
   Was GW170817 indeed a merger of two neutron stars? — 45 min.

3. Michal Eckstein  
   NCG overview. — 45 min.

Coffee Break. 10:30 – 11:00

4. Kyrill Bugaev  
   Chemical Freeze-out Parameters Found by Hadron Resonance Gas Model with Induced Surface Tension. — 45 min.

5. Gordon Semenoff  
   Dynamical violation of scale invariance and the dilaton in a cold Fermi gas. — 45 min.

6. Lawrence Gibbons  
   Status of g-2 for the Muon. — 45 min.

Lunch. 13:30 – 15:00

7. Thiago Guerreiro  
   Quantum entanglement and wave particle duality. — 60 min.

Coffee Break. 16:00 – 16:30

Blessing in the OAC Chapel (19:00 – 20:00)

After dinner talk in the open veranda of OAC  
“History of Crete” by Emanuela Larentzakis  
(20:30 – 21:15)
Thursday, July 5

Plenary Session (Room 1, 8:20)

1. Opening of the conference. — 40 min.

2. Slava Mukhanov
   *Bekenstein Entropy and Hawking Radiation-Reminiscences.* — 30 min.

3. Robert Pisarki
   *The phase diagram of QCD: Critical endpoint vs a pseudo-Lifshitz point.* — 30 min.

4. Chihiro Sasaki
   *Parity doubling in QCD thermodynamics.* — 30 min.

   Coffee Break. 10:30 – 11:00

Special session on QCD – from vacuum to finite temperatures (Room 1, 11:00)

1. Hugo Reinhardt
   *Hamiltonian approach to finite temperature QCD by compactification of a spatial dimension.* — 30 min.

2. Willibald Plessas
   *Relativistic Coupled-Channels Quark Model for Baryon Ground and Resonant States.* — 30 min.

3. Herbert Weigel
   *Exotic Baryons in Chiral Soliton Models.* — 30 min.

4. Krzysztof Redlich
   *Exploring chiral symmetry restoration in heavy-ion collisions with fluctuation observables.* — 30 min.

5. Ralf Hofmann
   *SU(2) Yang-Mills thermodynamics and Cosmology.* — 30 min.
Mini Workshop on Instruments and Methods in HEP
(Room 2, 11:00)

1. Martina Ressegotti
   *Overview of the CMS detector performance at LHC Run 2.* — 30 min.

2. Christos Lampoudis
   *The Micromegas construction project for the ATLAS New Small Wheel.* — 30 min.

3. Georgios Tsiledakis
   *Large high-efficiency thermal neutron detectors based on the Micromegas technology.* — 30 min.

4. Dragos-Victor Anghel
   *Ultrasensitive superconducting photon detectors for axions observation.* — 30 min.

   Lunch. 13:30 – 15:00

5. Oleksandr Starodubtsev
   *ELI-NP gamma beam characterization. Beam imager and a new-concept gamma calorimeter.* — 30 min.

6. Nadir Daci
   *CMS Trigger Performances.* — 30 min.

Special session on Astro-Cosmo-Gravity
(Room 3, 11:00)

1. Angela Gligorova
   *The AEgIS experiment: current status and outlook.* — 30 min.

2. Camilla Maggio
   *MAGIC: from Astrophysics to Fundamental Physics. Presentation of the latest results.* — 30 min.

3. Jorge Alfaro
   *δ Gravity, δ matter and the accelerated expansion of the Universe.* — 30 min.

4. Martin Pohl
   *Magnetic field in intergalactic space.* — 30 min.
5. Xavier Defay  
Identification of Dark Matter with the CRESST-III Experiment. — 30 min.

Lunch. 13:30 – 15:00

6. Nikolay Gulitskiy  
Two-loop calculations for a compressible turbulence: Renormalization group analysis of stochastic Navier-Stokes equation. — 20 min.

7. Tomasz Miller  
Causal evolution of probability measures. — 20 min.

8. Vladimir Dzhunushaliev  
Mass gap, deconfinement and $\Lambda_{\text{QCD}}$ in non-perturbative quantization à la Heisenberg. — 20 min.

Parallel Section (Room 4, 11:00)

1. Ivan Ravasenga  
Studying collective phenomena and very low $p_T$ pion production in pp, Pb-Pb and Xe-Xe collisions with the ALICE experiment. — 20 min.

2. Mikhail Zubkov  
Momentum space topology and non-dissipative currents. — 20 min.

3. Alexandru Catalin Ene  
Monte Carlo event generator predictions for forward physics in $\sqrt{s} = 7$ TeV proton-proton collisions. — 20 min.

4. Guglielmo Baccani  
Muon radiography of an Etruscan mine: the San Silvestro archaeological park near Campiglia Marittima (Tuscany). — 20 min.

5. Federica Mingrone  
Neutron-induced reaction measurements at the n_TOF facility of CERN. — 20 min.

6. Frigyes Janos Nemes  
Elastic and Total Cross-Section Measurements by TOTEM: Past and Future. — 20 min.

7. Zahra Ghorbanimoghaddam  
Search for Boosted Dark Matter at ProtoDUNE. — 20 min.
Parallel session A High Energy Particle Physics
(Room 1, 15:00)

1. Diego Martinez Santos
   Probing SUSY effects in $K^0 S \rightarrow \mu^+ + \mu^-$. — 20 min.

2. Francesco Gonnella
   Search for $K^+ \rightarrow \pi^+\nu\nu$ search for exotic particles at NA62. — 25 min.

3. Murat Ali Guler
   Study of charm hadroproduction and tau neutrino production at CERN SPS. — 20 min.

Coffee Break. 16:00 – 16:30

4. Ashot Gasparian
   Neutral Pion Radiative Decay Width Precision Measurement at Jefferson Lab. — 20 min.

Parallel session B Heavy Ion Collisions and Critical Phenomena (Room 4, 15:00)

1. Andrea Alici
   Charmed meson and baryon production with ALICE at the LHC. — 30 min.

2. Anastasia Merzlaya
   Open charm measurements at CERN SPS energies with the new Vertex Detector of the NA61/SHINE experiment - status and plans. — 30 min.

Special session on QCD – from vacuum to finite temperatures (Room 1, 17:00)

1. Stanley Brodsky
   Supersymmetric Features of Hadron Physics and other Novel Properties of Quantum Chromodynamics from Light-Front holography and Superconformal Algebra. — 35 min.

Welcome Concert (21:20 – 22:30)
Friday, July 6

Plenary Session (Room 1, 8:30)

1. Diego Martinez Santos
   *Highlights from LHCb.* — 30 min.

2. Saranya Samik Ghosh
   *CMS Highlights.* — 30 min.

3. Xingguo Li
   *ATLAS Highlights.* — 30 min.

4. Francesco Noferini
   *ALICE Highlights.* — 30 min.

Coffee Break. 10:30 – 11:00

Main Conference Section (Room 1, 11:00)

1. Diane Cinca
   *Higgs physics at ATLAS.* — 30 min.

2. Yusheng Wu
   *Probing the Electroweak Sector and QCD with the ATLAS Detector.* — 30 min.

3. Claudio Caputo
   *Higgs (CMS).* — 30 min.

4. Katharina Mueller
   *Flavour Anomalies in Rare Decays at LHCb.* — 30 min.

5. Katharina Mueller
   *CP violation in B decays at LHCb.* — 30 min.

Lunch. 13:30 – 15:00

6. Robert Harris
   *Search for narrow and broad dijet resonances at CMS.* — 30 min.
Special session on QCD – from vacuum to finite temperatures (Room 2, 11:00)

1. Thomas Cohen
   *The QCD Vacuum and the theta term.* — 30 min.

2. Leonid Glozman
   *Chiralspin symmetry and its implications for QCD.* — 30 min.

3. Thierry Grandou
   *Perturbative peculiarities of quantum fields at non-zero temperature.* — 30 min.

4. Peter Lowdon
   *Probing the analytic structure of QCD propagators.* — 30 min.

5. Roman Rogalev
   *The Longitudinal Gluon Propagator in Lattice SU(2) Gluodynamics at the Criticality.* — 30 min.

Special session on Astro-Cosmo-Gravity (Room 3, 11:00)

1. Anna Pollmann
   *Neutrino and beyond standard model physics with IceCube.* — 30 min.

2. Vitaly Kudryavtsev
   *LUX results and LZ sensitivity to dark matter WIMPs.* — 30 min.

3. Filip Simovic
   *A Holographic Approach To Gravitational Screens.* — 30 min.

4. Matteo Sanguineti
   *ANTARES and KM3NeT: latest results of the neutrino telescopes in the Mediterranean.* — 30 min.

5. Haidar Sheikahmadi
   *Quasi-bi-Field Spectroscopy for Primordial Perturbations in Schwinger-Kyldesh formalism.* — 30 min.
Excursion to Chania (16:00 – 23:30)

Historical Talk (19:00)

Concert of classical music and
Public Talk by Dr. Despina Hatzifotiadou
(19:30 – 21:00)
Saturday, July 7

Lev’s Lipatov Memorial Session
(Plenary Session, Room 1, 8:30)

1. Victor Fadin
   Memories of Lev Lipatov, a scientist and a man. — 30 min.

2. Carl Bender
   Nonlinear eigenvalue problems. — 30 min.

3. Arkady Vainshtein
   On vacuum angle (in)dependence in the Higgs regime. — 30 min.

4. Valentin Zakharov
   Towards understanding the origin of the micro states of large black holes. — 30 min.

Coffee Break. 10:30 – 11:00

Lev’s Lipatov Memorial Session
(Room 1, 11:00)

1. R. Muradyan (piano), S. Nor (violin), V. Nor (cello)
   "In memory of a great artist", Trio by P.I. Tchaikovsky, Part II-A. — 30 min.

2. Roland Kirschner
   High-energy scattering in QCD and Yangian symmetry. — 30 min.

3. Dmitry Kazakov
   Kinematically Dependent Renormalization. — 30 min.

4. Agustin Sabio Vera
   Gravity in the high energy limit. — 30 min.

5. Irina Aref’eva
   Effects of non-zero chemical potential in the holographic QCD. — 30 min.

Lunch. 13:30 – 15:00
6. Victor Kim
   *High-energy QCD asymptotics at collider energies.* — 30 min.

7. Henri Kowalski
   *Unexpected properties of the discrete BFKL solution.* — 30 min.

   **Coffee Break. 16:00– 16:30**

8. Victor Fadin
   *Regge cuts in QCD amplitudes.* — 30 min.

9. Alex Prygarin
   *Subleading corrections to the BFKL equation: singlet versus color adjoint state.* — 30 min.

10. Jamal Jalilian-Marian
    *Particle production at high energy: DGLAP, BFKL and beyond.* — 30 min.

11. Luca Trentadue
    *Radiative corrections for a novel evaluation of the Hadronic Leading Order Contribution to the g-2 of the Muon.* — 30 min.

12. Gennady Volkov
    *On the geometry of the new fermion exotic "spin"-structure.* — 30 min.

**Parallel session A High Energy Particle Physics**
   *(Room 2, 11:00)*

1. Music in Room 1.
   *"In memory of a great artist", Trio by P.I.Tchaikovsky, Part II-A.* — 30 min.

2. Florian Kuchler
   *Searches for electric dipole moments (EDM) Overview of status and new experimental efforts.* — 30 min.

3. Nandita Raha
   *The current status of the Fermilab Muon g-2 Experiment.* — 30 min.

4. Laura Patrizii
   *Status of the searches for magnetic monopoles.* — 30 min.
5. Maria Vasileiou

*Hadronic resonance production measured by ALICE at the LHC.* — 30 min.

**Parallel session B Heavy Ion Collisions and Critical Phenomena (Room 3, 11:00)**

1. Music in Room 1.

"In memory of a great artist", Trio by P.I. Tchaikovsky, Part II-A. — 30 min.

2. Rachid Nouicer

*Charm and Bottom Measurements as Precision Probes of QCD Medium at RHIC.* — 30 min.

3. Yorito Yamaguchi

*Direct photon results from PHENIX at RHIC.* — 30 min.

4. Dag Larsen

*Upgrade of the NA61/SHINE facility beyond 2020 for an expanded physics programme.* — 30 min.

5. Meera Machado

*The Angular Power Spectrum of Heavy Ion Collisions.* — 30 min.

**Special session on Astro-Cosmo-Gravity (Room 4, 11:00)**

1. Music in Room 1.

"In memory of a great artist", Trio by P.I. Tchaikovsky, Part II-A. — 30 min.

2. Fabio Bellini

*First Result on the Neutrinoless Double Beta Decay of 82Se with CUPID-0.* — 30 min.

3. Georgy Burde

*Cosmological models arising from relativity with a privileged frame.* — 30 min.

4. Carla Maria Cattadori

*Highlights from GERDA project.* — 30 min.
5. Fabio Ferrarotto
The investigation on the dark sector at the PADME experiment. — 30 min.

Lunch. 13:30 – 15:00

6. Mario Mastromarco
\( n + ^7\text{Be} \) cross-sections of astrophysical interest at the CERN \( n_{\text{TOF}} \) facility. — 30 min.

7. Alessandro Di Marco
Recent developments and results on double beta decays with crystal scintillators and HPGe spectrometry. — 30 min.

Coffee Break. 16:00 – 16:30

8. Alessio Caminata
Results from the CUORE experiment. — 30 min.

9. Liliana Caballero
Neutrino emission from magnetized neutron star mergers: equation-of-state effects. — 30 min.

10. Alexander Ayriyan
Bayesian analysis for extracting properties of the nuclear equation of state from observational data. — 30 min.

11. Lino Miramonti
Solar Neutrinos Spectroscopy with Borexino Phase-II. — 30 min.

12. Hovik Grigorian
The role of the equation of state in compact star physics and phenomenology. — 30 min.

Physics Education and Outreach
(Room 6, 11:00)

1. Despina Hatzifotiadou
Outreach Masterclass — 150 min.

Lunch. 13:30 – 15:00

2. Despina Hatzifotiadou
The Extreme Energy Events Project : Science in the Schools. — 20 min.
3. Kasper van Dam
   *The HiSPARC Experiment.* — 20 min.

4. Antonios Leisos

   **Coffee Break. 16:00 – 16:30**

5. CERN speaker
   *TBA.* — 20 min.

6. Zhigong Xing
   *Outreach as a particle physics blogger in China.* — 20 min.

7. Francesco Gonnella
   *Public Engagement with Particle Physics at the University of Birmingham, UK.* — 20 min.

8. Dariusz Gora
   *Cosmic Ray Extremely Distributed Observatory: status and perspectives.* — 20 min.

**Mini Workshop on Instruments and Methods in HEP**
*(Room 3, 15:00)*

1. Rita Borgheresi
   *A characterization system for the monitoring of ELI-NP gamma beam.* — 30 min.

2. A Carla Sbarra
   *The LUCID-2 detector.* — 30 min.

   **Coffee Break. 16:00 – 16:30**

3. Nicholas Tsoupas
   *The Use of Permanent Magnets in High Energy Physics.* — 30 min.

**Guided tour to Gonia Monastery (19:00 – 20:30)**
Sunday, July 8

Excursions.

1. *A full day trip to the Palace of Knossos and the Museum of Heraklion.*
   - 6.30 – Departure from OAC
   - 9.00 – Arrival to Knossos
   - 11.00 – Departure from Knossos
   - 11.30 – Departure from Archeological Museum of Heraklion
   - 13.30 – Departure from Archeological Museum of Heraklion
   - 14.00 – Arrival to Taverna Petoussis
   - 16.00 – Departure from Taverna Petoussis
   - 19.00 – Arrival to OAC

2. *An excursion to two famous Cretan monasteries: monastery of Chrysogipis and monastery of Agia Triada.*
   - 6:00 – Departure from OAC
   - 6:50 – Metamorphosis Monastery
   - 10:00 – Excursion and Breakfast in Agia Kyriaki Monastery
   - 11:40 – Excursion and Lunch in Chrysopigi Monastery
   - 14:00 – Agia Triada Monastery Excursion
   - 16:00 – Venizelos Graves
   - 17:00 – Arrival to OAC

3. *A trip to Falassarna beach.*
   - 10.30 – Departure from OAC
   - 11.30 – Arrival to Falassarna beach
   - 13.30 – Arrival to Taverna at Falassarna Beach
   - 15.00 – Departure from Taverna at Falassarna Beach
   - 17.00 – Departure from Falassarna beach
   - 18.00 – Arrival to OAC
Monday, July 9

Plenary Session (Room 1, 8:30)

1. Harald Fritzsch
   *Composite Weak Bosons and Dark Matter.* — 30 min.

2. Paul Frampton
   *Doubly-Charged Bileptons at the LHC.* — 30 min.

3. Nicolo Trevisani
   *Collider searches for Dark Matter (ATLAS+CMS).* — 30 min.

4. Ignatios Antoniadis
   *Inflation from supersymmetry breaking.* — 30 min.

Coffee Break. 10:30 – 11:00

Mini-workshop on Correlations and Fluctuations in Relativistic Heavy Ion Collisions
(Room 1, 11:00)

1. Antoine Lardeux
   *Recent results on quarkonia in AA collisions from ALICE at the LHC.* — 30 min.

2. Julia Velkovska
   *PHENIX insights on the inner workings of the quark-gluon plasma.* — 30 min.

3. Sonja Kabana
   *Highlights from the Heavy Ion Program of the STAR experiment at RHIC.* — 30 min.

4. Laszlo Pal Csernai
   *Hadronization of QGP over timelike hypersurfaces and its extension to fusion reactions with nano-plasmonics.* — 30 min.

5. Evgeny Zabrodin
   *Influence of spatial and dynamical anisotropies on flow and femtoscopic radii in relativistic heavy-ion collisions at LHC.* — 30 min.

Lunch. 13:30 – 15:00
Monday, July 9

6. Edward Sarkisyan-Grinbaum
   \textit{Multihadron production: universality, correlations and search for new physics.} — 30 min.

7. Agustin Sabio Vera
   \textit{Multiparticle production in the Multi-Regge limit.} — 30 min.

Coffee Break. 16:00 – 16:30

8. Vladimir Vechernin
   \textit{Strongly intensive observables in the model with string fusion.} — 25 min.

\textbf{Workshop on Frontiers in Gravitation, Astrophysics, and Cosmology (Room 2, 11:00)}

1. Damian Ejlli
   \textit{Vacuum polarization and superluminal photons in the era of gravitational waves.} — 30 min.

2. Michael Good
   \textit{A Unitary Black Hole Evaporation Model.} — 30 min.

3. George Livadiotis
   \textit{Statistical physics and thermodynamics of space and astrophysical plasmas.} — 30 min.

4. Hyung Mok Lee
   \textit{Dynamical processes for the formation of compact binaries in dense star clusters.} — 30 min.

Lunch. 13:30 – 15:00

5. Masahiro Morikawa
   \textit{Supermassive black holes and dark halo from the Bose-condensed dark matter.} — 30 min.

6. Jong Hyuk Yoon
   \textit{Hamiltonian Reduction for Einstein’s Equations without isometries.} — 30 min.
Workshop on New physics paradigms after Higgs and gravitational wave discoveries (Room 3, 11:00)

1. Karim Benakli
   *Higgs Boson Alignment.* — 45 min.

2. Stephane Lavignac
   *Lepton flavour and the matter-antimatter asymmetry of the Universe.* — 45 min.

3. Jean-Pierre Derendinger
   *Supersymmetry breaking.* — 45 min.

Lunch. 13:30 – 15:00

4. Yifan Chen
   *Gravitino Dark Matter.* — 45 min.

Coffee Break. 16:00 – 16:30

5. Herv Partouche
   *Quantum no-scale regimes in string theory.* — 45 min.

6. Ioannis Florakis
   *Supersymmetry breaking in heterotic strings and corrections to gauge couplings.* — 45 min.

Workshop on Frontiers in Gravitation, Astrophysics, and Cosmology (Room 4, 11:00)

1. Kei-ichi Maeda
   *Massive Graviton Geons and Dark Matter.* — 30 min.

2. Paul Frampton

3. Sung-Won Kim
   *Wormhole and the Universe.* — 30 min.

4. Yuuki Nakano
   *Search for neutrinos in Super-Kamiokande associated with gravitational wave events.* — 30 min.
Monday, July 9

Lunch. 13:30 – 15:00

5. Aniello Mennella
   *QUBIC: Exploring the primordial Universe with the Q&U Bolometric Interferometer.* — 30 min.

6. Pierluigi Belli
   *First model independent results from DAMA/LIBRA– phase2.* — 30 min.

Coffee Break. 16:00 – 16:30

7. Margaret Carrington
   *Renormalisation of non-perturbative calculations in scalar theories.* — 30 min.

Workshop on Resurgent Asymptotics in Physics and Mathematics (Room 5, 11:00)

1. Carl Bender
   *PT-symmetric quantum field theory.* — 50 min.

2. Ovidiu Costin
   *Resurgence: foundations, universality and applications.* — 50 min.

3. Yasuyuki Hatsuda
   *Instantons in the Hofstadter butterfly.* — 50 min.

Lunch. 13:30 – 15:00

4. Pavel Putrov
   *Resurgence in Chern-Simons theory.* — 50 min.

Workshop on Heavy Neutral Leptons
(Room 6, 11:00)

1. Kryrylo Bondarenko
   *Searches for heavy neutral leptons at Intensity Frontier Experiments.* — 30 min.

2. Dmytro Iakubovskyi
   *Reionization and 21cm absorption in WDM and sterile neutrino DM cosmologies.* — 30 min.
3. Oleg Ruchayskiy/Alexey Boyarsky
   Status of the 3.5 keV line and Lyman-alpha forest. — 30 min.

4. Dmitry Gorbunov
   Dark matter sterile neutrino and scalar field. — 30 min.

5. Vsevolod Syvolap
   Supernova emission of sterile neutrino mixed with flavors. — 30 min.

Parallel Section (Room 1, 16:55)

1. Burt Ovrut
   Non-Perturbative Superpotentials in Heterotic String Theory. — 25 min.

Coffee Break. 16:00 – 16:30

2. Peter Minkowski
   Towards a basic gauging of space orientation – the sole seed of local field interactions. — 30 min.

3. Stefan Pokorski
   Nambu-Goldstone bosons in particle physics and cosmology. A review. — 30 min.

Parallel Section A High Energy Particle Physics
(Room 2, 16:30)

1. Priyanka Priyanka
   Single top quark production in CMS. — 25 min.

2. Nikolaos Kidonakis
   Total and differential cross sections for Higgs and top-quark production. — 25 min.

3. Sergey Mironov
   Gauges in generalized Galileon theories. — 30 min.
Parallel Section A High Energy Particle Physics  
(Room 5, 16:30)

1. Alessandro Paoloni  
*New results from the OPERA experiment in the CNGS neutrino beam.* — 30 min.

**Lecture (Room 1, 18:30)**

1. Avshalom Elitzur  
*Subtle Quantum Measurements Straining Ordinary Causality.* — 60 min.

**Poster Session (19:30–20:30)**

**Best Poster Award Ceremony (20:30 – 21:30)**

**Classical music (21:30 – 22:30)**
Tuesday, July 10

Plenary Session (Room 1, 8:30)

1. Louis Fayard  
   **BEH at LHC from the start of data taking until precision measurements and HL-LHC.**  — 30 min.

2. Alexander Sorin  
   **Vorticity, hydrodynamic helicity and polarization in baryon-rich matter.**  — 30 min.

3. Onur Hosten  
   **Quantum metrology frontiers with cold atoms.**  — 30 min.

4. Pawel Horodecki  
   **From quantum correlations to no-signaling and beyond.**  — 30 min.

Coffee Break. 10:30 – 11:00

Workshop on Physics at FAIR-NICA-SPS-BES/RHIC  
(Room 1, 11:00)

1. Pawel Piotr Staszel  
   **Strong interaction program of the NA61/SHINE experiment - recent results and plans.**  — 30 min.

2. Pavel Batyuk  
   **Studies of baryonic matter at BM@N JINR.**  — 30 min.

3. Alexandru Jipa  
   **Simulation results on bulk properties and hydrodynamic behaviours of the high excited and dense nuclear matter in relativistic nuclear collisions at FAIR energies.**  — 30 min.

4. Vadim Kolenikov  
   **Prospects for heavy-ion physics with the MPD detector at NICA.**  — 30 min.

5. Myroslav Kavatsyuk  
   **The PANDA experiment at FAIR.**  — 30 min.

Lunch. 13:30 – 15:00
6. Kyrill Bugaev
   New signals of two QCD phase transitions in heavy ion collisions. — 30 min.

7. Larisa Bravina
   Flow and Freeze out in Microscopic Models in relativistic A+A collisions. — 30 min.

**Workshop on Quantum Foundations and Quantum Information (Room 2, 11:00)**

1. Xiao-Ye Xu
   Measurement of Nonlocal Observables and Its Applications. — 30 min.

2. Fabrizio Piacentini
   Novel measurement protocols: from Protective Measurements to Robust Weak Measurements. — 30 min.

3. Aharon Brodutch
   Towards an ontological theory with weak values. — 30 min.

4. Ralph Silva
   Anomalous weak values without post-selection. — 30 min.

Lunch. 13:30 – 14:30

5. Andrea Alberti
   Revealing Quantum Statistics with a Pair of Distant Atoms. — 30 min.

6. Yutaka Shikano
   Geometric Phase with Decoherence. — 30 min.

7. Sorin Paraoanu
   Superadiabatic stimulated Raman passage via synthetic Aharonov-Bohm phases. — 30 min.

Coffee Break. 16:00 – 16:30

8. Eli Pollak
   Consequences of time averaging of weak values. — 30 min.
9. C Aris Dreismann  
*Weak values and weak measurement in elementary scattering and reflectivity: a new effect.*  — 30 min.

10. Daniel Rohrlich  
*Deriving classical and quantum mechanics in parallel.*  — 30 min.

**Workshop on New physics paradigms after Higgs and gravitational wave discoveries**  
**(Room 3, 11:00)**

1. Carlo Angelantonj  
*Heterotic thresholds: universality and the decompactification problem.*  — 45 min.

2. Giovanni Losurdo  
*Gravitational wave observations: achievements and perspectives.*  — 45 min.

3. Nikos Tsamis  
*TBA.*  — 45 min.

**Lunch. 13:30 – 14:30**

4. Vincent Vennin  
*Stochastic Inflation and Primordial Black Holes.*  — 45 min.

5. Jerome Martin  
*Obstructions to Bell CMB Experiments.*  — 45 min.

**Workshop on Frontiers in Gravitation, Astrophysics, and Cosmology (Room 4, 11:00)**

1. Jerome Martin  
*Inflation after Planck.*  — 30 min.

2. Claudio Bunster  
*Hamiltonian of the electromagnetic and gravitational fields on asymptotically null space-like surfaces.*  — 30 min.

**Break. 12:00 – 12:30**
3. Vincent Vennin  
Quantum decoherence during inflation. — 30 min.

4. David Edward Bruschi  
Work drives time evolution. — 30 min.

Lunch. 13:30 – 15:00

5. Zacharias Roupas  
Relativistic Gravitational Instability and the Weight of Heat. — 20 min.

6. Victoria Volkova  
Wormholes in generalized Galileon theories. — 20 min.

7. Jacques Rubin  
Physical justifications and possible astrophysical manifestations of the projective theory of relativity. — 20 min.

Coffee Break. 16:00 – 16:30

8. Sudipta Sarkar  
Holography, Second Law, and Higher Curvature Gravity. — 30 min.

9. Kunihito Uzawa  
No-Go theorems for ekpyrosis from ten-dimensional supergravity. — 30 min.

Workshop on Resurgent Asymptotics in Physics and Mathematics (Room 5, 11:00)

1. Ricardo Schiappa  
Resurgence in String Theory. — 50 min.

2. Martin Schnabl  
Asymptotics of the rolling tachyon. — 50 min.

3. Marcel Vonk  
Analytic Transseries Summation for Painlev I. — 50 min.
Parallel Section B Heavy Ion Collisions and Critical Phenomena (Room 6, 11:30)

1. Peter Kalinak
   Strange and multi-strange particle production in pp and PbPb collisions with ALICE at the LHC. — 30 min.

2. Yasir Ali
   Study of Transverse momentum distribution in the p-Pb collisions at LHC energies. — 30 min.

3. Lais Ozelin De Lima Pimentel
   Charged-particle multiplicity distributions in pp and p-Pb collisions with ALICE. — 30 min.

4. Mattia Dalla Brida
   Precision determination of $\alpha_s$ from lattice QCD. — 30 min.

Lunch. 13:30 – 15:00

5. Spyridon Margetis

6. Nachiketa Sarkar
   Thermalization in small colliding systems at LHC and RHIC. — 30 min.

Parallel Section (Room 1, 16:30)

1. Junichi Yokoyama
   Self-anisotropizing inflationary universe in Horndeski theory and beyond. — 20 min.

2. Harald Fritzsch
   Flavour Mixing, Neutrino Oscillations and Neutrino Masses. — 20 min.

3. Antonios Gardikiotis
   Searching for dark photons in the NA64 experiment at CERN. — 20 min.
Workshop on Physics at FAIR-NICA-SPS-BES/RHIC
(Room 3, 16:30)

1. Yogesh Kumar
   *A simple statistical model for QGP equation of state.* — 30 min.

2. Nikolaos Davis
   *Electromagnetic effects at CERN SPS: from nuclear physics of the spectator system to the space-time evolution of the quark gluon plasma.* — 30 min.

3. Saumen Datta
   *Quark number susceptibilities and equation of state in QCD at finite baryon chemical potential.* — 30 min.

Parallel Section
(Room 5, 15:00)

1. Maxime Jacquet
   *The influence of spacetime curvature on spontaneous emission in optical analogues to gravity.* — 30 min.

2. David Hayrapetyan
   *Theoretical investigation of optical properties of quasi two-dimensional excitonic complexes in ellipsoidal quantum dots.* — 30 min.

Coffee Break. 16:00 – 16:30

3. Liping Gan
   *Probes for Fundamental Symmetries and Dark Gauge Bosons via $\eta$ Decays.* — 20 min.

4. Dmitriy Beznosko
   *New Physics emergence in Ultra-high energy cosmic rays events.* — 20 min.

Parallel Section (Room 6, 16:30)

1. Petr Satunin
   *One-loop correction to the photon velocity in Lorentz-violating QED.* — 30 min.

2. Konstantin Astapov
   *On photon splitting in Lorentz-violating QED.* — 30 min.
Lecture (Room 1, 17:45)

Yakir Aharonov
Weak Reality in the Quantum Domain — 60 min.

Public talk (Room 1, 19:00)

Albert De Roeck
Public Talk in English: The Status of our Understanding of Neutrinos and Future Prospects — 60 min.

Opera Gala (21:30 – 22:30)
Wednesday, July 11

Plenary Session (Room 1, 8:30)

1. Yongmin Cho
   Cosmological Implications of Electroweak Monopole. — 30 min.

2. Nick Mavromatos

3. Marek Czachor
   Flow and superpositions of quantum time: An old experiment and some new ideas. — 30 min.

4. Ebrahim Karimi
   Twisted Quantum Waves. — 30 min.

Coffee Break. 10:30 – 11:00

Main Conference Section
(Room 1, 11:00)

1. James Pinfold
   The MoEDAL Experiment at the LHC - a Progress Report from the High Energy Frontier. — 30 min.

2. Katharina Mueller
   Recent LHCb Results in Charm Spectroscopy. — 30 min.

3. Paolo Branchini
   The Belle II Experiment: Status and Prospects. — 30 min.

4. Tommaso Dorigo
   Hadron collider searches for new physics with boson pairs. — 30 min.

5. Colin Philip Jessop
   Upgrades, future plans and prospects (CMS). — 30 min.
Workshop on Quantum Foundations and Quantum Information (Room 2, 11:00)

1. Pieter Kruit  

2. Vincenzo Grillo  
*Quantum experiments with a Transmission electron microscope.*  — 30 min.

3. Luis Sanchez-Soto  
*TBA.*  — 30 min.

4. Dmitry Karlovets  
*Non-paraxial effects in the quantum scattering of wave packets.*  — 30 min.

Lunch. 13:30 – 14:30

5. Yuval Gefen  
*How to Directly Observe Quantum Discord.*  — 30 min.

6. Alessandro Romito  
*Thermodynamics of weakly measured quantum systems.*  — 30 min.

7. Moshe Goldstein  
*Anyonic statistics hidden due to “which path detection by upstream neutral modes in quantum Hall interferometers.*  — 30 min.

Coffee Break. 16:00 – 16:30

8. Holger Hofmann  
*Quantum mechanics as a theory of cause and effect: why there is no reality without a corresponding action.*  — 30 min.

9. Lajos Diosi  
*Dynamical interaction at the least decoherence, from local measurement and classical communication.*  — 30 min.

10. David Edward Bruschi  
*Nonlinear interactions in relativistic and quantum physics.*  — 30 min.

11. Alonso Botero  
*Scalar field theory regularization scheme using weak values.*  — 30 min.
Mini-workshop on Highly Ionising Avatars of New Physics
(Room 3, 11:30)

1. Anna Polmann
   *IceCube Searches for Magnetic Monopoles.* — 30 min.

2. James Pinfold
   *The MoEDAL Experiment at the LHC - Status Report and Plans.* — 30 min.

3. Vicente Vento Torres
   *Signatures of magnetic monopoles.* — 30 min.

4. Kazuki Sakurai
   *Long-lived particle searches at MoEDAL.* — 30 min.

   **Lunch. 13:30 – 15:00**

5. Igor Ostrovskiy
   *Searching for magnetic monopoles with Solid State Breakdown Counter: from LHC to Space.* — 30 min.

Parallel Section C Quantum Physics
(Room 4, 11:00)

1. Souradeep Sasmal
   *A tighter steering criterion using the Robertson-Schrödinger uncertainty relation.* — 30 min.

2. Vladimir Shevchenko
   *Quantum measurements in finite space-time domain.* — 30 min.

3. Sven Ahrens
   *Spin transfer and entanglement in Compton scattering.* — 30 min.

4. Ikram Jaouadi
   *FPGA implementation of quantum cryptography algorithm.* — 30 min.

5. Vladimir Filinov
   *Quantum dynamics of charged fermions in the Wigner formulation of quantum mechanics.* — 30 min.
Lunch. 13:30 – 14:30

6. Piergiorgio Cerello
   *Online Range Monitoring in Particle Therapy Treatments.* — 20 min.

7. Poonam Jain
   *ΔI = 2 staggering in triaxial superdeformed bands.* — 20 min.

8. George Livadiotis
   *Evidence of large-scale quantization constant in plasmas.* — 20 min.

Coffee Break. 16:00 – 16:30

9. Thiago Guerreiro
   *Table-top high-energy quantum physics.* — 30 min.

10. Dmitry Karlovets
    *Relativistic electron vortices beyond the paraxial approximation.* — 30 min.

11. Michael Skotiniotis
    *Identification of malfunctioning quantum devices.* — 30 min.

**Workshop on Future of Fundamental Physics**
(Room 1, 15:00)

1. Falk Hans Braunmuller
   *Overview and first results of the advanced acceleration experiment AWAKE at CERN.* — 30 min.

2. Francesco Renga
   *The quest for μ → eγ and its experimental limiting factors at future high intensity muon beams.* — 30 min.

   Coffee Break. 16:00 – 16:30

3. Vladimir Druzhinin
   *Experiment on study of dimuonium properties in Novosibirsk.* — 30 min.

4. Evangelos Gkougkousis
   *ATLAS and CMS prospects for Higgs measurements and searches at the High Luminosity LHC.* — 30 min.
5. Walter Marcello Bonivento
   *The SHiP experiment at CERN.* — 30 min.

Parallel Section C Quantum Physics
(Room 3, 16:30)

1. Sven Ahrens
   *Gravitational deflection of X-ray superradiance.* — 30 min.

2. Lauro Tomio
   *Solitons in atomic condensates with tunable spin-orbit coupling
   and time-dependent Raman frequency.* — 30 min.

3. Vesna Berec
   *Configurational entropy of multilayered graph states.* — 30 min.

Round table (Room 1, 18:30 – 20:00)

Conference Dinner (20:00 – 23:30)
Thursday, July 12

Plenary Session (Room 1, 08:30)

1. Vasiliki Mitsou
   Searches for magnetic monopoles: a review. — 30 min.

2. Avshalom Elitzur
   Can a particle be where it never went? - some recent surprising predictions. — 30 min.

3. Eliahu Cohen
   Quantum Entanglement - New Theoretical Results and forthcoming Experiments. — 30 min.

4. Sandu Popescu
   TBA. — 30 min.

Main Conference Section
(Room 1, 11:00)

1. Zhi-zhong Xing
   Spontaneous mu-tau symmetry breaking in neutrino phenomenology. — 30 min.

2. Dean Karlen
   Latest results from the T2K neutrino experiment. — 30 min.

3. Jaroslaw Andrzej Nowak
   The Short Baseline Neutrino Program at Fermilab. — 30 min.

4. Yuuki Nakano
   Highlight talk from Super-Kamiokande. — 30 min.

5. Christian Farnese
   The ICARUS experiment. — 30 min.

Lunch. 13:30 – 15:00

6. Masahiro Takeda
   Observation of extremely high energy cosmic rays with the Telescope Array experiment. — 30 min.
7. Dariusz Gora  
*The Pierre Auger Observatory: review of latest results and perspectives.* — 30 min.

**Coffee Break. 16:00 – 16:30**

8. Dmitry Gorbunov  
*Dark Matter and Baryon asymmetry production during inflation.* — 30 min.

9. Albert De Roeck  
*Searches for Long Lived Particles: Status and new ideas.* — 30 min.

10. Closing of the conference  
— 30 min.

**Workshop on Quantum Foundations and Quantum Information (Room 2, 11:00)**

1. Avishy Carmi  
*Multiplicative Bell inequalities.* — 30 min.

2. Arun Pati  
*Stronger Uncertainty and Reverse Uncertainty Relations.* — 30 min.

3. Lorenzo Maccone  
*A fundamental problem in quantizing general relativity.* — 30 min.

4. Ivan Horvath  
*A Different Angle on Quantum Uncertainty.* — 30 min.

**Lunch. 13:00 – 14:30**

5. Bengt E Y Svensson  
*Some question marks surrounding quantum-mechanical weak values.* — 30 min.

6. Daniel Sheehan  
7. Keun young Kim

*Complexity in quantum field theory and gravity.* — 30 min.

Coffee Break. 16:00 – 16:30

8. Hyunseok Jeong

*Quantification and unification of quantum macroscopicity, coherence, and nonclassicality.* — 30 min.

9. Giuseppe Castagnoli

*Merging quantum computation and the foundations of quantum mechanics.* — 30 min.

10. Vitalie Eremeev

*The power of a control qubit in weak measurements.* — 30 min.

Mini-workshop on Highly Ionising Avatars of New Physics
(Room 3, 11:00)

1. Gordon Semenoff

*Entanglement and the Infrared.* — 30 min.

2. Sarben Sarkar

*Regularised Kalb-Ramond Magnetic Monopole with Finite Energy.* — 30 min.

3. Stephanie Baines


4. Albert De Roeck

*Searches for Heavy Neutral Leptons at the LHC.* — 30 min.

5. Judita Mamuzic

*Searches for Highly-ionising Particles with ATLAS and CMS.* — 30 min.

Lunch. 13:30 – 15:00

6. Arka Santra

*Photon fusion production mechanism of magnetic monopoles: a study with MadGraph.* — 30 min.
7. Stanislav Pospisil
   About use of Timepix3 pixel detectors for real time tracking and recognition of highly ionizing particles and a possible investigation of their behavior in semiconductor sensors. — 30 min.

Parallel Section C Quantum Physics
(Room 5, 11:00)

1. Oleg Sushkov
   The spin liquid phase of the t-J model and the origin of hourglass and wine-glass magnetic dispersions in underdoped cuprate superconductors. — 30 min.

2. Veronika Baumann
   On Formalism and Interpretations. — 30 min.

Break. 12:00 – 12:30

3. Noah Gladstein
   Using the Quantum Pigeonhole Paradox to Study Joint Measurements. — 30 min.

4. Debasis Mondal
   An authentication protocol based on polygamous nature of quantum steering. — 30 min.

Lunch. 13:30 – 15:00

5. David H. Oaknin
   An explicit local statistical model of hidden variables for the Bell’s polarization states. — 30 min.

6. Gabriele Bigongiari
   CaloCube: a new approach to calorimetry in space based experiments for high-energy cosmic rays. — 30 min.

Workshop on Quantum Foundations and Quantum Information (Room 5, 17:00)

1. Mohammed Sanduk
   Is there physics underling the relativistic quantum mechanics? — 30 min.
2. Michael Skotiniotis
   *Macroscopic Superpositions Require tremendous measurement devices.*
   — 30 min.

3. Geng Chen
   *Heisenberg-limited measurement of single photon Kerr nonlinearity.*
   — 30 min.

**Classical music (18:30 – 20:00)**

**Concert ”Sacred Music” (21:30 – 22:30)**
Participants of Poster Session
July 9, 19:30–20:30

Fausto Casaburo
Detection of primary photons in high energy cosmic rays using Cherenkov imaging and surface detectors

Lino Miramonti
Neutrino physics and astrophysics with the JUNO detector

Tanwi Bandyopadhyay
Bouncing Universe in the Contexts of Generalized Cosmic Chaplygin Gas and Variable Modified Chaplygin Gas

Udayanandan K M
Boson Condensation using Uschats cluster expansion

Poonam Jain
Prediction of band head spin and identical bands in superdeformed nuclei

Corwin Knight; Matthew Szydagis; Cecilia Levy
Snowball Chamber: A Super-cooled Approach to Dark Matter Detection

Antonios Leisos
Hybrid Detection of High Energy Extensive Air Showers in Urban Environments

Apostolos Tsirigotis
Cosmics: low cost Educational Cosmic Ray Telescope.

Jorge Alejandro Bernal Arroyo; Andrs Camilo Granda Arango; Kevin Giovanni Hernandez Beltrn
Application of an extension of the Bohr Correspondence Principle to the Klein-Gordon and Dirac equations.

Tapashi Das; Dilip Kumar Choudhury
Charge radii and decay constant of heavy flavored mesons in an improved perturbative approach

Alexandros Marantis
The ATLAS FastTracKer

debarshi das
Cost of Einstein-Podolsky-Rosen steering in the context of extremal boxes
Christian Farnese
*Atmospheric neutrino search in the ICARUS T600 detector*

Gopinath Kamath
*A planar Runge - Lenz vector. II*

Dariusz Gora; for the CREDO Collaboration,
*Cosmic Ray Extremely Distributed Observatory: status and perspectives*

Kai Sun
*Experimental quantification of asymmetric Einstein-Podolsky-Rosen steering*

Mina Katramatou
*Measurement of the Nucleon F2n/F2p and Quark d/u Ratios with Inelastic Electron Scattering from the A=3 Nuclei (MARATHON JLab Experiment)*

Gerassimos Petratos
*JLab Measurements of Elastic Electron Scattering from the Few-Body Nuclei*

Andrea Lavagno
*Strangeness instability in asymmetric nuclear matter*

Spyridon Margetis
*Tracking Challenges and Novel Approaches in High Energy and High Track Density Environments*

Oleksandr Vitiuk
*Directed Flow in nucleus-nucleus collisions at BES RHIC and Equation of State*

Sonia Kabana and Peter Minkowski
*Early universe. QCD phase transition and Dark quark stars*
Programme of Welcome Concert
July 5, 21:20 – 22:30

Johannes Brahms
The Cello Sonata No. 2 in F major, Op. 99, (1886) in four movements:
I. Allegro vivace
II. Adagio affettuoso in F major
III. Allegro passionato in F minor
IV. Allegro molto

Claude Debussy
Sonata for violin and piano, L. 148 (140) (1916-1917) in three movements:
I. Allegro vivo
II. Interme. Fantastique et ler
III. Finale. Trs anim

Franz Schubert
The Trio No. 2 in E-flat major for piano, violin and cello, 0D. 929, (1827) in 4 movements:
I. Allegro
II. Andante con moto
III. Scherzo: Allegro moderato
IV. Allegro moderato
Programme of Classical Music Concert
July 6, Chania

J.S. Bach, Prelud in E-dur for violin solo
*Svetlana Nor (violin)*

J.S. Bach, Menuet in G-dur for cello solo
*Vladimir Nor (cello)*

J.S. Bach, Sarabanda, D-moll
*Svetlana Nor (violin)*

J.S. Bach, Prelud in D-dur for cello solo
*Vladimir Nor (cello)*

J.S. Bach, Aria for cello and violin
*Svetlana Nor (violin) and Vladimir Nor (cello)*
Programme of Concert of Classical Music
July 9, 21:20 – 22:30

Sergei Rachmaninov
Melody Op. 21, N 9, D major, for cello and piano
Vladimir Nor (cello), Ruben Muradyan (piano)

Pyotr Tchaikovsky
Pezzo capriccioso, in B-minor, Op. 62, for cello and piano (1882)
Vladimir Nor (cello), Ruben Muradyan (piano)

Alexander Glazunov
Grand Adagio from "Raymonda" ballet
Svetlana Nor (violin), Ruben Muradyan (piano)

Henri Vieuxtemps
Fantasy on "The Nightingale" by Alyabyev, G minor, Op. 24
Svetlana Nor (violin), Ruben Muradyan (piano)

Pyotr Tchaikovsky
Trio in A minor for piano, violin, and cello, Op. 50 (1882)
In memory of a great artist I. Pezzo elegiaco
(Moderato assai Allegro giusto) (in A minor) (20:00)
Svetlana Nor (violin), Vladimir Nor (cello), Ruben Muradyan (piano)

Sergei Rachmaninov
Vocalise, Op.34 No.14
Vladimir Nor (cello), Ruben Muradyan (piano)
Programme of Opera Gala
July 10, 21:00

Douglas Moore (1893-1969)
Aria of Elisabeth-Baby Doe: The silver aria, from the opera The Ballad of Baby Doe

Vincenzo Bellini (1801-1835)
Aria of Norma: Casta Diva from the opera Norma

Claude Debussy (1862-1918)
La plus que lente for piano solo

Giuseppe Verdi (1813-1901)
Scene and Aria of Violetta: strano..., sempre libera from the opera La Traviata

Claude Debussy (1862-1918)
Clair de lune for piano solo

Giuseppe Verdi (1813-1901)
Aria of Fiorilla: Non si d folia maggiore from the opera il Turco in Italia

Claude Debussy (1862-1918)
La cathdrule egloutie for piano solo

George Gershwin (1898-1937)
Aria of Clara: Summertime from the opera Porgy and Bess

Giancarlo Menotti (1911-2007)
Aria of Lucy: Hello hello, from the opera The Telephone
Programme of Concert "Sacred Music"
July 12, 21:00

Claudio Monteverdi (1567-1643)
Selva morale e spirituale: Il pianto della Madonna SV288

Maurice Ravel (1875-1937)
From Deux mélodies hbraques
Kaddish

Unknown composer
Christos Anesti Christ is risen

Max Janowski (19121991)
Arrangement of Avinu Malkeinu

Maurice Ravel (1875-1937)
L bas, vers leglise From the Cinq Mélodies populaires grecques

Sergei Rachmaninoff (1873-1943)
Arrangement of: the Virgin Mary

Pietro Mascagni (1863-1945)
Ave Maria from the opera Cavalleria Rusticana

W. A. Mozart (1756-1791)
Alleluja from the motetto Exsultate Jubilate