

The ARSAKIA Schools in collaboration with scientists from CERN and NTUA, organise the Summer School for Lyceum students 26-30 June 2023 with title: **MODERN PHYSICS INVESTIGATES THE FIRST MOMENTS OF THE UNIVERSE**

Time	Monday 26/6	Tuesday 27/6	Wednesday 28/6	Thursday 29/6	Friday 30/6
08:30 - 9:45	Prof. N. Tracas <i>A general introduction to the theory and experiments of elementary particles</i>	Prof. E. Gazis Introduction to the Experimental Particle Physics and the Experiments at CERN	Prof. E. Gazis <i>The Nuclear Fission and Fusion for the global energy solution</i>	Prof. A. Kehagias <i>Dark matter, from the invisible universe and the study in the experiments at LHC</i>	Prof. E. Gazis HOW I can study Physics?
10:00 - 11:15	Prof. E. Tsesmelis Introduction to the Accelerators at CERN	Dr. Ioan. Apostolakis <i>Application of the GEANT code for the detectors simulation at CERN</i>	Prof. E. Gazis <i>Medical and Biological Applications of the Nuclear- Particle Physics</i> Dr. Eleni Adamidi <i>Artificial Intelligence to Health Care and COVID-19</i>	Prof. M. Kokkoris <i>Introduction to the Nuclear Astrophysics</i>	Visit to the EVGENIDES FOUNDATION
11:30 - 12:30	Lunch	Laboratory 3; Study and Application of the FLUKA code for the ATLAS detector simulation M Kainourgiaki, E. Gazis	Dr. Ioan. Apostolakis <i>Simulation of the future experiments at CERN</i>	Dr. Ioan. Apostolakis Laboratory 6: <i>Application of the GEANT4 code for the Detector at the LHC experiments</i>	
12:30 - 13:30	Dr. Andromachi Tsirou Laboratory 1: Study from the High Energy Physics detectors to building a HEP Experiment at CERN	Lunch	Lunch	Lunch	
13:45 - 15:15	Laboratory 2: Playing with the quarks, Isotopes Life-time Calculation M Kainourgiaki, E. Gazis	Laboratory 4: Superconductors take off <i>Experiment at CERN</i> Panagiota Chatzidaki, Anja Kranjc Horvat	Laboratory 5: Digital PET learning module <i>Experiment at CERN</i> Panagiota Chatzidaki, Anja Kranjc Horvat	Laboratory 7 : Experimental measurement of the radioactivity of the salt-Muon life-time measurement, M Kainourgiaki, E. Gazis	End of Summer School - Certifications of Participation
15:30					

Laboratories : Maria Kainourgiaki- SHMMY-NTUA, Dr. Eleni Adamidi- SHMMY-NTUA, Dr. Andromachi Tsirou-CERN, Panagiota Chatzidaki-CERN, Anja Kranjc Horvat-CERN
Time Schedule : CET (Geneva Time)

(*) <http://www.physics.ntua.gr/eesfy/POP/software/fireworks/FIREWORKS.swf>