



## International MasterClasses (ALICE)

The ALICE-ICN group of the National Autonomous University of Mexico invites high school students to participate in the ALICE MasterClass 2021.

The ALICE detector has been built to exploit the unique physics potential of nucleus-nucleus collisions at [LHC](#) energies. Our aim is to study the physics of strongly interacting matter at the highest energy densities reached so far in the laboratory. In such condition, an extreme phase of matter - called the [quark-gluon plasma](#) - is formed. Our universe is thought to have been in such a primordial state for the first few millionths of a second after the [Big Bang](#).

Within the framework of International MasterClasses, the ALICE MasterClass is a one-day-activity taking place at a university or research institute. Researchers invite high school students and let them be scientists for one day. The core activity is a measurement with real data from ALICE. Students will use a simplified ALICE event display based on ROOT to identify and categorise strange particles (V0s: Ks,  $\Lambda$ , anti- $\Lambda$ ) from their decay pattern, combined with invariant mass calculation. The results will be discussed with students from Italy (Trieste, Salerno and Bologna) and Greece (EKFE Kentrou, EKFE Khanion).

**This year, the event will be in an online-only format.**

**Dates:** March 16-17, 2021

**Webpage:** <https://indico.nucleares.unam.mx/event/1677/overview>

**Registration:** The registration is now open!

<https://indico.nucleares.unam.mx/event/1677/registration/register#/register>

**Organizers:**

Guy Paic, Antonio Ortiz

**Contact:**

Antonio Ortiz ([antonio.ortiz.velasquez@cern.ch](mailto:antonio.ortiz.velasquez@cern.ch) / [antonio.ortiz@nucleares.unam.mx](mailto:antonio.ortiz@nucleares.unam.mx))

----- PROGRAM -----

**March 16, 2021**

**9:00-9:20 h**

**Opening session**

Dra. Pilar Carreón, Dra. Camen Ortega, Dr. Guy Paic, Dr. Antonio Ortiz

**9:20-9:30 h**

**Group photo**

**9:30 - 10:30 h**

**Particle Physics**

César Fernández (ICN)

**10:30 - 11:30 h**

**Detectors and accelerators**

Antonio Ortiz (ICN, UNAM)

**11:30 - 12:00 h**

**BREAK**

**12:00 - 13:00h**

**The ALICE experiment**

Guy Paic (ICN, UNAM)

**13:00-14:00 h**

**Cosmic-Ray Physics: The Auger and HAWC experiments**

Lukas Nellen (ICN, UNAM)

**14:00 - 15:00**

**BREAK**

**15:00-19:00 h**

**Hands on session (Looking for strange particles in ALICE)**

Gyula Bencédi (ICN, UNAM), Luis Díaz (FC, UNAM), Arlette Melo (FC, UNAM)

**March 17, 2021**

**9:00-11:00 h**

**Videoconference**