



**Maynooth University**  
National University  
of Ireland Maynooth

## Become a Physicist for a Day!

Discover quarks, leptons and the forces of nature with real data from CERN. For 5<sup>th</sup> and 6<sup>th</sup> year secondary school students.

**Organiser:**  
Department of Theoretical Physics,  
Maynooth University

**More Information and Registration:**  
[www.thphys.nuim.ie/masterclasses/](http://www.thphys.nuim.ie/masterclasses/)

**Date: 20 March 2019**

WWW.PHYSICSMASTERCLASSES.ORG

# INTERNATIONAL MASTERCLASSES HANDS ON PARTICLE PHYSICS

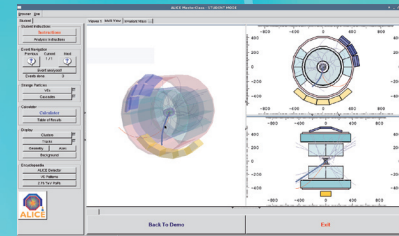
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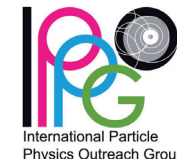
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# Particle Physics Masterclasses

On Wednesday 20 March 2019, Maynooth University will once again host the annual International Masterclasses in Particle Physics. This gives secondary school students the opportunity to discover the world of quarks and leptons for themselves, by performing measurements on real data from CERN, to meet active particle physics researchers, and to link up with like-minded students from other countries. We will join thousands of other secondary school students from more than 100 universities and laboratories around Europe and worldwide in a programme stretching over four weeks.

Physics at the most fundamental level - the smallest and most basic building blocks of matter - is an exotic world. But after a few introductory talks and working with data from CERN, the students will have gained insight in the fundamental matter particles and the forces between them.

In the morning, the students will be introduced to particle physics, experiments and detectors in lectures given by active particle physics researchers. After having lunch with lecturers and tutors, they will work on their own with data from the Large Hadron Collider at CERN. Afterwards they are invited to a video conference where they will discuss and compare their results with students from Italy, Montenegro, Poland and South Africa, and with the moderators at CERN.

We are inviting 5<sup>th</sup> and 6<sup>th</sup> year students to join us at Maynooth University on Wednesday 20 March 2019. The numbers are limited to 40. Places will be allocated on a first-come, first-served basis, but with preference given to students from the local area (North Kildare and adjoining areas).

For more information see the International Masterclasses website: <http://physicsmasterclasses.org/>.

## Preliminary programme

- 9.00 Welcome and introduction by Dr. Jon-Ivar Skullerud.
- 9.30 "Quarks, Leptons and the Forces of Nature", by Dr. Paul Watts.
- 10.00 Refreshments.
- 10.20 "Particle physics experiments and the Little Bang", by Dr. Jon-Ivar Skullerud.
- 11.15 Break for lunch with lecturers and tutors.
- 12.30 Analysis of real data from the ALICE detector at CERN.
- 15.00 Video conference with CERN and with students from Italy, Montenegro, Poland and South Africa.
- 16.30 End. Each student will be given a Certificate of Participation.

## Registration

The numbers are limited to 40 and places will be allocated on a first-come, first-served basis. Details of how to register can be found at <http://www.thphys.nuim.ie/masterclasses/>.

