

Press Release

February, 2011

High school students analyse for the first time real LHC data **International Hands on Particle Physics Masterclasses bring up young investigators**

It's that time again: In March research institutes around the world open their doors and invite high school students to become particle physicists for one day. This year more than 8000 students will participate in the *International Hands on Particle Physics Masterclasses* and analyse real data from the new and powerful particle accelerator at CERN, Geneva, the Large Hadron Collider (LHC). The students groups from across Europe, the United States, South Africa, Brazil, and Israel will discuss the results of their measurements with other groups via videoconference, moderated by researchers at CERN.

The *International Hands on Particle Physics Masterclasses* will take place from March 4 to 26, 2011. Scientists at about 100 universities and laboratories in 23 countries will host these international student research days at their home institutions. In addition, more than 30 US-institutes will participate via a branch program in US as part of the QuarkNet program. "This year students will face a very special challenge: They can work on the first real data from the LHC, collected just few months ago," says Michael Kobel, Physics Professor from Technical University Dresden, who initiated this program within the International Particle Physics Outreach Group (IPPOG) six years ago. Three experiments – ATLAS, CMS, and ALICE – have made data available for educational use within the program. Students can for example rediscover the Z boson or the structure of the proton, reconstruct "strange particles", or search for the elusive Higgs boson in particle tracks.

The basic idea of the annual program is to let students work as much as possible like real scientists. "International Hands on Particle Physics Masterclasses are a unique opportunity for students to work elbow-to-elbow with scientists and get a taste of how modern research in physics works," Michael Kobel summarizes. In an authentic environment they are allowed to gain insight into the international organisation of modern research; at the same time, they learn about the world of subatomic particles through easy-to-understand presentations by physicists who are themselves involved in particle physics research. Participants will examine the products of collisions of elementary particles traveling at close to the speed of light, racing through a 27-kilometer-circumference accelerator. Via videoconference, they will compare and discuss their findings with students in other countries – just like actual particle physicists do in international collaborations.

International Hands on Particle Physics Masterclasses take place under the central coordination of Uta Bilow, Technical University Dresden, in close cooperation with the International Particle Physics Outreach Group (IPPOG) and with support of the Helmholtz Alliance "Physics at the Terascale" and the German Federal Ministry of Education and Research (BMBF). As part of the program, students receive a DVD with interactive material related to particle physics, translated into 17 languages with the help of IPPOG and support of the European Physical Society (EPS).

IPPOG is an independent committee of outreach representatives from states involved in the research at CERN and of the research laboratories CERN, and DESY. The committee's goal is to make particle physics more accessible to the public.

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For further information:

www.physicsmasterclasses.org (Homepage)

www.physicsmasterclasses.org/index.php?cat=schedule (International schedule)

www.quarknet.us/library/index.php/Schedules_2011 (US schedule)

<http://quarknet.fnal.gov/> (QuarkNet)