Trans-European School of High Energy Physics

http://events.lal.in2p3.fr/TES-HEP/

The TES-HEP, Trans European School for High Energy Physics, edition of 2016 will take place in the Ivano-Frankivsk region, Ukraine, from 7th to 14th July 2016. This will be the 10th school edition progressively shaping the meeting of the community composed by the organisers, former and present professors, former students, and involving a new generation of students in TESHEP.

The tradition of the TES-HEP school goes to the first French Ukrainian School of High Energy Physics that was organized in Mukachevo, Ukraine, in 2007. The school assembled 35 students from Ukraine and France, but also from Georgia, Germany, Poland, Romania, Russia and Spain, and professors mainly from France and Ukraine with a topical seminar on LHC machine by Massimo Giovannozzi from CERN. Being truly international, starting already from 2008, the school changes its bilateral French-Ukrainian name to Trans European School for High Energy Physics.

Following school editions, in Buymerovka, Ukraine in 2008, in Zakopane, Poland in 2009, in Izvorani village, Romania, in 2010, in Alushta, Crimea, Ukraine, in 2011, in Petnica, Serbia in 2012, in Kharkiv region, Ukraine in 2013, in Lviv region, Ukraine in 2014, and in Morsko, Poland in 2015, bring together 40 to 45 students from Belarus, Bulgaria, China, Croatia, Czech Republic, France, Georgia, Germany, Great Britain, Hungary, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Turkey and Ukraine and about 20 professors from France, Germany, Hungary, Poland, Romania, Ukraine, USA, and CERN.

The basic school idea is to promote the High Energy Physics for the students from Eastern and Central Europe, to establish or reinforce links between universities and to encourage new partnerships and collaborations between laboratories and research groups. The school enables a scientific and pedagogical platform that deserves to be continued and strengthened. Following the former students' path after the school, we find many students from each school edition to enter the community of the LHC experiments for their Ph.D. thesis or Post.Doc. One of the important missions of the school is to open the TESHEP disciplines to new student communities. For example, the TESHEP was the first international summer school in high energy physics held in Serbia since the breakup of Yugoslavia, followed afterwards by other HEP events. A lecture of Prof. Sergio Bertolucci assembled representatives of Serbian scientific community.

The school program comprises lecture series, topical seminars, practical work, student-professor discussion sessions and students presentations.

Lecture courses are given in the morning. Core lecture series for TESHEP are selected from Standard Model (SM) and beyond, Precision tests of Standard Model, Heavy flavours, Neutrino physics, Astroparticles, Cosmology, Statistics, Instrumentation for high energy and nuclear physics, Accelerators and Medical physics. They are complemented by topical seminars in the afternoon. Complementary sessions are organized on a specific HEP directions, e.g. LHC/Tevatron results, Future projects, Future of Neutrino physics etc. Also in the afternoon, practical work on SM calculations, statistics, data analysis, Geant4, etc. are organized.

Systematically, dedicated sessions on the LHC machine and instrumentation, and the LHC physics are organized. Professors from CERN and the LHC projects are contributing to the courses and discussions with the students. Since 2010, the organizing committee is happy to acknowledge financial contribution from CERN to the school organization.

In 2014, the TESHEP was organized in Lviv region, the area presently belonging to Ukraine, and earlier to Poland. A dedicated one-day conference to mark the 90th anniversary from the birth of Georges Charpak was organized. Georges Charpak, a noble prize laureate and originally from this area, is a person whose path united France, Poland and Ukraine, with a major contribution to the CERN program. An intervention of the former chair of the CERN Council Agniezka Zalewska was warmly received.

Every student presents the subject he/she is working on at their home institute/university at the end of the school. Students arrive at the school with already prepared presentation. Special sessions of student-professor discussions are scheduled, where a student receives help to finalize the presentation, and also discuss his/her subject with active researchers in the same field, but from a different research community.

The school sets an excellent level of discussions and collaborations between different communities with students and active scientists and professors highly involved.

The school is addressed to the first and second year Ph.D. students as well as to exceptional Master level students specialized in high energy physics or nuclear physics.