10th School on LHC Physics (On-line School)

August 23 - 27, 2021

Organized by

National Centre for Physics (NCP), Islamabad, Pakistan

Experimental High Energy Physics Department (EHEPD) at National Centre for Physics (NCP), Islamabad is organizing 10th School on LHC Physics from August 23 - 27, 2021. Due to Covid-19 the participation of the School will be online. The objective of the School is to provide a platform to young students and researchers to interact with the leading experts of the field. The School lectures will focus on both the theoretical and experimental aspects of high energy physics targeting, accelerator and detector physics, and statistics and machine learning tools used to analyze the physics data.

Introduction

The Large Hadron Collider (LHC) has already delivered a tremendous amount of data with a proton-proton collisions at center-of-mass energies of 7, 8 and 13 TeV and an excellent performance of the ATLAS, CMS, LHCb and ALICE experiments have allowed an extraordinary precision calculations and modeling of various physical processes at hadron colliders. The LHC results using 150 fb^{-1} of data have so far confirmed the validity of the Standard Model (SM) of particle physics up to unprecedented energy scales and with great precision in the sectors of strong and electroweak interactions as well as flavor physics. Physicists are now eyeing towards the High Luminosity LHC which will deliver around 3000 fb^{-1} to probe the SM with even greater precision.

Topics to be Covered

- Standard Model and Beyond
- Top Quark, Higgs and Electro-Weak Physics
- Supersymmetry
- Statistical Tools in High Energy Physics (HEP)
- Data Science and Machine Learning
- Monte Carlo Generators in HEP
- Detectors in HEP
- From Raw to Physics Objects
- Trigger and Data Acquisition
- Future Colliders

Participation

The School will be of interest to graduate and post-graduate students, post-doctoral researchers, faculty members and research scientists, who are already working or intend to work in the field of particle physics may apply. By the start of the School, applicants must have completed at least 3 or 4 years of full-time studies at the university level. There is no registration or participation fee for the school. Good knowledge of English is required. However, due to unusual circumstances (COVID-19), the whole activity will be virtual. The participants are expected to have reliable and stable internet connection for the active participation in school.

How to Apply

The online application form is available at the school website ***http://www.ncp.edu.pk/slp-2021.php***. The selected participants will be notified by an email from the organizing committee once the selection procedure is completed.

For further queries, please contact

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Frank Hartman (Karlsruhe-IEKP)
Juliette Alimena (CERN)
Rujula De Alvaro (CERN)
Abideh Jafari (DESY)
Marcello Abbrescia (BARI)
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Application Deadline

July 30th, 2021

The background image shows the cross-section of the CMS Experiment along the beam axis coming out of the plane of paper (Image: CMS/CERN) .