14th School on LHC Physics

18 - 29 August, 2025

Organized By

National Centre for Physics (NCP), Islamabad, Pakistan

The Experimental High Energy Physics Directorate (EHEPD) at the National Centre for Physics (NCP), Islamabad is pleased to announce the 14th School on LHC Physics, taking place from 18 - 29 August, 2025. This annual event has become a premier platform for students, researchers, and professionals working in the field of high energy physics.We anticipate hosting over 100 in-person participants from universities, R&D institutions, and industry.

The school offers a unique opportunity to engage with cutting-edge tools and techniques used to analyze datasets, $\mathcal{O}$(PB), generated by LHC experiments comparable in volume to data processed by tech giants like Google, but with far higher precision and scientific rigor. Participants will explore how state-of-the-art accelerators, detectors, data science methods, and AI technologies are integrated to record, process, and interpret these big data sets unlocking the secrets of the universe at the smallest scales.

What to Expect:

- *Synchrotrons like the LHC*
- *Accelerators in Science, Medicine &Industry*
- *Big Data Analytics and Machine Learning*
- *Statistical Methods for Large-Scale Data Analysis*
- *The Standard Model and Beyond*
- *Top Quark, Higgs Boson, and Electroweak Interactions*
- *Exploring SUSY, Dark Matter and Long Lived Particles*
- *Physics Object Reconstruction, and Data Acquisition*
- *Advances in Particle Detectors and Emerging Technologies*
- *The Next Generation of Particle Colliders*

Participation

The School will be of the interest to graduate / post-graduate students, early career post-doctoral researchers, faculty members and research scientists who are working / intend to work in the field of particle physics. By the start of the School, the applicant must have completed at least 3-4 years of full-time studies at the university level. The registration fee is Rs. 4000/- for local students and Rs. 8000/- for out-stationed students and for employees the fee is Rs. 10,000/-. The online application form is available at the School website **http://www.ncp.edu.pk/slp-2025.php**.

For further queries, please contact

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Speakers (Tentative)

Roberto Tenchini (Pisa, Italy)
Roger Barlow (UoH, UK)
Thomas Muller (KIT, Germany)
Yifang Wang (IHEP, China)
Phat Srimanobhas (Chulalongkorn, Thailand)
Harrison Prosper(FSU, USA)
Jonathan R. Ellis (Kings College, UK)
Suzie Sheehy (Melbourne, Australia)
Jan Kieseler (KIT, Germany)
Juliette Alimena (DESY, Germany)
Henning Kirschenmann (Helsinki, Finland)
Federica Maria Simone (INFN, Bari)
Jan Eysermans (MIT, USA)
Bilal Masood (CHEP, Pakistan)
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Advisory Committee

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Albert De Roeck (CERN, Switzerland)
Roberto Tecihini (Pisa, Italy)
Jonathan R. Ellis (UoL, London)
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Application Deadlines

July 17, 2025

This artistically enhanced image was produced by the Big European Bubble Chamber (BEBC), which started up at CERN in 1973. Charged particles passing through a chamber filled with hydrogen-neon liquid leave bubbles along their paths (Image: BEBC)