



The Abdus Salam
International Centre
for Theoretical Physics
50th Anniversary 1964–2014



ICTP-NCP School on LHC Physics

25 August – 5 September 2014
(Islamabad, Pakistan)

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing, in collaboration with the Pakistani National Centre for Physics (NCP), a School on LHC Physics to be held in Islamabad, Pakistan from 25 August to 5 September 2014.

INTRODUCTION

The Large Hadron Collider (LHC) is the largest particle accelerator ever built in the history in terms of energy and luminosity. LHC is currently under operation at European Organization for Nuclear Physics (CERN), Geneva. The discovery of the Higgs Boson was announced by two big LHC experiments called CMS and ATLAS on July 4, 2012.

PURPOSE

The purpose of this School is to introduce young researchers in particular graduate students how to analyze the data from LHC. Several countries in the region are working on LHC such as: China, India, Iran, Malaysia, Turkey and Pakistan. This particular School is organized in the same spirit as the CMS Data Analysis Schools (CMSDAS) organized on regular basis by CERN and Fermilab. The School will serve the purpose of regional school.

TOPICS

The real goal of the School is "from raw data to physics publication". During the School we plan to cover the following areas:

- **Standard Model and Beyond**
- **Higgs Searches and Searches for Exotic Particles**
- **Detector Physics**
- **Event Generator**
- **Analysis tools for LHC data**

Supplementary lectures related to various programming tools needed to analyze LHC data will cover

- **Operating System (Linux)/Programming Languages (C++, Python, Perl)**
- **Root/Event Generator – Pythia**
- **CMSSW**
- **Data Access using Grid**
- **Statistical Techniques and Fitting data using RooFit**

FORMAT

The School combines inspirational plenary talks with exercise sessions facilitated by teams of experts. Detailed information can be found on the activity website: <http://agenda.ictp/smr.php?2632>

PARTICIPATION

Scientists and students from all countries that are members of the United Nations, UNESCO or IAEA, may attend the School, however, since this is a regional activity, priority will be given to graduate researchers and research scientists from the region. As the School will be conducted in English, participants should have an adequate working knowledge of that language. Although the main purpose of the Centre is to help research workers from developing countries through a programme of training activities within a framework of international cooperation, a limited number of students from developed countries are also welcome to attend. As a rule travel and subsistence expenses for participants should be borne by their home Institutions. Every effort should be made by candidates to secure support for their fare (or at least half fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those attending the entire activity. **There is no registration fee.**

HOW TO APPLY

The application form can be accessed at the activity website: <http://agenda.ictp/smr.php?2632>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit online the application form **not later than 30 April 2014**. Recommendation letters are encouraged for students and younger researchers.

Activity Secretariat:

At NCP - e-mail: hcnpc2014@ncp.edu.pk Phone: +92 51 2077 360

At ICTP - e-mail: smr2632@ictp.it Phone: +39 40 2240 551

School's web page: <http://agenda.ictp/smr.php?2632> ICTP Home Page: www.ictp.it



DIRECTORS:

H. HOORANI
(NCP, Pakistan)

J. ELLIS
(King's College London, UK and
CERN, Switzerland)

B. ACHARYA
(ICTP, Italy)

ICTP LOCAL ORGANIZER:

J. NIEMELA

NCP LOCAL ORGANIZERS:

Ashfaq Ahmad
M. Irfan Asghar
Riffat M. Qurashi
Muhammad Ahmad

INTERNATIONAL ADVISORY COMMITTEE:

Rolf Heuer (CERN DG)
Tiziano Camporesi (CMS Spokesperson)
Joe Incandela (CMS Spokesperson)
Joe Butler (US CMS Prog Manager)
Paolo Giubellino (ALICE Spokesperson,
Michelangelo Mangano (CERN)
Roberto Tenchini (INFN, Italy) Martijn
Mulders (CERN)
Andress Meyer (DESY)
Bruno El Bennich (Sao Paulo, Brazil)

**Application
DEADLINE**

30 April 2014