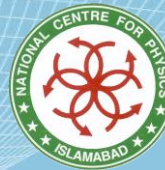


# International School on Physics & Allied Disciplines

March 13 – 17, 2023  
Islamabad, Pakistan



Further Information:  
[ispad@ncp.edu.pk](mailto:ispad@ncp.edu.pk)  
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The National Centre for Physics (NCP), Islamabad, Pakistan and The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy are jointly organizing the International School on Physics & Allied Disciplines (ISPAD) in Islamabad, Pakistan from March 13 - 17, 2023.

## Introduction

The idea of holding the ISPAD at NCP is to provide a platform for the local and the foreign participants to exchange scientific knowledge and to generate enthusiasm for science and innovation. Around 200 young Pakistani M.Phil./Ph.D. students, researchers, university faculty and many foreign invited speakers and participants will take part in the deliberations of ISPAD-2023.

## Format

Each year, the topics (technical activities) of the school are chosen keeping in view the present and future research interests of NCP, universities and national R&D institutions. The School will consist of plenary, parallel and poster sessions as well as tutorials and structured discussions relevant to various technical activities in the chosen topics. The plenary lectures contain mostly overviews of advances in the chosen areas for general audience while the lectures/talks in parallel sessions cover the recent research on the specific topics.

## Topics and Coordinators

### A. Plasma Physics: Theory and Applications (PP)

Plasma Modeling and Simulation, Electromagnetic Wave-Plasma Interactions, Computational Plasma Physics, Fusion Plasmas.

**Coordinators:** Ali Ahmad (NCP), Waqas Masood (CIIT), Shabbir Ahmed (NCP), Shahzad Mahmood (PINSTECH), Shahid Ali (NCP), Aman-ur Rehman (PIEAS), Zahoor Ahmad (PTPRI)

### B. Applications of Accelerators in Research and Industry (AARI)

Laser-driven Accelerators and Radiation Sources, Radioactive Ion Beams, Medical Accelerators and their Applications, Synchrotron Radiation, Spallation Neutron Sources and their Applications.

**Coordinators:** Turab Ali (NCP), Ghulam Murtaza (GCU), Naveed Zafar Ali (NCP), Shah Rukh K.T (PNRA), Muhammad Shahid (PNRA)

### C. Quantum Information and Computation (QIC)

Quantum Internet and Networking, Quantum Algorithms, Quantum Key Distribution, Spin Qubits, Quantum Teleportation and Swapping.

**Coordinators:** Bilal Tariq (NCP), Aeysha Khaliq (NUST), Jibran Rashid (IBA), Syed Rashid Aziz (NCP), Muhammad Irfan (PIEAS)

## Participation

Active graduate & postgraduate students, post-doctoral researchers, faculty and research scientists are encouraged to participate. Applicants with oral or poster presentation will be preferred. Best posters will be awarded. Local hospitality will be provided to the participants. A limited number of travel grants may be provided to the foreign participants, especially those from the developing countries of the region.

## How to apply

The online registration form can be accessed at: <http://www.ncp.edu.pk/ispad-2022.php>. The application form should be submitted by **Dec 15, 2022 by foreign participants** and **January 31, 2023 by local participants**. Selection will be made by the Technical Committee of ISPAD-2023. Foreign applicants are required to attach/provide scans of the first two relevant pages of their passports valid at least six months after the ISPAD-2023 event. These documents to be submitted to the activity secretariat by email before the deadline for registration.

## Registration Fee

Students: From Rawalpindi / Islamabad: Rs. 1500/-, Outstation: Rs. 2000/-

Faculty Members / Professionals: Rs. 7000/-

Selected applicants will be required to pay a registration fee via online payment. There is no registration fee for the invited speakers and foreign participants.

## Sponsors

- The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy
- Pakistan Academy of Sciences (PAS), Islamabad, Pakistan
- Pakistan Science Foundation (PSF), Islamabad, Pakistan

## Collaborations & Academic Activities Directorate (CAAD)

National Centre for Physics, Shahdra Valley Road, Islamabad, Pakistan

Tel: +92-51-2077300 – 350, 520, Fax: +92-51-2077342

## Directors

Mansoor Hameed Inayat (NCP, Pakistan)

Joseph Niemela (ICTP, Italy)

## Co-Directors

Ishaq Ahmad (NCP, Pakistan)

M. Aslam Baig (NCP, Pakistan)

## Scientific Secretary

Mohsin Siddiq (NCP, Pakistan)

E-mail: [mohsin.siddiq@ncp.edu.pk](mailto:mohsin.siddiq@ncp.edu.pk)

## International Advisory Committee

Atsushi Fukuyama (Japan)

Dimitri Batani (France)

Ioannis Kourakis (UAE)

Jose Tito Mendonca (Portugal)

Luca Volpe (Spain)

Naeem A. Tahir (Germany)

Barry C. Sanders (Canada)

Natko Skukan (IAEA)

## Key Speakers (Tentative)

### Plasma Physics

Stefaan Poedts (Belgium)

Marco Borghesi (UK)

Bengt Eliasson (UK)

Dimitri Batani (France)

Shu T. Lai (USA)

Luca Volpe (Spain)

Naeem A. Tahir (Germany)

Zhandos Moldabekov (Germany)

Rongsheng Wang (China)

Shahid Rauf (USA)

### Applications of Accelerators in Research and Industry

S. R. Strangis (USA)

M. Sorokin (Russia)

Ayano Makinaga (Japan)

J. C. Manrique (Mexico)

I. H. Sarpun (Turkey)

A. B. Jalar (Malaysia)

M. B. Abu Bakar (Malaysia)

Mohamed Chaker (Canada)

D. D. Berhanuddin (Malaysia)

Ilkay Turk Cakir (Turkey)

Oliver Kirstein (Sweden)

Thomas Osipowicz (Singapore)

### Quantum Information and Computation

Barry C. Sanders (Canada)

Xuedong Hu (USA)

Saleem Rao (Saudi Arabia)

## Application Deadline

**Dec 15, 2022**

For Foreign Participants

**Jan 31, 2023**

For Local Participants