

PROGRAM AT A GLANCE – WEEK 1 at INFIERI-2023

28.08
Opening day

Opening Session (9-12am)
Presentation of USP & other contributors

Presentations of the Lab sessions prepared for this School (afternoon)

29.08
A vision of the main frontier research fields

Introductory Vision on Astrophysics from XXL terrestrial to spatial observatories

Introductory Vision Talk on Particle Physics: H.E. Muon and Hadron colliders & Neutrino Titan projects

KEYNOTE: INTRO TO QUANTUM MECHANICS AND TECHNOLOGIES

30.08
Fundamental Research and High Tech advances

Cold microelectronics

4-dim microelectronics

Microcircuits Fabrication: the new trends

KEYNOTE: HIGH FIELD MAGNETS AND MULTIFACETED APPLICATIONS

31.08
Intelligence on instruments: The Particle Physics case

The new Neutrino experiments: The clash of Titans & techno challenges

Detectors for Future colliders: main challenges at 100 TeV and Muon colliders

KEYNOTE: FUTURE HEP ACCELERATORS

01.09
Intelligence on instruments: The A&A case

SKA Observatory

BINGO Telescope

New Spatial instruments

KEYNOTE: GIGANTIC NEUTRINO EXPERIMENTS

02.09
New energies Day

- General intro on Energy & challenges
- Renewables energies: status & future (with focus BR/South America)

-H2

-Intro to Nuclear Fusion & Nuclear Fission

03.09

FREE DAY, VISITS...

SCHOOL BANQUET (evening)

KEYNOTE: NUCLEAR ENERGIES: CHALLENGES, PROJECTS, NEW PARADIGM

PROGRAM AT A GLANCE – WEEK 2 at INFIERI-2023

04.09
 Big Data & Large Data transmission: New trends
 Big Data, MPC, HPC: Intro
SKAO, CERN, PRACE , GEANT
 SKA signal & data processing chain
 New data transmission techniques

05.09
 Intro to Photonics World
 Introduction to Integrated Photonics & Silicon Photonics
 Wireless communication

06.09
 Intro to artificial intelligence
 Intro IA& InternetofThings
 Intro to Machine Learning & Deep Learning
 Integrated technology with embedded ML

07.09
 The Quantic World:1
 Intro Quantum Physics: Superposition&Entanglement
 Physical basis of Q. Tech
 Quantum Computers

08.09
 The Quantic World: 2
 Quantum simulators
 Quant. sensing & metrology
 Quantum Communication

KEYNOTE; ACCELERATING ASTROPHYSICS WITH THE SPACEX STARSHIP

KEYNOTE: NANOTECH/ NANOBIO/NANOMEDICINE, PART1

KEYNOTE: NANOTECH/ NANOBIO/NANOMEDICINE, PART2

KEYNOTE THE REVOLUTION OF QUANTUM TECHNOLOGIES: STATUS & PROSPECTS

MENS SANA IN CORPORE SANO: RUNNING & SWIMMING RACES

09.09
SYMPOSIUM & PANEL DISCUSSION on:
“HIGH TECH & FUNDAMENTAL RESEARCH: the UNPAREIL LINK”
At Polytechnic School-USP Auditorium
POSTERS SESSION
At INOVA Center, USP
 Farewell Party

Hands-on Labs, in parallel afternoon sessions, are prepared for each Lecture & keynote topics covered in this School, including the theoretical introductory lectures on HEP, Astro/Cosmo, Plasma Physics and Quantum Mechanics.

All the Lectures & Keynotes will be held at the Auditorium of the Polytechnic School at USP.

The final Poster session will be held at the INOVA Center.