PROGRAM AT A GLANCE – WEEK 1

13.05

Opening day

Opening Session
Presentation of HUST

Presentations of the Lab sessions prepared for this School

KEYNOTE LECTURE: THE NEW WAYS TO EXPLORE THE BRAIN FUNCTIONING

14.05

A vision of the main frontier research fields

New trends in Astrophysics, Astronomy and Cosmology: From Large terrestrial telescope to spatial new instruments

Next generation Neutrino experiments & Future HEP Machines: What New Physics will they Reveal?

KEYNOTE LECTURE: THE MAIN TRENDS IN SCIENCE RESEARCH IN CHINA

15.05

Intelligence on instruments: The high technology side

New trends in Si technology

Cold Electronics from Underground to Space

KEYNOTE LECTURE; IMPACT OF HIGH TECH SEMICONDUCTOR INNOVATIONS ON TRACKING CONCEPTS

16.05

Intelligence on instruments: The Particle Physics case

Highly Pixelated Detectors
1) New Fast Timing Detectors

2) High Granularity Si Calorimetry

KEYNOTE LECTURE; DUNE, JUNO, SUPER/HYPERK; THE LAST WORD ON NEUTRINOS?

17.05

Intelligence on instruments: The Astrophysics case

KAGRA: 2nd GW generation & 1st GW Underground experiment

1- Instrumentation for Particle Detect. in Space
2- GW in Space: LISA & PathFinder

KEYNOTE LECTURE: PANEL TOWARDS LARGE SCALE INSTRUMENTS/LABS IN SPACE

18.05

The brain exploration and related new technologies

The Medical Motivations

Neurosciences, Brain Modelling, High Field MRI at NEUROSPIN

KEYNOTE LECTURE; HIGH FIELD MAGNETS FOR MEDICAL RESEARCH & FUNDAMENTAL RESEARCH

19.05

Break:

Organized Wuhan sightseeing Tours

Sport, free activities

PROGRAM AT A GLANCE – WEEK 2

20.05	21.05	22.05	23.05	24.05
Data transmission:High Rate & New trends	Introduction to artificial intelligence	Big data-day1:	Big data-day2:	New Directions in HPC
High rate/High speed data transmission challenges & solutions: Photonics applied to Telecom High rate/High speed data transmission: challenges & solutions: Quantum Communication	Introduction to Artificial Intelligence Ethics, Privacy & Security Artificial Intelligence: the Hardware Side: some example	Fundamental Research: the Big Data Challenges Introduction to Machine Learning & Deep Learning: (applications in Lab sessions)	The Brain exploration and the big date challenges: Brainmatics Introduction to GPU-computing (applications in Lab sessions)	New FPGA techno by INTEL Introduction to Quantum Computing Neuromorphic Computing Programmable Photonics
KEYNOTE LECTURE: BIOPHOTONICS	**SPORTS COMPETITION**	**SCHOOL BANQUET**	**KEYNOTE LECTURE; PANEL THE NEXT GENERATION OF PARTICLE ACCELERATORS**	***KEYNOTE LECTURE: XXITH CENTURY: THE CENTURY OF WORLD SUSTAINABLE ENERGY***

25.05
Posters session Fundamental Science & Technology: colloquium School Awards Farewell Party