ICTP SAIFR International Centre for Theoretical Physics South American Institute for Fundamental Research

Claf Centro Latino Americano de Física

CLAF/ICTP-SAIFR LATIN-AMERICAN ASTROPARTICLE PHYSICS SCHOOL

August 11 – 15, 2025

at IFT-UNESP, São Paulo, Brazil

LECTURERS

Rafael Alves-Batista (IAP, France)
UHE Cosmic-Rays

Elisabetta Bissaldi (INFN and U. of Bari, Italy)
TeV GRBs and Gravitational Waves

Markus Boettcher (NWU, South Africa)
AGNs and Multi-Messenger Neutrinos

Michele Doro (INFN and U. of Padova, Italy)
Dark Matter & Fundamental Physics

Gustavo Romero (IAR, Argentina)
TeV Galactic Astrophysics

SEMINARS

Felix Aharonian (DIAS, Ireland)
Air-Shower Arrays – LHAASO

Ulisses Barres de Almeida (CBPF, Brazil)
Overview of VHE Gamma-ray Astronomy

HANDS-ON ACTIVITY

Raniere de Menezes (CBPF, Brazil)
CTAO and SWGO Analysis Tools

Astroparticle Physics is undergoing a major global revolution, with a number of breakthrough results coming from currently operational or recently-upgraded facilities, and with the near-future construction of new observatories for ground-based gamma-ray astronomy and astrophysical neutrinos. Ground-based gamma-ray astronomy, which explores the universe over a broad energy range from 30 GeV to beyond the PeV scale, has established itself as the cornerstone of the field, studying the role of cosmic rays in astrophysics, searching for dark matter and probing fundamental physics in space.

The currently operational Large High Altitude Air Shower Observatory (LHAASO) and the High-Altitude Water Cherenkov Observatory (HAWC), together with the Cherenkov Telescope Array Observatory (CTAO) and the Southern Wide-Field Gamma-ray Observatory (SWGO), whose start of construction is expected as early as 2026, will form a worldwide network surveying the entire sky with almost continuous coverage in the search for the most energetic phenomena in the universe. Both HAWC, located in Mexico, and CTAO and SWGO, which will have sites in Chile, involve a large number of Latin-American researchers from dozens of institutes across the continent, making the field particularly attractive for students and young researchers from the region.

The purpose of this school, which is jointly organised by the Latin-American Center for Physics (CLAF) and the ICTP South American Institute for Fundamental Research (ICTP-SAIFR) is to train Latin-American students in the science and tools of these two major facilities for astroparticle physics on the continent, covering a broad range of topics from Multi-Messenger to High-Energy Astrophysics. The students will also have the chance to work directly with the tools developed for CTAO and SWGO data analysis, through dedicated hands-on training activities and proposed challenge-projects.

This event will occur after the V Joint ICTP-Trieste/ICTP-SAIFR School on Cosmology and the IX High Energy Phenomena in Relativistic Outflows (HEPRO IX in Rio) Conference.

There is no registration fee and limited funds are available for travel and local expenses.

Registration deadline:
June 6, 2025

Online registration and more information:
ictp-saifr.org/claf-ictp-saifr-laaps

ORGANIZERS

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