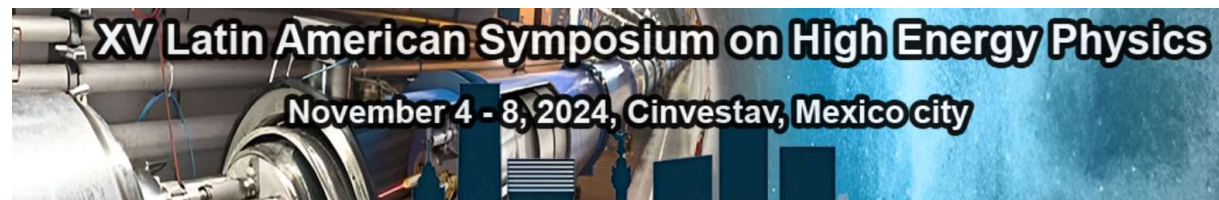




2nd General Assembly of the Latin American Association for High Energy, Cosmology and Astroparticle Physics LAA-HECAP



HUGE thanks to the
Organizing Committee,
especially Pablo Roig for
the fantastic work and
CINVESTAV for hosting
SILAF AE!

XV SILAF AE - Mexico

**XV Latin American Symposium
on High Energy Physics**
November 4 - 8, 2024, Cinvestav, Mexico city
<https://indico.nucleares.unam.mx/event/2125/overview>

Plenary talks
Aristizabal, Diego: 'Coherent elastic neutrino-nucleus scattering'
Bazo, José: 'Status of SWGO'
Bernard, Gregorio: 'FCC'
Caceres, Elena: 'Black holes, holography'
Camacho Toro, Reina: 'Higgs physics at LHC'
Cieri, Leandro: 'QCD for colliders'
Cottin, Giovanna: 'Long-lived particles'
De la Macorra, Axel: 'DES'
Deshpande, Abhay: 'EIC'
El Khadra, Aida: 'Muon g-2'
Estrada, Juan: 'DM searches'
Freitas, Ayres: 'SM EW fit'
González, Magda: 'Exploring the extreme universe: key results from the HAWC observatory'
Gorshiteyn, Misha: 'First row CKM unitarity tests'
Hernández Villanueva, Michel: 'Belle-II'
Luna, Andrés: 'Amplitudes, the double copy, and black hole dynamics'
Maldonado, Ivonne: 'NICA'
Moreno, Claudia: 'Gravitational waves detection'
Mulder, Mick: 'LHCb'
Nunokawa, Hiroshi: 'New Physics with long baseline neutrino oscillations'
Ochoa Ricoux, Pedro: 'Short baseline neutrino oscillations'
Ortiz Velásquez, Antonio: 'ALICE'
Restrepo, Diego: 'Neutrino masses and dark matter'
Rosenfeld, Rogério: 'DES'
Segreto, Ettore: 'DUNE'
Shafi, Qaisar: 'Topological defects and gravitational waves'
Tórtola, Mariam: 'Global neutrino fits and physics implications'
Ureña, Luis: 'Ultra-light scalar dark matter'
Velasco, Mayda: 'Electroweak physics at the LHC'
Yaguna, Carlos: 'Dark matter'

Local Organizing Committee
Alexis Aguilar Arévalo, Alejandro Ayala, Eduard De La Cruz Burelo, Manfred Kraus, Gabriel López Castro, Omar Miranda Romagnoli, Myriam Mondragón Ceballos, Pablo Roig (chair), Alberto Sánchez Hernández, Eric Vázquez Jáuregui

International Scientific Committee
Argentina: Daniel de Florian, Tere Dova, Esteban Roulet. Bolivia: Martín Subieta. Brazil: Carla Bonifazi, Beatriz Gay Ducati, Rogério Rosenfeld. Chile: Jorge Alfaro, Marco Díaz, Claudio Dib. Colombia: María Losada, Roberto Martínez, Diego Restrepo. Costa Rica: Guy de Teramond, Alejandro Jenkins. Cuba: Angelina Díaz, Daryel Manreza Paret, Aurora Pérez Martínez. Ecuador: Edgar Carrera. Guatemala: Edgar Calientes, Juan Ponciano. Mexico: Adnan Bashir, Juan Carlos D'Olive, Gerardo Herrera. Paraguay: Jorge Molina. Perú: José Bazo, Alberto Gago, Joel Jones-Pérez, Orlando Pereyra. Puerto Rico: Sudhir Malik. Uruguay: Lucía Duarte, Gabriel González-Sprinberg. Venezuela: Anamaria Font. Italy: Enrico Nardi. United States: Miguel Mostafa, John Swain.

Topics:
Astroparticle physics
Beyond the Standard Model physics
Cosmology and gravitation
Dark matter physics
Electroweak, Top and Higgs physics
Flavour physics and CP violation
Neutrino physics
New frontiers and computing in fundamental physics
QCD, QGP and Heavy ion physics
QFT, String, AdS/CFT
Outreach and Education

Logos:
Cinvestav, smf, Instituto de Ciencias Nucleares UNAM, iF

AGENDA:

- General LAA-HECAP presentation (Rogerio Rosenfeld) - 15'
- Activity Report and Plan of Activities (Diego Restrepo) - 10'
- Statistics Committee Presentation (Diego Restrepo) – 5'
- Admissions Committee presentation (Pablo Roig) - 5'
- Education Committee presentation (Oscar Zapata) - 5'
- Communications Committee presentation (Arturo Sanchez) - 5'
- LASF4RI updates (Rogerio Rosenfeld) -10'
- SILAF AE report and next SILAF AE (Pablo Roig) - 10'
- Comments/Suggestions by LAA-HECAP members - 15'

LAA-HECAP was established during the SILAFAE XII^{3/4} in November 2021 as an association for the Latin American research community in the fields of High Energy, Cosmology and Astroparticle Physics (HECAP).

The objectives of the organization were declared in the [bylaws](#). The first General Assembly took place during the XIV SILAFAE in Ecuador in 2022.

Membership by just filling a Google Form. Anyone interested in HECAP can join. 600 members as of last week!

LATIN AMERICAN ASSOCIATION FOR HIGH ENERGY, COSMOLOGY AND ASTROPARTICLE PHYSICS (LAA-HECAP)

LAA-HECAP is hereby established as an association of the Latin American research community in the fields of High Energy, Cosmology and Astroparticle Physics (HECAP). It aims to leverage and amplify the successful and growing dynamics of research in HECAP in Latin America, as demonstrated by the fruitful and long-term organization of the Latin American Symposium on High Energy Physics (Simposio Latino Americano de Física de Altas Energías - SILAF AE) series and the recent initiative to form a Latin American Strategy Forum for Research Infrastructures for HECAP (LASF4RI-HECAP - lasf4ri.org) with the participation of several countries in the region.

- ▶ Strengthen existing ties within the Latin American HECAP community and foster new and existing collaborations
- ▶ Engage the wider scientific community and the general public through the promotion of HECAP.
- ▶ Represent the Latin American HECAP communities in other scientific international bodies
- ▶ Announce activities in HECAP in the region through means such as periodic newsletters and a website
- ▶ Promote other activities such as the organization of symposia, workshops, schools, university-institution cooperation and exchange programs for students, and the production of educational and outreach material
- ▶ Engage with Ministries, funding agencies and other national authorities related to Science and Technology to promote the rollout and development of the current LASF4RI-HECAP process.
- ▶ Organize SILAF AE (Latin American Symposium on High Energy Physics) every two years.
- ▶ Coordinate periodic assessment and strategic planning within the LASF4RI-HECAP process.

New site: <https://www.laa-hecap.org>

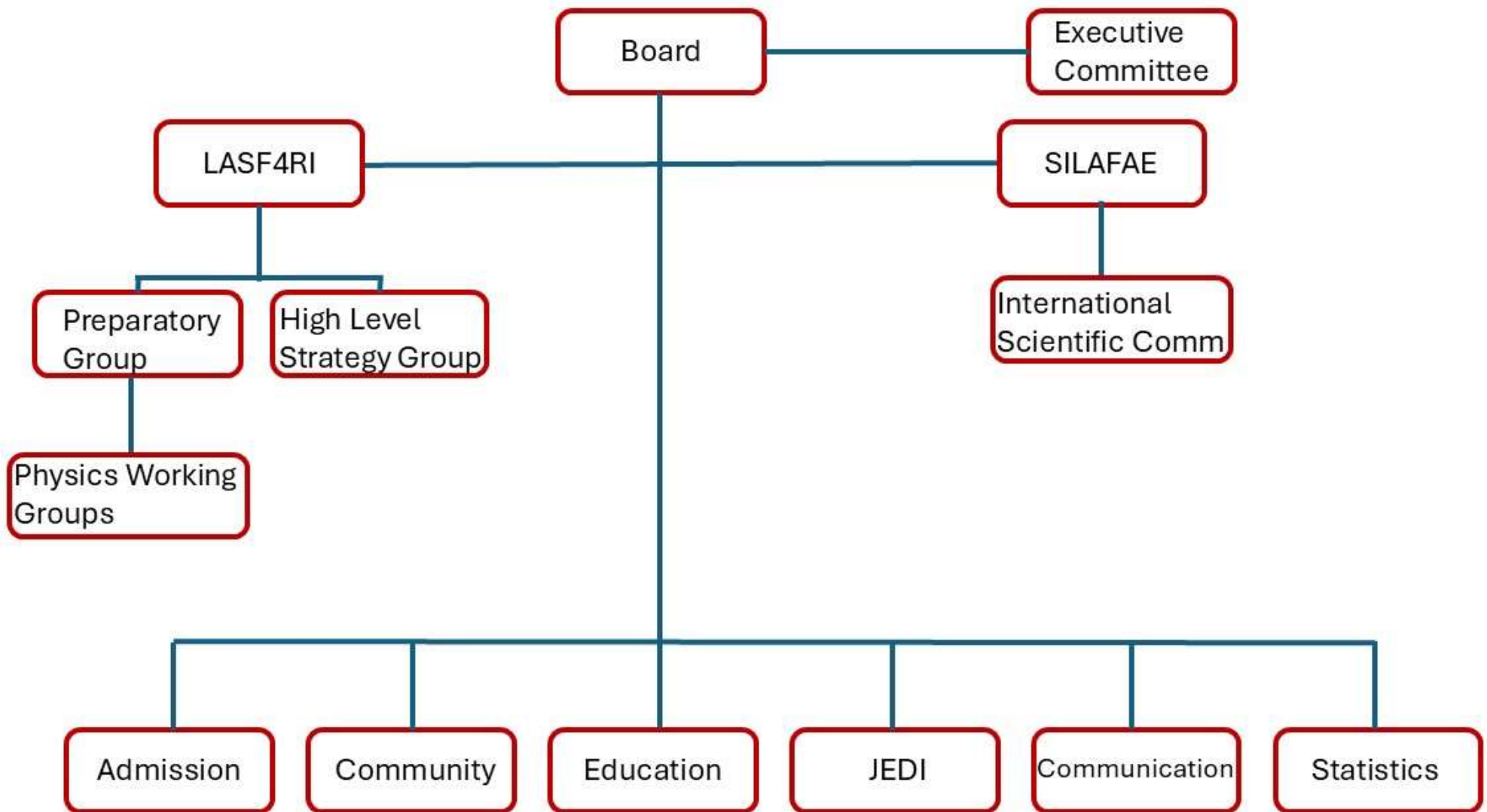
LAA-HECAP

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Latin American Association for High Energy, Cosmology and Astroparticle Physics

The Latin American Association for High Energy, Cosmology and Astroparticle Physics (**LAA-HECAP**) was created in November 2021. It aims to leverage and amplify the successful and growing dynamics of research in HECAP in Latin America, as demonstrated by the fruitful and long-term organization of the Latin American Symposium on High Energy Physics (Simposio Latino Americano de Física de Altas Energías – **SILAFAE**) series and the recent initiative of strategic planning through the Latin American Strategy Forum for Research Infrastructures for HECAP ([LASF4RI-HECAP](#)), with the participation of several countries in the region. LAA-HECAP is hosted by the ICTP-South American Institute for Fundamental Research ([ICTP-SAIFR](#)).



Latin American Association for HECAP (LAA-HECAP)

Board: LASF4RI Preparatory Group + SILAF AE Scientific Committee

Chair: Rogerio Rosenfeld

Vice-chair: Fernando Quevedo

Executive Committee:

Diana López Nacir, Edgar Carrera, Diego Restrepo and Alfredo Aranda

We will have presentations from the Executive Committee, from LASF4RI, from SILAF AE and from some of the LAA-HECAP committees.

Some highlights are:

- Start of mobility programs within Latin America (ICTP network program, new CLAF/LAA-HECAP program)
- Nominations of LAA-HECAP representatives in C11 and ICFA
CLAF nominated as representative in ICFA Gustavo Gil da Silveira, from the Universidades Federal do Rio Grande do Sul (UFRGS) for the years 2023-2025 and Gustavo Javier Otero y Garzón, from the Universidad de Buenos Aires, for the years 2026-2028. Ana Amélia Machado (UNICAMP) in C11. **New call issued!**
- ICHEP in Latin America for the first time in 2026
- LASF4RI Symposium for the Update of the Strategy held at ICTP-SAIFR in August 2024 (more in the LASF4RI update)
- A member of LAA-HECAP nominated for the Preparatory Group of the European Strategy

1. LAA-HECAP obtained two 6-months grants from the ICTP Network program (5k euros each). Two calls were issued and the following visits were selected by the Executive Committee:

First call (visits until December 2023)

- Irina Nasteva (LAPE-IF-UFRJ, Brazil) Detector characterisation and data analysis of Skipper-CCDs Project for a scientific visit to the LAMBDA laboratory at DF-UBA (Argentina)
- João Paulo Correia de França - Brazilian Center for Research in Physics (CBP) to visit: Universidad Nacional de San Martín (UNSAM) Project: Classifying strong gravitational lenses in ground-based surveys: paving the way for deep learning applications
- Mario Guerra - Student at the School of Physical and Mathematical Sciences in Universidad de San Carlos de Guatemala. Visit Dr. Omar Gustavo Miranda of Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional. Project: Neutrino physics and its implications for physics beyond the Standard Model

Second call (visits until August 2024)

- Miguel Sofo Haro (Universidad Nacional de Cordoba and CONICET) to visit Irina Nateva (UFRJ). Project: Installation of the CONNIE experiment upgrade with Multi Skipper-CCD Modules.
- Facundo Lucca (IFLP-CONICET, La Plata) to visit Eduardo F. Simas Filho (Federal University of Bahia). Project: Integration of Ringer algorithm into the Global Event Processor firmware project.
- José Alberto Martín Ruiz (Instituto de Ciencias Nucleares-UNAM) to visit Mauro Cambiaso (Universidad Andres Bello, Santiago de Chile). Project: Exact solutions to axion electrodynamics

All reports of these visits are publicly available.

In addition, the LAA-HECAP / US-ATLAS Physics Education Outreach Program selected the following students to visit Brookhaven National Laboratory:

- Arthur Alves, an M.Sc. student at the Federal University of Bahia, an ATLAS-Brazil Cluster Institute member
- Oscar A. Altuve Pabón, MSc student at the Universidad Simón Bolívar (USB) - Venezuela

We also started a partnership mobility program with CLAF with US\$10k for one year period. A joint CLAF and LAA-HECAP committee selected the following persons and projects:

Christian Sarmiento Cano

Postdoctoral research from Universidad Industrial de Santander in Colombia to visit Iván Sidelnik from the Centro Atómico de Bariloche

Project: Neutron Detection Using Water Cherenkov Detectors for Precision Agriculture Applications

Melissa Cruz

Professor from Universidad Nacional Autónoma de Honduras to visit Ignacio Bediaga from CBPF

Project: CP violation measurements in $B \rightarrow p\bar{p}h$ decays

Mario A. Acero Ortega

Professor from Universidad del Atlántico, Colombia, to visit Alexis Aguilar-Arevalo from UNAM, Mexico

Project: Neutrino Oscillations Data Analysis and Particle Detectors

Igo Amauri Dos Santos Luz

PhD student from Universidade Federal da Bahia in Brazil to visit Fernando Monticelli from Universidad de La Plata in Argentina

Project: Integration of the Neural Ringer algorithm into the ATLAS Global Event Processor firmware project

Luz Ángela García

Professor from Universidad ECCI in Bogotá, Colombia to visit Diana Lopez Nacir from UBA, Argentina

Project: Studying dark energy models with current cosmological observables

Matías Leizerovich

PhD student from UBA to visit Dr. Luisa Jaime from UNAM

Project: implement a parametrization at background level in the frame of the $f(R)$ theories of gravity and evaluate its cosmological prediction

We thank CLAF, especially its Director Luis Huerta, for supporting this initiative.

CONCLUSIONS

- The High Energy, Cosmology and Astroparticle Physics (HECAP) Latin American community has experienced rapid growth;
- SILAFAE has been the forum for discussions in HECAP in LA since 1996;
- A first bottom-up Strategy Planning in HECAP in Latin America was done by LASF4RI in 2019-2020 which revealed a rich landscape;
- Community created LAA-HECAP in 2020 to coordinate efforts in the region;
- Many results already reached: mobility programs within LA, visibility in HECAP for LA (ICHEP in LA, representatives in committees), ...
- An update of the Strategy Planning in full swing;
- An engaged HECAP community in LA is being developed and organized. **Let's keep the effort going!**