The Latin American Strategy Forum for Research Infrastructure (LASF4RI)

Rogerio Rosenfeld
IFT-UNESP/ICTP-SAIFR
On behalf of the LASF4RI-HECAP Preparatory Group

IUPAP Executive Council and Commission Chairs
October 27, 2026

Sizeable, well organized and vibrant Latin American community in High Energy, Cosmology and Astroparticle Physics:

- Latin American Association for High Energy, Cosmology and Astroparticle Physics (LAA-HECAP)
- Latin American Symposium on High Energy Physics (SILAFAE)
- Latin American Strategy Forum for Research Infrastructure (LASF4RI)

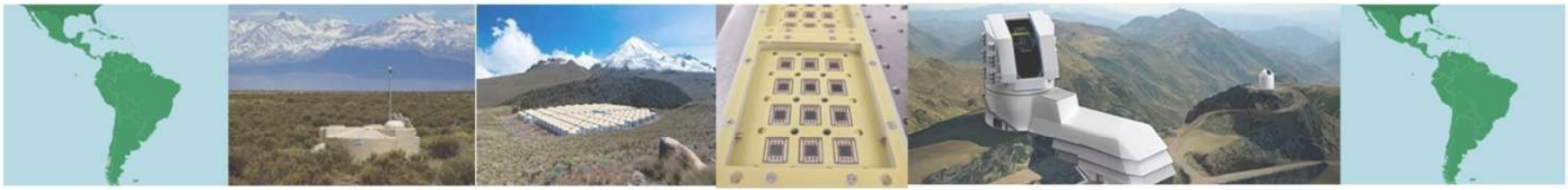
The Latin American Strategy Forum for Research Infrastructure (LASF4RI) is a recent effort: it aims at developing a community-driven strategy to strenghten the Latin American scientific collaborations and their impact.

We focused on HECAP areas. Organized in a Preparatory Group and a High-Level Strategy Group.

Inspired by the Snowmass/P5 process in the US and the ESPP in Europe.

LASF4RI

lasf4ri.org



Latin American Strategy Forum for Research Infrastructure

Developing a strategy to strengthen Latin American Scientific Collaborations and their impact.

Main Goals of the Process

- To chart the landscape of existing infrastructure and expertise already developed in the region.
- To build consensus and support a strategy-based approach for the participation in, and development of, large-scale research infrastructure projects in Latin America.
- To make a call to Latin American scientific communities to establish a strategic scientific forum in order to coordinate Latin American activities in the area.
- To set-up the LA scientific roadmap based on actual participation in large-scale research infrastructures and the inherent need for long term planning and funding implementing an open call for input from the scientific communities.
- To enable a more effective development of Latin American research groups, facilitating multilateral participation in regional and global research infrastructures, increasing their impact.
- To inform the Ministerial meetings of the development, implementation and impact of the strategy for HECAP.

1st Strategic Planning in Latin America

Based on 39 white papers submitted by the community. Finished in 2021.

Three main documents produced:

- LA-HECAP Physics Briefing Book (2104.06852)
- Strategy Document with recommendations
- Endorsement letter from HLSG

lasf4ri.org

Endorsement by the High-Level Strategy Group

The **LASF4RI-HECAP Strategy Document** addresses several aspects that need to be simultaneously developed to sustain a thriving research environment which includes fostering R&D for key technologies, enhancing the computing and network infrastructures, advanced training of the younger generations, and broad dissemination of knowledge with increased initiatives for citizen science. The importance of reinforcing connections between theorists and experimentalists to advance the research questions posed and the exploration of answers through experimentation is clearly stated and is considered of great value by the HLSG.

The recommendation for stable and continuous mechanisms for funding and coordination at the level of funding agencies and research councils for HECAP is of paramount importance and this HLSG endorses it enthusiastically.

Finally, the HLSG strongly recommends that the HECAP community put in place a robust structure and mechanisms that would allow the community to come together, on a periodic basis, ideally about every five years, to examine progress and consolidate community input to develop and/or update the strategic plan for the region. The European Particle Physics Strategy Update and the United States "Snowmass" processes are examples of successful national/regional models. Such sustained and recurring community engagement in the strategy development process will ensure regional coordination in the participation, as well as in developing leading roles, in regional and global scientific research infrastructures. This would also facilitate funding agencies in their decision-making process to adequately support the HECAP efforts in Latin America.

Given the above considerations the High Level Strategy Group expresses its endorsement of the 2020 LASF4RI-HECAP Strategy Document.

Update process of the HECAP Strategic Planning in Latin America

- Call for new or updated white papers was issued in November 2023 with a deadline for submission of July 26, 2024.

- The submitted contributions were presented at the “III LASF4RI for HECAP Symposium: Update of the Strategic Plan“, held at ICTP-SAIFR in São Paulo in August 26-29, 2024, with the participation of the Preparatory Group, High Level Strategy Group, Funding Agencies and representatives of similar efforts around the globe.

III LASF4RI for HECAP Symposium: Update of the Strategic Plan





August 26 – 29, 2024

ICTP-SAIFR, São Paulo, Brazil

Slides and videos are available on the website www.ictp-saifr.org/hecap2024

Invited speakers:

- **Luciano Maiani** – chair of the LASF4RI High Level Strategy Group
- **Ricardo Galvão** – Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq, Brazil)
- **Sylvio Canuto** – Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP, Brazil)
- **Rafael Anta** – Banco Interamericano de Desenvolvimento (BID)
- **Sharapyia Kakimova** – Agencia Nacional de Investigación y Desarrollo (ANID, Chile)
- **Ana Patricia Torres** – Consejo Nacional de Humanidades, Ciencias y Tecnología (CONAHCYT, Mexico)
- **Federico Sanchez** – Comisión Nacional de Energía Atómica (CNEA, Argentina)
- **Enrique Pazos** – Secretaría Nacional de Ciencia y Tecnologia (SENACYT, Guatemala)
- **Martijn Mulders** (CERN)
- **Yifang Wang** (Institute of High Energy Physics – Beijing)
- **Christophe Grojean** (DESY & CERN)
- **Hitoshi Murayama** (University of Caligfornia – Berkeley)
- **Paris Sphicas** – chair of European Committee for Future Accelerators
- **Kétévi Assamagan** (Brookhaven National Laboratory)
- **Marta Losada** (New York University Abu Dhabi)

LASF4RI-HECAP Preparatory Group 2024-2026

Argentina
Diana López Nacir
Belén Andrada
Fernando Monticelli
Bolivia
Martín Subieta
Brazil
Sandro Fonseca
Farinaldo Queiroz
Rogerio Rosenfeld
Chile
Alfonso Zerwekh
Mauro Cambiaso
Colombia
Deywis Moreno
Costa Rica
Esteban Jimenez Moya
Ecuador
Andrés Baquero Larriva
Edgar Carrera

Guatemala
Juan Ponciano
Honduras
Melissa Cruz Torres
Mexico
Malena Tejeda Yeomans
Alexis Aguilar Arévalo
Luis Nunes
Paraguay
Diego Stalder
Peru
Alberto Gago
Uruguay
Lucía Duarte
Venezuela
Luiz Nuñes
Arturo Sánchez Pineda
José Antonio López
International
Juan Estrada (Fermilab)
Martijn Mulders (CERN)

An updated Physics Briefing Book based on 48 white papers was concluded in 2025.

arXiv:2603.06291v1 [hep-ex] 6 Mar 2026

Latin American Strategy for Research Infrastructures for High Energy, Cosmology, Astroparticle Physics LASF4RI for HECAP

LATIN AMERICAN HECAP PHYSICS BRIEFING BOOK 2025

Preparatory Group

Mario A. Acero - U. del Atlántico, Colombia
Alexis A. Aguilar-Arevalo - UNAM, México
Belén Andrada - CNEA-CONICET-UNSAM, Argentina
Andrés Baquero Larriva - U. del Azuay, Ecuador
Mauro Cambiaso - U. Andrés Bello, Chile
Edgar Carrera - U. San Francisco de Quito, Ecuador
Melissa Cruz - U. Nacional Autónoma de Honduras
Lucía Duarte - U. de la República de Uruguay
Juan Estrada - Brookhaven National Laboratory, USA
Alberto Gago - Pontifica U. Católica del Perú
Esteban Jimenez - U. de Costa Rica
Diana López Nacir - UBA-CONICET, Argentina
José A. López - U. Central de Venezuela, Venezuela
Marta Losada - New York University Abu Dhabi, UAE
Fernando Monticelli - U. Nacional de la Plata, Argentina
Deywis Moreno - U. Antonio Nariño, Colombia
Martjin Mulders - CERN, Switzerland
Luis A. Núñez - U. Industrial de Santander, Colombia
Arturo S. Pineda - CC Venezuela & CC Switzerland
Juan Ponciano - U. de San Carlos de Guatemala
Farinaldo Queiroz - UFRN & IIP, Brazil
Rogerio Rosenfeld - IFT-UNESP/ICTP-SAIFR, Brazil
Sandro F. de Souza - DFNAE-UERJ, Brazil
Martin Alfonso Subieta Vasquez - U. Mayor de San Andrés, Bolivia
Maria Elena Tejeda-Yeomans - U. de Colima, México
Luis Ureña - U. de Guanajuato, México
Alfonso Zerwekh - U. T. Federico Santa María, Chile

An updated Strategy Document was drafted:

Latin American Strategy Forum for
Research Infrastructures for High Energy, Cosmology, Astroparticle Physics

LASF4RI for HECAP

Latin American Strategy for HECAP

2026 Update

Document submitted to the High Level Strategy Group

Strategy Document Committee

Mario A. Acero
Belén Andrada
Diana López Nacir
Fernando Monticelli
Deywis Moreno
Luis A. Núñez
Arturo S. Pineda
Farinaldo Queiroz
Rogerio Rosenfeld
M. Elena Tejeda-Yeomans
Luis Ureña

Preparatory Group

Argentina:	Belén Andrada, Diana López Nacir, Fernando Monticelli
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Brazil:	Farinaldo Queiroz, Rogerio Rosenfeld, Sandro F. de Souza
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Colombia:	Mario A. Acero, Deywis Moreno, Luis A. Núñez
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Peru:	Alberto Gago
Uruguay:	Lucía Duarte
Venezuela:	José A. López, Arturo S. Pineda
CERN:	Martijn Mulders
USA:	Juan Estrada
UAE:	Marta Losada

Update of the HECAP landscape in Latin America:

High Energy / Nuclear

Latin American participation in experiments — LASF4RI HECAP 2025 | Source: arXiv:2603.06291v1



High Energy / Nuclear

Ongoing | Future (with year) | Upgrade planned

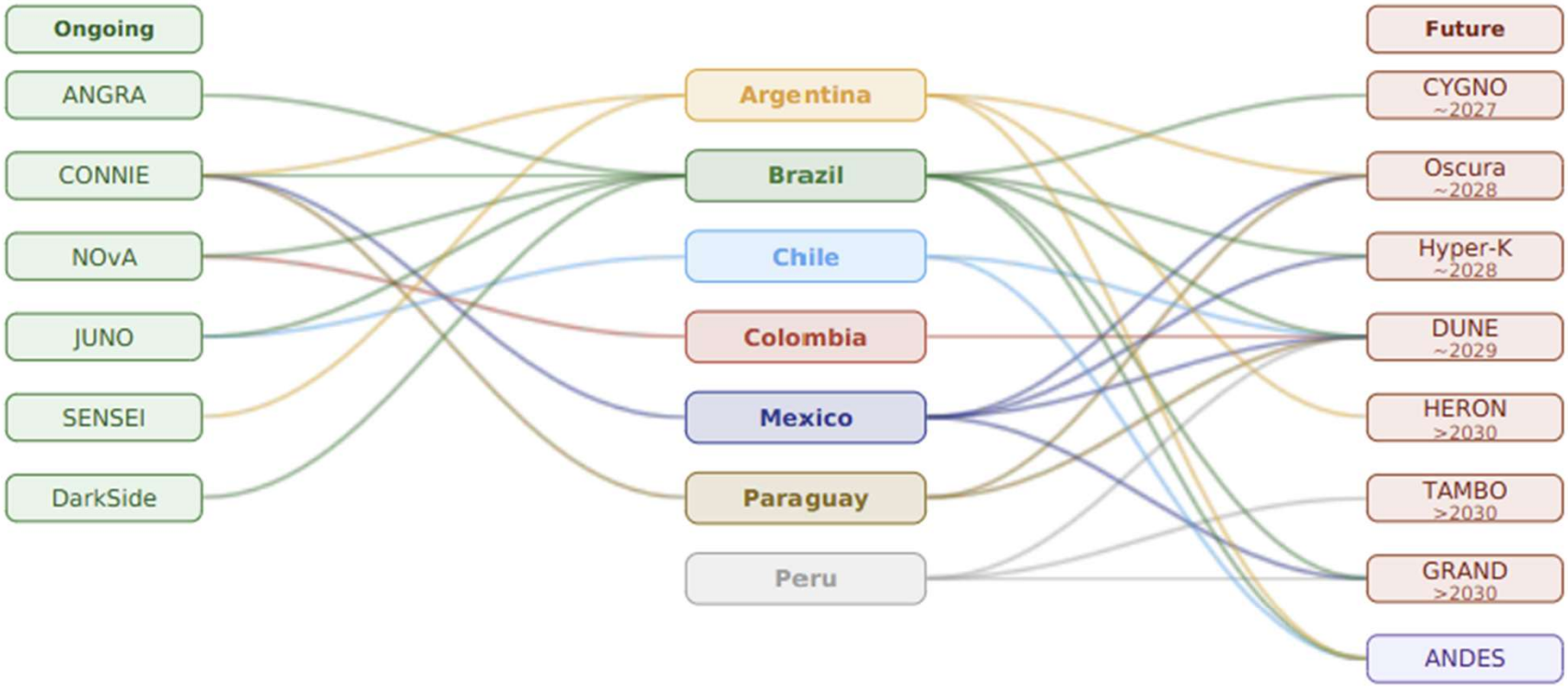
AstroParticle / Cosmology & Gravitation

Latin American participation in experiments — LASF4RI HECAP 2025 | Source: arXiv:2603.06291v1



Neutrinos / Dark Matter

Latin American participation in experiments — LASF4RI HECAP 2025 | Source: arXiv:2603.06291v1



Neutrinos / Dark Matter

Ongoing Future (with start year) Standby

LASF4RI for HECAP 2025 - arXiv:2603.06291v1

A set of 10 recommendations was made

The Strategy Document was sent to the High Level Strategy Group

Recommendation 2

Maintain strong advocacy for ANDES, and support SWGO as a new premier regional research infrastructure project driven by robust Latin American collaboration.

The Agua Negra Deep Experiment Site (ANDES) was the top priority of the 2020 Strategy

Document. Since then, the Agua Negra Tunnel project — the civil engineering infrastructure on which ANDES depends — has remained stalled. Nevertheless, scientific activities continue: collaboration between Argentina (ITeDA) and Chile (Universidad de La Serena) has produced two innovative muon-veto telescope prototypes now being installed at underground sites in San Juan and Coquimbo. These activities preserve momentum and provide training.

The pursuit of ANDES remains a priority. Its unique geographic location under the Andes at depths exceeding 1700 m water equivalent offers a world-class environment for dark matter searches, neutrinoless double-beta decay, low-background physics, geology and biology. No other underground laboratory of comparable depth exists in the Southern Hemisphere. Its realization would transform the region into a global center for underground physics and elevate Latin America's strategic position in this frontier.

The Latin American community should continue to advocate for this project at the governmental level and maintain the technical and scientific readiness to move rapidly if the tunnel project is reactivated.

The SWGO (Southern Wide field Gamma ray Observatory) project, to be built at the Atacama Astronomical Park in Chile, is a major research infrastructure that gathers the participation of the Latin American community from its inception. It is designed to be the first high-altitude, wide-field gamma-ray observatory in the Southern Hemisphere, aiming to survey the sky in very-high-energy (VHE) and ultra-high-energy (UHE) gamma rays. The SWGO Collaboration is formed by scientists from institutions of about 15 countries, with Argentina, Brazil, Chile, Mexico and Peru from Latin America, some of which are playing leading roles. As such, SWGO should be viewed as a flagship research infrastructure in the region.

July 2026

Latin American Strategy Forum for Research Infrastructures for High Energy, Cosmology and Astroparticle Physics

(LASF4RI FOR HECAP)

Report on LASF4RI Strategy Document

High Level Strategy Group for LASF4RI-HECAP

Chair: *Luciano Maiani*
Co-chair: *Fernando Quevedo*

Countries/Regions Representatives:

Argentina: *Teresa Dova*
Brazil: *Ignacio Bediaga*
Chile: *Claudio Dib*
Mexico: *Arturo Fernandez Tellez*
Europe: *Peter Jenni, José Ocariz*
North America: *Andre Luiz De Gouvea, Gabriela Gonzalez*
Middle East: *Marta Losada*
Asia: *Yifang Wang*

Directors of Institutes and Networks:

ICTP-SAIFR: *Nathan Berkovits*
Perimeter Institute: *Marcela Carena*
CLAF: *Ulisses Barres*
ASFAP: *Ketevi Assamagan*
Sirius: *Jose Roque da Silva*

In the July 15th 2026 meeting the HLSG identified further points to emphasize for future actions.

- **Engagement in future collider projects:**
  Long-term plans for future colliders are being finalized in the near term, with CERN's **FCC-ee** emerging as the primary project set to dominate collider physics. The Latin American community has a timely opportunity to join these collaborative efforts early on. Ideally, **LAA-HECAP** will lead in formulating proposals that unify researchers from both larger and smaller nations across the region, which may also encourage regional decision-makers to commit project support.

- **Leveraging Artificial Intelligence (AI):**
  The rapid advancement of AI should take a central role in future strategic planning. This represents both, an opportunity and a challenge: the region must proactively design projects focused on both AI for physics and physics for AI. Crucially, the community must address potential research disparities to ensure Latin American scientists gain equal access to advanced AI tools compared to their global peers.

- **Adapting to Regional Experimental Shifts:**
  The regional experimental landscape has evolved in recent years. While the future of the **ANDES** project—previously viewed as a potential flagship initiative—remains uncertain, priority consideration should also be given to the **SWGO** project that has been highlighted in the Strategy Document.

As emphasized in the previous report, securing **stable, long-term funding** from regional governments, international organizations, and the private sector remains one of the primary challenges for the Latin American community. Establishing reliable funding streams is critical for the long-term sustainability of this initiative, and the HLSG strongly encourages LAA-HECAP to intensify its efforts in this area.

Finally, the HLSG reiterates its 2020 recommendation to follow established international practices-such as Europe and North America-by conducting this strategy review every five years. Maintaining a regular cycle will keep the community aligned, enable priority updates, and adapt to emerging challenges.

With these considerations, the HLSG **enthusiastically endorses** the 2025/2026 Strategy Document.

All documents are publicly available at lasf4ri.org site.

We are seeking recognition and visibility of our efforts:

Declaration in the "VII Reunión de Ministras, Ministros y Altas Autoridades de Ciencia, Tecnología e Innovación“ , October 21, 2026 in Alicante, España:

Os progressos na consolidação do Fórum Estratégico Ibero-Americano para as Grandes Infraestruturas Científicas, com a conclusão, em 2026, da primeira atualização da estratégiano domínio da física de altas energias, das astropartículas e da cosmologia, cujo novodocumento estratégico foi aprovado pelo seu Grupo Estratégico de Alto Nível e renova asrecomendações e o roteiro adotados em 2020, bem como a constituição da AssociaçãoLatino-Americana de Física de Altas Energias, Cosmologia e Astropartículas (LAA-HECAP).

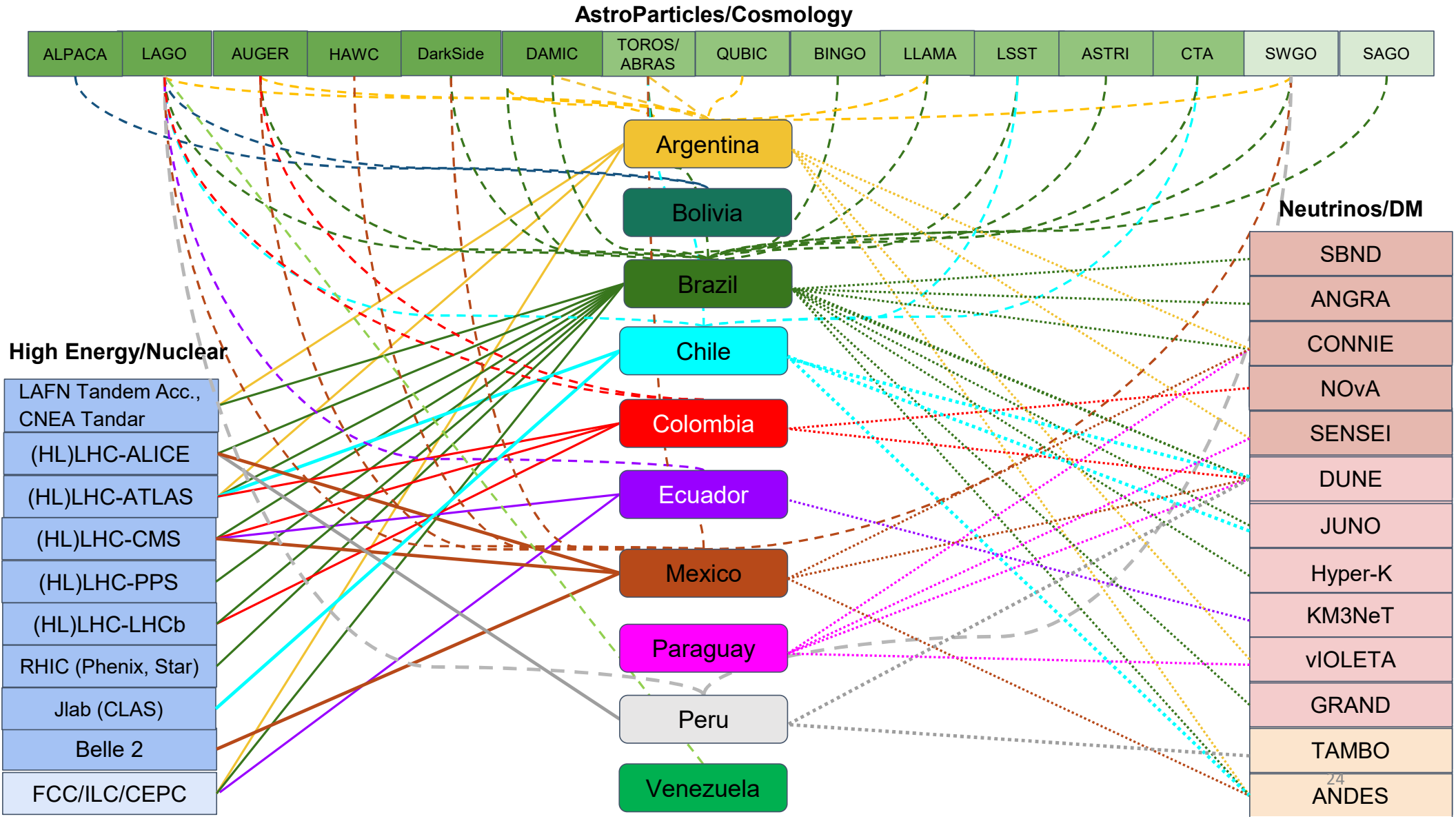
Resolution submitted by C11 to the IUPAP General Assembly in October 30, 2026 in São Paulo, Brazil:

We recognize the value of the process for the development of a Latin American Strategy for High Energy, Cosmology and Astroparticle Physics conducted by the Latin American community organized in the Latin American Strategy Forum for Research Infrastructures (LASF4RI), that resulted in a Physics Briefing Book based on submitted white papers showcasing a landscape of the acitivites in these areas of research, a Strategy Document with recommendations and an endorsement from a High-Level Strategy Group.

Presentation of the Strategy documents to the Global Research Council Americas Regional Meeting in November 18-19, 2026 in Kingston, Jamaica.

CONCLUSIONS

- The High Energy, Cosmology and Astroparticle Physics (HECAP) Latin American community has experienced rapid growth;
- 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), …
- First update of the Strategy Planning concluded in 2026;
- We are seeking recognition of our efforts;
- An engaged HECAP community in LA is being developed and organized. Let's keep the effort going!


AstroParticles/Cosmology
ALPACA
LAGO
AUGER
HAWC
DarkSide
DAMIC
TOROS/ ABRAS
QUBIC
BINGO
LLAMA
LSST
ASTRI
CTA
SWGO
SAGO
Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
Mexico
Paraguay
Peru
Venezuela
Neutrinos/DM
SBND
ANGRA
CONNIE
NOvA
SENSEI
DUNE
JUNO
Hyper-K
KM3NeT
vIOLETA
GRAND
TAMBO
ANDES
High Energy/Nuclear
LAFN Tandem Acc., CNEA Tandar
(HL)LHC-ALICE
(HL)LHC-ATLAS
(HL)LHC-CMS
(HL)LHC-PPS
(HL)LHC-LHCb
RHIC (Phenix, Star)
Jlab (CLAS)
Belle 2
FCC/ILC/CEPC