

# II Latin American Strategy for Research Infrastructures: an Open Symposium for High Energy, Cosmology and AstroParticle Physics

STATUS REPORT

LASF4RI for HECAP

Marta Losada

Chair of the PG

A MULTI-NATIONAL SCIENTIFIC COMMUNITY BASED EFFORT

# Benefits of strategies of research infrastructure development

- Major advances of knowledge and real hubs of knowledge
- Fostering international scientific collaborations and science diplomacy
- Building science capability and science leadership
- Technology advances and tech transfer to industry
- Stronger and broader opportunities for STEM education, creating new pathways to the forefront of global science and research
- Outreach to communities about benefits of science.

# MAIN CONSIDERATIONS FOR DEVELOPING A STRATEGY

Research infrastructures can impact and benefit more when they are really are a global endeavor.

Enhancing international alignment and participation is beneficial.

From the starting point of a clear mandate:

- An open community wide request for input and feedback is performed.
- Detailed and specific workshops to refine and identify science objectives and priorities.
- Roadmap with consideration to funding scenarios.
- Inclusion on non-regional contributions and perspectives.

# TIMELINE up to 2019

- NOVEMBER 2016 ICTP-SAIFR 5TH ANNIVERSARY (brainstorming)
- November 2016 SILAF AE (discussions with HEP community)
- 2017-2018 Two-page briefs of 18 experiments (landscape analysis)
- October 2018 Ministerial S+T meeting Guatemala (declaration mandate)
- December 2018 SILAF AE (Town hall meeting to discuss mandate and next steps)
- January-March 2019 National Meetings and conformation of Preparatory group delegates from 10 LA countries.
- April -May 2019 LASF4RI Workshop @ ICTP-SAIFR
- May 1 2019 First meeting of the Preparatory group
- December 2019 Deadline for white papers ~ 40 submissions

# HECAP LANDSCAPE ANALYSIS

Initial list of currently documented experiments and facilities in/with Latin American participation:

Gravitation and cosmology	<ul style="list-style-type: none"><li>• LIGO, QUBIC</li><li>• DES/DESI/LSST/SDSS</li></ul>
Colliders	<ul style="list-style-type: none"><li>• ATLAS, CMS</li><li>• LHCb, ALICE</li></ul>
Astroparticles	<ul style="list-style-type: none"><li>• AUGER, LAGO</li><li>• HAWC, ALPACA,SGSO</li></ul>
Neutrinos	<ul style="list-style-type: none"><li>• DUNE</li><li>• NOvA</li></ul>
Infrastructures	<ul style="list-style-type: none"><li>• ANDES</li><li>• LNLS:SIRIUS</li></ul>

Website: <https://lasf4ri.org>

INTENDED TO DOCUMENT NOT TO PRIORITIZE

# Presentation at the Meeting of the Science Ministers of Ibero-American countries in Guatemala in 2018.



30/ octubre 2018

III Reunión Iberoamericana de Ministros y Altas Autoridades de Ciencia, Tecnología e Innovación



Ministers+Heads of state approve creation of LASF4RI and pilot projects.  
HECAP is a pilot project

# HIGH LEVEL IBEROAMERICAN MINISTERIAL MEETINGS FOR SCIENCE AND TECHNOLOGY



**FERNANDO QUEVEDO, DIRECTOR OF ICTP, HAD THE OPPORTUNITY TO ADDRESS THE MINISTERS TO PRESENT THIS INITIATIVE FOR A LATIN AMERICAN STRATEGY FOR RESEARCH INFRASTRUCTURES IN PARTICLE PHYSICS AND COSMOLOGY**

**WITH SUPPORT FROM THE SCIENTIFIC COMMUNITIES: ARGENTINA, BRAZIL, CHILE, COLOMBIA, ECUADOR, MEXICO, PARAGUAY, PERU**

**SUPPORT FROM: CERN, FERMILAB, ICTP, VARIOUS MINISTRIES OF IB**

# HIGH LEVEL IBEROAMERICAN MINISTERIAL MEETING FOR SCIENCE AND TECHNOLOGY GUATEMALA 2018

## DECLARATION

**At the III Ministerial meeting of Science and Technology of Ibero-America, held 29-30 October in Guatemala a Ministerial Declaration included the need to further and support the scientific activities of researchers at existing infrastructures and the development of new ones, through specific mechanisms such as the Latin American Strategy Forum for Large Scale Research Infrastructures.**

**[https://www.segib.org/wp-content/uploads/Declaracion-III-Reunion-de-Ministros-y-Altas-Autoridades-en-Ciencia-Tecnolog--a-e-Innovacion\\_ES.pdf](https://www.segib.org/wp-content/uploads/Declaracion-III-Reunion-de-Ministros-y-Altas-Autoridades-en-Ciencia-Tecnolog--a-e-Innovacion_ES.pdf)**



**HIGH-LEVEL MEETING OF IBERO-AMERICAN HEADS OF STATE  
NOV 15-16 2018 ANTIGUA, GUATEMALA**

**This document was further ratified at the High-Level Meeting of Heads of State held 15-16 November in Guatemala through the approval action plan, item C.7**

**<https://www.segib.org/wp-content/uploads/III-PROGRAMA-DE-ACCION.pdf>**

# LASF4RI---two prong approach

- **To promote the establishment of the Latin American Strategy Forum Research Infrastructures (LASF4RI)**
- **To spearhead the process for a specific field of knowledge starting with the fields of Particle Physics and Cosmology .**

## GOALS

- 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 LA strategy for Particle Physics and Cosmology.

# COUNTRY LEVEL PLANNING

Ricardo Ingo Carlos Daniel  
Piegaia Allekote G.-Canal De Florian Monticelli

Teresa Xavier Ezequiel Hernan Alejandro  
Dova Bertou Alvarez Wahlberg Szykman

Construir el futuro sin  
importar si estaré en la foto!

**Astro-Cosmo-HEP@AR**  
**Feb 12, 2019**

# Latin America's planning

<http://www.ictp-saifr.org/workshop-on-the-latin-american-strategy-forum-for-research-infrastructure/>



**LASF4RI Workshop with participation of LA members of  
the Global Research Council  
ICTP-SAIFR, April 30-May 1 2019, Sao Paulo**

# RESULTS OF 1st PG MEETING

1. Timeline and procedure of the open call to the community **for white papers defined with a deadline of December 1 2019.**
2. Include non-regional members in PG (invite 4 additional members), nominations until July 1st.
3. Preparatory Group Chair and Co-chair defined for a term of 1+1 year.
4. Establish the High level Strategy Group to validate the results of the Preparatory Group, with Chair and Co-chair defined, the other members will be decided on a two month scale by nominations until July 1st.
5. Next meeting of the Preparatory Group, after the closing of the submissions of white papers **March 2020.**



# Preparatory Group Members

**Argentina:** Diana López, Federico and Hernán Wahlberg

**Bolivia:** Martin Alfonso Subieta Vasquez

**Brasil:** Leandro de Paula (observer), Thiago S Goncalves (Co-chair) and Rogerio Rosenfeld

**Chile:** Alfonso Zerwekh and Mauro Cambiaso

**Colombia:** Marta Losada (Chair) and Diego Restrepo

**Ecuador:** Lofti Boubekour, Harold Yepes Ramírez and Edgar Carrera

**Mexico:** Alfredo Aranda, Juan Carlos D'Olivo, Gerardo Herrera

**Paraguay:** Jorge Molina

**Peru:** Alberto Gago

**Venezuela:** Reina Camacho, Arturo Sanchez

**Europe:** Martijn Mulders

**US:** Marcela Carena and Marcelle Soares

**Asia:** Hiroaki Aihara

# HIGH-LEVEL STRATEGY GROUP MEMBERS

**COMPOSED OF THREE DIFFERENT SUB-GROUPS.**

- 1. PROMINENT SCIENTISTS OF THE REGION AND FROM AROUND THE WORLD.**
- 2. DIRECTORS OF INTERNATIONAL RESEARCH INSTITUTIONS LOCATED IN LATIN AMERICA**
- 3. REPRESENTATIVES OF THE LATIN AMERICAN RESEARCH COUNCILS/FUNDING AGENCIES**

# HIGH-LEVEL STRATEGY GROUP MEMBERS

Chair: Luciano Maiani

Co-Chair: Fernando Quevedo

## First Subgroup: Scientists

**Argentina:** Maria Teresa Dova

**Brasil:** Joao dos Anjos

**Chile:** Claudio Dib

**Ecuador:** Bruce Hoeneisen

**Mexico:** Jacobo Konigsberg

**Venezuela:** Jose Ocariz

**Europe/CERN:** Peter Jenni

**Asia:** Hesheng Chen

**US:** Francis Halzen

**ICFA/Fermilab:** Pushpa Bhat

**Asia Pacific:** Geoffrey Taylor

## SECOND Subgroup: Institute Directors

Nathan Berkovits / ICTP-SAIFR

Daniel de Florian, ICAS

Alvaro Ferraz, IIP, Natal

Jose Roque, Sirius, LNLS

Carlos Trallero, CLAF



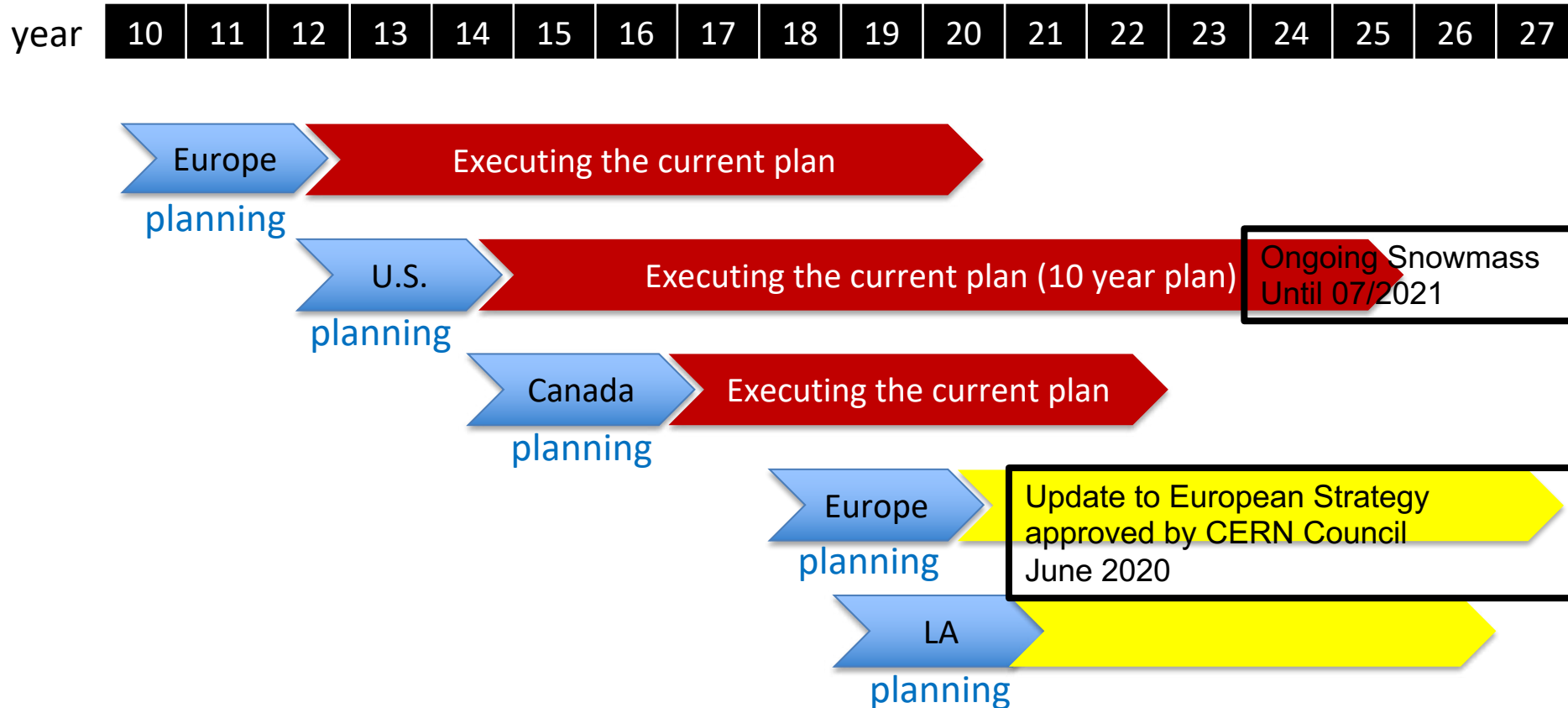
# OPEN SYMPOSIUM

- Main goal is to have an open forum to discuss the scientific drivers and scientific initiatives in HECAP that are of particular relevance to the Latin American Region.
- Based on the input provided by the submitted white papers the discussion is organized around these topics:
  - Accelerators, Detectors, Instrumentation and Computing
  - Astronomy, Astroparticle and Astrophysics
  - Electroweak (Flavor, CP, Higgs), Beyond SM and Strong Interactions
  - Neutrinos
  - Dark Matter, Cosmology and Gravitation
  - National roadmaps
- To inform and provide the convenors of each topic the necessary input for the Physics Briefing book.

## Scientific Drivers (Current)

U.S.	Canada	Latin America
Use the Higgs boson as a new tool for discovery	What is the nature of physics at the electroweak scale and beyond?	X
Pursue the physics associated with neutrino mass	What is the nature of neutrino masses?	X
Identify the new physics of dark matter	What is the nature of dark matter in the universe?	
Understand cosmic acceleration: dark energy and inflation		X
Explore the unknown: new particles, interactions, and physical principles	What structures underlie the forces and matter in the universe?	x

# Planning and Executing



# 2020 TIMELINE

- August 31st: Deadline for chapter contributions to the Physics Briefing Book. After final editing it will be available to the HLSG.
- September 30th: First version of the Strategy Document prepared by the Strategy Document Committee.
- Oct 15th: Comments to the Strategy Document by the full Preparatory Group.
- Week of Oct 19th: Strategy Document sent to HLSG for initial feedback.
- Meeting with the HLSG to include a presentation of the Strategy Document to the HLSG.
- Nov 20th: HLSG feedback to the Strategy Document Committee. Second meeting to receive comments from the HLSG.
- Dec 10th: Final version of Strategy Document taking into account observations of the HLSG.
- Final meeting of the HLSG for the validation. TBD.

THANK YOU

Website: <https://lasf4ri.org>