

# About Snowmass 2021

2nd LASF4RI: Open Symposium for HECAP

6-10 July 2020

ICTP-SAIFR, São Paulo, Brazil

Claudio Dib

Universidad Técnica Federico Santa María, Valparaíso, Chile.

ICTP-SAIFR associate member.

Snowmass Advisory Group L.A. rep.

# What is “Snowmass”

Formally, “Snowmass” is the **Particle Physics Community Planning Exercise** organized by the **Division of Particles and Fields (DPF)** of the **American Physical Society**.

Long-term planning exercise for the HEP community

**Goal:** to identify and document a vision for the future of Particle Physics in the U.S. and its international partners.

- It will communicate the opportunities for discovery in particle physics to the broader community and to the U.S. Government.

# Strategic planning process

Snowmass: Community-wide exercise

Organized by DPF (APS)

(  $\approx$  1 year)



P5 (Particle Physics Project Prioritization Panel)

Subpanel of HEPAP (HEP Advisory Panel for DOE/NSF)

formulate a 10-yr plan (20-yr vision) within fund constraints

# Snowmass 2013:

- 1) Snowmass Planning Meeting (Fermilab, Oct 2012)  
→ several Frontier workshops in different places
- 2) Snowmass Summer Study (Minnesota, Jul 29-Aug 6, 2013)
- 3) Snowmass Report (Dec 2013)

A successful process!

# Snowmass 2013 → P5:

## Snowmass 2013 Report

### Frontiers:

- Energy Frontier
- Intensity Frontier
- Cosmic Frontier

### Cross-cutting:

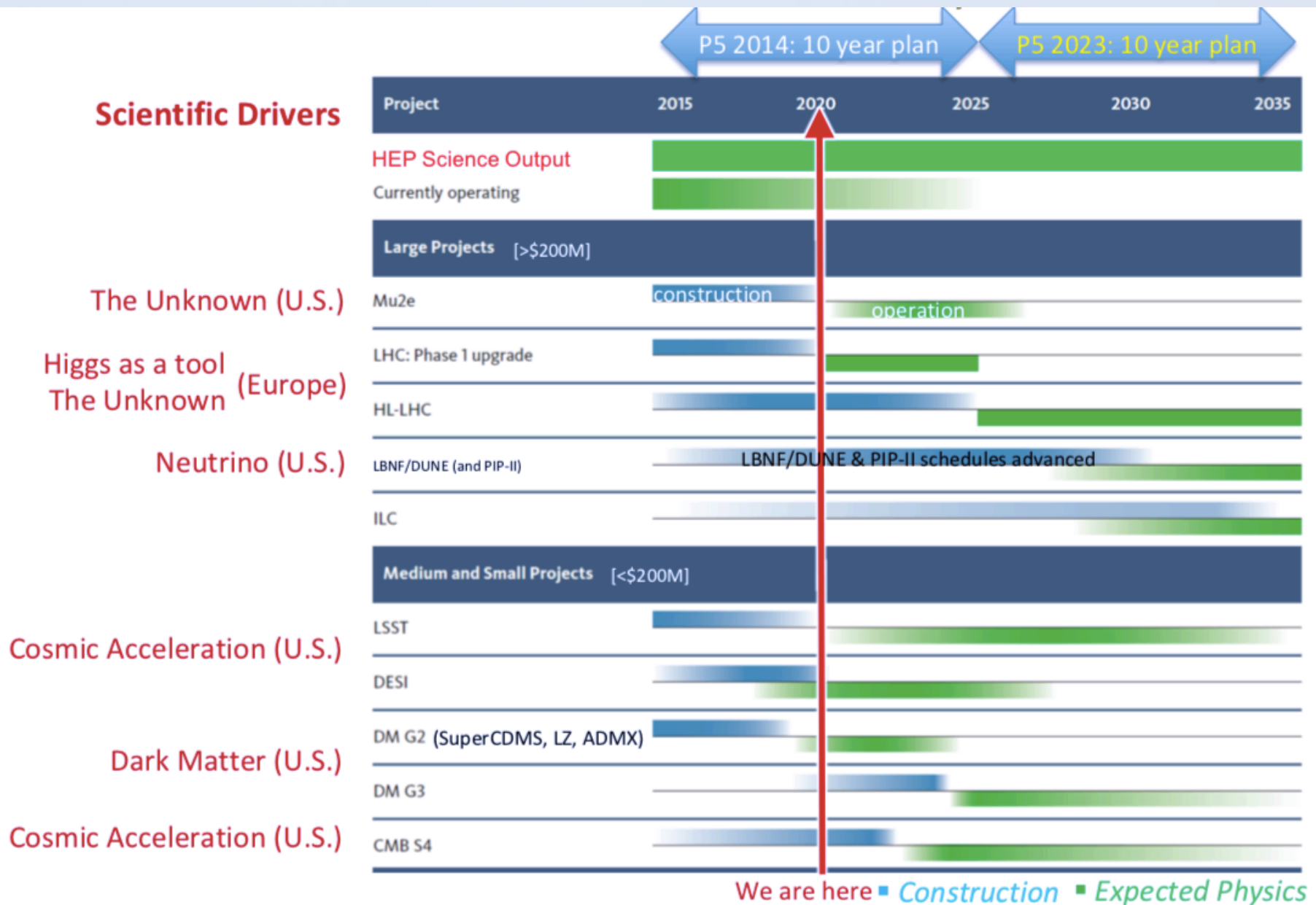
- Facilities (Underg & Accel)
- Instrumentation
- Computing
- Theory
- Communication

## P5 2014 Report

### Five Science Drivers from the results of Snowmass:

1. Use the Higgs boson as tool for discovery
2. Pursue the physics associated with neutrino mass
3. Identify the new physics of dark matter
4. Understand the cosmic acceleration
5. Explore the unknown (new particles & interactions & principles)

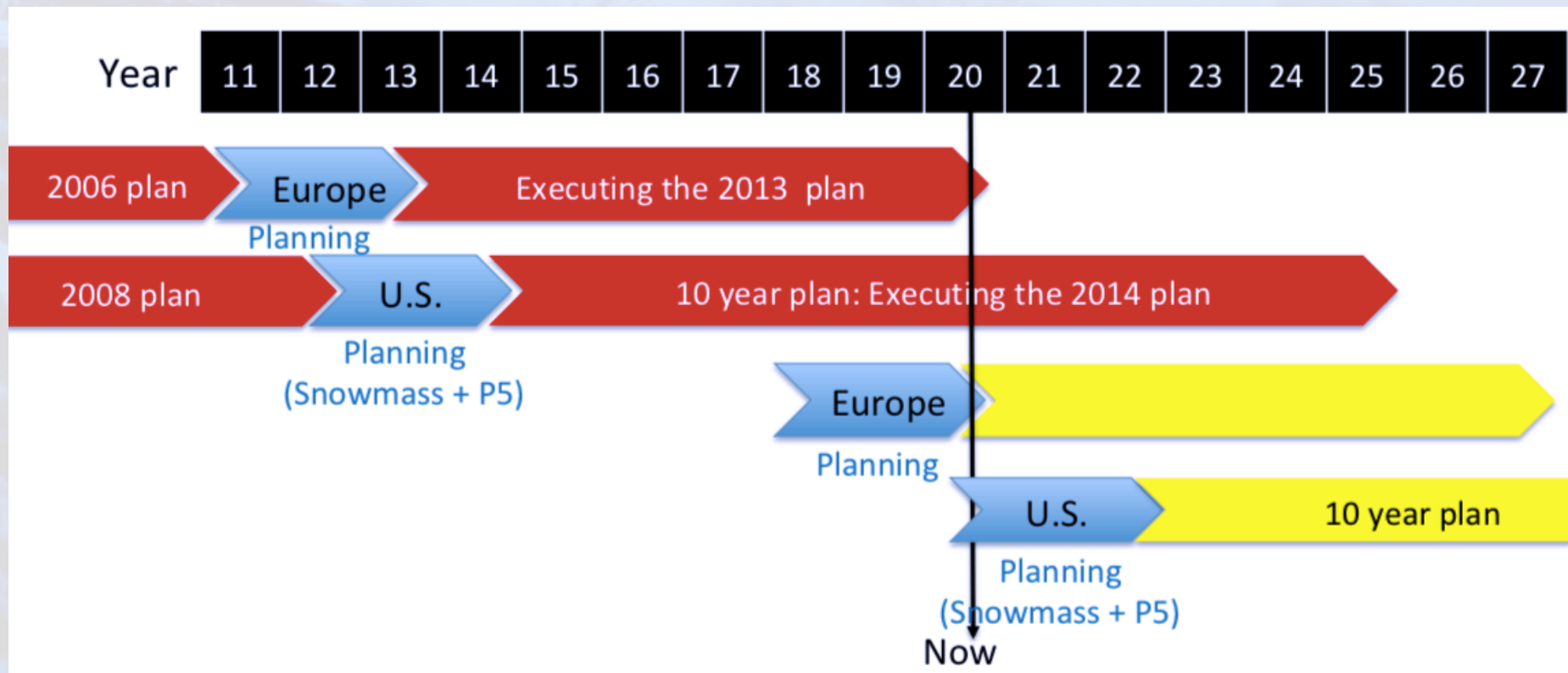
# Snowmass 2013 + P5 2014 has been very successful:



# Particle Physics planning processes

Frequency: 7 years (Europe);  $\approx$  8 years (U.S.)

Process: 2 years: (1 yr on science by community) + (1 yr priorities)  
(U.S.: Snowmass) (U.S.: P5)



# Now, Snowmass 2021

Based on the success of Snowmass 2013 (with lessons learned)

## **Snowmass 2021: Ten Frontiers:**

- Energy Frontier
- Neutrino Frontier
- Rare Processes & Precision Measurement Frontier
- Cosmic Frontier
- Theory Frontier
- Accelerator Frontier
- Instrumentation Frontier
- Computational Frontier
- Underground Fac. & Infrastructure Frontier
- Community Engagement Frontier

# Snowmass 2021 Organization:

The Steering Group formed by:

The DPF Executive Committee

+ a representative of:

Division of Astrophysics (DAP), Division of Physics of Beams (DPB),

Division of Nuclear Physics (DNP), Division of Gravitational Physics (DGRAV)

The 10 Frontier Conveners (+ co-conveners, topical group conveners)

The Advisory Group formed by:

The Steering Group

+ the rest of the DPF Executive Committee (members at large,  
secretary/ treasurer, councillor)

+ an editor, a communication liaison

+ International advisors (Africa/Middle East, Asia/Pacific,  
Canada, Europe, Latin America)

# Snowmass Advisory Group

- DPF Executive Committee

- Representatives from other Divisions

## Steering Group

- Chair: Young-Kee Kim
- Chair-Elect: Tao Han
- Vice Chair: Joel Butler
- Past Chair: Prisca Cushman

- DPB: Sergei Nagaitsev
- DNP: Yury Kolomensky
- DAP: Glennys Farrar
- DGRAV: Gabriela Gonzales

- Secretary/Treasurer: Mirjam Cvetcic
- Councilor: Elizabeth Simmons
- Member-at-Large: Rick Van Kooten
- Member-at-Large: Elizabeth Worcester
- Member-at-Large: Natalia Toro
- Member-at-Large: Andre de Gouvea
- Member-at-Large: Mary Bishai
- Member-at-Large: Lauren Tompkins
- Early Career Member-at-Large: Sara Simon

- Editor and Communication

- Editor – Michael Peskin
- Communication – Bob Bernstein

- Representatives from the Int. Community

- Africa / Middle East
  - Azwinndini Muronga, Nelson Mandela Metropolitan Univ, South Africa
- Asia / Pacific
  - Atsuko Ichikawa, Kyoto University, Japan
  - Xinchou Lou, IHEP, China
- Canada
  - Heather Logan, Carleton University, Canada
- Europe / Russia
  - Val Gibson, Cavendish Laboratory, UK
  - Berrie Giebels, CNRS, France
- Latin America
  - Claudio Dib, Universidad Tecnica Federico Santa Maria, Chile

**Steering group meets weekly; Advisory group meets once every 4 weeks;**

**All Frontier conveners + Advisory group meet once every 4 weeks**

# The DPF Community Planning Process

- Kick-off Virtual Town Hall APS April Meeting
- 2020 Snowmass Community Planning Meeting  
(Nov 4-6 2020).
- Various workshops by Frontier groups
  - Various locations, maximizing inclusiveness by easy access and cost.
  - Importance of openness and open international collaboration
- 2021 Snowmass Summer Study  
(July 11-20 2021, UW Seattle)

# The Snowmass Community contributions:

- **Letters of Interest** (submission: April 1 - Aug 31 2020)
  - Max 2 pages text + bibliography
  - Informal documents useful at first stages (help conveners to prepare the Planning Meeting.
  - Include opinions, interests and proposals for further study.
- **Contributed papers** (submission: April 1, 2020 – July 31, 2021)
  - Part of the Snowmass proceedings
  - White papers on specific scientific areas, technical articles with new results on physics topics, reasoned expressions of physics priorities, including related to community involvement.
  - Will remain part of the permanent record of Snowmass 2021.

# Current activities

Frontiers and topical groups have been active:

Bi-weekly meetings, kick-off workshops,  
and more workshops planned

Regular meetings of:

Steering Group, Advisory Group,  
All Frontier Conveners + Advisory Group

## Snowmass calendar

*SnowMass2021*

- WELCOME PAGE
- ANNOUNCEMENTS
- SNOWMASS CALENDAR
- ETHICS GUIDELINES

Organization

- SNOWMASS ADVISORY GROUP
- SNOWMASS STEERING GROUP
- FRONTIER CONVENERS
- APS OFF SNOWMASS PAGE
- SNOWMASS EARLY CAREER

Snowmass Frontiers

## Snowmass Meetings and Workshops

All the agendas and presentations are available at

[Snowmass Indico Site](#)

For individual frontiers, go to the following frontier calendars:

[Energy Frontier](#)

[Neutrino Frontier](#)

[Rare Processes and Precision](#)

[Cosmic Frontier](#)

[Accelerator Frontier](#)

[Instrumentation Frontier](#)

[Community Engagement Frontier](#)

[Computational Frontier](#)

For all frontier-conveners meeting, cross-frontier meetings and advisory group meetings, go to the following

[General Calendar](#)

June				2020		
M	T	W	T	F	S	S
1 <a href="#">All Frontier Conveners Meeting..</a>	2	3	4	5 <a href="#">Steering Group Meeting..</a>	6	7
8	9	10	11	12 <a href="#">Steering Group Meeting..</a>	13	14
15	16	17	18 <a href="#">Advisory Group Meeting..</a>	19 <a href="#">Steering Group Meeting..</a>	20	21
22	23	24	25	26 <a href="#">Steering Group Meeting..</a>	27	28
29 <a href="#">All Frontier Conveners Meeting..</a>	30					

# Communication to the community

- Snowmass 2021 Wiki (<https://snowmass21.org>)

- Monthly Snowmass Newsletter

## Snowmass2021

- WELCOME PAGE
- ANNOUNCEMENTS
- SNOWMASS CALENDAR
- ETHICS GUIDELINES
- Organization
  - SNOWMASS ADVISORY GROUP
  - SNOWMASS STEERING GROUP
  - FRONTIER CONVENERS
  - APS DPF SNOWMASS PAGE
  - SNOWMASS EARLY CAREER
- Snowmass Frontiers
  - ENERGY FRONTIER
  - NEUTRINO PHYSICS FRONTIER
  - RARE PROCESSES AND PRECISION
  - COSMIC FRONTIER
  - THEORY FRONTIER
  - ACCELERATOR FRONTIER
  - INSTRUMENTATION FRONTIER
  - COMPUTATIONAL FRONTIER
  - UNDERGROUND FACILITIES
  - COMMUNITY ENGAGEMENT FRONTIER
- Community Contributions
  - LETTERS OF INTEREST
  - CONTRIBUTED PAPERS

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## Welcome to Snowmass 2021

The Particle Physics Community Planning Exercise (a.k.a. "Snowmass") is organized by the Division of Particles and Fields (DPF) of the American Physical Society. Snowmass is an opportunity for the entire HEP community to come together to identify and document a vision for the future of particle physics in the U.S. and its international partners.

We aim for everyone's voice to be heard. Your contributions and participation are critical for the success of Snowmass and they will naturally occur as part of one or more working groups directed by the conveners. There will be various Town Hall meetings for us to communicate with you and to receive your feedback. You are also welcome to provide input and suggestions on the Slack channel (<https://snowmass2021.slack.com/>). This Snowmass wiki provides news and announcements and has pages dedicated to each frontier. If you are an early career scientist, we encourage you to join the "Snowmass Young" mailing list ([snowmass-young@fnal.gov](mailto:snowmass-young@fnal.gov)) by emailing to [listserv@listserv.fnal.gov](mailto:listserv@listserv.fnal.gov) with the body of the message "Subscribe snowmass-young YOUR NAME". Agendas and presentations of all Snowmass-related meetings are available via [this Snowmass Indico link](#).

Sincerely,

Young-Kee Kim (DPF Chair), Tao Han (DPF Chair-Elect), Joel Butler (DPF Vice-Chair), Priscilla Cushman (DPF Past Chair)

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## DPF Community Planning Process

Various workshops will be organized by Frontier Conveners between the 2020 Snowmass Planning Meeting (most likely a virtual meeting on Nov. 4 - 6, 2020) and the 2021 Snowmass Summer Study (July 11 - 20, 2021 at UW Seattle). Workshop locations will be chosen to maximize "inclusiveness" based on accessibility and economic consideration. For all the meetings and workshops, we will make sure that we are inclusive to those who participate remotely and we will have a special session to discuss APS efforts for openness and the importance of open international collaboration.

## News Highlight

## Monthly Snowmass Newsletter July 2020

Organization and activities of Snowmass 2021 are available on the [Snowmass wiki page](#). This page will direct you to various pages including the [calendar page](#) with schedules of workshops and meetings, the frontier pages with organization, activities, listserv mailing lists and Slack channels of frontier and topical groups, and [core principles and community guidelines](#) developed by the DPF Ethics Task Force. We encourage community members to participate in discussions on Slack frontier or topical group channels and to submit [Letters-of-Interest \(LOIs\)](#) and [Contributed Papers](#).

The [Snowmass Steering Group](#) meets weekly and the [Snowmass Advisory Group](#) meets once every four weeks. In addition, the Snowmass Advisory Group, all Frontier Conveners and co-chairs of the Community Planning Meeting (CPM) and the Community Summer Study (CSS) meet once every four weeks.

### [Snowmass Community Planning Meeting](#)

The CMP 2020 will be a virtual meeting and be open to everyone. The local organizing committee has been formed, and the program committee is being formed. The CMP 2020 will take place early November 2020. A draft agenda with dates will be produced in the next few weeks.

### [Snowmass Early Career](#)

We had over 250 nominations come in for Snowmass early career leadership! We have reached out to all of the early career leadership nominees and defined the structure, key initiatives, and key tasks for each initiative based on feedback from the early career community and the nominees. Nominees have accepted their nominations in their areas of interest, and are beginning to meet and decide on leadership for each of the key initiative groups as well as work on immediate tasks. Key initiatives include surveying the early career membership, in-reach, long-term organization, DEI (diversity, equity, and inclusion), and Snowmass coordination. Snowmass coordination will include a few liaisons per frontier. Once the full organizational and leadership structure is defined in the next few weeks, meetings will be advertised to the whole Snowmass early career community.

### [Community Engagement Frontier](#)

In June, the Diversity & Inclusion Topical Group held three productive Townhalls: one on Accessibility and two on Supporting our Black Community Members. All 6 Topical Groups of the CEF have been meeting

... and at the current **HEPAP meeting**

Friday 10 July:

12:45 – 1:15 EDT: Snowmass 2021 – by Youg-Kee Kim

**THANK YOU**