

Snowmass Advisory Group Meeting

May 23, 2022

J. Butler, Fermilab

Purpose of the afternoon plenaries

- To present the most important ideas and considerations that go into the formation of our **shared** scientific vision so everyone can understand, question, and eventually support it.
 - While we strive to avoid it, our community and Snowmass still suffer from compartmentalization, specialization, and stove piping.
 - **The frontiers were asked to propose topics that they particularly wanted to communicate to the whole community**
 - This is each frontier's chance to present and explain its vision to the whole community, identify its value to other programs and the importance of other programs to yours
 - Similarly, DPF, the SG, and the PC had a collection of topics that they wanted addressed to show that US HEP is aware and an active partner in the many social issues associated with doing science in the 21st century
 - Some were presentations by various groups international or national or topical groups
 - Others were massively cross-cutting issues such as DEI, career issues for young scientists, sustainability, broader impacts, opportunities by young scientists to speak and present their issues.
- Snowmass is a well-publicized event. The press will be present. We want to also project a good image.
 - We are already getting inquiries
 - We have yet to consider how to present ourselves to the public and press

	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20	Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	Monday, July 25	Tuesday, July 26	Wednesday, July 27		
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10			
07:30 - 08:00 AM	Registration									AF/CEF	Closeout Plenary (TBD)	LIGO Hanford Tour	
08:00 - 08:30 AM										CF/CompF			
08:30 - 09:00 AM										EF/IF			
09:00 - 09:30 AM										NF/RPF			
09:30 - 10:00 AM	Introductory Plenary	Parallel	Parallel	Parallel	Parallel	Parallel	Parallel		TF/UG				
10:00 - 10:30 AM									Parallel	Communicating HEP to the public and the govt			
10:30 - 11:00 AM													
11:00 - 11:30 AM													
11:30 - 12:00 PM													
12:00- 12:30 PM	Lunch	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch, Poster & Exhibit	Lunch	Lunch	Lunch	Lunch	Lunch				
12:30 - 01:00 PM													
01:00 - 01:30 PM													
01:30 - 02:00 PM													
02:00 - 02:30 PM	Introductory Plenary	Parallel 1: AI/ML Parallel 2 : Underground	Panel: Careers and Training the Next Generations	Parallel 1: Neutrino; Parallel 2: Rare processes	Colloquium on Rare Processes and Precision Measurements	Colloquium on Underground Physics	Colloquium on Astrophysics and Cosmology	Presentation: Snowmass Early Career	Panel: Interconnections between frontiers and with other fields				
02:30 - 03:00 PM		Parallel 1: The next accelerators; Parallel 2: :LQCD	Parallel 1: Lepton Colliders Parallel 2: Cosmic	Colloquium on Instrumentation	Colloquium on new Accelerators and R&D	Colloquium on Theory	Colloquium on Computing	Parallel 1: Underrepresented Minorities; Parallel 2: Instrumentation projects	Coffee				
03:00 - 03:30 PM	Coffee												
03:30 - 04:00 PM	G Planning US HEP, past, present, future	Coffee	Coffee		Coffee	Coffee	Coffee	Coffee	Panel: where will we find new physics?				
04:00 - 04:30 PM													
04:30 - 05:00 PM													
05:00 - 05:30 PM													
05:30 - 06:00 PM		DEI: Talks and Panel	Colloquium on Community Engagement		Colloquium on Energy Frontier Physics	Colloquium on Neutrino Physics	Quantum Information Science in HEP	Panel DOE, NSF, FNAL Director, other US labs	Panel International Status and Plans				
06:00 - 06:30 PM													
06:30 - 07:00 PM													
07:00 - 07:30 PM		Reception and Poster and Industry	Industry Networking										
07:30 - 08:00 PM				Adam Riess Public Lecture	Physics Slam	Conference Dinner	ColliderScope						
08:00 - 08:30 PM													
08:30 - 09:00 PM													
09:00 - 09:30 PM		NSF&DOE: parallel Program Manager Sessions											
09:30 - 10:00 PM				NSF or DOE: two parallel Program Manager Sessions	DOE: two parallel Program Manager Sessions								
10:00 - 10:30 PM													
10:30 - 11:00 Pm													

Full plenary for Primary presentation of the Frontiers and Snowmass Young (11)
 Shared session (two topics in parallel. Secondary presentations by Frontier (5x2)
 General topic (not specific to any frontier) (9)

Purpose of the various types of talks

- We envisage that the blocks labelled Colloquium will be where the Frontier groups deliver their main message to the entire community in simple, direct terms, including conveying the excitement and greatest challenges
 - **There should be ample time for discussion, at least 20 minutes**
 - The session moderator will hold speakers to their time so that the discussion and Q&A does not get sacrificed
 - We will use ways of allowing questions to be submitted in advance and allow remote participation, with priority given to those who are attending in-person
- The blocks with talks labelled “Parallel 1” and “Parallel 2” will be for more detailed issues, but still of wide interest
- other blocks are for community wide issues,
 - including information transfer, plans from international partners, funding agencies, national and international laboratories
 - topics that are shared by all, or many, frontiers or are field-wide issues
 - Career issues
 - DEA
 - Training the next generation
 - ...

Notes

- Lunch break is two hours
- There is a 30-minute coffee break in the afternoon
- **Some of the evening events have been moved around and their starting time and duration may be changed to make sure that there is adequate time between the afternoon session and the event, and the event is placed appropriately for the intended audience.**
- Some rest and relaxation time is added on Wednesday, Friday, and Sunday
- I think some of the evening activities should be moved 30-60 minutes later

DOE Meetings during the CSS

There are three types of activities. While this may not be what one thinks of for a Snowmass, there is precedent from 2013, where these meetings were felt to be valuable and were well attended. This year, the agencies are trying to reconnect in-person with their PI's and this Snowmass provides a good opportunity. All the DOE Program Managers from the main science sectors are showing up in-person, along with much of OHEP upper management.

- DOE Program Officers (HEP, Intensity, Cosmic, Theory) each want two hours to meet with their constituencies, i.e., PIs they support. The size of the groups will vary but will not exceed 100. They expect two of these to be in parallel on two evenings (e.g. Tuesday and Thursday). So, we need two rooms on each day for two hours. Because of the late hour, we are scheduling 1.5 hours only
- Small meetings with individual PIs or their groups, so up to 10 people. They need access to 5 small rooms for a few days. Could be during the mornings or afternoons.
- (This may not be something they decide they want) rooms for 1-2 hours for a large number of people to hear about major DOE programs such as FOAs, budget outlook early career issues,... Possibly during lunch, now that we can order food in.
- Even without group 3, this requires a lot of rooms and occupy people for a lot of their time. However, the meetings were reasonably well attended in 2013. Tuesday and Thursday evening are the best days to do group 1. Group 2 would probably need to be over a few lunches during the week, if they are in fact needed.

Need to find out what NSF needs!

Day 1– July 17

- Day 1: Sunday July 17:

- 09:15 – 09:35:
 - CSS Welcome and meeting logistics (5 min?)
 - UW Welcome (University, Physics HEP) (15 min?)
- 09:35 – 09:50: Charge and goals for the workshop
- 09:50 – 10:20: Two frontier workplans
- 10:20 – 10:50: Coffee break
- 10:50 – 11:35: Three frontier workplans
- 11:35 – 12:00: Vision Talk
- 12:00 – 14:00: Lunch

- Day 1: Sunday July 17:

- 14:00 – 14:30 Two Frontier Workplans
- 14:30 – 15:00 Science talk
- 15:00 – 15:45 Three frontier Workplans
- 15:45 – 16:15: Coffee break
- 16:15 – 18:15:
 - Snowmass/P5 2013/2014 retrospective, lessons learned
 - Where we are on implementation of P5/2014?
 - View from DOE and NSF
 - Planning exercises in 2022/23:
 - Snowmass,
 - NAS study,
 - International Benchmarking subpanel

Day 9– July 25

- Day 9:
- 08:00 – 10:30 Frontier summaries of work done and work to do, final take away bullets. Ten talks, 15 minutes each.
- 13:30 – 12:00 Communicating HEP to the public and to the government
- 12:00 – 14:00 Lunch
- 14:00 – 15:30 Interconnections between frontiers and with other fields
- 15:30 – 16:00 Coffee
- 16:00 – 17:30 Panel discussion: Where will we find new physics?
- 17:30 – 19:00 Panel on international status and plans

Useful Links

- To provide information before and after the meeting about people to invite or other observations or concerns, you can use the google doc at the following link
 - <https://docs.google.com/document/d/1gBI3HHLDCG89V93byxzpyeQf66zI39pElwREGYcsCTY/edit?usp=sharing>
 - or send email.
- Advisory Group comments, especially concerning thoughts on International and national program representative invitees are welcome.
Please provide:
 - Your name,
 - The name of the proposed participant,
 - The position of the proposed participant
 - If known, their contact information.
 - Include any comments concerning the aspect of Snowmass activity they could contribute to and whether you have discussed Snowmass with them. While we can have remote participation, we favor people who can attend at least part of the meeting in-person.

Useful Links

To obtain or provide information about sessions, talks, or speakers

- <https://docs.google.com/document/d/11F9W5JwVZLp9JfUN7EhVUg5orycYMN0036i1saqoFrg/edit>

Backup Slides

Some scheduling issues

- The speakers at the general session are agency or international people or members of the political system or public that have constraints.
 - They may not be able to be at Snowmass for the whole time
 - ECFA meeting at CERN on July 20/21
 - We have information about three important leaders from Europe
 - Fabiola Gianotti (CERN DG), Karl Jacobs (ECFA chair) plan to be full time for the 24 and the 25 and leave early on the 26th.
 - Eliezer Rabinovici, president of the CERN Council will arrive on July 23, so will have approximately the same stay
- There are other constraints, such other conferences and workshops
- **We are likely to get new requests**
 - **We expect a request from DOE/NSF for the types of meetings they have held at previous conferences and workshops, including Snowmass 2013.**
 - **Same is true with NSF**
- If some Frontiers may be willing to reduce their requests that would help (no takers so far)

Suggestions for Plenary Sessions Organized by the Program Committee – Some examples

- RPF
 - Colloquium 1 (**full plenary block**):
 - Flavor physics and QCD
 - Discrete symmetries, baryon, and lepton number violation
 - Dark matter and rare processes
 - Colloquium 2 (**shared block**):
 - RPF+AMO
- CF
 - Colloquia 1: Dark Matter as a Science driver for fundamental physics (community wide, with representatives from energy, rare processes, theory, and neutrino, ~3 hours).
 - Colloquia 2: Cosmic Probes of Fundamental Physics (community wide, with representatives from energy, rare processes, theory, and neutrino, ~2 hours)
- CEF
 - Colloquium 2.5h. CEF will propose the topics and format after their April 29 meeting. This could be arranged as a panel discussion.
- IF
 - Special CPAD Awards ceremony with invited talks by 2021 DPF Instrumentation Award winners and GIRA award winners, highlighting recent achievements in instrumentation and current key challenges, as well as career pipeline
 - Colloquium: motivational talks about direction, technological key issues, career pipeline, facilities

<https://docs.google.com/document/d/11F9W5JwVZLp9JfUN7EhVUg5orycYMNOO36i1saqoFrg/edit>

Snowmass SLACK channel: ssss-program-committee

Categories for General Sessions – Preliminary Thoughts - DPF Chair Line

- **Domestic Program:**

- Overview from US funding agencies
- Overview from US Lab directors
- View from HEPAP and Previous P5 chairs and members
- DOE and NSF also want to do some focused activities, such as meeting with Pls to discuss grant issues
- Perhaps a perspective from some people in Government, Congress,

- **International and Interdisciplinary Program**

- Presentations and panels of foreign lab directors
- Plans and planning process in other regions and nations
- ICFA, ECFA, perspective etc
- CERN and US collaboration
- Possibly Ukraine, Russia impacts
- Collaboration with Astrophysics (DAP), Nuclear (DNP), Gravity (DGRAV), DPB (also AF)

- **Special sessions on New and Evolving Technologies**

- Special session on Quantum including academic and commercial participation. how can HEP contribute?
- Special session on Gravitational Waves - HEP community is excited about this new way to experimentally probe the universe. How can HEP make the most out of this new opportunity?
- Special session on AI – how can HEP contribute?

- **Engagement**

- STEM,
- Promoting DEI: Gender, race, sexual orientation,
- supporting people with disabilities,
- Careers issues in HEP,
- How can we encourage people to work on “enabling technologies” in HEP? Instrumentation, computing, etc
- Sustainability in the next round of HEP projects, current operations, etc,
- A report on the US Congressional visits and other outreach activities to the government,
- Outreach: do we do it well enough