



SAC weekly meeting

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March 8, 2021

Meeting ground rules

Continuing from last term:

- Please mute when you are not speaking
- Please use the “raise hand” feature and the moderators will try to recognize people in order
- If we are moving on to another topic and your follow-up comment was on the current issue, please speak up. It is important to have timely and efficient conversations



- The UEC has proposed a **vacation donation program to support Fermilab employee child-care** during COVID-19
- UEC has contacted HR about developing such a program together with the other interested parties
 - Next step is likely a needs assessment through HR or EAG.
- The UEC is asking if there is general support of such proposal from the SAC
 - If so, we can schedule a presentation at a SAC meeting once more details have been developed
 - We can consider writing a letter of support once the proposal is mature
- Volunteers to work with the UEC, EAG, HR on this proposal are welcome

Library move

Stefan Hoeche agreed to follow up with the Library Move Group

Compile questions / suggestions for the Library Move Group

Understand motivation

Is there still a need to free up space?

Explore option of distributing the inventory of books

Exploring whether Departments would like to host a subsets of books

Would need to find space and shelving

Maintenance of books / catalogue

Upcoming All-Scientist Meeting

- Date: **April 2, 2-3:30pm**
 - Save the date announcement has been sent out by Hema
- Agenda
 - Introduction (SAC chairs) (**~10 min**)
 - Progress with ongoing topics
 - Organizational changes (Directorate) (**~30 min?**)
 - New CRO
 - Search for new PPD head
 - New Theory Division
 - Energy Frontier Working Group (WG conveners) (**~40 min?**)
 - Topics emerging from Snowmass discussion having strategic importance for Fermilab and broad community interest
 - Introduction of new Future Collider group
 - Open Discussion (**~10 min**)



Upcoming All-Scientist Meeting - next steps

- Will distribute zoom connection and indico agenda link through Hema by/on March 29
 - Will ask all speakers for permission to record
- Reserve March 29 SAC meeting to preview draft slides
- On what time scale should we have next All-Scientist meetings?
Which working groups want to go next?

Future of Scientific Working Groups

We wanted to discuss the role of the Scientific Working Groups going forward

They were formed to provide input into the 2017 retreat, and then based on the outcome of that retreat it was recommended they continue to 2018 and onwards.

Input / perspective from SAC / Scientific Working Groups / Directorate

Consider:

- Near term focus on the Snowmass / P5 process
- The planning for the Scientist Retreats
- Role of Scientific Working Groups beyond 2021

Consider defining a “semi-formal” mandate that is developed through discussion with all stakeholders

- Make sure there is a clear understanding of scope / goals and there is an appropriate communication channel established between the Scientific WGs and the directorate
- Define membership appointment procedures and term duration

Backup: Some history of Scientific WG Charge and Role

- **From the 2017 PAC report:**

"The next U.S. particle physics community planning process is expected to begin two or three years from now. The global HEP community has started their planning process. Japan is expected to announce their decisions on large scale HEP projects including ILC and HyperK within the next 24 months and the update process of the European Strategy for Particle Physics will be launched in September 2017 and expects to make their plan public in 2020. The PAC discussed the steps the Laboratory and its scientific staff are taking to ensure adequate preparation for this process in the US, especially including and engaging the greater US and International HEP communities, and designing the process and preparation of the physics program planning exercise."

Backup: Some history of Scientific WG Charge and Role

The first retreat: May 4, 2017

Erica Snider PAC Talk July 2018

Goals

- Gather scientific staff views on long-term plans for Fermilab research program
- Collect input on the Fermilab 10-year plan (pre-2026) and longer-range outlook (post-2026)
- Facilitate communication between different groups at the lab related to long-range goals
- Produce a report outlining a schedule of events needed to prepare Fermilab's input for the next community planning process (P5), and how best to organize for that

Emphasis was on thinking, not making decisions, setting priorities or limits

Backup: Some history of Scientific WG Charge and Role

The first retreat: May 4, 2017

Erica Snider PAC Talk July 2018

Desired output

- A starting draft of
 - a schedule of events / work needed to give input to next P5 process
 - a strategy for how to engage with larger US / International HEP community
 - a list of possible long-term lab goals
 - an estimate of what new work is needed
- A report from the retreat, coordinated by SAC
- A staff better organized, connected and informed about technology developments and science/mission overlaps in other communities

Backup: Some history of Scientific WG Charge and Role

Results from the first retreat

Erica Snider PAC Talk July 2018

Working groups met for one month in advance of the retreat

Report submitted to Fermilab Director, distributed to scientists, noted:

- Fulfilled first two goals:
 - Gathering views on long-term plan + collecting input for pre and post-2026 outlook
 - Though little substance in the post-2026 long-range outlook
- Only partially fulfilled second two goals:
 - Facilitating communication, developing a schedule for P5 preparation, etc.

Recommended

- Seek “lessons learned” from previous Snowmass / P5 working group leaders
- Start to prepare for community-wide planning by summer 2018 by identifying group leaders, organizing additional retreats that fit in with HEP-wide schedule
- Organize next retreat in 2018 around three “core capabilities” working groups
 - Accelerator, computing, detectors



Backup: Some history of Scientific WG Charge and Role

The second retreat: April 26, 2018

Erica Snider PAC Talk July 2018

In planning / organizing the second retreat

- Specifically asked to address the lack of substance in the post-2026 outlook
 - Precluded working groups focus on technology areas alone
- Some changes to address cross-communication issues
 - Asked physics groups to address relevant applied sciences
 - Eliminated separate Applied Sciences working group
 - Started earlier to reduce conflicts in meeting times
 - Two months of meetings prior to retreat
- Added a group around new efforts on quantum computing and detectors
- The context specifically included the need to provide input to the European Strategy Group (ESG)
- Selected mostly new conveners, mix of experience and areas of work



Backup: Some history of Scientific WG Charge and Role

The second retreat: April 26, 2018

Erica Snider PAC Talk July 2018

Goals given a narrower focus

- Facilitate discussion and seek input in answering the questions
 - What are the interests of the Fermilab scientists for the decade following 2026?
 - How do we give our input to the US community planning and the European Strategy Group?
 - What is the post-retreat plan for working with US, European and other partners to give our input
- Considerations
 - Build on the previous report
 - Speak to needed facility construction/upgrades, R&D, new physics knowledge
 - Consider activities at Fermilab, and at other places Fermilab should be involved in
 - Consider how we should approach coordinating with area communities

Backup: Some history of Scientific WG Charge and Role

Second retreat results and follow-up

Erica Snider PAC Talk July 2018

- Most working groups met two or more times prior to
 - Attendance, participation in most was robust
- Retreat proper attended by >160 scientists
- WG conveners presented summaries of working group discussions, conclusions, followed by an open discussion session
- Conveners asked to write a brief summary for a report with major outcomes, planned or suggested follow-up work
 - Some groups have continued to meet, work
 - Others have plans, but have not yet to initiated follow-up work



Backup: Some history of Scientific WG Charge and Role

2019 Retreat: Working Group Charge

Activities for the All-Scientist retreat constitute a Fermilab internal activity, aiming to empower and inform our scientists for the upcoming community planning exercise. With this year's retreat we aim to gain an understanding of the projects that Fermilab is both most interested in pursuing and has the ability to contribute to. In answering the questions in the charge, Fermilab scientists are encouraged to seek expertise and advice from throughout the community (both internal and external), however it should be made clear to all that this is an internal Fermilab planning activity.

Part I Charge for Frontier Groups (cosmic, energy, neutrinos, precision) : Determination of Interest Levels and Relevance

Timescale: Deliver draft by May 1, 2019

Based on the list of post-2026 experiments as determined in the 2018 retreat, and including any new efforts that have developed since that time, assign a level of high interest, medium interest or low interest (*interest levels are defined below*) for the following two cases:

1. Which experiments are most important for advancing your sub field?
2. Of these items, which efforts should Fermilab contribute to?

For each item, list the goal (i.e. discovery, limit, potential) that item enables and what factors made you rank it as you did.

In producing this list we expect you to facilitate discussions and seek input from working group participants, colleagues based both at and outside Fermilab, utilize input from the community white papers written for the European Strategy, and the written materials and discussion from the preceding retreats, etc.

Backup: Some history of Scientific WG Charge and Role

2019 Retreat: Working Group Charge

Part I Charge for Technology Groups (quantum, accelerators, computational, detectors) : Determination of Interest Levels and Relevance

Timescale: Deliver draft by May 1, 2019

Based on the list of future technologies determined in the 2018 retreat, and including any new efforts that have developed since that time, assign a level of high interest, medium interest or low interest (*interest levels are defined below*) for the following two cases:

1. Which technologies are most important for advancing your sub field?
2. Of these items, which efforts should Fermilab contribute to?

For each item, list the advances that technology brings and what factors made you rank it as you did.

In producing this list we expect you to facilitate discussions and seek input from working group participants, colleagues based both at and outside Fermilab, utilize input from the community white papers written for the European Strategy, the written materials and discussion from the preceding retreats, etc.

Backup: Some history of Scientific WG Charge and Role

2019 Retreat: Working Group Charge

Part II Charge for All Working Groups: Resource Identification

Timescale: Present June 14, with continued efforts feeding into Part III

Working group leaders of the Frontier Physics and Technology groups will arrange discussion to identify required capabilities to enable the goal (i.e. discovery, limit, potential) of the high interest future efforts. In cases where the required capabilities are not yet clear, facilitate discussion on what is needed to identify or choose the critical capabilities. Describe how these capabilities enable specific scientific or technological goals and answer the following questions:

1. For high interest items identified from the Part I charge, what required capabilities should Fermilab bring to these efforts?
2. Does the expertise exist at the lab to deliver on these items?
3. What additional expertise would be needed at the lab, and what can be done to rectify the situation ?

Consider all needed resources, including facility construction/upgrade, R&D, computing new physics knowledge, etc.

Backup: Some history of Scientific WG Charge and Role

2019 Retreat: Working Group Charge

Part III Charge for All Working Groups: Fermilab input to the Community

Timescale: Continuous efforts pre and post retreat with report in Fall

For high interest items identified in Parts I & II, discuss what is needed to engage the larger community. Consider what process or metrics will be used to determine whether these are the best projects for the future and/or to decide between different high interest options. How can we enable Fermilab to take part in these efforts?

As examples, consider setting up monthly meetings, organizing working groups, defining specific studies, writing a white paper, taking part in community planning efforts such as Snowmass, etc.