

PAC Charge January 2020

The laboratory continues to align its program with the recommendations in the Particle Physics Project Prioritization Panel (P5) report: “*Building for Discovery: Strategic Plan for U.S. Particle Physics in the Global Context*” and plans its contributions to the upcoming Snowmass process. In this meeting the PAC is asked to comment on current issues that are important to the success of the ongoing program and for planning for the future. These include:

Status of Scientific Computing at the laboratory

Charge: We ask the committee to review the status of S&C R&D at the laboratory including plans for migrating HEP computing to high performance architecture and for support to current and future experiments’ operations. The committee is also asked to review the status of the new committee structure and recommendations made at the July 2019 meeting.

Report on the QIS program at the laboratory

Charge: We ask the committee to review the status of the QIS program at Fermilab and the progress made in proposing the laboratory as a national center as well as the synergy of the Fermilab’s and universities’ programs. The committee is also asked to review the status of the recommendations made at the July 2019 meeting.

Status of the AI/ML program at the laboratory

Charge: We ask the committee to comment on the scope and organization of the AI/ML program at the laboratory in the context of the new DOE initiative.

Report on the CMS Experiment

Charge: We ask the committee to review the status of the experiment and the status of the recommendations made at the January and July 2019 meetings.

Report on the ProtoDune Experiment

Charge: The committee is asked to review the status of the experiment including plans for Run 2, and the status of the recommendations made at the January 2019 meeting. The committee will also review a potential Fermilab’s involvement in the Dual Phase LArTPC.

Report on the ICARUS Experiment

Charge: We ask the committee to review the status of the ICARUS experiment including the preparatory work towards the SBN operations.

Report on the ANNIE Experiment

Charge: We ask the committee to review the status of the ANNIE experiment.

Report on the SBN analysis working groups

Charge: We ask the committee to assess the progress made by the analysis working groups towards an integrated SBN physics program. The committee will also review the status of the recommendations made at the January and July 2019 meeting.

Report from LBNC

Charge: We ask the committee to comment on the LBNC activities.

Report from the HyperK experiment

Charge: The committee is asked to comment on the scope and schedule of the Hyper-Kamiokande experiment in the context of LBNF/DUNE following a presentation on the status of Hyper-Kamiokande. The committee is also asked to comment on collaborative opportunities between the two efforts.

Report from the ILC project

Charge: The committee is asked to review how a major involvement of Fermilab in the ILC would fit into its plans following a presentation on the status of the ILC Committee.

Status of the Snowmass process [for information only]

Report from SAC on Fermilab's preparation for the Snowmass Process

Charge: The committee is asked to review Fermilab's plan for engagement in the Snowmass 2021 following a presentation from the DPF on its plans for the overall process.

Report on the Cosmic program at the laboratory

Charge: We ask the committee to review the status and future perspectives of the Cosmic program at Fermilab and the progress made towards establishing the CPC.