

## **PAC Charge December 2020 - updated on Oct 26th**

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:

1) [Report of the Fermilab's director]

### **2) Status of the SQMS center led by Fermilab**

Charge: We ask the committee to review the status of the SQMS center at the laboratory.

### **3) Status of the CMS experiment**

Charge: We ask the committee to review the status of the CMS experiment with focus on Fermilab's deliverables, as well as the status of the recommendations made at the January and July 2020 meetings.

### **4) Status of the g-2 experiment**

Charge: We ask the committee to review the status of the g-2 experiment, of the physics program, and of the recommendations made at the July 2020 meeting.

### **5) Status of the SBN analysis working group**

Charge: We ask the committee to review the status of SBN analysis working group's activities and the status of the recommendations made at the January 2020 meeting.

Guidance to the speaker: We request the speaker to also report on the utility of an overburden for the SBND and the ICARUS detectors.

### **6) Status of the ICARUS detector**

Charge: We ask the committee to review the status of ICARUS and the status of the recommendations made at the July 2020 meeting.

### **7) Status of CERN Neutrino Platform**

Charge: We ask the committee to review the status of the CERN Neutrino Platform.

### **8) Proposal of a new experiment to study Coherent Elastic Neutrino-Nucleus Scattering and physics beyond the Standard Model**

Charge: We ask the committee to review the physics case of the proposed experiment

Guidance to the speaker: The speaker is invited to submit a preliminary list of resources needed. The proponents may be invited in the Summer of 2021 for Stage 1 approval.

**9) Status of the MAGIS experiment**

Charge: We ask the committee to review the status of the MAGIS experiment and to report on the director's review.

**10) Proposal to join the CLAS12 Collaboration through limited membership**

Charge: We ask the committee to review the scientific opportunities and unique contributions that may emerge by joining the CLAS12 Collaboration through limited membership.

Guidance to the speaker: The speaker is invited to explain the requirements and benefits of limited membership and what unique scientific contributions the LM would allow Fermilab staff to make.

**11) Proposed Booster Upgrade: plans for the machine and physics potential**

Charge: We ask the committee to review the status of studies of beyond-neutrino physics case of the Booster Upgrade.

**12) Report on the Snowmass CPM**

Charge: We ask the committee to review the contributions made by Fermilab staff at the CPM, and to assess their impact and breath.