

Physics Advisory Committee

July 16-19, 2018

CHARGE

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.”* 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.

Specifically:

1. NOvA:

Given the current status of neutrino measurements and the present expectations for beam delivery, we ask the committee to comment on the NOvA Collaborations science strategy and the expected timeliness of NOvA results with respect to the competition.

2. MicroBooNE:

The committee is asked to comment on progress towards understanding the ultimate sensitivity of the experiment and the plan to get to the signature MicroBooNE result. In addition, given the outcome of the recent Portfolio Review, we ask the PAC to comment on the importance of future MicroBooNE data taking.

3. DUNE:

The LBNC reviews progress and gives advice on LBNF and DUNE. We ask the PAC to comment on recent progress on DUNE, including (i) the TP and progress towards the TDR, and (ii) the protoDUNE measurement plan and how it will inform the TDR.

4. SBN:

We ask the PAC to comment on progress and plans towards implementing the SBN program. In particular, we ask the committee to comment on (i) the management and

organization for commissioning and operations, and (ii) the organization and plans for joint analyses.

5. LDRD:

We ask the PAC to comment on the scope and quality of the LDRD program.

6. LOI: MAGIS-100

We ask the PAC to comment on whether the science goals are compelling, and on the scope and appropriateness of the support requested.

7. EOI: Mu2e evolution

We ask the PAC to comment on whether the science goals are compelling given the likely scope of the next generation experiment.

8. CMS:

We ask the PAC to comment on (i) the outcome of, and the responses to, recent reviews, and (ii) prospects and plans for CMS computing in the HL-LHC era.

9. Magnet Task Force Report

We ask the PAC to comment on the conclusions of the Magnet Task Force.

10. Theory Group Status and Plans:

We ask the committee to comment on the status and plans of the Theory Group, including the alignment of the groups' activities with the ongoing and future program at the laboratory.

11. Muon g-2 Status and Plans

We ask the committee to comment on the status of the experiment, progress towards the first physics result, and the prospects for achieving the design sensitivity given the anticipated future performance of the accelerator and experiment.

12. Mu2e Status

We ask the committee to comment on progress towards the experiment.

13. Particle Astrophysics Vision Update:

We ask the PAC to comment on the updated vision, prospects, and plans for the Particle-Astrophysics Group at Fermilab.

14. Report from the Fermilab Scientists Retreat:

We ask the PAC to comment on the conclusions from the recent Fermilab scientist retreat.

15. Plans for U.S. contributions to the European Strategic Planning

We ask the committee to comment on plans to provide input from the U.S. community into the European strategic planning process, and the opportunities for the laboratory to strengthen this input in a way that is helpful for global planning.

16. Other

The Director would welcome any comments the PAC has on any of the topics presented, or comments on aspects of the program beyond the presented topics.