Fermilab Physics Advisory Committee September 2025

The Physics Advisory Committee: Halina Abramowicz (Chair), Klaus Blaum, Allen Caldwell, Albert de Roeck, Aida El-Khadra, Joseph Formaggio, Elisabetta Gallo, Cecilia Gerber, Sunil Golwala, Stefania Gori, Atsuko Ichikawa, Zach Marshall, Mayly Sanchez, Brigitte Vachon(Ex Officio), David Schuster, Tim Tait

Scientific Secretary: Sergo Jindariani

Lab status report

Charge: For information only

Findings:

Comments:

Recommendations:

Report from the LBNC

Charge: For information only

Findings:

Comments:

Recommendations:

Status and plans for the Fermilab's accelerator complex

Charge: We ask the committee to review the status of Fermilab's accelerator complex, with particular emphasis on progress with delivering 1.2 MW of beam to DUNE. (ACE1.2).

Findings:

Comments:

Recommendations:

Report from g-2

Charge: We ask the committee to review the status and future plans for the g-2 physics datasets, as well as assess the corresponding support needs from the computing.

Findings:

Comments:

Recommendations:

Report from the SQMS Center

Charge: We ask the PAC to review the status and future plans of the SQMS Center.

Findings:

Comments:

Recommendations:

Report from the ETD Directorate

Charge: We ask the PAC to review the status and future plans of the efforts led by ETD.

Findings:

Comments:

Recommendations:

Report from the Neutrino Physics Center

Charge: We ask the committee to review the status and future plans of the Fermilab Neutrino Physics Center (NPC)

Findings:

Comments:

Recommendations:

Report from the LHC Physics Center

Charge: We ask the committee to review the status and future plans of the Fermilab LHC Physics Center (LPC)

Findings:

Comments:

Recommendations:

Report from the Theory Division

Charge: We ask the PAC to review the status and future plans for the theory group at the laboratory. The PAC is also asked to review the status of open recommendations from the previous reviews:

1. The Theory Division should develop metrics to quantify the value added of the Division's programs to the larger community. Some possible examples include a running count of papers that use Division-produced software or the number of papers produced jointly with visiting scientists.
2. The PAC recommends that the Directorate and the Theory Division engage with DOE HEP to identify a long term model to support the successful Quantum Theory Department.

Findings:

Comments:

Recommendations: