

A Future Fermilab



- **Context**
 - **Charge, Membership**
 - **Subcommittees**
 - **Open Sessions/Timetable**
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Linear Collider (FNAL view)



- FNAL strongly committed to being a full partner in a future LC
 - FNAL is planning to
 - Build up accelerator R&D effort on LC (currently funding limited)
 - Build up a group to work with University groups doing R&D on accelerator and detector
 - FNAL as a site for a future LC is being actively explored
 - Proposed by Director in 2001
 - Strong base of expert manpower and infrastructure
 - Excellent locations nearby
 - Good geology
 - Good political environment
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(From) Charge to the FNAL Long Range Planning Committee



- I would like the Long-range Planning Committee to develop in detail a few realistically achievable options for the Fermilab program in the next decade under each possible outcome for the linear collider. The goal in developing each option should be to optimize the opportunities available at Fermilab in this period for high energy physicists to answer the most important questions in our field. The options should be guided by the priorities for the field as laid out in the HEPAP Subpanel and in the HEPAP response to the Office of Science on the facilities plan.
 - The committee should develop scenarios for each of the two cases spelled out by the HEPAP Subpanel.
 - A linear collider project will be built here, starting late in this decade with international support and organization.
 - The linear collider will be built offshore with substantial participation from U.S. High Energy Physics.
 - In either case, you should make the following additional assumptions.
 - Fermilab will have a central role in an active U.S. research program at the LHC, both as host of the US-CMS collaboration and as developer of accelerator upgrade plans.
 - Fermilab will carry out the presently approved program of experiments following approval from the national program.
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Membership



- Hugh Montgomery (Chair)
 - Steve Holmes (Deputy)
 - Joel Butler
 - Marcela Carena
 - Josh Frieman
 - Steve Geer
 - Chris Hill
 - Bob Kephart
 - Sergei Nagaitsev
 - Jim Strait
 - John Womersley
 - Gary Feldman, Harvard
 - Young-Kee Kim, Chicago
 - Peter Meyers, Princeton
 - Angela Olinto, Chicago
 - Ritchie Patterson, Cornell
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Sub-committees/Working Groups

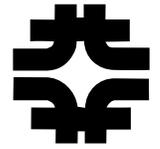


Physics Convenor: Chris Hill	Neutrinos Convenor: Gary Feldman	Linear Collider Convenor: Steve Holmes	Large Hadron Collider Convenor: John Womersley	Proton Driver Convenor: Bob Kephart
Accelerator R&D Convenor: Steve Geer	Particle Astrophysics Convenor: Josh Frieman	Non-(Particle Physics) Convenor: Joel Butler	Resources Convenor: Hugh Montgomery	International Lab Issues Convenor:

+ **Detector R&D Jeff Appel**

Membership of subcommittees goes way beyond the membership of the full committee.

From “Neutrinos” Group Work Plan



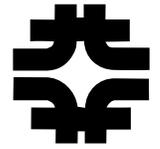
- Overall Goal
 - Plan a Fermilab Neutrino Program that is capable of providing definitive measurements of the currently unmeasured neutrino oscillation parameters, θ_{13} , $\text{sign}(\Delta m_{13}^2)$ and δ
 - Specific Questions
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From “Proton Driver” Group Work Plan

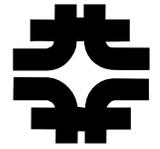
- Goals
 - Understand and summarize the physics, operational, and technical arguments for constructing a new high intensity proton source at Fermilab (Proton driver).
 - Summarize the arguments pro and con for the two options for a Proton Driver:
 - **8 GeV Circular booster replacement**
 - **8 GeV Superconducting linear accelerator (same technology as Tesla)**
 - Define the steps including R&D program that would allow Fermilab to gain approval for such a machine.
 - Summarize the funding, schedule, and manpower considerations
 - Recommend a plan of action and a near-term level of laboratory effort that should be devoted to this task.
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Timetable



- **September-October: Open Sessions**
 - **September 4: LHC**
 - **Organiser: John Womersley**
 - **September 16: Tentative: Physics Landscapes**
 - **Organiser: Chris Hill**
 - **Report Writing**
 - **October**
 - **Report**
 - **November???**
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Website for Open Sessions



- http://www.fnal.gov/directorate/Longrange/LHC_Open_Meeting.html
 - http://www.fnal.gov/directorate/Longrange/Open_Sessions.html
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