

# DUSEL Study

Fall Meeting – BPA  
November 6-7, 2010

# Short History

- Multiple scientific research opportunities have been identified in physics and other fields that would be enabled by a deep underground laboratory environment.
- NSF is considering a Deep Underground Science and Engineering Laboratory (DUSEL) in Leeds, S.D. that would provide the needed infrastructure. DOE and NSF are considering proposed experiments that would be placed there. Finally, DOE is considering a major accelerator-based neutrino source that would originate at Fermilab and travel over 1000 km to a detector deep underground at the proposed DUSEL.
- The physics program planned in connection with DUSEL has been given high priority in the most recent long range plans produced by the High Energy Physics Advisory Panel and Nuclear Science Advisory Committee. The particle physics and nuclear physics communities are stewarded by both agencies, and the implementation of the DUSEL physics program requires an effective partnership between them.

# Short History (cont'd)

- The National Science Board directed NSF management to undertake a broad independent review of the impact of the DUSEL on science, engineering, and education in the U.S. to inform the May 2011 portfolio review by the Board of prospective Major Research Equipment and Facility Construction (MREFC) projects.
- NSF and DOE jointly support the study.

# DUSEL

## Statement of Task

The committee will undertake an assessment of the proposed DUSEL program, including:

- An assessment of the **major physics questions** that could be addressed with the proposed DUSEL and associated physics experiments,
- An assessment of the impact of the DUSEL infrastructure on research in **fields other than physics**,
- An assessment of the impact of the proposed program on the **stewardship** of the research communities involved,
- An assessment of the need to develop such a program in the U.S., in the **context** of similar science programs in other regions of the world,
- An assessment of **broader impacts** of such an activity, including but not limited to education and outreach to the public.

# Committee

- To expedite process, committee appointed in stages. Current committee membership –
  - Dr. Andrew J. Lankford, *Chair*, University of California, Irvine
  - Dr. Charles Fairhurst, Itasca Consulting Group, Inc.
  - Dr. Peter Fisher, Massachusetts Institute of Technology
  - Dr. Takaaki Kajita, University of Tokyo
  - Dr. Stephen E. Laubach, The University of Texas
  - Dr. Ann Nelson, University of Washington
  - Dr. Rene Ong, University of California, Los Angeles
  - Dr. Frank J. Sciulli, Columbia University
  - Dr. Marjorie Shapiro, University of California, Berkeley and E. O. Lawrence Berkeley National Laboratory
  - Dr. James M. Tiedje, Michigan State University
- The five remaining candidates have been nominated; anticipate their appointment shortly.

# Study Status

- First meeting set for December 14-15, 2010.
- Goal is produce full report by August 2011.
- At the first meeting, committee will evaluate the possibility of producing an interim report by May 2011 NSB board meeting.