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Dr. Dennis Kovar
Acting Associate Director for High Energy Physics
Office of Science
Department of Energy

Dr. Tony Chan
Assistant Director for Mathematical and Physical Sciences
National Science Foundation

Dear Dennis and Tony:

I am writing to summarize the meeting of the High Energy Physics Advisory Panel (HEPAP) held in Washington on November 29-30. Major items on the agenda included reports from two HEPAP subpanels, the Particle Physics Project Prioritization Panel (P5) and the DOE's Committee of Visitors (COV).

At the beginning of the meeting, I noted a number of HEPAP items that came up since the previous meeting. We have instituted an informal agency search committee within HEPAP to help identify potential candidates for vacancies in the agency HEP program offices. Discussions are under way to address the University Grant Program Subpanel (UGPS) recommendations for a group to report annually on the health of the university program and a clear procedure to assess and prioritize small-scale experimental proposals. Because of the agency changes of the past few months and the pressure of the budget, dealing with these issues will be delayed by several months. I also noted that there is broad concern about how best to proceed with the International Linear Collider (ILC) and that this will be a focus of the February HEPAP meeting. Finally I announced that Charlie Baltay has agreed to chair the new P5 panel and that the full membership would be announced shortly.

HEPAP was pleased to hear from the new Acting Associate Director of the Office of High Energy Physics (OHEP), Dennis Kovar. Dennis, in introducing himself to HEPAP, stated his goal as developing a strategic plan for high-energy physics and implementing it. For this he needs input from the community. There is a strong near- and mid-term program. The long-term plan is to get back to the energy frontier with the ILC, but there is currently no backup plan in case the ILC is delayed. The community must prepare such a plan under a variety of budget scenarios. For each we must specify what science will be done and what will be lost.

Joe Dehmer presented news from the National Science Foundation. Joe noted a number of recent advances including the Physics Frontier Center competition, in which 19 of the groups that submitted preproposals were invited to submit full proposals, and the NSF/DOE partnership to enable the CESR Damping Ring Test Accelerator to perform critical-path R&D for the ILC. He noted that opportunities for transformative discoveries in particle physics have never been more

compelling. A strategy is needed for the near-, intermediate-, and long-term. He feels that the intermediate-term plan needs strengthening.

Glen Crawford presented a very useful primer on the OHEP budget, its construction, structure, and the annual budget cycle. This was the first of two presentations on the budget to educate HEPAP members. The NSF will give a presentation on its budget at the February meeting.

Bernard Sadoulet summarized the recent DUSEL workshop that focused on the first suite of experiments. To prepare for the MREFC submission, the costs of the experiments must be specified by December, 2008. Since it would be difficult to accomplish this on such a timescale, they are proposing to cost some representative experiments. HEPAP is concerned that even if such a plan is allowed, it would be dangerous since such a budget might not cover the eventual cost of the experiments.

Joel Primack summarized the work of the National Research Council's Beyond Einstein Program Assessment Committee (BEPAC) which was charged with selecting the next Beyond Einstein NASA mission. BEPAC considered 5 mission areas and selected JDEM to be the first to fly and LISA to be the second. Both can fit within the expected NASA funding wedge if additional support comes from the DOE for JDEM and Europe for LISA. JDEM was selected both for its dark energy capability and its ability to address a very broad range of astrophysical questions. HEPAP is very pleased with the JDEM selection because it should provide a significant advance in our understanding of dark energy. The next step is an agreement between the DOE and NASA leading to an announcement of opportunity and mission selection. In response to a question, Dennis Kovar said that they hope to sign an MOU early in 2008. HEPAP hopes that this is completed soon so that the agencies can proceed with the call for proposals.

Jon Bagger reported in Anneila Sargent's absence on the plans for the upcoming astrophysics decadal survey. Although previous surveys had an impressive record of having 80% of the recommended projects carried out, the last survey was not nearly as successful. Consequently modifications of the model for the next survey are being considered. Since there is important overlap between astrophysics and elementary particle physics projects, HEPAP is pleased that physicists will be involved in the survey.

John Womersley reported on the COV review of DOE OHEP operations. The generally positive report contained 18 recommendations. The COV is very worried about the understaffing in OHEP, which it feels is unsustainable. It recommends an urgent effort to fill the vacant positions and add additional IPA positions. The other recommendations include the need for comparative reviews of the research programs in the universities and the national laboratories, increasing the number of OJI awards, and formulating a plan for continued stewardship of accelerator science in the U.S. The COV also validated the process for acting on submitted proposals. HEPAP unanimously approved the report.

Abe Seiden presented the latest P5 report. He reviewed the roadmap process and the recommendations from last year as well as the progress made during this year. In this report, recommendations are made on three topics. Regarding possible running of the Tevatron in FY10, P5 recommends that this be decided a year from now based on the physics case and the personnel situation, which is likely dependent on the LHC schedule. P5 also recommends that the funding not come at the expense of the higher priority areas in the roadmap (LHC and ILC R&D; dark matter, dark energy, and the Daya Bay neutrino experiment). With regard to JDEM, P5

encourages the DOE to secure an increased budget based on the compelling JDEM science case. P5 also encourages DOE to work intensively with NASA toward an early realization of JDEM. P5 feels that the UGPS made a convincing case that the success of HEP projects requires increased funding for the university base program. The NSF budget doubling and its commitment to the grant program bode well for the university program. P5 recommends that the DOE increase its university base program by at least 9% as a high priority. The new P5 should make a specific recommendation in the context of an overall plan. HEPAP unanimously approved the P5 report.

Young-Kee Kim presented the report of the Fermilab Steering Group. She described the process they followed, the importance they placed on alignment with the ILC, the case for further studies of flavor physics, and the group's recommendations. They are proposing R&D for Project X, a high intensity proton beam produced by an 8 GeV ILC-like proton linac feeding the Recycler and Main Injector. An international collaboration is being formed to carry out these studies. The group also recommends that muon collider R&D be expanded. HEPAP notes that still needed are an R&D plan, a more complete physics case, and an analysis of the available and needed Fermilab personnel.

The agency charge to HEPAP for developing an HEP program under a number of budget scenarios was discussed. It was suggested that the resulting P5 report contain some quantitative information on the recommended funding and that the presentation of the science case contain references to other relevant subpanel reports. It was also decided to move up the date of the spring HEPAP meeting so that HEPAP can consider the P5 report before it is needed by the agencies in its final form.

Stavros Katsanevas described the coordination among European funding agencies in astroparticle physics to reduce barriers between the European nations. For the phase-I roadmap, working groups came up with a list of projects that cost significantly more than available funding could support. They are now working on prioritization. Stavros pointed out, and HEPAP concurs, that increased coordination among the regions on these large projects is important.

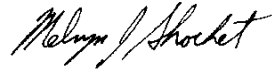
We heard two presentations on Open Access Publishing, in which journal articles are accessible by the public free of charge from the publisher's web site. Gene Sprouse, Editor-in-Chief of the American Physical Society, using APS journals as an example, reviewed the finances of scientific publishing and said that an open access publishing model must be sustainable and reversible in case it fails. Salvatore Mele from CERN then presented the SCOAP3 model that was developed at CERN and has now been proposed to many institutions in Europe, Asia, and North America. Its goal is to redirect subscription fees for HEP journals through a consortium so that agreements can be reached with publishers to make all HEP papers openly available. The estimated cost is 10 million Euros per year. Approximately 25% of this has been committed, with another 35% in various stages of discussion. Discussions with the libraries at DOE labs and some U.S. university library consortia are also in progress. HEPAP strongly supports this initiative contingent on resolution of the financial concerns raised by Gene Sprouse.

David Asner gave a status report on the CLEO physics program. The collaboration anticipates approximately 70 papers and 30 theses to come out after the end of data taking in March. They are asking for continued support for computing and the graduate students and postdocs who will be doing the analyses. HEPAP continues to be impressed by the great success of the CLEO physics program. HEPAP feels in general that it is important to reap the scientific benefits from the investment in large experimental facilities, and that support should not be terminated

prematurely. In many cases, the final results from these collaborations may represent the ultimate measurements of these quantities.

The next HEPAP meeting will occur on February 14-15. The agenda will include an analysis of the final FY08 budget and the very serious negative impact it will have on the field. We will also have a status report from the new P5 panel, and reports on the ILC R&D program in the U.S. and abroad.

Sincerely,

A handwritten signature in black ink, appearing to read "Melvyn J. Shochet". The signature is written in a cursive, slightly slanted style.

Melvyn J. Shochet
Chair, High Energy Physics Advisory Panel