

2006 Physics Policy Committee
Yearly Report

The committee met three times in 2006: February 27th, July 18th, and November 16th.
The following are the minutes from the committee meetings:

Physics Policy Committee Meeting
July 18th, 2006
529 14th Street, NW, Suite 1050, Washington DC

Next meeting Nov 16th

Members present:

B. Richter, T. Gay, C. Gelbke, M. Kastner, A. Balazs, R. Goldston, K. Heller, L. Kadenoff, V. Thomas, N. Neureiter, J. Phillips (by phone), S. Chu (by phone)

Staff present:

M. Lubell, B. Mosley, S. Pierson, K. Regan, J. Hopfield, J. Franz (by phone)

Guests:

Martin Blume, Editor-in-Chief, APS Physics

Doug Comer, Intel Corp and Taskforce on the Future of American Competitiveness

Nigel Lockyer, EPP2010 Committee Member

Robin Staffin, Associate Director, DOE Office of High Energy Physics

Peter Rooney, Deputy Chief of Staff, House Science Committee

Ellen Weiss, Public Affairs Coordinator, Biophysical Society

***** Note *****

J. Phillips participated by phone for the morning agenda items.

S. Chu participated by phone for the discussion on ARPA-E.

B. Richter called the meeting to order at 8:25 AM.

Open Access: Publishing of Federally Funded Research (Martin Blume)

- Discussion of Cornyn-Lieberman bill – bill would require government funded research articles to be submitted to a federal database within six months of being published.
 - Blume – Interest in bill seems to be based on ideology rather than economics.
 - The bill provides no details for the proposed database. Such a database is expensive and not cost effective.
 - Unclear if version that must be submitted is the final published version or a pre-published version.
- Until bill is fleshed out more, no recommendations on lobbying.
- Unanimous sense of the committee to establish a subcommittee to write a proposed resolution, with draft language on open access, that is acceptable to APS.
 - Subcommittee would include APS Editor-in-Chief and APS Treasurer.
 - PPC members Balazs and Heller volunteered.

Washington Update (Michael Lubell)

- At this point in the Congressional budget process, three ACI agencies (DOE Office of Science, NSF, & NIST facilities) are approximately at the level of the President's request.
- NASA Science is being cut to pay for the Moon-Mars program. PPC will address the issue at the next meeting.
- ATP is zeroed out.

- ATP discussion has been added to the committee's agenda at lunch;
- DOD 6.1 and 6.2
 - Richter – Had meeting with new Defense Research Director.
 - Requested that we prepare paper on the benefits of 6.1 and 6.2.
- DOE Budget
 - Rare Isotope Accelerator (RIA) – DOE Under Secretary for Science Ray Orbach has been ordered to report to House Appropriators why RIA was not included in the FY07 request, as required by law, or explain why DOE has elected not to proceed according to the enacted timetable, which requires construction to begin in FY08.
- Need to start looking at the possible program gaps in ACI.
 - Nuclear and high-energy physics are not part of the ACI.
 - New PPC chair should meet with OSTP Director Marburger to discuss the issue.

FY08 Research Budget Strategy (Doug Comer)

- Comer spoke about the efforts of the Taskforce on the Future of American Innovation and the outlook for next year's budget forecast.
 - Benchmarks II report is expected to be released in mid September.
 - Benchmarks II will focus more on defense and national security concerns.

ILC (Possible APS Statement) (Robin Staffin, Nigel Lockyer)

- Nigel Lockyer, member of the EPP 2010 committee, spoke about the report, *Revealing the Hidden Nature of Space Time: Charting the Course for Elementary Particle Physics* (also known as EPP-2010), and its recommendations. Robin Staffin, DOE Associate Director for High Energy Physics, contributed to the discussion.
- Lockyer – Report notes that “particle physics is at a crossroads” and recommends that the U.S. pursue the ILC program and seek to host it.
- Lubell and Richter offered a draft on a possible APS statement on ILC. Kastner and Kadenoff volunteered to wordsmith the draft (final draft is attached).

LHC (User Fees)

- Richter reviewed the issue. Committee agreed that proposal to charge fees to U.S. users, floated by CERN director, would cause U.S. repercussions.
- APS will monitor the situation.

ARPA-E (Steven Chu (by phone) and Peter Rooney)

- Steven Chu spoke about the discussion that led to the recommendation of ARPA-E in the *Gathering Storm* report.
- Focus was on how to encourage more risk-taking in energy research.
- Fear of failure currently leads program officers and scientists to reject risky programs.
- Augustine Committee ultimately decided to include ARPA-E in the *Gathering Storm*; analogous to DARPA.
 - Lubell – In the case of DARPA, government is the customer. In the case of ARPA-E, private sector the customer. Therefore ARPA-E is not analogous to DARPA.
- Peter Rooney spoke about Capitol Hill developments.

- Need to remember that DARPA is not a complete success.
- ARPA-E needs further thought before it can pass Congress.
- Committee agreed to consider a proposed statement on ARPA-E (final draft attached).

Advanced Technology Program (ATP) (Anna Balazs)

- ATP has been zeroed out in both the President's budget request and the House and Senate budgets. Should APS lobby on the issue?
- After discussion, the committee decided that it is preferable for APS not to take action.

Bridging the Sciences (Ellen Weiss)

- Ellen Weiss reviewed the history, rationale, and status of the plan to establish mechanisms that address the intersection of the physical and life sciences.
- Lubell – Planning to meet with Ray Orbach, DOE Under Secretary for Science, to discuss a possible DOE role. John Porter (Hogan and Hartson) and Ray Garent (ACS) will attend along with Lubell and Weiss.

Discussion & Action Items (Committee)

- Proposed ARPA-E statement
 - Adopted unanimously
- Proposed ILC statement
 - Adopted unanimously

Potential Topics for future PPC consideration (Committee)

- Competitiveness
- NASA Science
- Energy Policy and related issues
- Visa and security issues
- Reliable Replacement Warhead
- Education

Next Meeting

- The next meeting will be November 16th 2006.

Adjournment

The meeting adjourned at 1:52 PM.

APS Statement on the International Linear Collider

July 18, 2006

Elementary particle physics, as noted in the National Academy of Sciences report, *Revealing the Hidden Nature of Space Time: Charting the Course for Elementary Particle Physics* (also known as EPP-2010), is at the threshold of a new era. It is poised to answer to take the next significant step to answer some of the most compelling science questions ever asked. How did the universe evolve from its primal origin and what is its future? What is the essence of dark energy and dark matter? What are the fundamental characteristics of space and time? And how did mass originate?

Therefore, taking into consideration *EPP 2010* and especially one of its principal conclusions that:

“Particle physics plays an essential role in the broader enterprise of the physical sciences.”

And that:

“It inspires U.S. Students, attracts talent from around the world, and drives critical intellectual and technological advances in other fields.”

The American Physical Society strongly endorses the chief recommendation of the report:

“The United States should remain globally competitive in elementary particle physics by playing a leading role in the worldwide effort to aggressively study Terascale physics.”

To achieve that end and consistent with the recommendations in the *EPP 2010*, the American Physical Society urges the Administration, acting through the authorization and appropriations committees, to provide the “risk capital” for research and development (recommended in the National Academy report) leading to an engineering design and cost basis for the International Linear Collider project. If the outcome of that effort is satisfactory, the American Physical Society further urges the Administration and Congress to offer to site such a project in the United States, in the context of a balanced national program in the physical sciences.

APS Statement on ARPA-E

July 18, 2006

The National Academy of Science report, *Rising Above the Gathering Storm*, recognized that the transition between basic and applied energy science is a complex and important one. The American Physical Society recommends that the National Academies further examine mechanisms to exploit opportunities at this interface, including the option of ARPA-E.

Physics Policy Committee Meeting
November 16th, 2006
529 14th Street, NW, Suite 1050, Washington DC

Next meeting Feb 20th 2007

Members present:

R. Goldston, C. Clark, T. Gay, C. Gelbke, K. Heller, M. Kastner, M. Lester, J. Phillips (by phone), L. Kadenoff, E. Moniz (by phone), R. Lopez (by phone)

Staff present:

J. Franz, M. Lubell, B. Mosley, D. Pisano, S. Pierson, K. Duncan, F. Slakey

Guests:

Daniel Savin, Columbia University

Rene Bellewied, Chair-elect, RHIC-AGS Users Group (by phone)

Michael Marder, APS Committee on Education

***** Notes *****

J. Phillips participated by phone for the morning agenda items.

E. Moniz participated by phone for the POPA Update agenda item.

R. Lopez participated by phone for the Clarification of APS Position on Math & Science Partnerships agenda item.

R. Goldston called the meeting to order at 8:14 AM.

NASA (Daniel Savin)

- D. Savin presented the findings of the NASA Laboratory Astrophysics Workshop, which was held on February 14 to the 16th 2006 at the University of Nevada, Las Vegas.
- One goal of the report was to create a working definition of “Laboratory Astrophysics.”
- Workshop Report Findings:
 - A study of importance of laboratory astrophysics for all of astronomy, under the auspices of the National Research Council and involving NASA, NSF, DOE, and DOC/NIST is long overdue.
 - Data requirements for advances in astrophysics from NASA missions are often the same requirements for DOE-sponsored astronomical research.
 - There is an urgent need to maintain the infrastructure, in terms of both personnel and facilities. If infrastructure is not maintained, laboratory astrophysics will stop being viable field.
 - Databases are needed for atomic, molecular, and solid state parameters that are complete and critically evaluated.
 - As the astrophysics investigates earlier times in the Universe, phenomena associated with high energies are redshifted and observed with instruments for low energies.
- Workshop Recommendations:
 - Conduct study of the importance and need of laboratory astrophysics for all of astronomy under the auspices of the National Research Council

(NRC) and involving the principal funding sources for astronomical research (NASA, NSF, DOE, and DOC/NIST).

- Increase support for laboratory astrophysics.
 - Mission support of laboratory astrophysics is important.
 - There is a need to provide adequate support for databases.
 - Higher visibility among the astronomical community is required. A Working Group of the AAS has been proposed with close ties to IAU Commission 14.
 - Ongoing NASA missions suggest a natural ranking for observational bandpasses: (1) far infrared/sub-millimeter, (2) X-ray and infrared, and (3) UV/visible.
 - Another laboratory astrophysics workshop should take place in four years, with NASA as the lead agency and other agencies as active partners.
- Bottom-line: Laboratory astrophysics is a necessary ingredient for making full use of astronomical facilities. Also, laboratory astrophysics should be initiated early in a program and should continue during the life of a program, as new questions arise.
 - The Committee pointed out that NASA is not in the President's American Competitiveness Initiative (ACI), and that will make it much harder to gain additional funding in the federal budget. A coherent inter-agency group would be needed but would still make it difficult to be included in ACI.
 - APS is also on record as saying Moon-Mars, without adequate funding, would cripple NASA Science.
 - It was suggested that an addendum maybe needed to the APS Moon-Mars Report.
 - Open discussions with the new House Science Committee staff to find out if a new report on NASA Science is needed.
 - Action: The Committee will bring up possibility of a new report with the House Science Committee staff at lunch this afternoon.

DOE Issues

- High Energy Density (HED) Science (Rene Bellewied – by phone)
 - Rene Bellewied gave the background of the RHIC-AGS Users Group and their concerns.
 - Michael Lubell began the discussions of HED Science by giving background of issue;
 - In the proposed Senate Energy & Water Approps bill there is language that would create a new office at DOE.
 - New office funded at a level of &80M would coordinate across existing programs in Fusion HEP and Nuclear Physics and ensure that Defense Program facilities are made available for science.
 - Funding for HED science would be as follows: \$40M from NASA, \$20 M from Nuclear, \$12 M from Fusion, and \$8 M from HEP.
 - There is little support for a new office except at the Senate Energy & Water Approps committee;
 - Action: The Committee felt that it would be appropriate to speak with Scott O'Malia at the Senate Energy & Water Appropriations Committee. It maybe necessary to speak with DOE Under-Secretary for Science Orbach and OSTP Director Marburger.

- ARPA-E (Committee)
 - R. Goldston told the committee that a recent DOE laboratory meeting, the Secretary of Energy, Samuel Bodman, indicated that he did not believe that ARPA-E would be beneficial.
 - It was also pointed out that ARPA-E does not appear in the House appropriations bill for DOE but that it does contain language that more study is needed.
 - M. Lubell pointed out that Bart Gordon, 110th Congress Chairman of the House Science Committee, is on record as supporting ARPA-E, and there is strong support in the Senate.
 - It is generally perceived that DOE doesn't take risks with research, and that it is often hampered by excessive bureaucracy.
 - Labs are seen as self-interested.
 - E. Moniz: Proposal put forward is flawed. What is put forward is not basic research, but a quasi-independent corporation. This is not the way to go.
 - M. Lubell: APS should have something on record with ARPA-E and not just be a critic.
 - The Committee will consider an action in the future.
- POPA Update (Ernest Moniz)
 - E. Moniz explained that at the last POPA meeting, there was discussion that a new APS Statement maybe needed on the balance of large-scale physics projects with small-scale/individual researchers.
 - E. Moniz pointed out that the audience should be Congress.
 - Other POPA Updates:
 - 2 POPA Reports nearing completion: Report on Interim Storage of Spent Nuclear Fuel and Report on Electricity Storage.
 - 2 Proposals for new POPA Reports: subjects would be Nuclear Forensics and U.S. Nuclear Workforce.
 - Proposal for APS Study on Carbon Reduction.

Clarification of APS Position on Math & Science Partnerships (Michael Marder, Ramon Lopez, and Kimberly Duncan)

- K. Duncan gave background of issue. APS regularly signs onto STEM Ed letters that include support for the Math & Science Partnerships (MSPs) at NSF.
 - Recent questions have come up as to whether APS should be supporting MSPs.
 - M. Marder: It is dangerous that these programs not stop doing what they are suppose to do.
 - J. Franz: It is important that APS support good science education, but APS also cannot “cherry-pick” these STEM Ed letters (or other multi-society letters). There is a need to be consistent.
 - Action: The Committee agreed that APS should continue to sign onto the STEM Ed Letters and support the MSPs.
- At 10:30am, the committee adjourned to attend the Taskforce on the Future of American Innovation Rollout of Benchmarks II event on Capitol Hill. The Rollout Event was held at Reserve Officers Association Building, One Constitution Ave., NE.

- The committee reassembled at the Monocle restaurant, 107 D St., NE, for lunch with House Science Committee Staff to discuss the outlook for the new 110th Congress.
 - Science Committee Staff:
 - Chuck Atkins, Democratic Chief of Staff
 - Jim Wilson, Democratic Professional Staff, Research Subcommittee
 - David Goldston, Republican Chief of Staff
 - Peter Rooney, Republican Deputy Chief of Staff
 - Elizabeth Grossman, Republican Staff Director, Research Subcommittee

Next Meeting

- The next meeting will be February 20th 2007.

Adjournment

The meeting adjourned at 2:30 PM.