

DPF Newsletter - December 1999

In This Issue...

DPF Symposia

DOE & HEPAP News

NSF News

APS Prize Winners

New APS Fellows

ICFA Statement

DPF Committees

Proceedings of DPF 99 Now Available on the Web

Proceedings of the 1999 DPF meeting held in January, 1999 at UCLA are now available on the Web at <http://www.dpf99.library.ucla.edu/>. These proceedings were published only electronically.

DPF - 2000

DPF 2000 will be held August 9 - 12, 2000, at Ohio State University in Columbus, Ohio. The program is being developed. Further information about this meeting will appear in the next newsletter.

DPF Elections

Stanley Wojcicki was elected Vice-Chair of DPF in this year's election. Peter Meyers was elected Divisional Councillor. The new Executive Committee members are Janet Conrad and Bill Carithers.

The members of the 2000 DPF Executive Committee and the final years of their terms are

Chair: Eugene Beier (2000).

Chair-Elect: Chris Quigg (2000).

Vice-Chair: Stanley Wojcicki (2000).

Past Chair: Howard Gordon (2000).

Secretary-Treasurer: Catherine Newman-Holmes (2000).

Division Councillor: Sally Dawson (2002), Peter Meyers(2003).

Executive Committee Members: Vernon Barger (2001), Bill Carithers (2002), Janet Conrad (2002), Glennys Farrar (2001), Nicholas Hadley (2000) and Donna Naples (2000).

We would like to take this opportunity to thank DPF Executive Committee members whose terms are expiring in 1999: Howard Georgi (Past Chair), Robert Cahn (Divisional Councillor) and Pat Burchat and Kay Kinoshita (Executive Committee members). We also express our appreciation to all who agreed to run for DPF office this year. We were fortunate to have an excellent slate of candidates.

This was DPF's first experience with electronic voting. Ballots were sent electronically to all DPF members with e-mail addresses. Paper ballots were sent to all DPF members without e-mail addresses plus members whose e-mail bounced. The return rate was about 24% for e-mail ballots and 19% for paper ballots.

DPF Symposia at APS 2000

The Division of Particles and Fields will sponsor eight invited-paper symposia at the Y2K "April" meeting of the American Physical Society, which will be held in Long Beach, California from Saturday, April 29 through Tuesday, May 2. Up-to-date information about the meeting, together with instructions for submitting abstracts, can be found at <http://www.aps.org/meet/APR00/>. The deadline for contributed papers is January 14, 2000.

The program of DPF Symposia is:

Saturday 29 April 2000

Morning 11:00 am: Neutrino Mass and Oscillations (with DNP)

Afternoon, 2:30 pm: The Sensitivity Frontier: Kaon Physics

Sunday 30 April 2000

Morning 11:00 am: DPF/DPB Prize Session

Afternoon, 2:30 pm: The State of the Standard Model

Monday 1 May 2000

Morning 11:00 am: The Next Decade in Particle Physics (with DPB)

Afternoon, 2:30 pm: New Ideas in Particle Theory

Tuesday 2 May 2000

Morning, 8:00 am: Gravitation at Short Range (with GGR and GFC)

Morning, 11:00 am: CP Violation with b Quarks

New Fellows will be presented at the Prize session, and a brief DPF business meeting will take place at the close of that session.

An extensive program of general-interest plenary lectures will also feature DPF members. Janet Conrad will survey neutrino oscillations, and Jerry Friedman will deliver his retiring presidential address. Additional plenary talks on Saturday, Sunday and Monday mornings will include:

Paul Butler (UC Berkeley): Extrasolar Planets;

Deborah Jin (JILA): A quantum Degenerate Fermi Gas of Atoms;

Robert Austin (Princeton): Biology Meets Microfabrication;

Janet Conrad (Columbia): Front Page nu's;

Theodore Haensch (MPI): New Frontiers in Precise Optical Spectroscopy;

Saul Permuter (LBNL): Supernovae, Dark Energy and the Accelerating Universe;

David Moncton (SNS): Accelerators for the Future of Neutron Scattering and Synchrotron Radiation;

Patricia Heller (Minnesota): K-12 Science Standards;
Ken Gregorich (LBNL): Superheavy Elements.

News from DOE and HEPAP

Contributed by John Metzler, Executive Secretary HEPAP, Office of Science, U.S. Department of Energy

In the DOE Appropriation for Fiscal Year 2000, the Congress provided \$707,890,000 for the Department of Energy's high energy physics program. In the Appropriation, the Congress placed a statutory limit on the amount of funds that DOE can use to reimburse the travel expenses of management and operating contractors, and required that such contractor travel be consistent with the rules and regulations for Federal employees.

HEPAP had an opportunity to comment on the FY 2000 budget at its last meeting of the decade, on October 12-14, 1999, under the new chairmanship of Professor Frederick Gilman of Carnegie Mellon University. Dr. Gilman has brought to the attention of the Department that the FY 2000 budget number, while higher than the President's request of \$697.1 million, is in reality a budget that is less than a constant level-of-effort budget when the mandatory general reductions on the HEP budget, and the effects of inflation that the HEP program really experiences, are factored in. This situation is manifested in the program's performance. For example, the Stanford Linear Accelerator Center has finished the PEP-II B Factory and the BaBar detector on schedule and within budget, and the commissioning of the collider has been a spectacular success with luminosity at record levels. Yet the SLAC budget for FY 2000 forces the laboratory to make hard funding decisions on amounts for personnel, physics operation, and R&D for the future. The Fermi National Accelerator Laboratory is facing similar difficult choices while having completed the Main Injector on schedule and within budget, and having made major contributions to understanding of CP violation from results of the KTeV Collaboration. DOE has recently been providing real increases to universities to help ensure the long-term health of the nation's HEP effort, yet these are below the 10% increases recommended in HEPAP's most recent report "Planning for the Future of U.S. High Energy Physics," of February 1998.

HEPAP also recognized that computer security, international cooperation and reductions in travel funds are important topics affecting the DOE HEP program. HEPAP expressed concern to DOE that travel reductions could have a devastating impact on the program unless corrected. High energy physics is done through international collaborations as the LHC effort (which is so far progressing well) clearly demonstrates. As reported to HEPAP, cyber-vandalism or cyber-terrorism to scientific information and computing systems are the real concern at the HEP laboratories, rather than information leaving the laboratory; HEPAP has urged DOE to recognize the differences among the DOE Laboratories and follow a graded approach to computer security. International activities are growing in visibility and importance to the DOE HEP program. In addition to hearing of the steady progress in the LHC effort, HEPAP learned that the International Committee on Future Accelerators held its triennial seminar at Fermilab in October

1999 to survey plans for future accelerators, and identified data access and its usage as an important, emerging issue. The Megascience Forum of the Organization for Economic Cooperation and Development has been renewed and renamed to Global Science Forum. The Forum, which is to provide a way for senior government officials to communicate and coordinate on large science efforts, is considering the formation of a new Working Group in high energy physics, likely to be realized in the summer of 2000.

In November 1999 the Department of Energy issued guidance on cyber security that applies to all DOE, contractor and subcontractor organizations, and it can be found on the Web at <<http://www.doe.gov/news/releases99/novpr/pr99293.html>>.

Comings and Goings

Glen Crawford joined the Division of High Energy Physics in the Office of Science in August 1999. HEPAP welcomed eight new members at its October 1999 meeting. The current HEPAP membership can be found at <<http://hepserv.fnl.gov:8080/doe-hep/hepap-members.cfm>>. Martha Krebs, the Director of the Office of Science, is leaving DOE at the end of 1999. HEPAP has expressed special appreciation to Dr. Krebs for her role in ensuring the health of the DOE HEP program during the crisis period following the termination of the SSC project.

News from NSF

Contributed by Marvin Goldberg, Elementary Particle Physics, National Science Foundation

A panel was convened recently (29 November - 1 December 1999) to evaluate proposals for NSF Major Research Equipment (MRE) project possibilities. The Major Research Equipment account was established in FY 1995 to provide funding for the construction and acquisition of major research facilities that provide unique capabilities at the cutting edge of science and engineering. Projects supported by this account are intended to expand the boundaries of technology and will offer significant new research opportunities, frequently in totally new directions, for the science and engineering community. Operations and maintenance costs of the facilities are provided through the Research and Related Activities (R&RA) account, which supports research grants to Facilities and Universities.

In FY 2000, funding for six projects is requested through the Major Research Equipment account: the Large Hadron Collider (LHC), the Millimeter Array (MMA), the Network for Earthquake Engineering Simulation (NEES), Terascale Computing Systems, Polar Support Aircraft Upgrades and the modernization of South Pole Station. LIGO construction was funded through the MRE account. R&D efforts leading to an MRE can also be supported by this account.

Panelists for this review were Jonathan Bagger, George Kalmus, Vera Luth, Harrison Prosper and Stan Wojcicki (Chair). The following projects were considered by the review

panel: RSVP (Rare Symmetry Violating Processes) at BNL. (KOPIO and MECO)

Presenters: Kirk, Molzon, Zeller

BTeV: B-Physics at the Tevatron at Fermilab.

Presenters: Stone, Butler

Muon Storage Rings

Presenters: Tigner, Sessler, McDonald Findings of the review panel will be in the next DPF newsletter.

APS Prize Winners

Winners of the 1999 APS prizes have been announced. A full list of APS prize winners for 1999 may be found at <http://www.aps.org/praw/00winners.cfm> The following prize winners may be of interest to members of DPF:

W. K. H. Panofsky Prize

Martin Breidenbach, Stanford Linear Accelerator Center

"For his many contributions to e+e- physics, especially with the SLD detector at the Stanford Linear Collider. His deep involvement in all aspects of the project led to important advances both in the measurement of electroweak parameters and in accelerator technology."

J. J. Sakurai Prize

Curtis G. Callan, Jr., Princeton University

"For his classic formulation of the renormalization group, his contributions to instanton physics and to the theory of monopoles and strings."

Robert R. Wilson Prize

Maury Tigner, Cornell University

"For notable contributions to the accelerator field as an inventor, designer, builder, and leader, including early pioneering developments in superconducting radio-frequency systems, inspiration and intellectual leadership for the construction of CESR, and leadership of the SSC Central Design Group."

Dannie Heineman Prize

Sidney Coleman, Harvard University

"For incisive contributions to the development and understanding of modern theories of elementary particles. Of particular note are his contributions to symmetry breaking and the roles played by internal and space-time symmetries as well as the structure of solutions to an important model in quantum field theory."

Aneesur Rahman Prize

Michael J. Creutz, Brookhaven National Laboratory

"For first demonstrating that properties of QCD could be computed numerically on the lattice through Monte Carlo methods, and for numerous contributions to the field thereafter."

New APS Fellows

Congratulations to the following people who were chosen Fellows of APS from DPF in 1999:

James Alexander	Tony Liss
Thomas Banks	Sherwin Love
Giorgio Bellettini	Joseph Lykken
Raymond Brock	Yorikiyo Nagashima
Marvin Goldberg	Leslie Rosenberg
Donald Groom	Heidi Schellman
Sharon Hagopian	Marc Sher
Michael Levi	Dieter Zeppenfeld

ICFA Statement on Linear Colliders

The International Committee on Future Accelerators (ICFA) has issued a statement on linear colliders. It may be found at http://www.fnal.gov/directorate/icfa/icfa_LCstatement.cfm.

DPF Committees

We thank the following members of our community who have generously given their time to serve on DPF committees this year:

Nominating Committee

W. Smith (Chair), J. Brau, R. Rameika, B. Grinstein, A. Goshaw, H. Tye.

W. K. H. Panofsky Prize Committee

K. Berkelman (Chair), H. Weerts (Vice-Chair), D. Nygren, F. Merritt, L. Littenberg

J. J. Sakurai Prize Committee

R. Keith Ellis (Chair), G. L. Kane (Vice-Chair), M. Dine, M. Peskin, L. Susskind.

Robert R. Wilson Prize Committee

R. Briggs (Chair), G. Dugan (Vice-Chair), R. Ruth, C. Yoshi, A. Sessler.