

DPF Newsletter - December 1998

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New Editors at PRL/PRD

Physical Review D and Physical Review Letters have announced the appointment or reappointment of several editors in the last year:

Physical Review D

Keijo Kajantie (CERN) V. A. Rubakov (The Russian Academy of Sciences; currently at University of Tokyo) Davison E. Soper (University of Oregon) Jonathan Bagger (Johns Hopkins University)

Physical Review Letters

Ian Affleck (University of British Columbia) J. L. Friedman (University of Wisconsin) Ulrich Heinz (Universitat Regensburg, Germany) Rolf Heuer (CERN) Paul G. Langacker

DPF Elections

Chris Quigg was elected Vice-Chair of DPF in this year's election. Sally Dawson was elected Divisional Councillor. The new Executive Committee members are Vernon Barger and Glennys Farrar. In addition, George Trilling was elected Vice-President of APS so we will be losing him as Divisional Councillor one year before his term would expire. The DPF Executive Committee will appoint someone to serve the rest of George's term as Divisional Councillor.

The members of the 1999 DPF Executive Committee and the final years of their terms are:

Chair: Howard Gordon (1999).

Chair-Elect: Eugene Beier (1999).

Vice-Chair: Chris Quigg (1999).

Past Chair: Howard Georgi (1999).

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

Divisional Councilor: Sally Dawson (2002), ??? (1999).

Executive Committee Members: Vernon Barger (2001), Pat Burchat (1999), Glennys Farrar (2001), Nicholas Hadley (2000), Kay Kinoshita (1999), and Donna Naples (2000).

We would like to take this opportunity to thank DPF Executive Committee members whose terms are expiring in 1998: Paul Grannis (Past Chair), Henry Frisch (Divisional Councillor) and Tom Devlin and Heidi Schellman (Executive Committee members). We also thank George Trilling for his service as Divisional Councillor and wish him well in the APS President line. Finally we express our appreciation to all who agreed to run for DPF office this year. We were fortunate to have an excellent slate of candidates.

More than 1000 ballots were cast in this year's DPF election. This corresponds to about 30% of the DPF membership. We would like to allow electronic balloting in future elections. This newsletter contains a description of proposed changes to the DPF bylaws to

(University of Pennsylvania) permit electronic voting.

Contributions Welcome!

The DPF newsletter is published roughly three times a year. The APS Publications Department does the layout and design. Contributions from DPF members are welcome. Send them to cath@fnal.gov.

Cathy Newman-Holmes
Editor and DPF Secretary-
Treasurer

APS Centennial Exhibit

Plans are well underway for a joint DPF/DPB exhibit on particle physics at the APS Centennial. The exhibit is being coordinated by the Fermilab and SLAC Public Affairs offices. In addition this exhibit will be coordinated with a nuclear physics exhibit being developed by the Thomas Jefferson Lab Public Affairs office for DNP.

DPF - 1999

DPF 99 will be held January 6-9, 1999, at the University of California, Los Angeles. Registration will be the day before. The Local Organizing Committee is chaired by Roberto Peccei and David Cline of UCLA. If you haven't already registered, you had better hurry! More information is available on the conference web site, <http://www.physics.ucla.edu/dpf99/>. Here is the tentative agenda for the scientific program:

Tentative Schedule DPF '99

Wednesday, January 6th - Parallel Sessions

9:00 a.m. - 12:30 p.m. (Break 10:30-11:00 a.m.)

Number	Session Title
---------------	----------------------

- | | |
|-----------|--|
| 1a | Electroweak Interactions
Conveners: Morris Swartz (Johns Hopkins Univ.) & Roberto Tenchini (INFN-Pisa) |
| 3a | Heavy Flavor Physics
Conveners: Adam Falk (Johns Hopkins) & Alan Weinstein (CalTech) |
| 7a | Physics Beyond the Standard Model |

Conveners: Howard Haber (UC Santa Cruz) & Hitoshi Murayama (UC Berkeley)

10a High Energy Astrophysics
Conveners: Todd Haines (Los Alamos Nat'l Lab) & Rene Ong (Univ. of Chicago)

11 Advanced Accelerator Techniques
Conveners: William Foster (Fermilab) & Robert Siemann (SLAC)

1:30 p.m. - 5:00 p.m. (Break 3:00-3:30 p.m.)

Number Session Title

1b Electroweak Interactions
Conveners: Morris Swartz (Johns Hopkins Univ.) & Roberto Tenchini (INFN-Pisa)

3b Heavy Flavor Physics
Conveners: Adam Falk (Johns Hopkins) & Alan Weinstein (CalTech)

7b Physics Beyond the Standard Model
Conveners: Howard Haber (UC Santa Cruz) & Hitoshi Murayama (UC Berkeley)

10b High Energy Astrophysics
Conveners: Todd Haines (Los Alamos Nat'l Lab) & Rene Ong (Univ. of Chicago)

6 Non Perturbative QCD
Conveners: Claude Bernard (Washington Univ.) & Paul MacKenzie (Fermilab)

5:00pm Special Session co-sponsored by DPF and the APS Committee on the Status of Women in Physics: The Dual Career Couple Problem. Presentation by Marc Sher (College of William and Mary)

Thursday, January 7th- Parallel Sessions

9:00 a.m. - 12:30 p.m. (Break 10:30-11:00 a.m.)

Number Session Title

2a Neutrino Masses and Oscillations
Conveners: Wick Haxton (U. Washington) & Henry Sobel (UC Irvine)

4a Weak Decays and CP Violation

Conveners: Kam-Biu Luk (UC Berkeley) & German Valencia (Iowa State)

5 Perturbative QCD

Conveners: Lance Dixon (SLAC) & Joey Huston (Michigan State University)

8a Quantum Gravity, Strings and Duality

Conveners: Juan Maldacena (Harvard) & Joseph Polchinski (UC Santa Barbara)

9a Cosmology and Dark Matter

Conveners: Kim Griest (UC San Diego) & Martin White (Univ. of Illinois)

1:30 p.m. - 5:00 p.m. (Break 3:00-3:30 p.m.)

2b Neutrino Masses and Oscillations

Conveners: Wick Haxton (U. Washington) & Henry Sobel (UC Irvine)

4b Weak Decays and CP Violation

Conveners: Kam-Biu Luk (UC Berkeley) & German Valencia (Iowa State)

12 Novel Detector Developments

Conveners: Alan Bross (Fermilab) & Daniel Marlow (Princeton)

8b Quantum Gravity, Strings and Duality

Conveners: Juan Maldacena (Harvard) & Joseph Polchinski (UC Santa Barbara)

9b Cosmology and Dark Matter

Conveners: Kim Griest (UC San Diego) & Martin White (Univ. of Illinois)

5:00pm Town Meeting with Martha Krebs, Director, Office of Energy Research (DOE).

Friday, January 8th - Plenary Sessions

8:30 a.m. - 9:15 a.m. Status of Electroweak Physics
William Marciano (Brookhaven National Lab)

9:15 a.m. - 10:00 a.m. Recent Progress in QCD
George Sterman (SUNY Stony Brook)

10:00 a.m. - 10:30 a.m. Break

10:30 a.m. - 11:15 a.m. New Facilities: B Factories at the Threshold
Jonathan Dorfan (SLAC)

- 11:15 a.m. - 12:00 p.m.** New Facilities: Physics at the Main Injector
Hugh Montgomery (Fermilab)
- 12:00 p.m. - 1:00 p.m.** Lunch
- 1:00 p.m. - 1:45 p.m.** LIGO - Searching for Gravitational Waves
Barry Barish (CalTech)
- 1:45 p.m. - 2:30 p.m.** High Energy Astrophysics
Trevor Weekes (Harvard)
- 2:30 p.m.** Buses leave for Getty Museum
- 3:00 p.m. - 6:00 p.m.** Visit to Getty Museum
- 6:00 p.m.** Busses depart Getty Museum
- 6:30 p.m.** Conference Dinner

Saturday, January 9th - Plenary Sessions

- 8:30 a.m. - 9:15 a.m.** Heavy Flavor Physics
Juliet Ritchie Patterson (Cornell)
- 9:15 a.m. - 10:00 a.m.** Rare Decays and CP Violation
Edward Blucher (University of Chicago)
- 10:00 a.m. - 10:45 a.m.** Break
- 10:45 a.m. - 11:15 a.m.** Physics Beyond the Standard Model
Michael Dine (UC Santa Cruz)
- 11:15 a.m. - 12:00 p.m.** Strings, Branes and Beyond
Cumrun Vafa (Harvard University)
- 12:00 p.m.** DPF Business Meeting
- 12:30 p.m. - 1:30 p.m.** Lunch
- 1:30 p.m. - 2:15 p.m.** Neutrino Physics
Gary Feldman (Harvard University)
- 2:15 p.m. - 3:00 p.m.** Particle Physics and the Early Universe
Neil Turok (Cambridge)
- 3:00 p.m. - 3:30 p.m.** Break
- 3:30 p.m. - 4:15 p.m.** Perspectives on Future Accelerators
Claudio Pellegrini (UCLA)

4:15 p.m. - 5:00 p.m. Summary and Outlook
David Gross (UC Santa Barbara)

APS Prize Winners

Winners of the 1999 APS prize winners have been announced. The following prize winners may be of interest to members of DPF:

W. K. H. Panofsky Prize

Edward H. Thorndike
University of Rochester

"For a leading role in milestone advances in the study of the b quark with the CLEO collaboration; particularly the discovery and measurement of b semileptonic decay, the b to s Penguin decay process, and the b to u weak transition. In addition, his contributions led to substantial improvements in understanding the flavor sector of the Standard Model and the Cabibbo-Kobayashi-Maskawa matrix of weak quark couplings."

J. J. Sakurai Prize

Michael Shifman
Univ. of Minnesota
Arkady Vainshtein
Univ. of Minnesota
Valentine Zakharov
Max Planck Institute, Munich

"For fundamental contributions to the understanding of non-perturbative QCD, non-leptonic weak decays, and the analytic properties of supersymmetric gauge theories."

Robert R. Wilson Prize

Robert B. Palmer
Brookhaven National Laboratory

"For his many diverse contributions and innovations in particle accelerator and detector technologies, including superconducting magnets, longitudinal stochastic cooling, bubble chambers and neutrino beam lines, crab crossing in lepton colliders, laser acceleration, and for recent leadership of the muon collider concept."

Francis Pipkin Award

Stephen K. Lamoreaux
Los Alamos National Laboratory

"For extensive contributions to precision measurements science, especially searches for a permanent electric dipole moment of the neutron and atoms, measurements of atomic parity violation, and tests of spatial symmetries and quantum mechanics, including observation of the vacuum Casimir Effect."

Dissertation in Nuclear Physics Award

Erick Hawker
Texas A & M
Robert Tribble
Advisor

"For his major contributions to the measurement and analysis of the Drell-Yan cross section that made possible the first determinations of ratio and difference of anti-up quark and anti-down quark densities in the nucleon as functions of the anti-quark momentum fraction. The results will help elucidate the roles played by perturbative and non-perturbative Quantum Chromodynamics in the structure of the nucleon."

A full list of APS prize winners for 1999 may be found at
<http://www.aps.org/praw/99winers.html>.

DPF Committees

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

Nominating Committee

J. Hewett (Chair), R. Rameika, W. Smith, H. Tye, J. Richman, K. Heller.

W. K. H. Panofsky Prize Committee

M. Zeller (Chair), K. Berkelman (Vice-Chair), R. Brock, F. Merritt, H. Schroeder.

J. J. Sakurai Prize Committee

R. Cahn (Chair), R. Keith Ellis (Vice-Chair), G. Farrar, M. Peskin, T. Appelquist.

Robert R. Wilson Prize Committee

H. Grunder (Chair), R. Briggs (Vice-Chair), H. Edwards, C. Yoshi, A. Sessler.

APS Centennial News

The Centennial Meeting of the American Physical Society will be held in Atlanta, Georgia, March 20-26, 1999. The March and April meeting of the APS will be combined to celebrate the Centennial of the Society. The deadline for abstracts for contributed sessions is December 4, 1998. See <http://www.aps.org/meet/CENT99/> for details, including information on abstract submission. Because the meeting is moved forward to March, the abstract deadline is much earlier than usual.

The program of invited talks sponsored by the DPF is reproduced below. These talks are

scheduled for March 21-25, 1999. In addition to these sessions, there are many other sessions which members of the DPF will find interesting.

DPF program for the Centennial APS meeting in Atlanta

March 20-26, 1999

Sunday, March 21, 2:00-5:00

CP Violation and Rare Processes, Paul Langacker, Chair (DPF)

Recent progress on rare kaon decay experiments

(K. Arisaka, UCLA)

Recent Results and Future Prospects of CP Violation Measurements From the KTeV Experiment at Fermilab

(Robert Tschirhart, FNAL)

Measurement of Direct CP-violation in the NA48 experiment at CERN

(Lydia Iconomidou-Fayard, LAL-ORSAY)

CP Nonconservation and the Standard Model

(Mark B. Wise, Caltech)

Monday, March 22, 10:30-1:00

Theoretical Developments in Particle Physics, Howard Georgi, Chair (DPF)

Recent Topics in Supersymmetry Phenomenology

(H. Murayama, UC Berkeley)

The physics of perturbative string theory

(M. Cvetič, Penn)

Brane World

(Zurab Kakushadze, Harvard)

The Brave New Worlds of M-theory

(J. Lykken, FNAL)

Monday, March 22, 1:15-3:45

Centennial Symposium (DPF)

The Search for the Ultimate Structure of Matter, George Trilling, Chair

Milestones and Prospects in Experimental Particle Physics

(Leon Lederman, FNAL)

The Challenge of Physics

(T.D.Lee, Columbia)

Technology and High Energy Physics: from Rutherford to Tomorrow
(Burton Richter, SLAC)

Quest for Unification
(Edward Witten, IAS)

Tuesday, March 23, 8:00-10:30
B and Charm Quark Physics, Edward H. Thorndike, Chair (DPF)

B Physics with the CLEO Detector
(Vivek Sharma, UCSD)

B Physics from the Fermilab Tevatron: Present Results and Future Prospects
(Joseph Kroll, Pennsylvania)

Charm Physics from CLEO
(Mats Selen, Illinois)

First results from Fermilab Charm Photoproduction Experiment, FOCUS
(James E. Wiss, Illinois)

Tuesday, March 23, 10:30-1:00
DPF Prize Session, Howard Gordon, Chair (DPF)

Panofsky Prize Lecture: b quark Physics - the early days, and some recent developments
(Edward H. Thorndike, Rochester)

Sakurai Prize Lectures:
How penguins started to fly
(A. Vainshtein, Minnesota)

Gluon condensate and beyond
(V. Zakharov MPI, Munich)

Exact results in gauge theories: putting supersymmetry to work
(M. Shifman, Minnesota)

Wednesday, March 24, 8:00-11:00
Frontiers in Particle Physics
Chris Quigg, Chair (DPF)

The BaBar Experiment: Status and Prospects
(Patricia Burchat, Stanford)

(Allen Caldwell, Columbia)

Searches for New Particles in e+e- and pp(bar) Collisions

(Richard van Kooten, Indiana)

Recent results from the muon (g-2) experiment at Brookhaven

(William M. Morse, Brookhaven)

Wednesday, March 24, 11:00-2:00

Centennial Symposium (DAP/DNP/DPF)

Neutrinos, Peter Rosen, Chair

Radiochemical solar neutrino experiments

(Ray Davis, Pennsylvania)

Neutrinos in the Universe: Supernovae and Dark Matter

(Adam Burrows, Arizona)

Atmospheric neutrinos - Evidence for neutrino oscillations

(Y. Totsuka, ICRR, Tokyo)

Neutrinos: A glimpse of the big picture

(Wick Haxton, Washington)

Thursday, March 25, 8:00-11:00

Standard Model, Patricia Burchat, Chair (DPF)

Precision Tests and Studies of QCD

(Wu-Ki Tung, Michigan State)

Precision Tests of the Standard Model at SLD

(David Muller, SLAC)

Electroweak Measurements from Fermilab

(Ulrich Heintz, Boston U.)

LEP Electroweak Physics

(Robert Clare, MIT)

Thursday, March 25, 8:00-11:00

Great Observatories, Kevin Lesko, Chair

The Hubble Space Telescope and the Future of Astronomy from Space

(Steven Beckwith, STSI)

High Energy Gamma Ray Astronomy: After 40 years, what has it revealed about the Violent Universe?

(Donald Kniffen, Hampden-Sydney College)

**The UHE Cosmic Ray in Fluorescence:
Results from the Fly'sEye and HiRes Experiments**

(Pierre Sokolsky, U. of Utah)

Sudbury Neutrino Observatory

(Hamish Robertson, Washington)

Initial results from the AMANDA high energy neutrino detector

(Steven Barwick, Irvine)

Thursday, March 25, 2:00-5:00

**Accelerator Science for High Energy Physics,
John Peoples, Chair (DPB/DPF)**

B-Factories: First Beams at PEP-II and KEKB.

(John Seeman, SLAC)

High Luminosity Colliders: Results of the CESR Upgrade.

(David L. Rubin, Cornell)

Beam Cooling; the History and the Scientific Impact.

(John Marriner, Fermilab)

Critical Issues in Large Hadron Colliders.

(Eberhard Keil, CERN)

Wilson Prize Lecture: Scientific Opportunities with Future Colliding Beam Facilities.

(Robert Palmer, BNL)

News from DOE and HEPAP

Contributed by John Metzler

HEPAP met at the University of Wisconsin in August 1998. Highlights of the meeting included reports on activities of SAGENAP (Scientific Assessment Group for Experiments in non-Accelerator Physics) and Nuclear Sciences Advisory Committee (NSAC), and an update on the Science Simulation Plan.

The Pierre Auger project proposes to employ two arrays of subatomic particle detectors to study the source of the very highest energy cosmic rays. One array would be in Argentina and the other in Utah. SAGENAP reviewers advised DOE and NSF that the best use of resources would be to focus first on constructing and operating the detector in

Argentina, and then, after data is in from this detector (as well as results from the HiRes project in Utah) to consider building the other array. DOE and NSF are planning to spend \$7.5 million over the next four years on the Auger project, pending successful completion of reviews of the project's management and the availability of financial resources.

SAGENAP also reviewed GLAST, the Gamma-ray Large Area Space Telescope, which involves a partnership both between astrophysics and particle physics and between DOE and NASA. GLAST is to use technology developed by high energy physics at SLAC, and SLAC is proposing that they build part of GLAST, one third of which is to be paid for by DOE and the other two thirds by NASA and the international partners. The reviewers recognized the importance of the science of GLAST and the significance of the policy issues raised by the project. HEPAP was briefed on the soon-to-be released NSAC report Scientific Opportunities and Funding Priorities for the DOE Medium Energy Nuclear Physics Program. The report points out that a constant-effort budget would lead to closure of a major university-based facility in order to maintain scientific balance and program flexibility. The report is now on the web at <http://www.er.doe.gov/production/henp/nsac/finality.pdf> (362k - 72 pages).

The Science Simulation Plan (SSP) is an initiative that is building upon the Accelerated Strategic Computing Initiative in DOE's Defense Programs. HEPAP learned that DOE and NSF sponsored in July 1998 at the National Academy of Sciences an SSP-related, national workshop on Advanced Scientific Computation, which was then followed by several, discipline-specific workshops. Currently, the SSP is focusing on two general areas, infrastructure for platforms and networking, and computer science and enabling technologies, and on two core scientific areas, global climate change and combustion research. A third scientific area of interest is basic science, which includes fusion, materials, genome, and high energy and nuclear physics. Future HENP experiments will be handling a petabyte of data per year and HENP, faced with this challenge, may be able to help SSP in such areas as distributed computing, networking and collaborations technology, and visualization and data management systems. The need for balance among developing hardware, software, personnel and network tools was noted. HEPAP is planning to receive updates on this and related topics at future meetings.

News from NSF

Contributed by Marvin Goldberg

Joe Dehmer has been appointed Director of the Division of Physics at NSF, effective October 26, 1998. From 1971 to 1995, Joe was a Senior Physicist doing basic research in atomic, molecular and optical physics at Argonne National Laboratory. This was followed by stints at the Advanced Photon Source at Argonne and in the Physics Laboratory, NIST. He has authored or co-authored 200 papers and he is widely recognized for his theoretical and experimental studies of resonant processes in molecular photoionization processes. Joe has also performed extensive service for the American Physical Society and federal agencies including the NSF.

Alex Firestone and Eugene Loh have recently joined the NSF in Elementary Particle Physics (EPP) as Program Directors under the IPA program (i.e. rotators). They will work with Marvin Goldberg, who will now be primarily involved in LHC related activities. Firestone is Professor of Physics at Iowa State University, where he has been working for many years on the DELPHI experiment at the CERN LEP collider. At the NSF he will concentrate on overseeing the Cornell and Fermilab programs in accelerator-based particle physics. Loh is Professor of Physics and was Director of the High Energy Astrophysics Institute at the University of Utah until coming to NSF. A former Department Chair, he has recently worked on the HiRes experiment. At NSF he will oversee the major part of the astrophysics program.

Patricia Rankin has returned to the University of Colorado faculty after two years of distinguished service to the EPP program. She will continue to contribute her effectiveness and expertise to EPP on a part-time basis.

Changes to DPF Bylaws

We include below the proposed changes to the DPF bylaws. The primary reason for changing our bylaws is to allow electronic balloting in our annual elections. Note that voting would not become exclusively electronic; paper would continue to be available as an option. We also shifted the dates of our election to be later in the year. The earlier dates were not optimal as they had our election held mostly during the summer when a lot of people are gone. There are a few other minor changes. These changes will be presented at the DPF Business Meeting to be held at DPF '99 at UCLA 9 January 1999 at which time DPF members will have the opportunity to comment. Following that, we will send out a paper ballot to allow the membership to vote on the proposed changes. Below you will find the proposed new bylaws for DPF. The changes to the text appears in ~~strikeout~~ and proposed new text appears in **bold italics**.

Bylaws of the Division of Particles and Fields

(In the following text, "Society" shall signify the American Physical Society, "Council" and "APS Executive Board" shall signify the Council and the Executive Board of the Society, respectively; "APS Executive Officer" shall signify that Officer of the Society; and "Regular Meeting" shall signify the principal meeting held once a year by the Division.)

ARTICLE I - NAME

This Division of the American Physical Society shall be called the Division of Particles and Fields.

ARTICLE II - OBJECTIVE

The objective of the Division shall be the advancement and diffusion of knowledge of the fundamental particles and fields, their structure, their interactions and interrelationships, the design and development of high energy accelerators, and the design and development of instrumentation techniques for high energy physics.

ARTICLE III - ENABLING CONSTITUTIONAL PROVISION

Article VIII of the Constitution of the Society, as said Article may be subsequently revised or amended, is hereby incorporated in these Bylaws by reference.

ARTICLE IV - MEMBERSHIP

The members of the Division shall consist of members of the Society who have indicated in accordance with procedures established by Council their desire to join the Division and who retain membership from year to year by the payment of designated dues or by other method established by Council.

ARTICLE V - EXECUTIVE COMMITTEE

1. Governance. The Division shall be governed by an Executive Committee, which shall have general charge of the affairs of the Division.
2. Composition. The Executive Committee shall consist of the Officers of the Division, the most recent Past Chair, the Division Councillor(s), and six Members-at-Large elected to staggered three-year terms.
3. Executive Committee Meetings. The Executive Committee shall meet at least once each year. Any member of the Executive Committee unable to attend a meeting may name a nonvoting alternate to represent him or her, subject to the approval of the Chair. The Chair of the Division shall preside over the Executive Committee meetings. A majority of the voting members, including at least two Officers, shall constitute a quorum.

ARTICLE VI - OFFICERS AND DIVISION COUNCILLOR(S)

1. Officers. The Officers of the Division shall be a Chair, a Chair-Elect, a Vice-Chair, and a Secretary-Treasurer.
2. Duties of the Chair. The Chair shall preside at all meetings of the Executive Committee and Business Sessions of the Division at which his or her attendance is possible.
3. Duties of the Chair-Elect. The Chair-Elect shall act in place of the Chair if the latter is unable to perform his or her duties. The Chair-Elect shall perform such other functions as may be explicitly provided in the Bylaws.
4. Duties of the Vice-Chair. The Vice-Chair shall act in place of the Chair-Elect if the latter is unable to perform his or her duties. The Vice-Chair shall perform such other functions as may be explicitly provided in the Bylaws.
5. Duties of the Secretary-Treasurer. The Secretary-Treasurer shall maintain the records of the Division including minutes of Executive Committee meetings and Business Sessions, Division activities, and membership lists. The Secretary-Treasurer shall notify the Executive Committee of matters requiring the decision of said Committee. The Secretary-Treasurer shall prepare minutes of Executive Committee meetings and Business Sessions and shall submit these minutes to ~~each member of the Executive Committee and to the Executive Officer within four weeks of their approval.~~ the APS Executive Officer within four weeks of their approval by the Executive Committee.
The Secretary-Treasurer shall have responsibility for all funds in the custody of or

- placed at the disposal of the Division and shall authorize disbursements from such funds for expenses in a manner that is consistent with the general policies of the Society and the Division. Financial records shall be kept on an annual basis consistent with the fiscal policies of the Society. The Secretary-Treasurer shall present a financial report at the annual Business Session of the Division, if a quorum is present or when otherwise deemed appropriate by the presiding officer.
6. Duties of the Division Councillor(s). The Division Councillor(s) shall serve as liaison between the Council of the Society and the Executive Committee of the Division. Following each Council meeting, the Division Councillor(s) shall report to the Chair and the Secretary-Treasurer regarding Council actions that affect the status and operations of the Division. Reports shall be made to the entire Executive Committee during their regularly scheduled meetings.

ARTICLES VII - ELECTION AND TENURE OF THE OFFICERS, EXECUTIVE COMMITTEE MEMBERS, AND DIVISION COUNCILLOR(S)

1. Qualifications. Officers, Division Councillor(s), and Members-at-Large of the Executive Committee must be current members of the Division.
2. Ballot. The Vice-Chair, Secretary-Treasurer, Division Councillor(s), and Members-at-Large of the Executive Committee shall be elected by ~~mail ballot~~ ballots cast electronically or by mail as hereinafter provided.
3. Nomination and Election of the Vice-Chair, Secretary-Treasurer, and Executive Committee Members. Each year the Nominating Committee shall nominate at least two candidates for the office of Vice-Chair, for Secretary-Treasurer during the final year of the term of the current Secretary-Treasurer, and for open positions of Members-at-Large of the Executive Committee. The Nominating Committee shall notify the Secretary-Treasurer of the results not later than ~~15 March~~ 30 April of each year, except under extraordinary circumstances. The Secretary-Treasurer shall inform the Division members by mail and/or electronically of the nominations made ~~at the April meeting~~, and shall invite these members to suggest candidates for the various offices and Executive Committee positions. If as many as 20 members of the Division suggests the same person for the same office by petition, received by the Secretary-Treasurer not later than 15 June, that person shall be deemed to have been nominated. Not later than ~~1 June~~ 15 July of each year, the Executive Committee shall set a date, hereinafter called the Election Date, by which time the election results will be published. The Election Date should be no later than November 15. Once the Election Date is set, and not less than three months before the Election Date, the Secretary-Treasurer shall poll the Division membership by ~~mail ballot~~, mail and/or electronic ballot, stating a closing date not later than ~~15 August of each year~~ 15 days before the Election Date. Ballots shall be returned to and counted by the Secretary-Treasurer or his or her designate. Election shall be decided by a plurality of those voting. If there is a tie, the Executive Committee shall decide the election, with the Chair voting only in the case of a tie among the other Executive Committee members. The Secretary-Treasurer shall communicate the results of the election to the Chair not later than ~~1 September of each year~~ the

Election Date and shall publish the results in a manner designated for official announcements.

4. Nomination and Election of a Division Councillor. During the final year of the term of a Division Councillor and when the Division has more than one Division Councillor, the Secretary-Treasurer shall determine from the APS Executive Officer if the terminating Division Councillor position is to continue. Such determination shall be made by the APS Executive Officer based on Division membership according to rules specified in the Constitution and Bylaws. If the position is to continue or whenever the APS Executive Officer informs the Division that a new Division Councillor is to be elected, the Executive Committee shall nominate at least two candidates for the open position not later than ~~15 March of each year.~~ 30 April of the year of the election. The Secretary-Treasurer shall inform the Division members by mail and/or electronically of the nominations made and shall invite these members to suggest additional candidates. If as many as five percent of the total Division membership determined on 31 December of the year preceding the election suggests the same person, that person shall be deemed to have been nominated. Not later than ~~1 June of each year,~~ three months before the Election Date, the Secretary-Treasurer shall poll the Division by mail ballot, mail and/or electronic ballot, stating a closing date not later than ~~15 August of each year.~~ two weeks before the Election Date. Ballots shall be returned to and counted by the Secretary-Treasurer or his or her designate. Election shall be by a plurality of those voting. If there is a tie, the Executive Committee shall decide the election, with the Chair voting only in the case of a tie among the other Executive Committee members. The Secretary-Treasurer shall communicate the results of the election to the Chair and to the APS Executive Officer not later than ~~1 September of each year~~ the Election Date and shall publish the results in a manner designated for official announcements.
5. ~~Office~~ Official Year. The official year shall be the calendar year.
6. Vice-Chair, Chair-Elect, and Chair. The member elected as Vice-Chair shall serve in that office for one year, then for one year as Chair-Elect, and then for one year as Chair. The Chair shall not be eligible for the office of Vice-Chair in the year following his or her term of office.
7. Terms of Office. The terms of office of the Officers and Members-at-Large of the Executive Committee shall begin at the beginning of the calendar year following their election. The Secretary-Treasurer shall serve for a term of three years and may not serve more than two consecutive terms. The tenure of a Member-at-Large of the Executive Committee shall terminate in the event of his or her assumption of a post as an elected Officer of the Division, and the unexpired portion of his or her term shall be filled as hereinafter provided for a vacancy. The term of office of a Division Councillor shall begin at the beginning of the calendar year following his or her election. Division Councillors shall serve for a term of four years and may not serve more than two consecutive terms unless otherwise specified by Council.
8. Vacancies in Offices. If a vacancy occurs in the office of Chair, the Chair-Elect shall succeed and complete the term and shall serve as Chair also in the following year. The Vice-Chair shall serve simultaneously as Chair-Elect during the

remainder of the term and shall continue to serve as Chair-Elect in the following term.

If a vacancy occurs in the office of Chair-Elect otherwise than through advancement to Chair, the Vice-Chair shall become Chair-Elect. In this case, and also if the office of Vice-Chair becomes vacant for other reasons, the office of Vice-Chair shall remain vacant for the remainder of the term. In the next scheduled election, candidates for both Chair- Elect and Vice-Chair shall be nominated.

If vacancies occur in the offices of both the Chair and the Chair-Elect, the Vice-Chair shall become Chair and shall complete the term. In this case a special election shall be held to fill the offices of Chair-Elect and Vice-Chair. The members so elected shall continue to serve as officers in the normal succession order.

Vacancies in any other elected office shall be filled (or left unfilled) by the Executive Committee until such time as the vacancy can be filled by regular election procedures.

ARTICLE VIII - APPOINTED COMMITTEES

1. Nominating Committee. The Nominating Committee shall consist of five members appointed by the Chair to staggered two-year terms and one member appointed by the Council for a one-year term. The Chair shall ascertain through the APS Executive Officer the identity of this member not later than 1 March of each year. No more than one member of this Nominating Committee shall be a member of the Executive Committee. The Nominating Committee shall prepare a slate of candidates for the positions of Vice-Chair, Secretary-Treasurer, and Members-at-Large of the Executive Committee according to Article VII.3 of these Bylaws. The Nominating Committee shall perform such other duties as described in the Bylaws.
2. Program Committee. The Program Committee shall consist of the full Executive Committee. The Chair-Elect shall serve as Chair of the Program Committee. The Program Committee shall have the responsibility of assisting the APS Executive Officer, or his or her designate, in arranging the meetings of the Society. This activity shall include the scheduling of contributed papers within the areas of interest of this Division, as well as the arranging, in cooperation with the APS Executive Officer or his or her designate, of symposia and sessions of invited papers sponsored by the Division for a meeting. For meetings of the Division, including the Regular Meeting, the Program Committee shall be responsible for the solicitation and selection of invited and review papers for the arrangement of the programs of such meetings.
3. Fellowship Committee. The Fellowship Committee shall consist of all Chairs, and one Councillor appointed by the Chair. The Past Chair shall serve as Chair of the Fellowship Committee. The Fellowship Committee shall promote the nomination of candidates for Fellowship, shall review the qualifications of such candidates, and shall report its recommendations to the Executive Committee for approval before submission is made to the APS Executive ~~Officer of the Society~~-Officer.

4. Terms of Office of Appointed Committee Members. The terms of committee members appointed or recommended by an incoming Chair shall commence at the beginning of the year in which he or she assumes office.
5. Ad Hoc Committees. The Chair shall appoint other ad hoc committees as necessary, which shall serve only during his or her term as Chair.

ARTICLE IX - MEETINGS

1. Regular Meeting. One meeting of the Division, to be known as the Regular Meeting, shall be held annually at such time and place as shall be ordered by the Executive Committee, subject to approval by the APS Executive Board. Whenever it shall be feasible and not to the disadvantage of the members of the Division, the Executive Committee may order this or any other meeting to be held conjointly with a Meeting of the Society or of another society, conference, or group, so long as such joint meeting does not conflict importantly with the schedule of Meetings of the Society as determined by the APS Executive Board. The registration fee for the Regular Meeting, when not held jointly with a Meeting of the Society, shall be fixed after consultation with the APS Executive Officer. Non-members of the Society shall pay a surcharge to be set each year by the APS Executive Board.
2. Annual Business Session. Each year the ~~Division~~ Executive Committee shall ~~hold~~ schedule a Business Session ~~which shall be a session of~~ during the Regular Meeting. ~~attendance~~ Attendance by five percent of the total Division membership ~~determine~~ determined on 31 December of the year preceding the Business Session shall constitute a quorum. ~~This~~ If a quorum is present, this Business session shall be devoted exclusively to the reports of officers and committees, election results, and the transaction of business affairs. No scientific program of the Division shall be presented simultaneously with the Business Session. A majority vote of those Division members present at the Business Session shall be sufficient for approval of actions. At least sixty days before the date of any general meeting of the Division, the Secretary-Treasurer shall notify the Division membership of the scheduled meeting. If no quorum is present, the business session may be abbreviated or adjourned and any scheduled business conducted by mail and/or electronically.
3. Other Meetings. Meetings of the Division, other than the Regular Meeting, may be initiated by the Executive Committee or by petition of twenty percent of the members of the Division, subject to approval by the APS Executive Board. Special conferences may be sponsored in whole or in part by the Division, subject to the rules and regulations specified in the Society Constitution and Bylaws.
4. Papers at Meetings. Programs of meetings of the Division may provide for the inclusion of both invited and contributed papers. When a meeting of the Division is held in conjunction with a meeting of the Society, the rules of the Society shall apply to submitted papers. When a meeting of the Division is not held in conjunction with a meeting of the Society, the Executive Committee shall prescribe the subject and character of the meeting, which may include limitations on the subject matter of submitted papers. The Secretary-Treasurer shall fix the

deadline date for receipt of titles and abstracts in consultation with the APS Executive Officer and shall designate the place to which they should be sent. The amount of time to be allowed for the presentation of a paper at the Regular Meeting shall be determined by the Program Committee, except as otherwise directed by the Executive Committee. These allotments of time shall be consistent with the Constitution and Bylaws of the Society and with regulations of Council.

ARTICLE X - DUES

Dues for maintenance of membership in the Division shall be established by Council.

ARTICLE XI - OFFICIAL ANNOUNCEMENTS

Official announcements shall be made in the APS News and in such other publications as the Executive Committee may direct.

ARTICLE XII - PROCEDURE OF AMENDMENT OF BYLAWS

Proposal of an Amendment to these Bylaws may be made by the Council, by the Executive Committee, or by a petition to the Chair signed by not fewer than ten percent of the members of the Division. If the proposed amendment originates within the Division, it must be approved by the Council before further action can be taken. Following Council approval, the Secretary-Treasurer shall distribute by mail and/or electronically, copies of the proposed Amendment to all members of the Division not less than three weeks before the Regular Meeting and opportunity shall be given for discussion during the Business Session. Not later than twelve weeks after said Regular Meeting the Secretary-Treasurer shall again distribute copies of the proposed Amendment, accompanied by ballot forms. Adoption of the Amendment shall require a two-thirds vote by those voting.

Last modified September 1998.