

**American Physical Society Division of Physics of Beams**  
*Ask not what can be done for you. Ask what you can do for a better future for all.*

**April 1996 Newsletter**

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- \*Election Results for 1996 DPB Executive Committee and Divisional Councillor
  - \*\* Membership of 1996 DPB Committees and DPB-Related Committees
- \*Prize Winners in Beam Physics Announced
  - \*\* 1996 APS Robert R. Wilson Prize
  - \*\* 1996 APS Award for Outstanding Doctoral Thesis Research in Beam Physics
- \*Seven DPB Members Elected as APS Follows
  - \*\* Nominations for New Fellows (deadline for 1997 nominations is 3/15/97)
- \*1996 APS Spring Meeting/DPB Annual Meeting
  - \*\* Indianapolis, May 2-5, 1996
  - \*\* Business Meeting of the Division, May 4, 1996
- \*PAC97 at Vancouver, BC, Canada, May 12-16, 1997
- \*Call for Nominations
  - \*\* 1996 USPAS Prize for Achievement in Accelerator Physics and Technology April 26, 1996
  - \*\* 1997 APS Robert R. Wilson Prize June 1, 1996
  - \*\* 1997 APS Award for Outstanding Doctoral Thesis Research in Beam Physics June 1, 1996
  - \*\* 1997 DPB Executive Committee - Candidates for Election April 15, 1996
  - \*\* 1997 DPB Standing Committees April 15, 1996
- \*R. R. Wilson Prize Fund In Great Shape/For Full Endowment - Send a Donation Today!
- \*DPB Membership Continues to Exceed 3% of APS Membership
- \*DOE/ER Composite Subpanel Report/Considered by HEPAP/Contested by BESAC
- \*DPB/DPF Joint Meeting - Snowmass '96/A Large Accelerator Presence
- \*US Particle Accelerator School
  - \*\* Visit the DPB/USPAS Desk at the APS Spring Meeting
  - \*\* University of Maryland Program, June 3-14, 1996
  - \*\* UC Berkeley Program, January 1997
  - \*\* MIT Program, June 1997

*Questions? Comments? Contact the Secretary-Treasurer:*

Mel Month  
USPAS, MS 125, Fermilab, P.O. Box 500, Batavia, IL 60510

Phone 708-840-3896/fax 708-840-8500  
e-mail: USPAS@FNALV.FNAL.GOV

## DPB Homepage on the World Wide Web

Visit our homepage on the WWW, [http://pc6.hep.anl.gov/dpb/dpb\\_top.htm](http://pc6.hep.anl.gov/dpb/dpb_top.htm) and see information and deadlines for prizes and awards, fellowships, meetings and much more.

### Election Results for the 1996 DPB Executive Committee and Divisional Councillor

The winners of the election for the 1996 Division of Physics of Beams (DPB) Executive Committee are: William B. Herrmannsfeldt for Vice-Chair; Melvin Month for Secretary-Treasurer; and Nanette Phinney and James D. Simpson for Members-at-Large (3 years). Since Andy Sessler has become the newly elected Vice-President of the APS, effective January 1, 1996, an election to replace him as our Divisional Councillor was held and the winner is Hermann Grunder. The elected membership of the 1996 DPB Executive Committee is therefore:

### **1996 DPB Executive Committee**

Chair	Claudio Pellegrini	(5/97)
Chair-Elect	Martin Reiser	(5/97)
Vice-Chair	William B. Herrmannsfeldt	(5/97)
Divisional Councillor	Hermann Grunder	(12/97)
Secretary-Treasurer	Melvin Month	(5/99)
Past Chair	Robert H. Siemann	(5/97)
Members-at-Large	Klaus Berkner	(5/97)
	Thomas P. Wangler	(5/97)
	Joseph Bisognano	(4/98)
	Richard Sheffield	(4/98)
	Nanette Phinney	(5/99)
	James D. Simpson	(5/99)

Each term of office, except for the office of Divisional Councillor, begins in May 1996 on the last day of the Division's Regular Meeting and ends in April/May of the year indicated on the last day of the Division's Regular Meeting.

### **Membership**

#### *1996 DPB Committees and DPB-Related Committees*

Executive Committee (5/96 - 5/97) (see "Election Results" section)

Nominating Committee (12/95 - 12/96): Reiser (chair), Grunder, Month, Herrmannsfeldt, Alonso, Brau, Joshi, Hamm, O'Shea, Rice, Phinney (APS rep)

Fellowship Committee (12/95 - 12/96): Herrmannsfeldt (chair), Krinsky, Simpson, Yu, Chao, Craddock, Joshi

Publications Committee (12/95 - 12/96): Ryne (chair), Simpson (v-chair), Chen, Bisognano (PRE board of ed), Siemann (PRL div. ass. ed)

Education Committee (12/95 - 12/96): Bisognano (chair), Reiser, Berz, G. Jackson, Rosenzweig, Whittum

Bylaws Committee (12/95 - 12/96): Alonso (chair), Month, Reiser

Wilson Prize Committee (12/95 - 12/96, for 1997 Prize): Leemann (chair), Pellegrini (v-chair), Holmes, Ben-Zvi, Littauer (pw)

Doctoral Research Award Committee (12/95 - 12/96, for 1997 Award): Marshall (co-chair), Nation (co-chair), Chao (v-chair), Katsouleas, Reiser (aw)

Program Committee (see "PAC97 Program Committee")

PAC97 Organizing Committee (12/95 - 6/97): Craddock (chair), Allen, Barletta, Bisognano, Cho, Costrell, Dawson, Finley, Friesel, Hartill, Kimura, Krinsky, Leemann, Olivier, Reiser, Ripin, Roberson, Schriber, Siemann, Sutter, Weng, Westenskow, York

PAC97 Program Committee (12/95 - 6/97): Reiser (chair), plus approximately 65 members divided into 16 technical subcommittees

### **Prize Winners in Beam Physics and Accelerator Technology Announced**

1996 APS Robert R. Wilson Prize to Recognize and Encourage Outstanding Achievement in the Physics of Particle Accelerators. A prize of the American Physical Society sponsored by the APS Division of Physics of Beams, the APS Division of Particles and Fields and the Friends of R.R. Wilson. *Albert J. Hofmann, CERN:* "For his numerous experimental techniques developed to elucidate collective phenomena in accelerators and storage rings; in particular, the experimental determination of beam impedances and methods for controlling the instabilities that limit beam intensities. His theoretical insights and experimental innovations have led directly to higher intensities in many circular accelerators and storage rings for both particle physics and synchrotron radiation production. As a superb teacher and mentor, he has been unfailingly generous in conveying his knowledge and insight to others, especially younger physicists and engineers."

*1996 Prize Committee Chair: Perry Wilson.*

1996 APS Award for Outstanding Doctoral Thesis Research in Beam Physics. An award of the American Physical Society sponsored by the Division of Beam Physics and Universities Research Association (URA). *Dan T. Abell, University of Maryland:* "For his contributions in applying advanced mathematical theory of Taylor series of several complex variables to determine the domain of convergence for dynamical systems and for his contributions in advancing and determining an optimal symplectification scheme for the Taylor map applicable particularly to long term tracking in accelerator physics."

*1996 Award Committee Chair: Shuh-Yuan (SY) Lee*

*Thesis Advisor: Alex J. Dragt*

The 1996 APS prizes and awards in Beam Physics and Accelerator Technology will be presented at an awards ceremony at the 1996 Joint APS/AAPT Meeting in Indianapolis at the banquet to be held Saturday May 4.

### **Seven DPB Members Promoted to APS Fellows**

The APS Council at its November 1995 meeting has elected to fellowship seven members recommended by the DPB:

*William A. Barletta*, Lawrence Berkeley National Lab: "For his contributions to the combination of plasma devices and electron beams, free electron lasers, and conventional accelerators, as well as to the wise direction of beam physics programs during the last decade."

*Swapan Chattopadhyay*, Lawrence Berkeley National Lab: "For his pioneering studies of fluctuations, coherence and phase-space cooling and his contributions to the accelerator physics foundation of PEP II, an asymmetric B-factory collider for CP-violation studies."

*Pisin Chen*, SLAC: "For his contributions in novel accelerator concepts including the Plasma Wakefield Accelerator and the self-focusing plasma lens, and for contributions to the understanding of the beam-beam interaction in linear colliders, including the discovery of beamstrahlung coherent pair creation."

*Luis R. Elias*, University of Central Florida: "For the development of Free Electron Lasers, based on electrostatic accelerators, and for demonstrating that electrostatic accelerators can operate on a quasi-continuous basis using beam-charge and beam-energy recovery."

*Shoroku Ohnuma*, Houston University: "For development of the theory and practice of magnet selection according to measured field errors resulting in suppression of nonlinear behavior and highly predictable operation of the Fermilab Tevatron."

*John T. Seeman*, SLAC: "For his contributions to the physics of electron-positron colliding beam machines, both storage rings and linear accelerators."

*Kenneth W. Shepard*, Argonne National Lab: "For seminal contributions to the development of superconducting niobium radio-frequency accelerating structures and associated cryogenics and controls leading to the successful construction of the first superconducting ion accelerator."

### **1997 APS Fellows Call for Nominations**

The deadline for fellowship nominations for this year is past. However, we are accepting nominations for next. The deadline for receipt of nominations is March 15, 1997. The original should be sent to:

Judy Franz, APS Executive Officer  
APS Headquarters  
One Physics Ellipse  
College Park, MD 20740

along with a cover letter stating that a copy has been sent to the DPB Secretary-Treasurer (see address below). Individuals nominated but not recommended to the APS this year in addition to those nominations received after the deadline date will be considered next year. All APS members, and DPB members in particular, are encouraged to give consideration to the nomination for APS Fellowship of individuals who have made outstanding contributions to the field of Beam Physics. Nomination forms can be obtained from APS Headquarters or from the WWW. Go to the APS

homepage, <http://aps.org> and search for "Fellowship Nomination Form." If you wish to join the DPB or if you have any questions or comments, please contact:

Mel Month  
Secretary-Treasurer, DPB  
Director, USPAS  
Fermilab, MS #125  
P.O. Box 500, Batavia, IL 60510  
phone/fax 516-344-7156/2170, e-mail [USPAS@FNALV.FNAL.GOV](mailto:USPAS@FNALV.FNAL.GOV)

**1996 DPB Annual Meeting  
American Physical Society**

Joint APS/AAPT Spring Meeting

**May 2-5, 1996                      Indianapolis, IN**

- For meeting information, see the March 1996 issue of APS Meeting News. You may also view the APS homepage at <http://aps.org>. Michael Scanlan the APS meetings director can be reached at 301-209-3285 or e-mail [SCANLAN@APS.ORG](mailto:SCANLAN@APS.ORG)

- Updated info on our 1996 Annual Meeting can be found at:  
<http://pc6.hep.anl.gov/dpb/dpb-top.html>

You may also contact: [Mel Month, USPAS@FNALV.FNAL.GOV](mailto:USPAS@FNALV.FNAL.GOV)  
or [Gerry Jackson, GPJ@FNAL.GOV](mailto:GPJ@FNAL.GOV)  
or [Dave Whittum, WHITTUM@SLAC.STANFORD.EDU](mailto:WHITTUM@SLAC.STANFORD.EDU)

- The DPB program is composed of invited sessions, mini-symposia and contributed sessions.
- DPB Joint Sessions will be held with:

DAMOP      Division of Atomic, Molecular and Optical Physics  
DCO         Division of Computational Physics  
DNP         Division of Nuclear Physics  
DPF         Division of Particles and Fields  
DPP         Division of Plasma Physics  
FIAP Forum on Industrial and Applied Physics  
IMSTG      Instrument and Measurement Science Topical Group

- The Spring APS Meeting sessions have a standard schedule and our invited sessions, mini-symposia and contributed sessions are scheduled in these time slots:

8:00 a.m. - 10:30 a.m.  
11:00 a.m. - 1:30 p.m.

2:30 p.m. - 5:00 p.m.

*A schedule follows:*

### **Invited Sessions**

#### 2 May 1996, Thursday 0800

Session A3. DCP & DPB: *Computations in Beam Physics* Lee, Tartaglia, Seidel, Chen, Chen. Room 109/110. Chair: R.K. Cooper.

Session A4. DPB, FIAP & FPS: *Futures of Renewable Energy: Efficiency, Fission, and Fusion* Rosenfeld, Selkowitz, Hoffman, Rubbia. Sagamore Ballroom 6. Chair: F. Dylla.

#### 2 May 1996, Thursday 1100

Session B3. DPB: *Wilson Prize Symposium: Advance in Beams and Accelerators* Hofmann, Carlsten, Ruth, Hangst, Joshi. Room 109/110. Chair: A. M. Sessler.

#### 2 May 1996, Thursday 1430

Session C3. DAMOP & DPB: *Synchrotron Radiation* Shenoy, Smith, Freund, Krinsky, Brown. Room 109/110. Chair: P. Dehmer.

#### 3 May 1996, Friday 0800

Session E3. DPB & FIAP: *Particle Beam Processing of Materials I* Dylla, McKeown, Stein, Kelley, Abad-Zapatero. Room 109/110. Chair: A. Todd.

#### 3 May 1996, Friday 1100

Session F3. DPB & FIAP: *Particle Beam Processing of Materials II* Maldonado, Stinnett, Schoenberg, Lawrence, Bhatia. Room 109/110. Chair: H. F. Dylla.

#### 4 May 1996, Saturday 0800

Session J3. DPB & DPP: *Electron Beam Dynamics and Acceleration* Wang, Kehne, Esarey, Umstadter, Young. Room 109/110. Chair: W. Leemans.

#### 4 May 1996, Saturday 1100

Session K3. DPB & DPP: *Intense Beams* Rostoker, Lockner, Beebe, Fernsler, Yu. Room 109/110. Chair: M. A. Sweeney.

Session K4. DPB & DPP: *High Energy Accelerators - Present and Near Term Future* Zisman, Rogers, Jackson, Roser, Harrison. Sagamore Ballroom 6. Chair: W. T. Weng.

#### 4 May 1996, Saturday 1430

Session L3. DPB & IMSTG: *Beam Measurement and Accelerator Instrumentation* Placidi, Shintake, Ross, Fox, Wiedemann. Room 109/110. Chair: J. Seeman.

5 May 1996, Sunday 0800

Session M1. DPB: *Dissertation in Beam Physics Award & AIP Germant Prize Session* Abell, Wilson. 500 Ballroom. Chair: H. Grunder.

Session M3. DNP & DPB: *New Accelerator Facilities for Nuclear Physics: Opportunities and Challenges* Schwandt, Nolen, Marti, Olsen, Schmor. Room 109/110. Chair: M. Craddock.

5 May 1996, Sunday 1100

Session N3. DPB & DPF: *High Energy Accelerators - Long-Term Future* Foster, Brinkmann, Palmer, Burke, Huth. Room 109/110. Chair: S. D. Holmes.

**Mini-Symposia**

2 May 1996, Thursday 0800

Session A12. DPB Mini-Symposium: *The Fermilab Tevatron 33 Upgrade I* Room 211. Chair: G.P. Jackson.

Session A13. DPB Mini-Symposium: *The Next Generation of Synchrotron Light Sources* Room 212. Chair: J. Galayda.

2 May 1996, Thursday 1100

Session B12. DPB Mini-Symposium: *The Fermilab Tevatron 33 Upgrade II* Room 211. Chair: G. P. Jackson.

Session B13. DPB Mini-Symposium: *Accelerator Technology for Pulsed Spallation Neutron Sources - I* Room 212. Chair: J.B. Ball.

2 May 1996, Thursday 1430

Session C12. DPB Mini-Symposium: *The Fermilab Tevatron 33 Upgrade III* Room 211. Chair: E. Malamud.

Session C13. DPB Mini-Symposium: *Accelerator Technology for Pulsed Spallation Neutron Sources II* Room 212. Chair: A.G. Ruggiero.

3 May 1996, Friday 0800

Session E12. DPB Mini-Symposium: *New Low Cost High Energy Hadron Colliders I* Room 211. Chair: G. P. Jackson.

Session E13. DPB Mini-Symposium: *Nonlinear Dynamics of Beams* Room 212. Chair: J. Cary.



3 May 1996, Friday 1100

Session F12. DPB Mini-Symposium: *New Low Cost High Energy Hadron Colliders II* Room 211. Chair: G. W. Foster.

Session F13. DPB Mini-Symposium: *Pulsed Power Applications in Basic Research and Industry: I* Hubbard. Room 212. Chair: S. Humphries.

3 May 1996, Friday 1400

Session G12. DPB Mini-Symposium: *Permanent Magnets* Room 211. Chair: H. D. Glass.

Session G13. DPB Mini-Symposium: *Pulsed Power Applications In Basic Research and Industry: II* Room 212. Chair: S. Humphries.

4 May 1996, Saturday 0800

Session J12. DPB Mini-Symposium: *Recent Beam Experiments I* Room 212. Chair: P. Colestock

Session J13. DPB Mini-Symposium: *Advances in Targetry I* Room 211. Chair: A. Malensek.

4 May 1996, Saturday 1100

Session K12. DPB Mini-Symposium: *Advances in Targetry II* Room 211. Chair: S. O'Day.

Session K13. DPB Mini-Symposium: *Recent Beam Experiments II* Room 212. Chair: R. Siemann.

4 May 1996 Saturday 1430

Session L12. DPB Mini-Symposium: *Applications of Scanning Beams* Room 211. Chair: J. Flanz.

Session L13. DPB Mini-Symposium: *Impact of Lasers on Accelerators* Room 212. Chair: E. Esarey.

5 May 1996 Sunday 0800

Session M12. DPB Mini-Symposium: *Medium Energy Electron Cooling I* Room 211. Chair: D. F. Anderson.

Session M13. DPB Mini-Symposium: *Beam Instrumentation I* Room 212. Chair: D. Whittum.

5 May 1996, Sunday 1100

Session N12. DPB Mini-Symposium: *Medium Energy Electron Cooling II* Room 211. Chair: D.F. Anderson.

Session N13. DPB Mini-Symposium: *Beam Instrumentation II* Room 212. Chair: T. Smith.

## Contributed Sessions

### 2 May 1996, Thursday 0800

Session A11. DPB: *Accelerator Theory* Room 210. Chair: R. Ruth.

### 2 May 1996, Thursday 1100

Session B11. DPB: *Accelerators In Industry* Room 210. Chair: F. Dylla.

### 3 May 1996, Friday 0800

Session E11. DPB: *Polarization Phenomena* Room 210. Chair: M. Syphers.

### 5 May 1996, Sunday 0800

Session M11. DPB: *New Accelerator Technology I* Room 210. Chair: R. Sheffield.

### 5 May 1996, Sunday 1100

Session N11. DPB: *New Accelerator Technology II* Room 210. Chair: W. Gabella.

- The Division Executive Committee invites you to join us at our 1996 Annual Meeting as an invited paper speaker, as a mini-symposium participant, as an individual contributor or as one wanting or needing knowledge of our field and looking to the future.

## **1996 Annual Business Meeting of the Division**

The DPB annual business meeting will be held during the APS Spring Meeting in Indianapolis. It is scheduled for Saturday May 4, 1996 immediately after the afternoon session at 5 p.m. The Business Meeting is an opportunity for members to discuss administrative matters including nomination procedures, appointed committees and other issues of interest to the membership. Newly promoted fellows will be announced and the Chair and Secretary-Treasurer will give their annual reports. Also planned are status reports on PAC97 and Snowmass 96 and a discussion of the conclusions and implications of the ER Composite Subpanel on the status, potential and future of accelerator physics and technology. Please join us.

## **PAC97: 1997 Particle Accelerator Conference**

The 1997 Particle Accelerator Conference - the 17th in this series - will be organized by TRIUMF and held May 12-16, 1997 at the Hotel Vancouver, in downtown Vancouver, B.C. The conference will cover new developments in all aspects of the science, technology, and use of accelerators. It should also provide a channel of communication for accelerator scientists and engineers and persons concerned with the applications of accelerators. All individuals with an interest in particle accelerators are invited to attend. The program will include invited talks and both oral and poster contributed papers.

The conference is jointly sponsored by the Institute of Electrical and Electronics Engineers (IEEE) through its Nuclear and Plasma Sciences Society (NPSS), and by the American Physical Society (APS) through the Division of Physics of Beams (DPB).

The Organizing Committee is being chaired by M.K. Craddock (UBC & TRIUMF: phone 604-222-7341, fax 604-222-7309, e-mail CRADDOCK@TRIUMF.CA) and the Program Committee by M. Reiser (U. Maryland: phone 301-405-4960, fax 301-314-9437, e-mail MREISER@GLUE.UMD.EDU). Both committees will meet during the joint APS/AAPT Meeting in Indianapolis in May 1996 and any suggestions sent to their chairmen beforehand will be very welcome.

Details of the conference and a call for papers will be mailed in the Fall. Information will also be available at <http://www.triumf.ca/pac97/pac97.html> on the WWW. General inquiries should be directed to the Conference Coordinator, Elly Driessen (phone 604-222-7352, fax 604-222-1074, e-mail DRIESSEN@TRIUMF.CA)

**1996 US Particle Accelerator School Prize for Achievement  
in Accelerator Physics and Technology**

**Call for Nominations**

The US Particle Accelerator School invites nominations for prizes awarded on a competitive basis for outstanding accomplishment in accelerator physics and technology. Nominations should include name and institution of candidate, description of accomplishment with supporting documents and at least two signatures of endorsement. Submit nominations not later than April 26, 1996 to:

US Particle Accelerator School  
c/o Fermilab MS #125  
P.O. Box 500  
Batavia, IL 60510  
phone/fax 708-840-3896/8500, e-mail USPAS@FNALV.FNAL.GOV.

Prizes will be presented at the 1996 Joint DPB/DPF Meeting at Snowmass, CO, June 25 - July 12, 1996. Normally 2 prizes each of \$2,000 are awarded. They are made possible by donations from the Southeastern Universities Research Association, the Universities Research Association, Varian Vacuum Products Division, Westinghouse Electric Corporation and John Wiley and Sons Publishers. This is a prize of the USPAS Board of Governors. Past winners:

1985

Helen T. Edwards, Fermi National Accelerator Laboratory  
John M.J. Madey, Stanford University  
*Special Historic Award*  
Ernest D. Courant, Brookhaven National Lab;  
M. Stanley Livingston, MIT  
Robert R. Wilson, Cornell University

1986

Helmut Piel, Wuppertal University, Germany  
Maury Tigner, Cornell University  
Thomas Weiland, DESY

1987

Klaus Halbach, Lawrence Berkeley Laboratory  
Lars Thorndahl, CERN

1988

I.M. Kapchinskii, ITEP, Moscow  
V.A. Teplyakov, IHEP, Serpukhov  
Andrew M. Sessler, Lawrence Berkeley Laboratory

1989

Daniel L. Bix, Lawrence Livermore National Laboratory  
Karl L. Brown, Stanford Linear Accelerator Center

1990

Donald Prosnitz, Lawrence Livermore National Laboratory  
Matthew Sands, University of California, Santa Cruz

1991

Glen R. Lambertson, Lawrence Berkeley Laboratory  
Wolfgang Schnell, CERN

1993

Richard L. Sheffield and John S. Fraser, LANL  
Marc C. Ross, Stanford Linear Accelerator Center

1995

Herman Winick, Stanford University  
James E Spencer, SLAC  
Tsumoru Shintake, KEK

**1997 American Physical Society Robert R. Wilson Prize**  
**"To Recognize and Encourage Outstanding Achievement in the**  
**Physics of Particle Accelerators"**

**Call for Nominations**

Nominations are open to scientists of all nations regardless of the geographical site at which the work was done. The prize shall ordinarily be awarded to one person but may be shared among recipients when all recipients have contributed to the same accomplishment. The prize will normally be awarded for contributions made at an early stage of the recipient's career. Nominations of candidates shall remain active for three years. Send the name of the proposed candidate and supporting information before June 1, 1996 to:

Christoph W. Leemann  
CEBAF/MS 12A2  
12000 Jefferson Ave.  
Newport News, VA 23606  
phone/fax 804-249-7554/5024, e-mail SPRUILL@CEBAF.GOV

The prize was established in 1986 by the Division of Particles and Fields and the Division of Physics of Beams. It is sponsored by the friends of Robert R. Wilson. The prize will be presented during the DPB annual meeting at the 1997 Particle Accelerator Conference (PAC97), Vancouver, BC, May 12-16, 1997. The prize consists of \$5,000, an allowance for travel to the meeting at which the prize is awarded, and a certificate citing the contributions made by the recipient. Past Winners:

1987 Ernest D. Courant, Brookhaven National Laboratory

1988 Donald W. Kerst, University of Wisconsin

1989 Martin N. Wilson, Oxford Instruments, England; and  
Alvin V. Tollestrup, Fermi National Accelerator Lab

1990 Kjell Johnsen, CERN  
1991 John Reginald Richardson, UCLA  
1992 Rolf Wideroe, Switzerland  
1993 John P. Blewett, Brookhaven National Laboratory  
1994 Thomas Collins, Fermi National Accelerator Lab; and  
Gustav-Adolph Voss, DESY  
1995 Raphael M. Littauer, Cornell University  
1996 Albert J. Hofmann, CERN

**1997 American Physical Society Award  
for Outstanding Doctoral Research in Beam Physics**

**Call for Nominations**

The Division of Physics of Beams invites nominations for the 1997 APS Award for the most outstanding Doctoral Research in Beam Physics. A nomination will be accepted for any doctoral student of a university in the United States or abroad, for work performed as part of the requirements for a doctoral degree. Nominees must pass their thesis defense not more than 18 months before the nomination deadline. An individual can only be nominated once; however an unsuccessful candidate can be carried over for 1 year. Nominations should include a letter of nomination, five copies of the thesis and/or equivalent publications, a letter from the thesis advisor delineating in detail contributions of the nominee, the nominee's graduate course record and three independent references, if possible. Submit nominations not later than June 1, 1996, to

Thomas Marshall  
Department of Physics  
Columbia University  
213 Mudd Bldg.  
New York, NY 10027  
phone/fax 212-854-3116/8257, e-mail TCM2@COLUMBIA.EDU.

If it is more convenient, you may send your nomination to:

John Nation  
Cornell University  
e-mail JNATION@IONVAX.TN.CORNELL.EDU.

The award consists of \$1500 and a certificate to be presented during the DPB annual meeting at the 1997 Particle Accelerator Conference (PAC97), Vancouver, BC, May 12-16, 1997. There is an additional allowance of \$500 for travel and the winner will be invited to present his/her work as an Invited Paper. The award was established by the APS Division of Physics of Beams in 1991 and is supported by the Universities Research Association (URA). Past Winners:

1991 Jeffrey P. Calame, University of Maryland  
1992 David H. Whittum, University of California, Berkeley  
1993 John A. Palkovic, University of Wisconsin, Madison  
1994 Tor Raubenheimer, Stanford University  
1995 Dun Xiong Wang, University of Maryland  
1996 Dan T. Abell, University of Maryland

## **Call for Nominations**

### Candidates for Election for 1997 DPB Executive Committee

The DPB invites nominations for candidates for election of officers and members of the 1997 Executive Committee. Ballots will be issued this fall to elect the 1997 Executive Committee Vice-Chair and two Members-at-Large. If you wish to make nominations, send them to the Nominating Committee Chairman or the DPB Secretary-Treasurer, as indicated below. In general, the Nominating Committee of the Division selects the candidates for election. If, however, 5% or more of the Division membership nominate a candidate for the same position, that person will become a candidate. Since the Division membership was 1316 as of December 31, 1995, the number of DPB members required for automatic candidacy this year is 65. If at least this number of signatures of DPB members are obtained, please submit the petition together with a cover letter and those candidates supported by the petition will be placed on the ballot this fall in the designated positions. Individual nominations must be received by April 15, 1996. Send them to the Nominating Committee Chair: Martin P. Reiser, University of Maryland, Electrical Engineering Department, College Park, MD 20742. e-mail MREISER@GLUE.UMD.EDU. Petitions for candidates should be sent to the Division Secretary-Treasurer and should be received no later than August 1, 1996.

## **Call for Nominations**

### 1997 Division Standing Committee Members

The DPB, as other APS divisions, functions with a committee structure. Our success in representing the community, in formulating and helping to implement change for the betterment of our community, depends on democratic participation in all division activities, an important part of which is membership in its standing committees. Standing committees are division committees appointed by the Executive Committee Chair, except for a few statutory positions stipulated in the division bylaws. Currently the DPB has six active standing committees: the Nominating Committee, the Program Committee, the Fellowship Committee, the Publications Committee, the Education Committee and the Bylaws Committee. We also have responsibility for two APS committees, the R.R. Wilson Prize Committee and the Beam Physics Doctoral Research Award Committee. The DPB Nominating Committee will meet on May 1, in Indianapolis during our division's annual meeting at the 1996 Joint APS/AAPT Spring Meeting. If you would like to be considered for one of our 1997 committees or if you know of other individuals you believe to be qualified to serve, please contact the Nominating Committee Chair, Martin P. Reiser, University of Maryland, Electrical Engineering Department, College Park, MD 20742. e-mail MREISER@GLUE.UMD.EDU on or before April 15.

### **Robert R. Wilson Prize Fund in Great Shape We Need Your Help to Reach Full Endowment Send a Donation Today!**

With a \$5,000 award given annually, the prize fund requires \$100,000 to be fully endowed. This would make the Wilson Prize a permanent prize of the American Physical Society. Initially, that is during the years 1986 to 1989, contributions were solicited from a variety of institutions and individuals. Many responded and provided a substantial base for

the fund. Unfortunately, today, ten years later, fund raising must continue. The Wilson prize fund is still not fully endowed and is being depleted at a rate of a few thousand dollars each year.

By mid 1994, the fund was \$40,000. It was decided by the DPB Executive Committee to have a drive to once and for all reach the full endowment level. Since then we have raised more than \$50,000, giving us a fund balance of just over \$90,000. First, in late 1994, Universities Research Association donated \$8,000. Second, in response to a request from the Chairs of the DPF and DPB, the Board of Directors of the International Industrial Symposium on the Super Collider, now known as the International Industrial Society for Superconductivity Applications, approved a contribution totaling up to \$10,000 in the form of a matching fund equal to matching contributions from other sources. The offer was to remain in effect for a period of one year. The matching fund proved a powerful incentive. Both the Southeastern Universities Research Association and Associated Universities Inc. made contributions of \$5,000 each. In addition, individuals have responded to a DPB solicitation with over \$4,000 in donations including two very generous contributions of \$1,000. Recently we have received \$5,000 donations from CERN and the Stanford Linear Accelerator Center (SLAC) and a pledge for \$5,000 from KEK. The latter is included in the fund balance above.

We have solicited funds from other universities and laboratories in the United States and from other accelerator laboratories throughout the world. We are waiting for replies at this time. Our goal of raising another \$10,000 will put the Wilson Prize on a fiscally sound basis and allow us to continue awarding this international prize for years to come to all worthy individuals.

We are not there yet. We still need your help to get over the top to full endowment. Whatever you can afford, \$20, \$50, \$100, will be greatly appreciated. Please send your tax-deductible donation today to:

Harry Lustig, Treasurer  
American Physical Society  
One Physics Ellipse  
College Park, MD 20740

Make your check payable to the American Physical Society and remember to identify the check by writing on its face: "The Wilson Prize Fund".

### **DPB Membership Continues to Exceed 3% of APS Membership**

I am happy to announce that DPB membership has remained above 3% of APS membership for more than 3 years -- that is, since a successful membership drive in the last quarter of 1992 put us over the 3% threshold for the first time. The importance of this threshold arose because a few years ago the APS established a system where divisions are represented in the APS council in proportion to their membership. If a division's membership is above 3%, it is entitled to be represented in the APS council. However, if divisional membership falls below 3% of the total APS membership, the division loses its councillor and is therefore no longer represented in the Council. Here are our membership numbers for the last four years, as measured on December 31:



<u>Year</u>	<u>DPB Membership</u>	<u>% of APS Membership</u>
Dec 1991	1142	2.64%
Dec 1992	1477	3.38%
Dec 1993	1466	3.40%
Dec 1994	1426	3.42%
Dec 1995	1316	3.22%

Although we have maintained our percentage level in the last few years, it is very important to establish a balanced membership representation as the accelerator/beams field continues to expand in new areas. In the past decade, there has indeed been a remarkable expansion. Beam physics and accelerator technology continues to play an important role in high energy and nuclear physics and it is rapidly expanding in plasma physics, and in what might be termed Light Source Physics. In addition, the field is spreading into defense, medicine and industrial applications.

Currently our membership leans toward the high energy and nuclear areas. Yet it is very important to hear the voices of those representing the new and emerging areas. This can be done only with a properly balanced membership. Please help us to achieve this goal by joining the division or by encouraging your colleagues to join.

As a member of the DPB, you will play a part in electing the division's officers and councillor. With your vote and your voice in the affairs of the division, you will help determine whether the strength of the division leans toward your area or another area.

So please consider joining. Simply send \$6.00 to the APS Membership Department, One Physics Ellipse, College Park MD 20740. Write on the face of your check: DPB Member (1996/97). If you know of a colleague who is not an APS member, try to get him or her to join the society and the division by contacting the APS Membership Department at phone (301) 209-3280.

This is a very exciting time for beams and accelerators and I hope that your support of future developments in our field will translate into supporting its representation in the American Physical Society.

### **The DOE/ER Composite Subpanel Report**

#### **Considered by HEPAP/Contested by BESAC**

##### *Changes Possible*

To review the background and summarize the subpanel's findings, we quote from the draft report, mainly from the Executive Summary:

In January 1994, representatives of the Division of Physics of Beams (DPB) of the American Physical Society (APS) approached Dr. Martha Krebs, Director of the Department of Energy (DOE) Office of Energy Research (OER), to propose that a study be done on the importance of accelerator physics and technology to the nation. In November 1994, Dr. Krebs initiated a broad assessment of the current status and promise of the field of accelerator physics and technology with respect to five OER programs-High Energy Physics, Nuclear Physics, Basic Energy Sciences, Fusion Energy, and Health and Environmental Research. Dr. Krebs asked HEPAP to establish a composite subpanel with representation from the five OER advisory committees (HEPAP, NSAC, BESAC, FEAC, and HERAC)

and with a balance of membership drawn broadly from both the accelerator community and from those scientific disciplines associated with the OER programs. The subpanel was also charged to provide recommendations and guidance on appropriate future research and development needs, management issues, and funding requirements.

The Composite Subpanel for the Assessment of the Status of Accelerator Physics and Technology has sought information and advice using an open and participatory process. At three of its meetings, it heard presentations by OER program managers, by members of the accelerator physics community, and by leading scientists representing the major scientific fields that use accelerators. The Subpanel gathered information on accelerator R&D efforts from the national laboratories, university facilities supported by DOE and NSF, and DOE program managers.

The Subpanel finds that accelerator science and technology is a vital and intellectually exciting field. It has provided essential capabilities for the DOE/OER research programs with an enormous impact on the nation's scientific research, and it has significantly enhanced the nation's biomedical and industrial capabilities. Further progress in this field promises to open new possibilities for the scientific goals of the OER programs and to further benefit the nation.

Sustained support of forefront accelerator research and development by the DOE's OER programs and the DOE's predecessor agencies-the Atomic Energy Commission (AEC) and the Energy Research and Development Agency (ERDA)-has been responsible for much of this impact on research. This report documents these contributions to the DOE energy research mission and to the nation.

This Subpanel believes that the DOE and its predecessor agencies-primarily through their long-standing and sustained investments in accelerator science and technology development-have de facto held a national trust for the stewardship of accelerator science and accelerator-based technology development. This has provided the foundation for essential capabilities needed both for the DOE mission and for addressing broader national interests. This Subpanel has concluded that it is vital that the DOE and its OER programs continue to hold this national trust and thus recommends that:

*A. Stewardship of accelerator science and technology should be acknowledged as an explicit part of the overall DOE Energy Research mission.*

Considering the range and depth of stewardship responsibilities that should be an explicit part of OER's portfolio and mission, the subpanel came up with the following six important stewardship responsibilities:

1. Design, construction, and improvement of accelerator-based facilities providing vital capabilities needed to carry out the mission of DOE's OER programs.
2. Effective utilization and operation of these accelerator-based facilities.
3. Support of the accelerator R&D required to provide facilities at the technological cutting-edge for the sciences that they serve.
4. Appropriate investment in basic accelerator science and related technology R&D to form the foundation for capabilities needed in the future.

5. Support of the training of the accelerator scientists and engineers required to provide the accelerator-based capabilities needed in future years.

6. Support for the continued development and maintenance of the basic tools needed to stay at the cutting edge in the accelerator field (e.g. computer codes, essential stand-alone test facilities, and critical infrastructure elements at the accelerator-based facilities).

The Subpanel examined the approach used by the five OER programs in managing and funding their R&D activities in accelerator science and technology to determine if each is carried out in a manner appropriate to the overall needs of that program. We identified three broad categories of accelerator R&D (short, medium, and long term) that are useful for assessing the management of these activities. A principal focus of the Subpanel was long-term R&D that provides the scientific basis for the concepts and technologies that drive the development of important future accelerator-based capabilities. Our assessment of long-term accelerator R&D led us to recommend that:

*B. Each OER program should have proposal-driven, peer-reviewed long-term accelerator R&D as part of its research portfolio.*

*C. The Director of Energy Research should charge the appropriate OER advisory committees with recommending the level of long-term accelerator R&D funding for each program.*

The Subpanel found that the management of short-term (design, construction, operation, and improvement of existing or approved facilities) and medium-term (future capabilities of interest to a specific laboratory or facility) accelerator R&D is generally effective. Both types are conducted at a national laboratory or accelerator facility, where the management determines the scope of this R&D. We recommend that:

*D. The current approach to short-term, facility-directed accelerator R&D should be continued.*

The Subpanel endorses the present funding of medium-term accelerator R&D by facility budgets and Laboratory Directed R&D (LDRD) funds. However, additional benefits would be gained by each program office explicitly recognizing the value of such investments and evaluating the performance of its accelerator-based facilities accordingly. We recommend that:

*E. The present system of medium-term R&D directed at future capabilities of interest to laboratories, facilities or users of facilities should be strengthened.*

Associated with OER's stewardship of accelerator science and technology is a responsibility to encourage the timely dissemination of this knowledge and technology. To be effective this requires an environment that fosters communication and cooperation between the OER laboratories and grantees on one hand, and the industrial and commercial sectors on the other. We recommend that:

*F. OER program officers and laboratory managers who are responsible for the stewardship of accelerator science and technology should make a special effort to nurture societal applications.*

The draft report was submitted to HEPAP (Chair, Stanley Wojcicki) by the subpanel Chair, Jay Marx. HEPAP met on February 27 at which meeting they received and considered the report. However, there was a delay in transmitting it to the ER Director, Martha Krebs, pending a resolution

of the BESAC response to the draft report. BESAC met on February 5-6, considered the report, and its chair W. Carl Lineberger transmitted a response to Wojcicki on February 21.

The primary concern of BESAC "in an otherwise thoughtful report" is with Recommendation C. "The Director of OER should charge the ... advisory committees with recommending the appropriate level of ... funding for each program". The objection appears to be based on a philosophical aversion to "earmarking" or "set asides," which could lead to "balkanizing" and presumably destructive squabbling among the component centers of power. BESAC therefore strongly urged that HEPAP "consider the consequences of Recommendation C before adopting the draft report of the HEPAP Subpanel on Accelerator Physics."

HEPAP, BESAC and the Subpanel are now trying to negotiate changes that would remove BESAC's objection to Recommendation C and still satisfy the other parties involved. Stay tuned for further developments. As they arise, they will be distributed by e-mail to our membership and can be found on our WWW homepage. You may also consult DOE's High Energy Physics homepage: <http://www.hep.net/doe-hep/home.html>.

### **DPB/DPF Joint Meeting** Snowmass 96

The Division of Particle and Fields and Division of Physics of Beams of the American Physical Society are jointly sponsoring a "Workshop on New Directions for High Energy Physics" in Snowmass, Colorado over the period June 25-July 12, 1996. The workshop will focus on the accelerator-based U.S. High Energy Physics program and is intended to provide an opportunity to begin to develop a coherent plan for the longer term U.S. program within the context of the future international program. The capabilities, feasibilities, and relative strengths of possible new initiatives will be compared with those of the LHC and other facilities that will likely operate in, and in some cases beyond, the LHC era.

Participation by the accelerator physics community is encouraged and is expected to be a significant component of this workshop. An Accelerator Working Group is being set up under the direction of the convenors listed below. The Accelerator Working Group will be organized into five Sub-groups:

1. Next generation linear colliders - 500-1500 GeV (center-of-mass)
2. Tevatron collider luminosity upgrades -  $10^{33}$  cm<sup>-2</sup>sec<sup>-1</sup> at 2 TeV
3. Muon colliders- 500-2000 GeV
4. Really large hadron colliders - 60-200 TeV
5. Advanced acceleration technologies - multi-TeV electron colliders

The workshop is open to all members of the international HEP and accelerator communities. Participation of younger physicists and individuals from other countries is particularly welcome. Any questions, comments, or suggestions relating to accelerator activities at Snowmass can be addressed to any of the accelerator convenors:

Steve Holmes/Fermilab  
Mike Harrison/BNL  
Ewan Paterson/SLAC  
Jonathan Wurtele/Berkeley

holmes@admail.fnal.gov  
harrison@bnlux1.bnl.gov  
jmp@slac.stanford.edu  
wurtele@physics.berkeley.edu

Further information on the workshop, including registration and housing forms, are available at <http://fnphyx-www.fnal.gov/conferences/snowmass96>, or from

Cynthia M. Sazama  
M.S. 122  
Fermi National Accelerator Laboratory  
P.O.Box 500  
Batavia, IL 60510-0500  
Fax: 708-840-8589, E-Mail: SAZAMA@FNAL.GOV

### **USPAS/DPB Desk at Spring Meeting**

As at past DPB Annual Meetings, the US Particle Accelerator School will have a desk at the APS Spring Meeting in Indianapolis, May 2-5, 1996. Information on USPAS programs will be available, including upcoming schools, USPAS prizes, the 1996 Joint US-CERN-Japan School on RF Technology and the School book programs. Many USPAS books, including those published by the American Institute of Physics and John Wiley and Sons will be available for inspection and purchase. In addition, application forms for APS and IEEE membership and related information will be available at the desk.

### **1996 USPAS at the University of Maryland, College Park. June 3-14, 1996**

As part of its program, the US Particle Accelerator School, in association with universities across America, organizes two week schools of intense, graduate-level and more recently, undergraduate courses in beam physics and accelerator technology. There are 7 courses conducted in parallel offered at each school. By successfully completing the requirements for a full two-week program, a student will earn the equivalent of three semester hours of credit. In the summer of 1996 the program will be at the University of Maryland, College Park, June 3-14. You will find accompanying this newsletter, material describing the June program and an application form. To apply, or if you have any questions, you may contact the School Office at Fermilab (phone 708-840-3896, or by e-mail USPAS@FNALV.FNAL.GOV). For electronic application and complete course descriptions, you may use the WWW at <http://calvin.fnal.gov/uspas>. The next school in January of 1997 is being planned at the University of California at Berkeley, with the June 1997 School at MIT. In addition to our regular program, the USPAS, in collaboration with the CERN Accelerator School and the KEK Accelerator School, will have a Joint US-CERN-Japan Topical Course in 1996 on the subject, "Radio Frequency Engineering in Particle Accelerators". It will be held in Shonan Village, Hayama, Japan about 60km south of Tokyo on September 9-18, 1996.

*I would like to thank Mike Craddock, Steve Holmes and Bob Siemann for help in preparing this Newsletter.*

Respectfully,

Mel Month  
DPB Secretary-Treasurer  
USPAS Director