James Clerk Maxwell Prize for Physics
Nathaniel Fisch
Princeton University

Citation: For theoretical development of efficient, self-driven current in plasmas and for expanding our ability to understand, to predict, and to utilize wave-plasma interactions. Nathaniel J. Fisch is Professor of Astrophysical Sciences and Director of the Program in Plasma Physics at Princeton University. He is also an Associated Faculty in the Department of Mechanical and Aerospace Engineering and the Associate Director for Academic Affairs at the Princeton Plasma Physics Laboratory. He studied Electrical Engineering and Computer Science at the Massachusetts Institute of Technology, where he was an MIT National Scholar, earning his B.S. degree in 1972, his M.S. degree in 1975, and his Ph.D. degree in 1978.

Howard Milchberg
University of Maryland

Citation: For the conception and first realization of hydrodynamic shock-formed plasma channels, and for the development of diagnostics for their characterization. Howard Milchberg received his undergraduate degree in Engineering Physics in 1979 from McMaster University, in Hamilton, Ontario. He held a National Science and Engineering Research Council of Canada Fellowship at Princeton University, where he completed his Ph.D. in Astrophysical Sciences in 1985, in the plasma physics program. His dissertation was on one of the first two soft x-ray lasers experimentally demonstrated. Milchberg then joined AT&T Bell Laboratories as a postdoctoral researcher, where he performed one of the first experiments in high intensity femtosecond laser-plasma interactions, a study of hot plasma resistivity at solid densities.

In 1988 Milchberg joined the University of Maryland, where he was a recipient of a NSF Presidential Young Investigator Award. He is a Professor in the Institute for Physical Science and Technology, the Department of Electrical and Computer Engineering, and the Department of Physics. He is interested in all aspects of the interaction of intense short laser pulses with matter. His group is currently doing experiments in laser-driven particle accelerators, coherent and incoherent laser-driven x-ray sources, and laser-atomic cluster interactions. Milchberg is a Fellow of the American Physical Society. He was recently named a Distinguished Scholar-Teacher at Maryland.

2005 Outstanding Doctoral Thesis in Plasma Physics
Stefan Gerhardt
University of Wisconsin (Advisors: David Anderson and Joseph Talmadge)

Citation: For pioneering experimental and numerical contributions to the fundamental physics of magnetically-confined plasmas, including the nonlinear dynamics and stability properties of compact torus configurations, and generalization of the gyroradious stress tensors in plasmas with non-uniform temperature. Dr. Stefan Gerhardt received his Bachelor’s degree from the U. of Wisconsin-Madison in 1998, from the interdisciplinary Applied Math, Engineering, and Physics (AMEP) program. During this time, he worked at the Madison Symmetric Torus experiment and wrote his senior thesis on the development of a NIR bremsstrahlung diagnostic for Zeff measurements. He did his Ph.D. work at the Helically Symmetric xExperiment (HSX), a quasisymmetric stellarator in the Electrical Engineering department of the U. of Wisconsin-Madison. He participated in many aspects of the commissioning and initial operation of that device. His dissertation work, done with advisors Professor David Anderson and Dr. Joseph Talmadge, experimentally demonstrated the reduction in neoclassical flow damping in a quasisymmetric stellarator. This work was honored with the Harold Peterson Outstanding Dissertation Award from the Electrical Engineering Department, as well as the Marshall N. Rosenbluth award from the American Physical Society. Dr. Gerhardt is presently employed by the Magnetic Reconnection Experiment at Princeton Plasma Physics Laboratory, studying the formation and stability of compact toroidized plasmas formed by sphorak merging. He is a member of the American Physical Society.

Katherine E. Weimer Award
Elena Belova, Princeton Plasma Physics Laboratory

Citation: For pioneering experimental and numerical contributions to the fundamental physics of magnetically-confined plasmas, including the nonlinear dynamics and stability properties of compact torus configurations, and generalization of the gyroradious stress tensors in plasmas with non-uniform temperature. Elena Belova received the M.S. degree in space plasma physics from the Moscow Institute of Physics and Technology (MPT) in 1987, with highest honors. She worked for several years as a staff member in the Russian Academy of Science’s Space Research Institute (IKI) in Moscow, specializing in velocity-shear-driven instabilities in planetary magnetospheres. Elena received her Ph.D. degree from Dartmouth College in 1997. Her thesis research was related to the development and application of new physical models and computational techniques (gyrokinetic particle simulations, and the nonlinear delta-f method) which make it practical to carry out simulations of physics problems with highly disparate temporal and spatial scales. Dr. Belova is now an Associate Research Physicist at the Princeton Plasma Physics Laboratory. Her major research interest is the interaction of energetic particles with MHD modes in space and laboratory plasmas. She has been the primary developer of several numerical codes, including a 3D nonlinear hybrid and MHD simulation code (HYM), which has been used extensively to study the stability properties of field reversed configurations (FRCs), and for numerical studies of ion-beam-driven instabilities in the National Spherical Torus Experiment (NSTX).

Nicholson Medal for Human Outreach
Padma Shukla
Ruhr-University Bochum, Germany

Citation: For his prodigious and successful efforts in encouraging young scientists from underrepresented countries throughout the world, by his regular visits to their universities and by facilitating their participation in international meetings and workshops.

Padma Shukla was born on July 7, 1950 in a small village Tulapur of Uttar Pradesh, India. He obtained a Ph.D. degree in Physics from Banaras Hindu University (India) and a Doctor of Science degree from Umea University (Sweden) as a postdoctoral fellow. In January 1973 he joined the Faculty of Physical Chemistry at Ruhr-University Bochum (Germany) and remained there till now. During the last thirty-four years of tenure in Europe, Padma Shukla worked hard in mentoring a large number of young doctoral students, postdoctoral scholars and junior colleagues from industrial and developing worlds. The number of papers he has written with those younger generations of plasma physicists amply demonstrates this. His roles in both selecting young researchers for presenting talks at international meetings and establishing the young researcher awards of the International Topical Conference on Plasma Physics and the International Conference on the Physics of Dusty Plasmas has helped several physicists build up their career in Europe and Asia. He is deeply involved with the plasma physics activities at the Abdus Salam ICTP Trieste, where he is playing an instrumental role for disseminating the knowledge of plasma physics and nonlinear science within the community. At present, Dr. Shuklais serving as a joint Editor of J. Plasma Physics, Editorial Board Member of New J. Plasma Physics and Plasma Physics and Controlled Fusion. He is associate editor of IEEE Trans. Plasma Sci. He is a fellow of the American Physical Society and Institute of Physics (UK). Padma Shukla was awarded a Doctorate Honors Cause of the Russian Academy of Sciences in 2004.
Coffee Break Locations and Times
Plaza Ballroom Foyer and Grand Ballroom I & II Foyer,
Monday - Friday from 9:00 - 10:00 am
Monday - Thursday 3:00 - 4:00 pm
Note: Beverages will not be replenished.

Women in Plasma Physics Luncheon
Director's Row E
Monday, October 24
12:30 - 2:30pm
There will be a speaker during the luncheon. The cost for lunch is $25; women graduate and undergraduate students will pay $10 (partially supported by the DPP). Informal discussions on issues of interest to women in plasma physics will be encouraged at each table.

Women in Plasma Physics Reception
Windows, Tower Building
Monday, October 24
5:15 - 6:45pm
Plan to attend a talk and complimentary reception for Women in Plasma Physics. At 5:45 p.m. Professor Fran Baguel (University of Colorado, Boulder, Department of Astrophysical and Atmospheric Sciences) will speak on women’s issues in science and positive steps for change. Fran is the present editor of the APS Committee on the Status of Women in Physics newsletter and has had a long and active involvement in this area. The talk will be 20 minutes, followed by a brief discussion and question period.

Dr. Jill Dahlburg, DPP05 chair, welcomes all meeting attendees to this talk and reception, which will be hosted by vice chair of the division, Dr. Vincent Chan, General Atomics.

DPP Banquet
After-Dinner Speaker: Jeffrey Baxter
Talk Title: Freedom to Rock to Rockets
Date: Wednesday, October 26, 2005
Cocktails: Plaza Court, Plaza Ballroom Foyer
Banquet: Plaza Ballroom ABC

There are only two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a miracle.
— Albert Einstein

DPP Banquet Speaker
Jeffrey Baxter has had a long and successful career in the music and entertainment field as a founding member of the group Steely Dan, a member of the Doobie Brothers and as a record producer for such artists as Carl Wilson of the Beach Boys and The Stray Cats. He has been a studio musician for 35 years, recording with such artists as Donna Summer, Dolly Parton, Ringo Starr and Rod Stewart and has composed music for movies and television including the original theme for “Beverly Hill 90210”, music for “King of the Hill” and scoring for movies like “Bull Durham” and “Rosanne.”

Although still actively involved as a guitarist, composer, producer and engineer, Mr. Baxter currently serves as an advisor to MDA, (Missile Defense Agency), Rep. Dana Rohrabacher, (Chairman Oversight & Investigation Committee, House International Relations Committee) and Rep Curt Weldon, (Vice Chairman, House Armed Services Committee) Chairman

Win an iPod or GPS!
DPP is once again sponsoring a drawing to reward attendance for the full week of the 47th Annual Meeting of the Division of Plasma Physics. This will be held on Friday, October 28 with two drawings, one drawing for a Garmin iQue 3600 PDA/GPS and a second drawing for an Apple iPod 60GB.

Each DPP05 attendee who checks in at the DPP05 Meeting Registration desk between the hours of 1:00-6 pm on Sunday, October 23 or 7:00-2:00 pm on Monday, October 24 will receive a ticket stub with a number. The ticket holder along with your name, will be held at the Registration desk. A few minutes after the conclusion of the Friday morning Invited Session U/I (12:35 pm on Friday, October 28 in the Plaza Ballroom ABC of the Adam’s Mark Hotel), the DPP chair, Jill Dahlburg, will draw two of these numbers at random. To encourage attendance through to Friday, the winners of the drawing must, of course, be present to win.

Word Puzzle:
Find the following words:
Aliven instability hybrid mix tons
probe supernova Experiment symmetry
ionsFlows laser
Fusion spinch

sheath Dynamos nuts
Beams jets reactor
tokamak

Tactical and Land Forces Sub Committee, Vice-Chairman House Homeland Security Committee), as well as advising other members of Congress, the military and industry in areas of national security, intelligence and technology. He is a consultant to NGA, (National Geo-Spatial Intelligence Agency), an advisor to the Law Enforcement Working Group, a Specialist Reserve Officer for the Anti-Terrorism Division of the Los Angeles Police Department and a member of the Terrorist Early Warning Group, (TEW), Los Angeles County Sheriff’s Dept. He consults as well to the NASIC, (National Air & Space Intelligence Center) and APRIL, (Air Force Research Labs), is a Forensic Audio Specialist and has worked on a number of Federal and local criminal cases. He is a consultant at the Lawrence Livermore National Laboratory and a member of their Technical Review Committee, as well as building current consulting agreements with SAIC, General Atomics, Atenon and Northrop-Grumman/TASC. He is also a member of the Board of Regents at the Potomac Institute for Policy Studies as well as serving on the HSIPB, (Homeland Security Information Policy Board) at DHS and is a Senior Vice President for TAIC, Inc.

Local Actor, Len Barron, to Give Performance
Len Barron, an accomplished stage performer from Boulder, Colorado will be performing Walking Lightly... A Portrait of Einstein on Thursday from 1:00 - 2:00 pm in the Adam’s Mark Governor’s Square 10. Come see this portrayal of Einstein the man as well as the scientist as Barron brings to life an intensely personal picture of Einstein, drawing attention to the principles which he lived by: commitment to friendship, peace, and education, and his grand sense of wonder, beauty, fairness and playfulness.

Barron, who has earned degrees from the University of Colorado and Amocho-Putney Graduate School, has written and directed six theatre pieces. His performances often include stories, songs, and dance and are characterized by Barron as “full of soft turns and surprises”. A strong advocate of education and teaching, Barron has toured the country since 1989, giving lectures, workshops and performances on topics ranging from the arts and education to aging and living a meaningful life.

Len Barron will also be speaking on “On the difference of Growing Older: stories, songs and dance, on the richness that time and experience bring” at the Companions Breakfast and "Einstein and Education” at the luncheon for teachers. He will have a booth at the Plasma Expo on Thursday and Friday morning to chat about Einstein, Bohr and other physicists.

Concerns for Young Scientists Town Meeting Governor’s Square 11
Tuesday, October 25
1:00 - 2:00pm
The Committee for the Concerns of Young Scientists is pleased to announce this special Town Meeting with Dr. Anne Davies. Dr. Davies is the Associate SC Director of the Department of Energy’s Office of Fusion Energy Sciences (OFES). The OFES administers the fusion program for the Department of Energy. The meeting offers an opportunity for young scientists to interact with the OFES associate director to learn more about the current mission and goals of the OFES, as well as current information about the accomplishments and opportunities in the U.S. Fusion Energy Sciences research programs.

We must not forget that when radium was discovered no one knew that it would prove useful in hospitals. The work was one of pure science. And this is a proof that scientific work must not be considered from the point of view of the direct usefulness of it. It must not be done for itself, for the beauty of science, and then there is always the chance that a scientific discovery may announce like the radium a benefit for humanity.
— Marie Curie
Town Meeting on Fusion Energy and Plasma Science Issues
Plaza Ballroom ABC
Tuesday, October 25
7:00 pm

N. Anne Davies, Department of Energy Associate SC Member for Fusion Energy Sciences and Christopher Keane, National Nuclear Security Administration Assistant Deputy Administrator for Confinement Fusion and the National Ignition Facility Project will speak on fusion energy and plasma science issues.

followed by:

Town Meeting on the U.S. Burning Plasma Organization and Status of the U.S. ITER Project
Ned Sauthoff, Princeton Plasma Physics Laboratory and IPO Project Manager and Raymond Fonck, University of Wisconsin Madison and USBSO director will speak on USBSO and the status of the U.S. ITER project. The U.S. fusion research program is pursuing two main efforts toward preparing for burning plasma experiments on ITER. The first includes the development of the facility and establishment of the U.S. participation in the international ITER project through the U.S. ITER Project Office (IPO). The second involves a new U.S. Burning Plasma Organization (USBSO) which is designed to be a community-based research collaboration with the mission of advancing scientific understanding of burning plasmas and ensuring the greatest benefit from burning plasma experiments by coordinating relevant U.S. fusion research and broad community participation. The USBSO will address research and development activities in support of the ITER project fabrication as identified by the IPO, as well as developing areas of particular interest to the U.S. fusion community to maximize the benefits of U.S. participation in burning plasma experiments. Input and ideas from the community for development of the USBSO are eagerly solicited. The status of the ITER project and opportunities in ITER activities, as well as the development of the USBSO will be presented.

Education is what remains after one has forgotten what one has learned in school.
—Albert Einstein

Job Fair
Sponsored by AIP and APS-DPP
Governor’s Square
( Interviews to be held in Plaza Court 3)

Whether you are looking for a job or recruiting, the DPP Job Fair will provide job seekers and hiring institutions with unsupervised recruitment and networking opportunities.

Job Seekers utilize the services to:
Network with technical staff and human resource recruiters, post resume and search open positions, interview for positions.
Employers utilize the services to:
Showcase company with a Recruitment Booth, advertise open positions, interview candidates and job seeker resumes specific to the meeting.
The Job Fair is free of charge to all job seekers. There is a nominal fee for employers.

Hours of Operation:
Monday - Wednesday, October 24 - 26, 9:00 am - 5:00 pm

DPP Registration Desk Hours:
The meeting registration desk will be located in Plaza Court at the Adam’s Mark Hotel (See Adam’s Mark Hotel floor plan at the end of this Bulletin.)
Registration hours are as follows:
Sunday, October 23, 1:00 - 6:00 pm
Monday, October 24, 7:00 am - 5:00 pm
Tuesday, October 25, 7:00 am - 4:00 pm
Wednesday, October 26, 7:00 am - 3:00 pm
Thursday, October 27, 7:00 am - 3:00 pm
Friday, October 28, 7:00 - 10:00 am

Sigmar Remembrance
Plaza Ballroom ABC
Monday October 24
1:30 - 2:00 pm

Dieter Sigmar died on July 31, 2005 after a long and courageous battle with multiple sclerosis. During his long and productive career at MIT and ORNL he played a key role in the domestic and international magnetic fusion energy and plasma science programs from the time he first came to the U.S. in 1972 for postdoctoral study until his retirement from ORNL in 2001. During his career, Dr. Sigmar made important contributions to the understanding of collective transport in tokamaks, energized the world fusion community to focus on the behavior of alpha particles in burning plasmas, and played a leadership role in the development of an edge and divertor physics program in the U.S. fusion effort. To acknowledge Dieter’s lifetime of contributions and dedication to magnetic fusion energy, Ron Parker, Sergei Krasnenkov, and Boris Breizman will briefly reflect on his career, his unique talents, and his concern for his fellow human beings in a session chaired by Peter Catto.

Invited Paper Poster Sessions
Posters versions of review, invited, and oral papers are scheduled Monday through Friday, in the following half-day session, in a designated area of Grand Ballroom I & II, Tower Hotel. The Monday morning review and invited talks may also be presented as posters in the Monday afternoon poster session. This option will be available on Monday morning, the Monday evening review, not available for invited talks presented on Monday evening.
### Mini-Conferences

Four mini-conferences are scheduled Monday through Thursday to be held at the Adam's Mark Hotel. Check the Epitome Monday through Thursday to be held at the Governor’s Square 14.

#### Mini-conference on Astrophysical Explosions: From engines to remnants

- **Monday morning Poster Session BP1**, October 24, Grand Ballroom I & II
- **Monday afternoon and Tuesday all day**, October 25, Plaza Ballroom D
- **Tuesday all day**, October 25, Plaza Ballroom D

**Speakers:**
- Mark Linton, William Abbett, Susan Antiochos, John Gosling, Joachim Raeder
- Yury Gurevich, Paul Bellan, Setthivoine You
- Michael Brown, Thomas Intrator, Giovanni Lapenta

#### Mini-conference on Reconnection and Turbulence in Fluids and Plasmas

- **Tuesday all day**, October 25, Plaza Ballroom D

**Speakers:**
- N. R. D. Sharp, S. Sato, M. Kikuchi, V. A. Afanasyev, A. V. Balbus
- S. Baranov, M. Morikawa, T. Hatake, A. H. Zemach

#### Mini-conference on Dynamics of Magnetic Flux Tubes in Space and Laboratory Plasmas

- **Wednesday all day**, October 26, Governor’s Square 14

**Speakers:**
- Mark Linton, William Abbott, Dibyendu Nandy, Sarah Gibson, Spiro Antiochos, John Gosling, Joachim Raeder
- Michael Brown, Thomas Intrator, Giovanni Lapenta, D.D. Ryutov, Tsuji Madzvane-Nassimov, Paul Bellan, Sethinov You

#### Mini-conference on Fast Ignition Status and Prospects

- **Wednesday all day and Thursday all day**, October 26 and 27, Plaza Ballroom D

**Speakers:**
- Max Tabak, B. Grant Logan, R.J. Mason, Richard R. Freeman, A. Solodov, Sophie Bate, S.I. Krasheninnikov
- Y. Kirshon, Kunioka Mima, Tomoyuki Johzaki, R. Betti, R.B. Campbell, Yashiko Sentoiku

### Evaluation Form for 2005 APS-DPP Annual Meeting

Please give your candid opinion of DPP05 to aid in future planning. Base your evaluation on a comparison to previous APS-DPP and non-APS scientific meetings. Use a separate page for additional comments.

**Scientific content and organization**

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**Meeting logistics**

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**Meeting logistics**

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**Amenities/social events**

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**Notes**

For the speaker start times.

**Check the Epitome Monday through Thursday to be held at the Governor’s Square 14.**

**Please return this form to the DPP registration desk or email comments to:**

Vincent Chan, 2006 Program Chairman email: chanv@fusion.gat.com

Saralyn Stewart, DPP Administrator email: stewart@physics.utexas.edu