

# 48th Annual Meeting of the Division of Plasma Physics of The American Physical Society

## *October 30–November 3, 2006*

### *Philadelphia, Pennsylvania*

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Welcome to the 48<sup>th</sup> Annual Meeting of the Division of Plasma Physics (DPP) of The American Physical Society (APS). All technical sessions, including mini-conferences, will be held in the Marriott Philadelphia Downtown Hotel, which also serves as the Conference Hotel. We hope you find the meeting enjoyable, informative, and productive.

## ***ACKNOWLEDGMENTS***

### **PROGRAM ORGANIZATION**

We extend our thanks to the DPP Program Committee for the outstanding program they have assembled.

### **DPP PROGRAM COMMITTEE**

Vincent Chan (chair), Steven Allen, Farhat Beg, Robert Bingham, Eric Blackman, John Cary, Darren Craig, Stephen Craxton, John DeLooper, Diane Demers, Richard Dendy, Andris Dimits, Melissa Douglas, Paul Drake, Katherine Fiore, Sybille Gunther, Adil Hasam, Hantao Ji, Tom Katsouleas, Charles Kessel, Mark Koepke, Tom Kwan, Rick Lee, Yu Lin, John Luginsland, Brian MacGowan, Ragesh Maingi, Richard Majeski, Abbas Nikroo, John Porter, Sergei Putvinski, Gennady Shvets, Philip Snyder, Kazuo Tanaka, Chao-Mei Tang, George Tynan, Jim Van Dam, Alexander Velikovich, Mickey Wade.

### **LOCAL ARRANGEMENTS**

A special thanks goes to John DeLooper, Princeton Plasma Physics Laboratory, for overseeing the local arrangements for the DPP06 meeting.

### **APS MEETING STAFF**

The DPP wishes to express its appreciation to the APS Meetings Department staff members for their efforts in coordinating the scientific program and meeting logistics: Donna Baudrau, Terri Gaier, Steven Mon, Vinaya Sathyasheelappa and Don Wise. A special thanks to DPP Administrator, Saralyn Stewart, The University of Texas, for her assistance.

## ***PROGRAM ORGANIZATION***

### **OVERVIEW**

The program committee has organized a program consisting of four review papers, 100 invited papers, four tutorial invited papers (chosen from approximately 184 nominations), and 3 invited postdeadline papers (chosen from 12 nominations). The total number of papers is approximately 1622. On Thursday morning Chandrashekar Joshi, University of California, Los Angeles, will give the Maxwell Prize Address.

### **SESSION NUMBERING SCHEME**

Each session has a code consisting of two letters and a number. The first letter represents the time slot for that session, the second letter denotes the type of session, and the numbers distinguish different sessions of the same type in the same time slot. The numbering scheme is driven by requirements of the APS meeting database system.

#### **First Letter in Session Code = Time slot designation (24 hour clock)**

A, F, M, T, Y = 8:00 Review Time Slot

B, G, N, U, Z = 9:30 Morning Time Slot

C, J, Q, V = 14:00 Afternoon Time Slot

D, H, K, L, P, R, S, W, Z = Other Afternoon and Evening Time Slot

#### **Second Letter in Session Code = Session type**

R = Review (plenary)

I = Invited

T = Tutorial

O = Oral Contributed

P = Poster Contributed

M = Mini-conference

E = Special event

**Number in Session Code = Ordering of sessions of that type within that time slot.**

For example: BO1 = Monday, 9:30, oral contributed, one of the multiple oral sessions at that time.

## REVIEW PRESENTATIONS

Review papers are 50 minutes long, followed by 10 minutes for questions and answers, and will be presented each morning at 8:00, Monday through Wednesday, and Friday in Salon A-F of the Marriott Philadelphia Downtown Hotel. LCD computer projectors will be used in all oral sessions at the expense of DPP.

Monday: Michael Key, Lawrence Livermore National Laboratory, *Status and prospects for the fast ignition inertial fusion concept*.

Tuesday: Michael Downer, University of Texas, *Holographic snapshots of laser wakefields*.

Wednesday: Craig Petty, General Atomics, *Sizing up plasmas using dimensionless parameters*.

Friday: Amitava Bhattacharjee, University of New Hampshire, *Magnetic reconnection: Collisionless dynamics and three-dimensional geometry*.

On Thursday morning, Chandrashekhar Joshi will give the James Clerk Maxwell Prize for Plasma Physics address in Salon A-F, in a plenary session. The address will be 50 minutes long followed by 10 minutes for questions and answers. The title of the address is: Laser- and beam-driven plasma accelerators.

## INVITED TALKS

Each invited paper is 25 minutes with 5 minutes for discussion. Invited presentations will be held morning and afternoon in Salon ABF and Salon CDE in the Marriott Philadelphia Downtown Hotel. Poster versions of review, invited, tutorial, and invited postdeadline papers are optional and are scheduled Monday through Friday, in the following half-day session, in a designated area of Franklin Hall, Level Four. For example, 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 for invited papers scheduled on Friday morning. LCD computer projectors will be used in all oral sessions at the expense of DPP.

## INVITED AND REVIEW PAPER PUBLICATION IN *PHYSICS OF PLASMAS*

Arrangements have been made to publish the invited papers in the Eighteenth Annual Special Issue of *Physics of Plasmas*. This year's guest editor is Vincent Chan, chair of the DPP06 Program Committee. All submissions of DPP papers will be made via the journals new online submission and peer review system, PXP. Invited speakers have received submission instructions, but should remember that submissions must be identified as a DPP paper by selecting one of the DPP options as the manuscript type. The deadline for submission of the papers is Friday, November 3, the last day of the DPP Meeting. Early submissions are always encouraged. Sandy Schmidt, Assistant Editor, will be available to answer questions at the *Physics of Plasmas* table inside Franklin Hall, Level Four, Monday and Wednesday of the Meeting, or she can be contacted at [sschmidt-pppl.gov](mailto:sschmidt-pppl.gov).

## TUTORIAL TALKS

Tutorial presentations have proven to be a valuable addition to the program and have helped foster the cross-fertilization of ideas. Four tutorials will be offered this year. The duration of each is 50 minutes plus 10 minutes for discussion, and each one is the first talk in an afternoon invited talk session, Monday through Thursday. The goal of a tutorial talk is to explain basic principles to those not working in an area and to convey an appreciation of the accomplishments, issues, and objectives of that area. The tutorial presentations assume an audience with a graduate level understanding of basic plasma physics, but no familiarity with the particular research area that is the subject of the tutorial. In contrast, the traditional invited presentations are intended to expand upon the latest research within a subfield. LCD computer projectors will be used in all oral sessions at the expense of DPP.

## CONTRIBUTED PAPERS—ORAL

Oral sessions are 10 minutes long plus 2 minutes of discussion, and will be held Monday through Friday morning at 9:30 and Monday through Thursday afternoon at 14:00 in Salon G, Salon H, and Salon KL. Every effort will be made to adhere to the 12-minute schedule for contributed oral presentations. If speakers are not present at the appointed time, the presiding chair will call for a 12-minute break to maintain the schedule. Likewise, the chair should adhere to the 12-minute limit for each contributed talk. Presiding chairs are expected

to enforce the Society's rule that a presenter attempting to deliver a second oral paper in the same session will have that presentation placed at the end of the session, to be given if time permits at the discretion of the presiding chair. LCD computer projectors will be used in all oral sessions at the expense of DPP.

## CONTRIBUTED PAPERS—POSTER

More than 1,160 papers will be presented as posters. Poster sessions will be held in Franklin Hall, Level Four, Monday through Friday morning 9:30-12:30, and Monday through Thursday afternoon 14:00-17:00. Poster boards are 8 feet (wide) x 4 feet (high). Pushpins will be provided. It is recommended that each poster include a title and list of authors in large letters and a large-type copy of the abstract for casual observers, leaving more time to discuss the details with those who are particularly interested in the work, and that attention be paid to the production of effective visuals. Poster presentations should be arranged so that a number of people may view them at one time. Handouts of printed material and a sign-up sheet for reprints are often helpful. If you leave your assigned board, write a note indicating when you will return. Please clear the poster board promptly at the end of your session. DPP is not responsible for papers left on and around boards beyond the allotted poster session time.

## GUIDELINES FOR SCIENTIFIC PRESENTATIONS

Our colleague, James Callen, University of Wisconsin, has prepared useful guidelines for scientific presentations. The Program Committee urges all participants to make every effort to make their presentations clear and effective. James Callen's guidelines, entitled "Preparation of Effective Scientific Talks," is available online as a pdf file at <http://homepages.cae.wisc.edu/~callen/efftalks.pdf>.

## ABSTRACT POLICY

Contributed abstracts have been arranged according to APS rules, which stipulate that the first author is expected to present the paper and that an author can be listed as first author on only one abstract in the regular program. Additional abstracts by the same first author have been assigned to the Supplemental Poster Session, Friday, November 3, 9:30–12:30 in Franklin Hall,

Level Four. Abstracts received after the regular deadline of July 21 but before September 1 have been assigned to the Postdeadline Poster Session.

Authors of abstracts not submitted by September 1 may still present their paper as a poster in the Friday morning Postdeadline Poster Session. The contributor must bring a copy of the abstract to the meeting for display on a designated bulletin board in Franklin Hall, Level Four. Please contact Saralyn Stewart at the DPP Registration Desk in the Ballroom Prefunction Area, Level Five for a poster board assignment for the Friday morning session, or contact Vinaya Sathyasheelappa at the DPP Registration Desk.

## MINI-CONFERENCES

Three mini-conferences are scheduled Tuesday through Thursday to be held at the Marriott Philadelphia Downtown Hotel. Check the Epitome for the speaker start times.

### MINI-CONFERENCE ON ACCELERATION IN SPACE AND ASTROPHYSICAL PLASMAS

**Tuesday all day, October 31**

**Salon KL**

Organizers: Paulett C. Liewer (Jet Propulsion Laboratory, California Institute of Technology) and Michael Hesse (NASA/Goddard Space Flight Center)

Understanding shock acceleration is an important area of research for space physicists and astrophysicists alike because both use shock-accelerated particles as probes of physical processes in plasmas. In addition, shocks are critical to determining downstream plasma properties and energetic particle populations in many systems of interest. Astrophysicists use galactic cosmic rays to try to understand the nature of the universe. Heliospheric physicists use solar energetic particles to try to understand the initiation and evolution of coronal mass ejections. Moreover, the solar energetic particles themselves are a great space weather hazard and space weather forecasters need to be able to predict their fluxes to protect astronauts, spacecraft and communications systems on Earth. The bow shock of the Earth's magnetosphere and shocks within determine plasma properties throughout the magnetospheric system.

Shocks are ubiquitous in astrophysical systems also. Specifically, supernova outflows drive highly relativistic shocks, which in turn become sites of relativistic

particle acceleration. Other likely shock sites are in the outflow from active galactic nuclei, gamma-ray bursts, and relativistic jets, such as expected in some pulsar magnetospheres. Recently, astrophysics has seen an increasing synergy between observations of shocks and theory and modeling.

The goal of the mini-symposium is to bring together experts in shock acceleration theory from various disciplines of plasma astrophysics with expertise in theory, observations and modeling to share new knowledge and new ideas of shock acceleration. The mini-conference will consist of two half-day sessions.

### **MINI-CONFERENCE ON NUCLEAR RENAISSANCE: WHERE IS IT GOING AND WHERE DOES FUSION FIT IN?**

**Tuesday all day, October 31**

**Rooms 407-409**

Organizers: John Finn and Rick Nebel (Los Alamos National Laboratory)

The focus of this mini-conference is the technical aspects of the Nuclear Renaissance. This is the well-acknowledged resurgence of nuclear fission power as an important source of energy for the upcoming decades and its relation to fusion. Regarding the last point, we wish to air as many divergent points of view as possible. Friendly controversy will be warmly welcomed. For example: do we need fission just as a temporary fix until fusion is ready; how about fusion-fission hybrids as a way for fusion to get into the act sooner; or whether breeders can do it all.

The goal is to have presentations on fission and fusion reactor design, exploring the similarities and differences between fusion and fission systems (high capital cost, base load systems, etc.). The mini-conference will consist of two half-day sessions. A panel discussion session will be included from 17:00-18:00.

### **MINI-CONFERENCE ON INTERFACE BETWEEN FLUID AND KINETIC PROCESSES IN LABORATORY, SPACE AND ASTROPHYSICS**

**Thursday all day, November 2**

**Salon KL**

**Poster session: Wednesday, November 1,  
Franklin Hall, Level Four**

Organizers: Bill Matthaeus (University of Delaware, Bartol Institute) and Hui Li (Los Alamos National Laboratory)

This mini-conference is motivated by the recognition that plasma kinetic processes and large-scale MHD processes constantly interact with one another, and that in the interface between these physical realms lies the key to understanding many problems of central interest. A number of recent observational and experimental results are relevant to this issue, and applications include fusion-related and other laboratory plasma physics, solar wind, solar chromosphere and corona, the heliospheric-ISM interactions, galactic dynamo, physics of star formation in molecular clouds, acceleration and transport of cosmic rays, galaxy clusters and AGNs, beams, jets, etc. These lectures will bring together experts in a variety of fields in which this interface has been recognized and is being explored.

The goal is to stimulate discussion, collaboration, new ideas and further progress in a variety of DPP-related disciplines. The mini-conference will consist of two half-day sessions. There will be five lectures in the morning session beginning at 9:30, and five afternoon lectures beginning at 14:00. Each lecture is thirty minutes including discussion. There will also be a poster session on Wednesday afternoon in Franklin Hall, Level Four.

## ***PRIZES AND AWARDS***

Awards will be presented at the banquet on Wednesday, November 1.

### **JAMES CLERK MAXWELL PRIZE FOR PLASMA PHYSICS**

**Recipient: Chandrashekar Joshi, University of California, Los Angeles**

**Maxwell Prize Address: Thursday, November 2,  
8:00**

**Salon A-F**

The 2006 Maxwell Prize Address will be given in Thursday's plenary session. The prize citation reads: For his insight and leadership in applying plasma concepts to high energy electron and positron acceleration, and for his creative exploration of related aspects of plasma physics.

## AWARD FOR EXCELLENCE IN PLASMA PHYSICS RESEARCH

**Recipients: Ryosuke Kodama, Osaka University**

**Peter Norreys, Rutherford Appleton Laboratory, United Kingdom**

**Max Tabak, Lawrence Livermore National Laboratory**

**Kazuo Tanaka, Osaka University**

**Scott Wilks, Lawrence Livermore National Laboratory**

The citation reads: For developing the Fast Ignition inertial fusion concept and for demonstrating key aspects of it in a series of experiments that have catalyzed the worldwide effort on the concept.

## MARSHALL N. ROSENBLUTH OUTSTANDING DOCTORAL THESIS AWARD IN PLASMA

**Physics recipient: Cameron Geddes, Lawrence Berkeley National Laboratory**

The Award was established to recognize exceptional young scientists who have performed original doctoral thesis work of outstanding scientific quality and achievement in the area of plasma physics. Cameron Geddes' Ph.D. thesis advisors are Dr. Wim Leemans and Professor Jonathan Wurtele, Lawrence Berkeley National Laboratory. The citation reads: For experimental and computational studies of channel guided laser wakefield accelerators.

## SCIENCE EDUCATION AND OUTREACH ACTIVITIES

DPP's education and outreach (E&O) activities continue to increase in scope and popularity. The DPP06 education ad hoc committee has developed an outstanding series of interactive events for teachers and DPP attendees. Local teachers will have the opportunity to attend workshops given by DPP members on topical areas of plasma and fusion science and technology. DPP members will be able to discuss plasma physics and their concerns regarding the future of science education with area teachers during the Tuesday afternoon poster session. On Wednesday afternoon, DPP members will have the unique opportunity to attend a town meeting concerning the American Competitiveness Initiative. There will also be three invited papers concerning E&O (one by this year's Nicholson Award recipi-

ent, Padma Shukla) presented on Wednesday and Thursday. Throughout the week, DPP scientists will visit local schools and present stimulating science demonstrations to middle and high school students. Because of the large scope of the classroom visits, we have chosen to not provide a plasma expo this year, but will resume with the expo in 2007.

Each year, the E&O team looks forward to these events and invites you to become a volunteer member of our team for a few hours during this week. Visit our Plasma Science Education Kiosk inside Franklin Hall, Level Four, and talk to any of our volunteers regarding how to get involved. Through the E&O efforts we interact with more than 100 teachers and 3000 students annually. Your insight into how to explain a complex idea and your patience in the face of misunderstanding of a concept by a teacher will ensure the DPP E&O efforts remain fresh, strong, and influential. Interested parties should contact Rick Lee, DPP Education and Outreach Chair at [rick.leegat.com](mailto:rick.leegat.com), or at this meeting.

## THE SCIENCE TEACHERS DAY PROGRAM

**Tuesday, October 31, 7:30 to 16:00**

**Salon IJ**

The APS Office of Education, the DPP, DOE/OFES, and DPP member/institutional contributions in support of DPP E&O sponsor the Science Teachers Day jointly. Workshops, physics demonstrations, and an invitation to attend any part of the DPP meeting provide area teachers with a unique set of opportunities to interact with others and learn new physics. Planning for this event has been undertaken by ad hoc committee members from Massachusetts Institute of Technology, Contemporary Physics Education Project, Oak Ridge National Laboratory, Princeton Plasma Physics Laboratory, General Atomics, Lawrence Livermore National Laboratory, University of California, San Diego, University of Texas, the U.S. Department of Energy, and various other universities and industrial organizations.

## SCIENCE TEACHERS DAY AGENDA

- |             |  |
|-------------|--|
| 7:30–8:00   | Registration and Continental breakfast                     |
| 8:00–8:15   | Welcome  |
| 8:15–9:15   | Plasma Science and Technology Overview with Demonstrations |
| 9:15–11:15  | Workshops  |
| 11:15–12:30 | Lunch with DPP Scientists                                  |

- 12:30–14:30 Workshops  
 14:30–14:45 Discussion and Introduction to Poster Session  
 14:45–16:00 APS–DPP Education and Outreach Poster Session

## TEACHERS DAY WORKSHOPS

**Tuesday morning and afternoon, October 31**

**Rooms 302-308, Level Three**

The DPP is pleased to offer exciting hands-on workshops to Philadelphia area teachers. Previous workshops that have been presented by DPP members and others from the Contemporary Physics Education Project, General Atomics, Los Alamos National Laboratory, Princeton Plasma Physics Laboratory, and other affiliations included topics such as plasma and fusion science, the electromagnetic spectrum, waves, sun activity, and radiation and radioactivity. Workshop content follows state and national standards.

## POSTER SESSION HIGHLIGHTS (SESSION JP1)

**Tuesday afternoon, October 31, 14:00**

**Franklin Hall, Level Four**

Take time to visit the Tuesday afternoon poster session and see presentations by high school and undergraduate students working with researchers from across the country and posters on different aspects of E&O activities performed by members of the fusion community. Visit our Plasma Science Education Kiosk at the poster session and learn how you can start a program of your own or work with colleagues on existing programs in your community.

## EDUCATION INVITED TALKS

**Wednesday afternoon, November 1, 12:45**

**Salon CDE, Level Five**

Advances in science and technology are strong indicators of a society's progress and promote expansion in educational and economic areas. We are very pleased to present three special speakers on the American Competitive Initiative (ACI). The ACI is a multibillion dollar program aimed at improving skills and opportunities for students, teachers, and other professionals throughout the US over the next decade. Richard Bissell, National Academy of Sciences, Peter Rooney, House Science Committee, and Diane Jones, Office of Science and Technology Policy, will discuss issues relevant to future progress in education, science, and technology in

light of evolving competitiveness throughout the world. We look forward to seeing you there.

**Wednesday afternoon, November 1, 14:00**

**Salon G, Level Five**

Lee Berry (Oak Ridge National Laboratory) will discuss the Coalition for Plasma Science's (CPS) recent establishment of a prize for a plasma science/technology-based project at the Intel International Science and Engineering Fair (Intel ISEF), held annually in May. The 2006 prize was awarded for a project that investigated the correlation of Global Positioning System (GPS) errors with various measures of near-earth plasma activity.

Patrick Hanley (Harvard Graduate School of Education, 2006) will discuss how to increase citizen participation in fusion energy research in his "A Narrative Approach to Citizen Participation in Fusion Energy."

## VISITS TO LOCAL SCHOOLS

**Monday, October 30 through Thursday, November 2**

Many Philadelphia area students will have the opportunity to host a team of scientists at their school who will provide lively physics-based demonstrations. Throughout the week of the DPP annual meeting, several teams of E&O ad hoc committee members will attend about twenty different schools and interact with more than 2000 students and teachers from different grade levels and interests. See the E&O kiosk at the poster session, in Franklin Hall, for more information about how you can start a Scientist in the Classroom Program of your own.

## *OTHER ACTIVITIES OF INTEREST*

(Listed in chronological order and held at the Marriott Philadelphia Downtown Hotel.)

### **JOB FAIR**

**Sponsored by AIP and APS-DPP**

**Franklin Hall, Level Four**

**(Interviews to be held in Rooms 404-405, Level Four)**

**Monday through Wednesday, October 30–November 1, 9:00–17:00**

Whether you are looking for a job or recruiting, the DPP Job Fair will provide job seekers and hiring man-

agers with unsurpassed recruitment and networking opportunities. Connect with hundreds of job candidates specializing in plasma physics; beams and coherent radiation; inertial confinement and high energy density plasmas; magnetic confinement; theory and simulation; plasma technology; space and astrophysical plasmas. Last year, more than 30 companies, laboratories and universities met with 180 job seekers.

Job Seekers utilize the services to network with technical staff and human resource recruiters; post resumes and search open positions; interview for positions.

Employers utilize the services to showcase their company with a Recruitment Booth; advertise open positions; interview qualified job seekers; search resumes specific to the meeting.

The Job Fair is free of charge to all job seekers. There is a nominal fee for employers.

For additional information, please contact Alex Brice at:

American Institute of Physics  
Career Services Division  
One Physics Ellipse  
College Park, MD 20740  
Phone: 301-209-3185  
Fax: 301-209-0841  
Email: jobfairs@aip.org  
Website: www.physicstoday.org/jobs

## COMPANIONS BREAKFAST

**Monday, October 30, 8:30-10:00**

**Salon IJ**

Join other companions for a DPP-sponsored complimentary continental breakfast at the Marriott Philadelphia Downtown Hotel. You will have an opportunity to meet other companions and reacquaint with friends from past meetings. A representative from Uniquely Philadelphia (the tour company) will be at the breakfast to chat up Philly and the tours offered.

All tours will depart from the Marriott Philadelphia Downtown Hotel. Please plan to arrive a few minutes before your designated departure time.

## WOMEN IN PLASMA PHYSICS LUNCHEON

**Monday, October 30, 12:45–14:45**

**Salon IJ**

To attend please check the appropriate space on the meeting registration form to register for the luncheon. The cost for lunch is \$30; women graduate and under-

graduate 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.

Dr. Mary Ann Sweeney (Sandia National Laboratories) will speak on her experiences working at the Department of Energy headquarters.

## WOMEN IN PLASMA PHYSICS RECEPTION

**Monday, October 30, 17:15–18:45**

**Salon IJ**

Plan to attend a complimentary reception for Women in Plasma Physics. There will be a talk and discussion on the perspectives of young scientists in plasma physics.

Dr. Melissa Douglas, DPP06 chair, welcomes all meeting attendees to this talk and reception, which will be hosted by vice chair of the division, Professor Ian Hutchinson, MIT.

## MEET THE EDITORS OF PHYSICAL REVIEW E AND PHYSICAL REVIEW LETTERS

**Tuesday, October 31, 17:00-19:00**

**Grand Ballroom Pre-Function, Level Five**

The Editors of *Physical Review E* and *Physical Review Letters* cordially invite you to join them for conversation and refreshments. Your questions, suggestions, compliments and complaints about the journals are welcome. We hope you are able to join us.

## UNIVERSITY FUSION ASSOCIATION (UFA) GENERAL MEETING

**Monday, October 30, 18:00-20:00**

**Salon CDE**

The UFA will hold its annual general meeting Monday night of the APS-DPP annual meeting in Philadelphia. This UFA meeting discusses issues of relevance to fusion science research in U.S. universities, for example, the status of the U.S. fusion program and ITER, reports from the U.S. Burning Plasma Organization, and the status of the National Academy of Sciences decadal study of plasma physics. The UFA meeting is open to members of the community and all conference attendees.

## TOWN MEETING ON CONCERNS FOR JUNIOR SCIENTISTS

**Tuesday, October 31, 13:00-14:00**

**Room 401-403**

The Committee for the Concerns of Junior Scientists is pleased to announce this special Town Meeting with Dr. Dahlia L. Sokolov. Dr. Sokolov is staff director of the Energy Subcommittee of the House Committee on Science. The Energy Subcommittee has jurisdiction over all Department of Energy Research and Development programs, including the Office of Science and the applied energy technology offices. The meeting offers an opportunity for junior scientists to interact with the Energy Subcommittee staff director to learn more about the current mission and goals of the Energy Subcommittee, as well as current information about the accomplishments and opportunities in the House Committee on Science.

## STUDENT APPRECIATION RECEPTION

**Tuesday, October 31, 18:00-19:00**

**Franklin Hall, Pre-Function Area, Level Four**

Please plan to attend a complimentary reception in honor of the student attendees of the 2006 DPP Annual Meeting. Students and student advisors are particularly encouraged to attend. Punch and an assortment of cookies will be served. Melissa Douglas, 2006 DPP Chair, cordially welcomes all DPP meeting attendees to this reception, and encourages their participation in open discussion on topics of interest to students of plasma physics.

## TOWN MEETING ON ITER PROGRESS

**Tuesday, October 31, 20:00-21:00**

**Salon CDE**

All DPP Meeting participants are invited to this Town Meeting to hear reports from the ITER community.

The latest developments in the ITER project and the contribution of the United States to the ITER project shall be presented at this session. The session shall include presentations by Dr. Norbert Holtkamp, ITER Principal Deputy Director-General; Dr. Ned Sauthoff, Head of the U.S. ITER Home Team; and Dr. Raymond Fonck, Director of the U.S. Burning Plasma Organization.

## TOWN MEETING ON AMERICAN COMPETITIVENESS INITIATIVE

**Wednesday, November 1, 12:45-13:45**

**Salon CDE**

Three of the best qualified speakers from Washington, Dr. Diane Jones, Deputy Associate Director, Science Division, Office of Science and Technology Policy; Dr. Peter Rooney, Deputy Chief of Staff, House Committee on Science; Dr. Richard E. Bissell, Director, Committee on Science, Engineering and Public Policy, National Academy of Science, have been invited to discuss the Gathering Storm landmark report published last year and to answer questions about the state of the federal commitment to scientific research.

## BUSINESS MEETING OF THE DIVISION OF PLASMA PHYSICS

**Wednesday, November 1, 17:15-18:15**

**Salon H**

The business meeting of the Division of Plasma Physics will include reports of actions undertaken by DPP on issues important to our membership. New items of business will be considered in the following order: (1) Written motions, together with any supporting arguments, received by the Secretary-Treasurer, Steve Allen, at the DPP Registration Desk, Marriott Philadelphia Downtown Hotel, before noon on Monday, October 30, or which were mailed by noon on Friday, October 13, 2006. Copies of such material will be displayed on a bulletin board near the DPP registration area in order to give members reasonable notice in case they wish to participate in the discussion and vote on such motions. (2) Written motions submitted to the Secretary-Treasurer prior to the start of the business meeting. (3) Other new business not included in (1) or (2).

## DPP BANQUET

**Wednesday, November 1**

**Reception: 18:30, Grand Ballroom Pre-Function**

**Dinner: 19:30, Salon EF**

The official banquet of the DPP will be held on Wednesday evening. A cash-bar reception preceding the evening banquet at 18:30 will be held in the Grand Ballroom Pre-Function area. A subsidized banquet ticket can be purchased for \$35 with advance registration or at the registration desk Monday, October 30 up to 17:00. Tickets will be sold on a space-available basis and are non-refundable. Tickets must be presented for

admission at the door to the banquet room. Tickets will not be sold at the door. The banquet program will include presentation of the James Clerk Maxwell Prize, the Award for Excellence in Plasma Physics Research, the Marshall N. Rosenbluth Outstanding Doctoral Thesis Award in Plasma Physics, and the recognition of the Nicholson Medal recipient, the Will Allis Prize recipient, the Marshall and Sara Rosenbluth Travel Scholarship recipient, and newly elected APS Fellows. The after-dinner entertainment will be Josh Lawrence and the Monday Quartet. There will not be a banquet speaker this year.

## GENERAL INFORMATION

All technical sessions, satellite meetings, the DPP Business Meeting, and the Reception/Banquet will be held at the Marriott Philadelphia Downtown Hotel. Consult the schedule of satellite meetings on the Satellite Meetings board near the DPP Registration Desk.

## APS AND DPP MEMBERSHIP

The APS will have a membership booth on Level Four at the Marriott Philadelphia Downtown Hotel. Stop by for information on how to become a member of APS and DPP. By joining you will receive timely and detailed information about DPP activities and discounted meeting fees.

## REGISTRATION HOURS

The meeting registration desk will be located in the Ballroom Pre-Function area, Level Five, Marriott Philadelphia Downtown Hotel. (See Marriott Philadelphia Downtown Hotel floor plan at the end of this Bulletin.)

Registration hours are as follows:

Sunday, October 29	16:00–20:00
Monday, October 30	7:00–17:00
Tuesday, October 31	7:00–16:00
Wednesday, November 1	7:00–15:00
Thursday, November 2	7:00–15:00
Friday, November 3	7:00–10:00

## REGISTRATION FEES

The pre-registration fees were:

APS Member \$385

Nonmember \$505

One-Day APS Member \$190

One-Day Nonmember \$250

Retired/Unemployed APS Member \$125

Student member \$75

Banquet Ticket \$35

The on-site registration fees are as follows:

APS Member \$435

Nonmember \$555

One-Day APS Member \$215

One-Day Nonmember \$275

Retired/Unemployed APS Member \$135

Student member \$125

Banquet Ticket \$35

Members of international physics societies having an official reciprocal relationship with the APS can register at member rates.

## COMPUTER AND INTERNET SERVICE

Computer and Internet service will be available for use by participants of the DPP Annual Meeting. Desktop computers, as well as Ethernet ports for laptops, allowing web and email access will be available inside Franklin Hall, Level Four, during the following hours:

Monday, October 30	7:00–22:00
Tuesday, October 31	7:00–22:00
Wednesday, November 1	7:00–22:00
Thursday, November 2	7:00–22:00
Friday, November 3	7:00–12:00

## MESSAGES

Message boards will be located in Franklin Hall.

## COFFEE AND REFRESHMENT BREAKS

Coffee breaks will be held inside Franklin Hall, Level Four, and in the Grand Ballroom Pre-Function area, Level Five, Monday through Friday at 9:00 and Monday through Thursday at 15:00. Coffee and tea will be provided at the morning breaks. In the afternoons, coffee, tea, and soft drinks will be available. Each break throughout the week will offer beverages on a limited basis and will not be replenished.

## AUDIO-VISUAL EQUIPMENT

Standard audiovisual equipment includes an LCD projector, high intensity overhead projector, pointer and lavalier microphone. Review, invited, tutorial, oral

contributed, and Postdeadline Invited paper sessions will also have available Windows-based PC laptop computers provided at no cost by AVMG. Presenters that bring their personal laptop are encouraged to confirm in advance that their laptops are compatible with the LCD projector by making use of the Speaker Ready Room, Room 410, Level Four. Any requests for additional audio-visual equipment for oral sessions or poster presentations, other than those items requested prior to the meeting, should be made through the on-site AVMG Office, Room 411–412, Level Four. There is a fee for the rental of non-standard equipment. This fee must be paid by the individual presenter prior to the start of the session.

Speakers who use viewgraphs in landscape format, please remember to use wide margins so your entire viewgraph fits into the field of view.

### **HOTEL**

Marriott Philadelphia Downtown Hotel

\$160 (single), \$160 (double), \$170 (triple or quad), plus 14% tax.

### **TECHNICAL MEETINGS**

Marriott Philadelphia Downtown Hotel  
1201 Market Street  
Philadelphia, PA 19107  
215-625-2900  
800-320-5744

### ***PLEASE NOTE***

The APS-DPP has made every effort to provide accurate and complete information in this Bulletin. However, changes or corrections may occasionally be necessary and may be made without notice after the date of publication. To ensure that you receive the most up-to-date information, please check the corrigenda distributed with this Bulletin.

## *ROOM KEY*

The label for each session begins with a letter that indicates the time of the session: A for the first session on Monday, through Z for the last session on Friday. The second letter in the label indicates the type of session: R for review, I for invited, O for contributed oral, M for miniconference, P for contributed poster, E for special event. One tutorial talk (50-minutes plus 10 minutes for discussion) is scheduled as the first presentation in one of the afternoon invited sessions each day, Monday through Thursday. At any given time, there are two simultaneous invited sessions (I1 and I2), two or three simultaneous oral contributed sessions (O1, O2 and O3), and one or two mini-conferences (M1 beginning Monday afternoon and M2 beginning Tuesday morning). There is one poster session each morning and each afternoon, but it is partitioned into review, invited, and tutorial talk posters, and contributed posters covering several subject areas (See Poster Session Breakdown on page 14). All technical sessions, including mini-conferences, will be held in the Adam's Mark Hotel. The location of a session is specified by its label, as follows:

Session	Content	Rooms in SCC
R	Review papers	Grand Ballroom A-F
I1	Invited papers	Grand Salon ABF
I2	Invited papers	Grand Salon CDE
O1	Oral contributed papers	Grand Salon G
O2	Oral contributed papers	Grand Salon H
O3	Oral contributed papers	Grand Salon KL
M1	Mini-Conferences	Grand Salon KL
M2	Mini-Conferences	Room 407-409
P	Posters: Review, Invited, Tutorial Contributed papers Mini-Conference papers Supplemental Postdeadline	Franklin Hall
E	Special Session	See Epitome for Location

**Review sessions begin at 8:00 a.m.**, and they are scheduled for a 50-minute presentation followed by 10 minutes for discussion. Invited, oral contributed, and poster sessions run from 9:30 to 12:30, and from 14:00 to 17:00. **Each tutorial is scheduled for a 50-minute presentation followed by 10 minutes for discussion**, and invited presentations are scheduled for 25 minutes with 5 minutes for discussion. All tutorial talks are in the afternoon sessions, and all invited talks begin on either the hour or the half hour. Oral contributed presentations are 10 minutes followed by 2 minutes for discussion. The names in italics below each session title in the Epitome are those of review, tutorial and invited speakers.

## *POSTER SESSION BREAKDOWN*

Listed below are the topics to be presented in each poster session. Authors are required to be in attendance at the times posted below. Please remove your poster materials as soon as your session is over. The APS/DPP will not be responsible for poster materials that are left on poster boards after the session is over.

### **Session BP1: Poster Session I**

**Monday morning, October 30**

**9:30–12:30**

- (1-29) MHD and Stability
- (30-56) Stellarator
- (57-92) Basic Plasma Physics
- (93-119) MHD Phenomena in Astrophysics and Laboratory
- (120-135) Beams, Radiation, and Microwaves

### **Session CP1: Poster Session II**

**Monday afternoon, October 30**

**2:00–5:00**

- (1-38) Reversed Field Pinch
- (39-80) Field Reversed Configurations and Spheromaks
- (81-106) Waves and Instabilities
- (107-140) Beams and Coherent Radiation

### **Session GP1: Poster Session III**

**Tuesday morning, October 31**

**9:30–12:30**

- (1-39) DIII-D I
- (40-70) Basic Studies and Complex Plasmas
- (71-85) Energetic Phenomena in Astrophysics  
and the Laboratory
- (86-137) HEDP: Z-Pinches and Incoherent Radiation

### **Session JP1: Poster Session IV**

**Tuesday afternoon, October 31**

**2:00–5:00**

- (1-46) Education and Outreach, High School Research,  
and Undergraduate Research
- (47-71) Divertors and Edge Physics
- (72-106) Elementary Processes, Chaos, Low Temperature  
Plasmas
- (107-145) Plasma Simulations: MHD and Integrated Modeling

### **Session NP1: Poster Session V**

**Wednesday morning, November 1**

**9:30–12:30**

- (1-42) General Tokamak
- (43-67) Turbulence and Transport
- (68-81) Beams and Radiation: Ion Beams, Accelerators,  
and Lasers
- (82-100) Beams and Radiation: Theory and Simulation II
- (101-163) HEDP / ICF / Diagnostics

### **Session QP1: Poster Session VI**

**Wednesday afternoon, November 1**

**2:00–5:00**

- (1-41) NSTX
- (42-72) CMOD
- (73-99) Non-neutral Plasmas
- (100-116) Acceleration and Heating in Space
- (117-123) Mini-Conference on Interface Between Fluid  
and Kinetic Processes in Laboratory, Space  
and Astrophysics

### **Session UP1: Poster Session VII**

**Thursday morning, November 2**

**9:30–12:30**

- (1-31) DIII-D II
- (32-49) MHD and Plasma Flows
- (50-76) Turbulence and Transport
- (77-120) Fast Ignition, Short Pulse, Ion Beams,  
and Laser Coupling

### **Session VP1: Poster Session VIII**

**Thursday afternoon, November 2**

**2:00–5:00**

- (1-36) Spherical Torus and Exploratory Confinement Concepts
- (37-70) Rf Heating; Diagnostics
- (71-108) Magnetic Reconnection
- (109-145) Plasma Simulation: Kinetic Codes and Turbulence
- (146-180) Plasma Technology

### **Session ZP1: Poster Session IX**

**Friday morning, November 3**

**9:30–12:30**

- (1-59) Supplemental
- (60-85) Postdeadline