APRIL MEETING 2011

April 30–May 3
Hyatt Hotel Orange County

General Information
Welcome to the April Meeting 2011 of the American Physical Society. We hope you benefit from attending the fine program organized by the April Meeting Program Committee, and that you enjoy your stay in California.

About the Program
The April Meeting will offer an outstanding scientific program consisting of three plenary sessions, approximately 75 invited sessions, more than 100 contributed sessions, and three posters sessions. The list of plenary talks appears under APS Meetings and Events and in the scientific program on page 9.

Participating APS Units
Divisions: Astrophysics, Nuclear Physics, Particles and Fields, Physics of Beams, Plasma Physics, Computational Physics
Forums: Education, Physics and Society, International Affairs, History of Physics, and Graduate Student Affairs

Americans with Disabilities Act Statement
The APS wishes to take any steps required to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently due to the absence of auxiliary aids and services identified in the Americans with Disabilities Act. If any such services are necessary in order for you to participate in the April Meeting, please communicate your needs in advance to the APS Meetings Departments.

Registration Location/Hours
On-site registration will take place in the Grand Foyer. Registration hours are as follows:
- Friday, April 29: 2:00pm–7:00pm
- Saturday, April 30: 7:00am–5:00pm
- Sunday, May 1: 7:00am–4:00pm
- Monday, May 2: 7:00am–3:00pm
- Tuesday, May 3: 7:00am–10:00am

Badge Checking
You must register for the meeting in order to attend. Please wear your badge at all times during the meeting. There will be security personnel on-site checking for badges. Attendees without badges will not be allowed into the sessions.

E-mail Service
E-mail service will be available in Royal Registration for attendees to retrieve and send e-mail messages during the following hours:
- Saturday, April 30: 7:00am–6:00pm
- Sunday, May 1: 7:00am–6:00pm
- Monday, May 2: 7:00am–6:00pm
- Tuesday, May 3: 7:00am–2:00pm

Wireless Access
Free wireless internet access, sponsored by APS, is available in the public space at the Hyatt.
Group Name: APS
Passcode: AMPS

Audio-Visual Equipment
All rooms will be equipped with an LCD projector, overhead projector, screen, lavaliere microphone, and pointer. If you plan on doing a PowerPoint presentation, please bring your program on your own laptop computer, and be sure to visit the Speaker-Ready Room to run through your presentation to ensure that it goes smoothly during the session. When you arrive at the session in which you are speaking, if you are using the LCD projector, please have your laptop turned on and ready to go. If you require additional equipment it can be rented by ordering directly through APS’s contracted A-V company servicing the meeting in the Valencia room. Note: you are not allowed to bring/use your own projectors at the meeting.
You are strongly encouraged to visit the Speaker-Ready Room to run through your presentation. A-V technicians will be on-hand to assist you with any problems you might have according to the following schedule:

<table>
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<tr>
<th>Day</th>
<th>Time</th>
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<tr>
<td>Friday, April 29</td>
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<td>Tuesday, May 3</td>
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A schedule of news conferences can be obtained from the Press Room: Granada.

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To amplify the impact, the APS Washington Office follows up each letter with a call or visit to congressional staff.

The strongest and most persuasive advocates on Capitol Hill come from a Senator or Representative's constituents. That means you! If you live in the United States, you are qualified to write to your members of Congress.

Contact Congress is sponsored by the APS Washington Office. If you have any questions about what is happening in DC, just stop by the Contact Congress desk to ask the experts.
Selected Sessions for APS ONLINE PRESENTATIONS TRIAL

The worldwide web has revolutionized the exchange of information and the interaction of scientists. With nearly 25% of the (non-student) APS membership living outside of the United States, the APS is endeavoring to better serve those members who cannot travel to the United States for APS meetings. Consequently, we are exploring options for increasing online access to speakers’ presentations at the Society’s meetings.

While some APS units have posted online presentations from their individual sessions at certain meetings, a more comprehensive approach seems to be warranted. At the April Meeting 2011, the Society will conduct a test trial of the usefulness and acceptance of online presentations from a broader cross-section of plenary, scientific and general-interest sessions. The information and statistics gathered in this test trial will be used to guide the long-term planning for providing online access to future APS meetings.

As a first step, we plan to provide web access to the slide presentations from a small selection of sessions during the April Meeting that we believe would appeal to a broad audience and represent a wide range of interests. These are listed below and will be available at: http://www.physics.wisc.edu/APSApril2011

APS Plenary Sessions
- Session A1: The Kavli Foundation Plenary Session: 100 Years of Subatomic Physics
- Session P1: Plenary Session II
- Session V1: Plenary Session III

Scientific Divisions’ Sessions
- Session T1: The Future of Particle Physics (DPF)
- Session J1: The Essence of Neutrinos (DPF, DNP)
- Session Q3: Direct Detection of Dark Matter (DAP)
- Session J3: New Results from the Cosmos (DAP)

Forums’ Sessions
- Session E5: Nuclear Weapons at 65 (FPS)
- Session J6: The Digital Divide in 2010 (FIP)
- Session Y5: Science Diplomacy (FIP, FPS)
- Session R5: Status of Arms Control (FPS)
Improving Your Skills as a Research Mentor

Workshop Registration
Friday, April 29
1:30pm–5:30pm
Salon V

Cost: Free
Space is limited.
Presenter: Eric Hooper
Astronomy & Physics
University of Wisconsin-Madison

About the Workshop

Common Mentoring Questions
• How do you effectively mentor individuals at different stages of their careers?
• Are you ready to address the NSF’s new requirement about mentoring post-docs in your next proposal?
• Can you learn to become a more effective mentor through training?

For many academics, typical answers to these questions include, "I try to make adjustments based on the trainee, but I don’t have a specific plan"; "Yeah, I’d better start thinking about that"; and "There’s training?"

Mentoring Preparation

Scientists often are not trained for their crucial role of mentoring the next generation. Based on a research mentor training program developed at the University of Wisconsin-Madison and modified for Physics by the American Physical Society, this workshop is designed to help you start to become a more effective mentor. Through case studies, activities and small-group discussion, we will:

• Learn the core elements of mentoring.
• Be able to more clearly define your role as a mentor.
• Share mentoring challenges and solutions with one another.
• Practice diverse communication strategies.
• Articulate expectations for your mentoring relationship.
• Develop practical tools and strategies that you can implement immediately to become a more effective mentor.

• Learn how to implement a more extensive version of this seminar back home using an interactive “shopping cart” style website that contains all of the materials and instructions on how to use them.

Contact: Monica Plisch
Assistant Director of Education
plisch@aps.org
(301) 209-3273

Professional Skills Development Workshop for Women Physicists
Friday, April 29

Workshop
8:00am–5:00pm
Salons VII-VIII

Reception
5:00pm–6:30pm
Salon II

Reception is for workshop participants only.

The Professional Skills Development Workshop is a one-day workshop offering training on effective negotiation and communication skills for women post doctoral associates and tenure-track women faculty in physics. The workshop will be led by professional facilitators using an interactive format that encourages highly personal learning. Lunch will be provided and a reception for participants will follow the workshop. Pre-registration only.

Student Career Panel & Networking Reception
Friday, April 29
7:00pm–10:30pm
Garden 1-2

Spend an informal evening meeting and networking with fellow physics students and learn about a variety of career paths from several physicists. There will be opportunities to ask questions, share stories, and perhaps win a prize. Light fare will be served. This event is for students only.
Plenary Sessions
Three exciting plenary sessions are planned for the APS April Meeting. There will be three talks by prominent speakers in each plenary session.

Kavli Foundation Plenary Session:
100 Years of Sub-Atomic Physics – Session A1
Saturday, April 30
8:30pm–10:18am

From Rutherford to the LHC - Keynote Address
Steven Weinberg (University of Texas at Austin)

LHC Results
Maria Spiropulu (CERN/Caltech)

Closing in on Dark Matter
Dan Hooper (Fermilab)

Plenary II – Session P1
Open to the Public
Monday, May 2
8:30am–10:18am

Exoplanet Update
John Johnson (Caltech)

Science Policy
Carl Wieman (OSTP)

Energy Technology (Batteries)
Yang Shao-Horn (MIT)

Plenary III – Session V1
Tuesday, May 3
8:30am–10:18am

What’s Up with the Proton Radius
Bill Marciano (Brookhaven National Lab)

Accelerators Across Physics and Society
Stuart Henderson (Fermilab)

QM and Gravity Wave Detection
Nergis Mavalvala (MIT)

Special Evening Sessions
Session F2
Physics in Hollywood
Saturday, April 30
7:30–9:30pm
Grand A

Panelists include: Bill Prady, Big Bang Theory; Jaime Paglia and Bruce Miller, Eureka; John de Lancie (Q on Star Trek: The Next Generation).

Session N1
Astronomy and Astrophysics: Future Opportunities
Sunday, May 1
8:30pm–10:00pm
Grand A

Speakers: Roger Blandford, Carl Wieman, Dennis Kovar, Jon Morse, Adam Burrows
**APS MEETINGS / EVENTS**

*(In chronological order)*

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**APS/Welcome Reception**

*Saturday, April 30*

5:45pm–7:00pm

*Poolside - North Tower*

All April Meeting attendees are invited to attend and join your colleagues for refreshments by the pool.

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**Physics in Hollywood – Session F2**

*Saturday, April 30*

7:30–9:30pm

*Grand A*

Panelists include: Bill Prady, *Big Bang Theory*; Jaime Paglia and Bruce Miller, *Eureka*; John de Lancie (Q on *Star Trek: The Next Generation*).

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**Meet the APS Journal Editors**

*Sunday, May 1*

3:30pm–5:30pm

*Grand Foyer*

The editors of *Physical Review C, D*, and *Letters, Review of Modern Physics, Physical Review Special Topics-Physics Education Research*, and *Physics*, cordially invite you to join them for conversation and refreshments. Your questions, criticisms, compliments and suggestions about the journals are welcome. We hope you will attend.

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**APS Prizes and Awards Ceremonial Session and APS Past President’s Address – Session M1**

*Sunday, May 1*

5:30pm–6:30pm

*Grand CDE*

Prizes and awards will be bestowed on individuals for outstanding contributions to physics. Please plan on attending the Awards Program and join us in honoring these individuals. Preceded by:

*Presentation by the Outgoing APS President–Curt Callan*

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**APS Editorial Q&A – Session J12**

APS and Open Access

*Sunday, May 1*

2:30pm–3:30pm

*Royal CD*

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**Astronomy and Astrophysics: Future Opportunities**

*Sunday, May 1*

8:30pm–10:00pm

*Grand A*

Sponsored by the Division of Astrophysics (DAP)

Participants: Roger Blandford, Jon Morse, Dennis Kovar, Adam Burrows, Ed Seidel, Carl Wieman
**Graduate Student Career Panel & Networking Reception**

*Friday, April 29*

*7:00pm–10:30pm*

*Garden 1-2*

Cost: Free to Students

This event is for students only.

Are you looking for some guidance on conducting a successful job search? Would you welcome an opportunity to informally network with your peers as well as employers who can give you advice on your future career plans? Come to this free Career Panel & Networking Reception, where you will learn the steps you should take to maximize your job-seeking efforts, how to refine your CV or Resume to standout, and how to use networking as a tool for taking your job search to the next level. There will be opportunities to put your newly acquired networking skills into practice. Refreshments will be served.

**Student Resource Room**

*Saturday through Monday*

*10:00am–3:00pm*

*Barcelona*

Have a little down time? Stop by the APS Student Resource Room to connect with fellow students. Society literature and refreshments will be available. To gain entry to the Student Resource Room, you must first go to the APS Membership Desk in the Governors Square Foyer for an entry sticker. Attach the sticker to your badge.

**Future Physicist Days**

*Sponsors:*

![APS](image)

![CUR](image)

![SPS](image)

*Saturday, April 30*

*10:45am–12:30pm*

**Session B13: Undergraduate Research including SPS**

*Royal EF*

**Luncheon**

*12:30pm–1:30pm*

*Royal EF*

**Undergraduate Awards Reception**

*5:30-7:30pm*

*Salons VII-VIII*

**Companions’ Welcome Breakfast**

*Saturday, April 30*

*9:00am–10:30am*

*Harbor Room*

Open to companions and families only.

Please be on-time. Breakfast served from 9:00-9:30am—food service will stop at 9:30am.

Presentation at 9:30am.

Cost: Free

Companions of the attendees of the April Meeting are invited to a complimentary breakfast to meet other companions and learn about the Anaheim area. A continental breakfast will be available from 9:00am–9:30am. A presentation will be made at 9:30am by a representative of the Anaheim Convention and Visitors Bureau.

At the breakfast you will receive information about the sites and attractions in Anaheim and Orange County. The breakfast is restricted to companions and families of April Meeting attendees – April Meeting registrants not admitted.
COM/CSWP Networking Reception
Sunday, May 1
6:30pm–8:00pm
Salon I

Come learn about the work of the Committee on Minorities in Physics (COM) and the Committee on the Status of Women in Physics (CSWP), network with colleagues, and unwind after a long day of sessions.

Graduate Students Lunch with the Experts
Sunday, May 1
12:00pm–1:30pm
Salon I and Salon II

Graduate students can sign up on-site to enjoy complimentary box-lunch while participating in an informal discussion with an expert on a topic of interest to them. Sign-up will take place beginning on Saturday, April 30 at 1:00pm at the APS registration desk, and will be on a first-come, first-served basis. Attendance is limited to eight students per topic.

Graduate Student Lunch Topics
DAP Sponsored Topics

1. Dark Matter
   Dan Hooper, Fermilab

2. Exploring the Extreme Universe with Gamma Rays
   Elizabeth Hays, Goddard Space Flight Center

3. Gravitational Waves
   Neil Cornish, Montana University

4. Time Domain Astronomy
   Alicia Soderberg, Harvard University

DNP Sponsored Topics

5. Nuclear Reactions
   Michael Thoennessen, Michigan State University

6. Relativistic Heavy-Ion Collisions
   Richard Seto, UC Riverside

DPF Sponsored Topics

7. Experimental Particle Physics and Applications
   Doug Bryman, University of British Columbia

8. Neutrinos
   Kate Scholberg, Duke University

9. Physics at the LHC
   Ian Hinchliffe, LBL

GGR Sponsored Topic

10. Gravitational Wave Detection
    Nergis Mavalvala, MIT

Discussion on LGBT+ Issues in Physics
Monday, May 2
8:00pm–10:00pm
Salon VII-VIII

Currently there is extremely little in the way of resources for LGBT+ (lesbian, gay, bisexual, transgender, intersex, queer, questioning, asexual, pansexual, etc.) physicists. This meeting will be an open conversation to continue creating these resources. The session is open to both LGBT+ physicists as well as straight and cisgender people who are interested in helping those of us who aren’t. Some topics that will be on the discussion floor: lack of employment protections on the basis of sexual orientation, gender identity, or gender expression, lack of data on the LGBT+ physicist demographics, health insurance policies that cover domestic partners and transgender related health care, the “2010 State of Higher Education for LGBT People” published by Campus Pride, and how we can continue to make networking resources so that LGBT+ physicists have a means of communicating with one another. Please bring an open mind.

If you have any questions please let us know at lgbt.physicists@gmail.com or visit us at http://lgbtphysicists.x10hosting.com

CSWP/DPF Networking Breakfast for Women in Physics
Tuesday, May 3
7:30am–9:30am
Salons VII-VIII

Who May Attend
All are welcome, both men and women.

Cost: $15, Students: $5.00

NOTE: Breakfast costs have been partially defrayed through the generosity of the Division of Particles & Fields (DPF).

Enjoy a delicious breakfast and hear an informal talk by physicist Kate Scholberg of Duke University.

A limited number of tickets can be purchased at the APS registration desk. No tickets sold at the breakfast.
**APS UNIT BUSINESS MEETINGS**

**Sunday, May 1**  
12:35pm–1:30pm  
**FPS Business Meeting** – Royal EF  
**FED Business Meeting** – Terrace AF

**Monday, May 2**  
5:30pm–6:30pm  
**DPF Business Meeting** – Grand A  
**DNP Business Meeting** – Garden 4  
**FHP Business Meeting** – Garden 1  
**DAP Business Meeting** – Grand E  
**GGR Business Meeting** – Royal CD  
**GPMFC Business Meeting** – Royal EF  
**FIP Business Meeting** – Royal AB

**SATELLITE MEETINGS**  
*(Events sponsored by non-APS groups)*

**Neutron Lifetime Collaboration**  
Friday, April 29  
8:00am–5:00pm  
Commodore Room

**PhysPag**  
Sunday, May 1  
9:00am–2:00pm  
Harbor Room

**DPF Task Force on Instrumentation**  
Monday, May 2  
10:00am–2:00pm  
Salon I

**JLAB Users Group**  
Monday, May 2  
12:30pm–2:00pm  
Pacific Room

**Korean Physicist Symposium (supported by FIP)**  
Sunday, May 1  
3:30pm–5:30pm  
Salon V

**EXHIBITORS**

**APS Exhibit Dates/Hours:**  
Saturday, April 30–Monday, May 2  
9:00am–5:00pm

The following companies will exhibit their products at the April Meeting:  
Cambridge Univ. Press  
CRC Press-Taylor&Francis  
IOP Publishing  
Oxford University Press  
Springer  
Struck Innovative Systeme  
TeachSpin, Inc.  
Wiener, Plein & Baus Corp  
World Scientific Publishing
2011 PRIZES AND AWARDS

HANS A. BETHE PRIZE
Session R1
Christopher J. Pethick
Nordic Institute for Theoretical Physics
Citation: For fundamental contributions to the understanding of nuclear matter at very high densities, the structure of neutron stars, their cooling, and the related neutrino processes and astrophysical phenomena.

TOM W. BONNER
Session T4
Richard F. Casten
Yale University
Citation: For providing critical insight into the evolution of nuclear structure with varying proton and neutron numbers and the discovery of a variety of dynamic symmetries in nuclei.

JOSEPH A. BURTON FORUM AWARD
Session J5
M. Granger Morgan
Carnegie Mellon University
Citation: For his public service and major contributions in the field of risk analysis and its application leading to increased public understanding of issues at the interface of physics and society.

EINSTEIN PRIZE
Session X4
Ezra Ted Newman
University of Pittsburgh
Citation: For outstanding contributions to theoretical relativity, including the Newman-Penrose formalism, Kerr-Newman solution, Heaven, and null foliation theory. For his intellectual passion, generosity and honesty, which have inspired and represented a model for generations of relativists.

EXCELLENCE IN PHYSICS EDUCATION AWARD
Session G6
Physics Teaching Resource Agents represented by:
George Amann
Dutchess Community College, Retired
Lawrence Badar
Robert Beck Clark, Brigham Young University
Jan Mader (not pictured)
Great Falls Public Schools
Karen Jo Matsler
Dallas Baptist University
James Nelson
Santa Fe College
Citation: For providing peer-led professional development for 25 years to more than 5000 physics and physical science teachers nationwide through a network of more than 500 master teachers.

DWIGHT NICHOLSON MEDAL
Session T5
Noemie Benczer Koller
Rutgers University
Citation: For unselfish commitment to advocating the freedom of scientists around the world and for leadership in fostering equal opportunities for women in science.
2011 PRIZES AND AWARDS

PAIS – HISTORY OF PHYSICS PRIZE

Session B1
Silvan Schweber
Brandeis University, Emeritus

Citation: For his pioneering, in-depth studies in the history of nineteenth and twentieth century physics.

W.K.H. PANOFSKY PRIZE

Session H5
Douglas Bryman
University of British Columbia
Laurence Littenberg
Brookhaven National Laboratory
A.J. Stewart Smith
Princeton University

Citation: For leadership in the measurement of kaon decay properties and in particular for the discovery and measurement of $K^+\rightarrow\pi^+\nu\bar{\nu}$.

ANEESUR RAHMAN PRIZE

Session R4
James M. Stone
Princeton University

Citation: For his pioneering work in computational magnetohydrodynamics, including the development and dissemination of widely used codes, and the application of those codes to important problems in astrophysics.

J.J. SAKURAI PRIZE

Session L1
Estia Eichten
Fermilab
Ian Hinchliffe
Lawrence Berkeley National Laboratory
Kenneth Lane
Boston University
Chris Quigg
Fermilab

Citation: For work, charting a course for the exploration of TeV scale physics using multi-TeV hadron colliders.

FRANCIS PIPKIN AWARD

Session G5
Michael Romalis
Princeton University

Citation: For using ingenious high precision measurements of spin-precession to search for a nuclear electric dipole moment and other new fundamental spin interactions, and also for using such measurements to achieve the most sensitive magnetometry to date and demonstrate its utility for research in biomagnetism and medicine.
2011 PRIZES AND AWARDS

LEO SZILARD LECTURESHIP AWARD
Session J5

Johns F. Ahearne
Sigma Xi

Citation: For nearly four decades of selfless dedication to the nation, and for providing a voice of reason in advising on the use of physics for the benefit of society in areas as diverse as nuclear energy, arms control, risk communication, biological safety and ethics in science and engineering.

PRIZE TO A FACULTY MEMBER FOR RESEARCH IN AN UNDERGRADUATE INSTITUTION

Janet Seger
Creighton University

Citation: For significant contributions to the understanding of ultra-peripheral relativistic heavy ion interactions, skill in involving undergraduates in a large experimental research collaboration, and successful mentoring of undergraduates at her institution.

JOHN WHEATLEY AWARD
Session T5

Miguel Jose Yacaman
University of Texas, San Antonio

Citation: For the great impact that his efforts as an influential promoter of the development of physics have had, not only in Mexico, but also in Latin America and beyond.
Program Time-Blocks
Saturday: A–F
Sunday: G–N
Monday: P–U
Tuesday: V–Y
There are four time blocks for each day of the meeting.
(Saturday, Monday and Tuesday: 8:30am, 10:45am, 1:30pm and 3:30pm; Sunday: 8:30am, 10:30am; 1:15pm and 3:15pm.)
The time blocks are designated in alphabetical order beginning with time block “A” on Saturday at 8:30am, and ending with time block “Y” designating the 1:30pm session on Tuesday. See the Epitome for details.

Poster Codes
Posters are numbered sequentially.

Poster Presentations
If you are presenting a poster, please be sure to have your poster up prior to the start of the session to which you have been assigned, and taken down immediately at the end of the session. APS will not be responsible for posters left up after the end of each poster session. No A-V is allowed in the poster sessions. Posters will be on display between the hours of 10:00am to 5:00pm on the scheduled day of poster presentation. Consult the Poster Session Schedule (below) for exact times and a breakdown of poster topics.

Poster Session Schedule
Session D1: Poster Session I
Saturday, April 30
2:00-5:00pm
Imperial & Regal Rooms
1 - 8 Undergraduate Research
9 - 12 Physics Education
13 - 21 Plasma Physics
22 - 32 Tests of Physical Laws
33 - 38 General Physics

Session K1: Poster Session II
Sunday, May 2
2:00-5:00pm
Imperial & Regal Rooms
1 - 22 Astrophysics
23 - 34 Particles and Fields

Session S1: Poster Session III
Monday, May 2
2:00-5:00pm
Imperial & Regal Rooms
1 - 8 Nuclear Physics
9 - 10 Radiation Sources
11 - 17 Gravitation
18 - 20 Energy Research and Applications
21 - 23 Tests of Physical Laws II
24 - 32 Post-deadline Posters

A-V Policy at the April Meeting
In the interest of ensuring a professional and smooth-running meeting, the American Physical Society’s A-V policy is as follows:

General A-V Policy
In keeping with our legally binding contract with our A-V vendor, speakers are not permitted to bring their own projection equipment for use at the meeting.

Standard A-V in all Sessions
The standard A-V package consists of an LCD projector, overhead projector, screen, laser pointer and lapel microphone. Any additional A-V equipment must be rented by the speaker directly through APS’s designated A-V provider. The speaker is responsible for the cost of renting any additional equipment.

Policy and Guidelines on Use of LCD Projectors
The responsibility for a smooth, technically trouble-free presentation ultimately rests with the presenter. Speakers who plan to use LCDs must do the following:

• Bring your own laptop computer, power cord, and any proprietary cords required for your computer.
• Visit the Speaker-Ready room (Madrid) provided by APS to run through the presentation to ensure a smooth and technically trouble-free presentation. Testing your presentation in the Speaker-Ready room prior to your presentation is strongly recommended to minimize equipment compatibility difficulties. If you encounter difficulties, consult with the A-V technicians.
• Bring a back-up vu-graph presentation in case there are set-up difficulties with the LCD equipment.
NOTE: The APS is not responsible for the security of personal laptop computers. The APS strongly recommends that LCD projectors not be used for contributed talks (12 minute talks). The presentation schedule must be maintained, and as is too often the case, the set-up of the laptop/projector can be problematic, using up valuable presentation time.

Guidelines for Speakers
Oral Presentations
Please arrive at least 15 minutes prior to the scheduled time of your talk. Contributed papers are allocated 12 minutes each—10 minutes for presentation and 2 minutes for questions from the audience, unless otherwise specified. Invited papers are allocated 36 minutes—30 minutes for presentation and 6 minutes for questions from the audience.

Guidelines for Session Chairs
NOTE: Occasionally (and unfortunately) the chair for a session may not appear, in which case we ask that the first presenter serve as chair of the session.

1. Prior to the session, check the Program-Changes Board in the registration area to see if any papers have been withdrawn.

2. Arrive at the meeting room about 15 minutes prior to the start of the session and familiarize yourself with the controls for lights, microphones, A-V equipment and the timer. If you encounter problems, you should immediately alert the Meetings Manager and/or the A-V specialist.

3. Start the session on time. Briefly introduce yourself, announce the first paper and author, and start the timer.

4. Please adhere to the time schedule listed in the Bulletin, so that simultaneous sessions are as closely synchronized as possible. Many attendees move from session to session in order to hear specific papers.

5. The allotted time for contributed papers is 12 minutes; for invited papers—36 minutes. If you are chairing a session that includes both contributed and invited papers please be aware of the different times allocated for each and set the timer as follows:

   • Contributed papers—set timer for 8 minutes to give initial warning, then set the final bell to go off 2 minutes later. When this time is up, allow 2 additional minutes for questions relating to the paper, thank the speaker and promptly introduce the next paper and speaker.

   • Invited papers—set timer for 25 minutes for initial warning, and the final bell to ring 5 minutes later. Then set the timer for 6 additional minutes for questions from the audience. Explain the timing system to the audience prior to the start of the session, and as often during the session as you think necessary.

6. The By-Laws of the Society request that speakers be asked to stop when their allotted time is up in a courteous but firm manner. Keep in mind that the session must end on time, and that the last speaker has just as much right to an audience as does the first speaker.

7. Should a speaker fail to appear, call the author of the first supplementary paper assigned to the session, if any. If that author is not in attendance, call the author of the following supplementary paper, and so on. If there are no supplementary papers assigned to your session, allow the preceding discussion to continue, or recess the session until it is time for the next scheduled paper. At the end of the session, call again for the regularly scheduled paper, if time allows.

8. When two or more papers are submitted by an author, only one of these will be assigned a scheduled presentation time within that session. It is assumed that the first author listed in the abstract is the person who will present the paper at the meeting. Other papers with the same first author will be assigned as supplementary papers, to be called for if time permits. If you notice that an author who has already presented a paper rises to present another paper, you should request that this paper be presented at the end of the regular program as a supplementary paper, if time allows.

9. If any problems arise that you are unable to handle relative to successfully chairing the session, please inform the A-V tech in the room, or go immediately to the APS registration desk to alert the APS staff. Any time used by the speaker and/or technicians to set up laptops for LCD (Powerpoint) presentations is deducted from the time allocated for the talk.