Annual APS March Meeting 2002

March 18 — 22, 2002
Indiana Convention Center
Indianapolis, Indiana

General Information
Welcome to the Annual March Meeting of the American Physical Society. All scientific sessions will be held at the Indiana Convention Center. APS affiliated meetings and satellite meetings will be held at the Westin Hotel, headquarters hotel for the meeting. Consult the schedule of APS affiliated and satellite meeting schedules in this Bulletin for locations. An outstanding scientific program has been planned by the March Meeting Program Committee. The five-day program consists of approximately 5,000 papers to be presented in invited, contributed, focus and poster sessions. A larger, enhanced exhibit show will complement the scientific program. Attendees are encouraged to visit with exhibitors who will be displaying the latest products, instruments and equipment, computer software, as well as science publications related to the research and application of physics.

Participating APS Units
Divisions: Condensed Matter Physics (DCMP); Materials Physics (DMP); Polymer Physics (DPOLY); Chemical Physics (DCP); Biological Physics (DBP); Fluid Dynamics (DFD); Laser Science (DLS); Computational Physics (DCOMP); Atomic, Molecular and Optical Physics (DAMOP)
Forums: Industrial and Applied Physics; Physics and Society; History of Physics; International Physics; Education; Graduate Student Affairs

Registration Location/Hours
Sagamore Ballrooms 1 & 2
Indiana Convention Center
The APS Registration Desk will open and close at the following times.

Sunday, March 17 • 3:00pm - 8:00pm
Monday, March 18 • 7:00am - 5:00pm
Tuesday, March 19 • 7:00am - 5:00pm
Wednesday, March 20 • 7:00am - 5:00pm
Thursday, March 21 • 7:30am - 3:30pm
Friday, March 22 • 8:00am - 10:00am

Badge Monitoring
All attendees must register for the meeting. Attendees must wear their badges at all times. Security personnel will be checking for badges before allowing admission to the sessions. Attendees without badges will not be admitted to sessions or exhibits. If you have left your badge in your hotel room, please go to the APS registration desk for a new one. We will give you one replacement badge free. After that replacement badges will be charged $10.00.

APS Employment Center
Room 111-112/Convention Center
Monday, March 18 • 8:00am - 5:00pm
Tuesday, March 19 • 8:00am - 5:00pm
Wednesday, March 20 • 8:00am - 1:00pm

A beneficial feature of the meeting is the APS Employment Center (EC). The purpose of the Center is to facilitate communication between employers and candidates.
**Service to Employers**

EC registration includes posting positions, accessing resumes, with space provided for interviewing prospective candidates. Employment Recruiting Booths will also be available. If you are unable to attend, you may post jobs at the Center. Interested candidates will contact you directly. There is a modest fee for employer services. Discounted rates are given for advance registration.

**Service to Job Seekers**

The Employment Center is free of charge to candidates seeking employment. Your registration will allow you to post your resume, give you access to job listings, as well as the opportunity to talk informally with prospective employers in their employment booths. We will schedule interviews for you with prospective employers. Please bring at least 25 copies of your 1-3 page résumé. Attendees must register on-site.

**APS Exhibit Show/APS Lounge**

Exhibit Hall/Convention Center

Monday, March 18 • 8:00am - 5:00pm
Tuesday, March 19 • 8:00am - 5:00pm
Wednesday, March 20 • 8:00am - 4:00pm

The annual exhibit show at the March Meeting will be held March 18-20. The exhibits are an important adjunct to the meeting, offering information on a wide variety of physics-related products and services. In addition, book and periodical publishers will be participating as exhibitors. The poster sessions, and food concessions will be located in the exhibit hall, as will the E-mail Pavilion. A wine and cheese reception will be held in the exhibit hall on Monday and Tuesday from 4:00pm-5:00pm. Plan to stop by to visit the exhibits, view the posters and enjoy the refreshments.

**APS March Meeting Store**

Monday - Wednesday • 10:00am - 3:00pm
Located beside the APS membership booth on the 2nd level near the escalators. APS merchandise will be for sale - stop by the store to purchase t-shirts, mugs, toys, and more!

**Computerized Message Center**

Stop by the computerized voice-mail message center on the 2nd floor of the Convention Center outside Sagamore Ballroom 1 & 2. to retrieve and leave voice-mail messages for fellow attendees, as well as receive voice mail messages from home or office. Pre-registrants will have their names already in the message center database prior to arrival; on-site registrants’ names will be entered into the database as they are received periodically throughout each day. The phone number for the message center is: 317-917-8787.

**E-mail Service**

E-mail service will be available on Monday, Tuesday and Wednesday in the Exhibit Hall during exhibit hours only. E-mail will be available on Thursday in room 120, convention center. E-mail stations will be available for your use during the following hours:

- Monday, March 18 • 10:00am - 5:00pm (Exhibit Hall)
- Tuesday, March 19 • 10:00am - 5:00pm (Exhibit Hall)
- Wednesday, March 20 • 10:00am - 4:00pm (Exhibit Hall)
- Thursday, March 21 • 7:00am - 6:00pm (Room 120)

Please be advised that e-mail access is provided as a service to attendees, and that we cannot provide unlimited access to e-mail stations, both in terms of the number of stations provided and the length of time they are available.

**Speaker-Ready Room**

Room 140/Convention Center
(If this room is locked, please go to APS registration desk for assistance.)

The speaker-ready room will be open as follows:

- Sunday, March 17 • 2:00pm - 6:00pm
- Monday, March 18 • 7:00am - 5:00pm
- Tuesday, March 19 • 7:00am-5:00pm
- Wednesday, March 20 • 7:00am-5:00pm
- Thursday, March 21 • 7:00am-5:00pm
- Friday, March 22 • 7:00am-12:00pm
**Press Room/News Conference Room**  
Press Room: Room 114  
News Conference Room: Room 113  
Convention Center  
Monday through Wednesday • 8am-5:00pm  
Thursday • 8:00am-12:00pm  
The phone number for the press room is:  
317-262-1590  

**Child Care Services: Camp APS**  
Room 146-148/Convention Center  

APS has again contracted with ACCENT on Children’s Arrangements to provide child care services during the March Meeting 2002. For a $6.00 per-hour-fee you can deliver your child into the capable hands of ACCENT’s counselors at the APS children’s activity center in the Indianapolis Convention Center. ACCENT is a professional childcare company providing certified and insured childcare services to the children of convention attendees in a nurturing, safe, educational environment. They provide these services for many large conventions throughout the country, such as the American College of Obstetrics and Gynecology, American College of Physicians, American College of Cardiology, Walt Disney Corporation and McDonald’s Corporation. ACCENT’s counselors are childcare professionals, CPR-trained, and have years of experience with children. Each day will have themed activities including arts and crafts, games, and movies, ensuring that your children will be well-cared for and have an enjoyable time. ACCENT provides an exceptional camp counselor to child ratio: 1:3 for children ages 6 - 30 months, 1:4 ages 30 months - 4 years, 1:6 ages 4 - 6 years, and 1:8 ages 6 -17 years. To make arrangements for childcare services at the meeting, inquire at the APS Registration Desk.

**City Information Desk**  
The Indianapolis Convention and Visitors Bureau will host an information desk in the lobby near the exhibit hall of the Convention Center. Sunday, March 17 through Tuesday, March 19. Stop by to inquire about restaurants in the city and sightseeing.

---

**HOTEL LIST - MARCH MEETING**

A city/hotel map is located in the back of this book. All hotels are within walking distance of the Indiana Convention Center.

- **Westin Indianapolis** (headquarters)  
  50 South Capitol Avenue  
  317-262-8100

- **Marriott Hotel**  
  350 W. Maryland Street  
  317-822-3500

- **Hyatt Hotel**  
  One South Capitol Avenue  
  317-632-1234

- **Omni Severin Hotel**  
  40 West Jackson Place  
  317-634-6664

- **Canterbury Hotel**  
  123 South Illinois Street  
  317-643-3000

- **Crowne Plaza**  
  123 W. Louisiana Street  
  317-631-2221

- **Embassy Suites**  
  110 W. Washington Street  
  317-236-1800

- **Radisson City Center**  
  31 West Ohio Street  
  317-635-2000

- **Courtyard Marriott**  
  501 West Washington Street  
  317-635-4443

- **Hampton Inn**  
  105 South Meridian Street  
  317-261-1200

- **Days Inn**  
  401 East Washington Street  
  317-637-6464
PRE - MEETING PROGRAMS

Career & Professional Development Liaison Workshop
(poster session)
Saturday, March 16 • 8:00pm-9:00pm
Room 108-109/Convention Center
Cost: $100 (includes this workshop and Sunday workshop)

DPOLY Short Course: Glasses and the Glass Transition, Room 101
Saturday March 16 • 8:00 am – 5:00 pm
Sunday March 17 • 8:00 am – 5:00 pm
Cost: $400; $200 for students

Tutorials
Sunday, March 17
Convention Center
Cost: $75; $25 for students
Morning Tutorials #1-4
8:30am -12:30pm
T1: Superconducting Materials: What’s New (Room 102)
T2: Spintronics - New Horizons (Room 103)
T3: High Resolution Optical Microscopy in Materials Systems: Fundamentals and Applications (Room 104)
T4: Methods of Nonlinear Dynamics in Cellular Biophysics (Room 105)
Afternoon Tutorials #5-8
1:30 pm - 5:30 pm
T5: Coulomb Blockade and Single-Electron Tunneling (Room 102)
T6: Physicists Get Down to Business: Business Fundamentals for Physicists including Entrepreneurship and Intrapreneurship. (Room 103)
T7: Is a Beowulf Cluster the Answer to Your Computing Needs? (Room 104)
T8: Applied Magnetism and Information Storage Technology (Room 105)

Career & Professional Development Liaison Workshop
Sunday, March 17
7:30am – 1:15pm
Room 108-109/Convention Center
Cost: $100 (includes this workshop and Saturday workshop)

Management Problems of the Technical Person in a Leadership Role (Professional Development Seminar)
Sunday, March 17
8:00 am – 1:00 pm
Room 106/Convention Center
Cost: $75

Now, more than ever, as industries are experiencing major changes, there is a greater demand for exceptional management skills among technical managers. This workshop will address issues such as balancing technical, administrative, and people skills; maintaining your technical proficiency after becoming a manager; 6 easy-to-implement practices that multiply your communication effectiveness with subordinates, peers, and management; and much, much more. Each workshop participant will receive course materials, and will be given the opportunity to speak individually with the instructor after the seminar about specific problems, if time permits.
Workshop on Survival Skills for Successful Women Physicists

Sunday, March 17
1:30 – 6:00 pm
Capitol Ballroom III/Westin
Cost: $60

Seeking to improve your leadership skills? The Committee on the Status of Women in Physics will offer a half-day workshop on Survival Skills for Successful Women Physicists. The workshop will cover such issues as effective communication and networking, negotiation, leadership, advancement in organizations, and more. Seats will be limited. Registration is open to both men and women. You need not be registered for the APS Annual Meeting in order to attend this workshop, but pre-registration is strongly recommended. Information on the program and invited speakers as well as registration information is available on the CSWP website at http://www.aps.org/educ/cswp/index.html.

Career Workshop

Sunday, March 17
3:00pm – 6:00pm
Room 120/Convention Center

The APS will offer a career workshop free of charge to all APS attendees. The purpose of the workshop is to provide information on career choices in physics. Topics such as: How to Prepare an Effective Resume; Interviewing Skills; Networking; Job Search Skills; Clarifying Expectations; Diverse Options. and more will be covered at the workshop. Each workshop participant will receive a package of career development materials. No pre-sign-up for the workshop is required.
(Meetings sponsored by APS for the general attendance - listed chronologically)

**Contact Congress**

Sunday 3:00 – 8:00 pm, Mon.-Wed. 8am-5pm
Thurs. 8:00am – 11:00am.
Sponsored by DCMP and DMP.

Worried about the slashing of NSF, DoE and NASA funding? Concerned about the dearth of science literacy in our high-schoolers? Anxious about where the country’s security is heading? YOU can have an impact on national science policy!! Come write your representatives in Congress to let them know how you feel about science issues of interest to you. The most important letters that a Member of Congress receives are the ones from his or her constituents – you elect them, and you matter. The American Physical Society feels that it is incumbent on all of us to interact with the government, to offer technical assistance where we can, and to remind our Members of Congress that scientists have much to offer the country, in areas of basic science R&D funding, education, and energy policy. We have set up computers in the entrance area where you can send a letter to your Senators and Representatives - you can use our template or write your own letter on issues that matter to you.

If the state of affairs in Washington, DC, interests you, we have another way for you to get involved: the APS “Physics and Government Network,” a group of APS members who volunteer to contact their representatives in Congress a few times a year at critical junctures. PGNet signup fliers will be available at the registration desk and at the “Contact Congress” computers. Come help make science more visible in Congress!!

**5th Annual Run-for-Health**

Monday, March 18
6:30am-7:30am (runners assemble at 6:15am in convention center lobby near the main entrance/Maryland Street)
Cost: $25
You must be pre-registered for this event - there is no registration for the Run on-site.

**Awards Program**

Monday, March 18
5:30pm – 6:15pm
Sagamore Ballroom 3/Convention Center

See page 18 for list of award recipients and award citations. Prizes and awards will be bestowed on several individuals for outstanding contributions to physics. Please plan on attending the Awards Program and join us in honoring these individuals.

**Welcome Reception**

Monday, March 18
6:15pm - 7:30pm
500 Ballroom/Convention Center

The Welcome Reception follows the Award Program. All attendees are invited to join their colleagues for refreshments.

**Special Symposium**

Science 2002: Washington Perspectives
Monday, March 18
7:30pm-9:00pm
Grand IV/Westin

Dr. John Marburger, Director of the Office of Science and Technology Policy and Science Advisor to the President, will present science perspectives from Washington.

**Wine and Cheese Reception**

Monday and Tuesday • 4:00pm - 5:00pm
Exhibit Halls D-E/Convention Center

**Panel Discussion with PR/PRL Editors**

Tuesday, March 19
2:00 pm – 3:00 pm
Room 120/Convention Center

The panel will include Editors from Physical Review Letters, Physical Review B, and Physical Review E. They will briefly discuss some current issues facing the journals, such as raising the standards for
PRL acceptance and the role of electronic media attachments (e.g. movies) to journal articles. Opinions on these issues from the audience will be solicited. The Editors will also respond to questions and comments from the audience. Martin Blume, Editor-in-Chief (BNL) will moderate. Panelists will include Peter Adams, Physical Review B; Irwin Oppenheim, Physical Review E (MIT); Jack Sandweiss, Physical Review Letters (Yale); Reinhardt Schuhmann, Physical Review Letters.

Meet the Journal Editors of APS and AIP

Tuesday, March 19
3:30pm – 5:30pm
2nd Level, outside Sagamore 6-7
Convention Center

The Editors of the APS and AIP journals cordially invite you to join them for conversation and refreshments on Tuesday, March 19, 3:30pm - 5:30pm, location to be announced. Your questions, criticisms, compliments, and suggestions about the journals are welcome. We hope you will be able to join us. Sponsored by Physical Review, Physical Review Letters, & Physical Review Special Topics. The journal editors will be available to answer questions and share concerns about the journals at this drop-in reception. Stop by for refreshments - all are welcome.

Stop by for refreshments and discussion with the editors of the journals listed below:

Journals of The American Physical Society:
• Physical Review B
• Physical Review E
• Physical Review Letters
Journals of the American Institute of Physics:
• Applied Physics Letters
• Chaos
• Journal of Mathematical Physics
• Review of Scientific Instruments

Frank Isakson Prize Reception

Wednesday, March 20
6:00pm – 8:00pm
Grand II/Westin

Physicists and Counter-Terrorism

Wednesday, March 20
7:30pm – 9:00pm
Grand IV/Westin

Steven Block, Stanford University and Wayne Shotts are scheduled to discuss physicists and counter-terrorism.

COM/CSWP Reception

Sunday, March 17
6:00pm – 8:00pm
Congress I & II/Westin

The Committee on Minorities (COM) and the Committee on the Status of Women in Physics (CSWP) will co-host a dessert reception. Committee newsletters and other publications will be available. This is an excellent opportunity to socialize and network. All with an interest in issues pertaining to women and minorities in physics are welcome.

CSWP/FIAP Networking Breakfast

Monday, March 18
7:00am – 9:00am
State Room/Westin
Cost: $15 ($5 for students)

CSWP and the Forum on Industrial and Applied Physics (FIAP) will sponsor a networking breakfast on Monday, March 18, 2002 at the APS meeting in Indianapolis. An informal talk given by Roberta Gleiter, Global Institute for Technology and Engineering will be followed by a chance for discussion and networking.
Companions Welcome Breakfast

Monday, March 18
8:30am–10:00am
Cameral Room/Westin
Cost: Free

For companions and families only - registered meeting attendees not admitted. Companions of the attendees of the March Meeting are invited to a complimentary breakfast to meet other companions and learn about the city of Indianapolis. A presentation regarding sights and attractions in Indianapolis will be made by a representative of the Indianapolis Convention and Visitors Bureau.

Teachers Day

Tuesday, March 19
7:30am–3:30pm
Capitol I-II/Westin

Each year at the March Meeting, the APS sponsors a High School Physics Teachers’ Day for local teachers in the host city. Activities include talks by research physicists about their cutting-edge work, and workshops presenting hands-on activities for the participants to use in their classrooms, typically with giveaway materials. At lunch, groups of five teachers are seated with a physicist, for an informal exchange of ideas.

MGM Award Winners Panel Discussion/Reception

Tuesday, March 19
3:30–4:30 p.m. (reception 4:30-5:30 p.m.)
Cameral Room/Westin

To honor the 15th Anniversary of the Maria Goeppert Mayer Award, the Committee on the Status of Women in Physics (CSWP) will sponsor a special panel discussion to honor the 15 past winners of the award, including the newest winner, Deborah Jin. Following the discussion, please join us for coffee/tea and light refreshments.

FIP Reception

Tuesday, March 19
6:00pm - 8:00pm
Congress I/Westin

Student Social Hour

Tuesday, March 19
5:30pm-6:30pm
500 Ballroom/Convention Center

DCMP/DMP Reception

Tuesday, March 19
5:30pm – 6:30pm
Grand IV/Westin

PhysTec Reception

Tuesday, March 19
5:30pm – 7:00pm
House Room/Westin
By invitation only

DPOLY Prize Winners Reception

Tuesday, March 19
6:30pm – 8:00pm
Reception Room/Convention Center

Students Lunch with the Experts

Wednesday, March 20
1:00pm – 2:30pm
500 Ballroom/Convention Center

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. Topics are listed below. Sign-up will take place beginning on Monday, March 18 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/expert. You must show your ticket and badge at the door, and sit at the table for which you have a ticket.
STUDENT LUNCH WITH THE EXPERTS TOPICS

Topics

1. Bioimaging and Nanobiology (sponsored by FIAP)
   Lydia Sohn, Princeton University

2. Physics in the Energy Industry (sponsored by FIAP)
   Larry Schwartz, Schlumberger

3. Physics of Magnetic Recording (sponsored by GMAG)
   Barbara Jones, IBM Almaden Research Center

4. Physics of Magnetoelectronic Devices (sponsored by GMAG)
   Chia-Ling Chien, Johns Hopkins University

5. Semiconductor Instrumentation and Measurements: Real World Applications of Physics (Sponsored by GIMS)
   David G. Seiler, NIST

6. Granular Materials (sponsored by GSNP)
   Robert Behringer, Duke University

7. Nonlinear Dynamics and Chaos in Condensed Matter Physics (sponsored by GSNP)
   David Campbell, Boston University

8. Heavy Fermions & Materials Synthesis (sponsored by DCMP)
   John Sarrao, Los Alamos National Lab

9. Superconducting Applications (sponsored by DCMP)
   Don Gubser, NRL

10. Advances in MR Imaging of Individual Biological Cells (sponsored by DCMP)
    Luisa Ciobanu, Ohio State University

11. Advances and Opportunities for Electronic Structure Calculations (sponsored by DCMP)
    David Singh, NRL

12. The Differing Roles (and future) of Academic and Industrial Research (sponsored by DCMP)
    Stephen Forrest, Princeton University

13. Condensed Matter Physics Using High Magnetic Fields (sponsored by DCMP)
    Greg Boebinger, LANL

14. Transport through Quantum Dots (sponsored by DCMP)
    Harold Baranger, Duke University

15. Soft Condensed Matter (sponsored by DCMP)
    Paul Chaiken, Princeton University

16. Theory of Dielectric and Ferroelectric Materials (sponsored by DCMP)
    David Vanderbilt, Rutgers University

17. Quantum Hall Effect (sponsored by DCMP)
    Nick Read, Yale University

18. Spintronics (sponsored by DCMP)
    Stu Wolf, DARPA / NRL

19. Organic Light Emitting Devices (OLED’s) (sponsored by DCMP)
    Joseph Shinar, Iowa State University

20. Quantum Computing (sponsored by DCMP)
    Lov Grover, Lucent

21. CMR in Manganites (sponsored by DCMP)
    Christie Nelson, BNL

22. Vortex Matter (sponsored by DCMP)
    Stephen Teitel, University of Rochester

23. Epitaxial Growth (sponsored by DCMP)
    Maria Bartelt, LLNL

24. Atomic Scale Electron Microscopy and Inelastic Scattering (sponsored by DCMP)
    Philip Batson, IBM
25. XAFS and Local Atomic Structure in crystals (sponsored by DCMP)  
   Bud Bridges, UC, Santa Cruz

26. Dynamics of Complex Systems  
   (sponsored by DCMP)  
   Ray Orbach, University of California

27. Experimental Realizations of Quantum Computers (sponsored by DCMP)  
   Rob Schoelkopf, Yale University

28. Physics of Polymer Interfaces  
   (sponsored by DPOLY)  
   Edward J. Kramer, UC, Santa Barbara

29. SiGe/Si Heterostructures: Materials Physics and Applications  
   (sponsored by DMP)  
   Pat Mooney, IBM T. J. Watson Research Center

30. Computational Materials Science and New Materials for Optoelectronics  
   (sponsored by DMP)  
   Chris Van de Walle, Xerox PARC

31. Colossal Magnetoresistance  
   (sponsored by DMP)  
   John Mitchell, Argonne National Lab

32. Optics in Industry (sponsored by FIAP)  
   Willes H. Weber, Ford Motor Company

33. Pattern Formation and Complex Fluids  
   (sponsored by GSNP)  
   Guenter Ahlers, UC, Santa Barbara

34. Liquid Drops  
   (sponsored by DCMP)  
   Sid Nagel, University of Chicago

35. Applications of Advanced Aerospace Materials  
   (sponsored by DPOLY)  
   Wade Adams, Rice University

**APS UNIT BUSINESS MEETINGS**

**Tuesday, March 19 - 5:30pm – 6:30pm**

- DCMP Reception (Joint with DMP) followed by DCMP Business Meeting  
  Grand IV/Cabinet Room/Westin

- DMP Reception (Joint with DCMP) followed by DMP Business Meeting  
  Grand IV/Congress II/Westin

- FIAP Business Meeting  
  Sagamore 7/Convention Center

- DPOLY Business Meeting  
  Room 101-102/Convention Center

- GMAG Business Meeting  
  Room 108/Convention Center

- GIMS Business Meeting  
  Room 139/Convention Center

- GSNP Business Meeting  
  Room 207/Convention Center

- DCP Business Meeting  
  Room 211/Convention Center

**Wednesday, March 20 - 5:30pm – 6:30pm**

- DBP Business Meeting  
  Room 209/Convention Center

**APS COMMITTEE MEETINGS**

- March 2003 Program Committee  
  Wednesday, March 20  
  7:30am – 9:30am  
  Capitol I/Westin

- CSWP Meeting  
  Wednesday, March 20  
  8:00am – 4:00pm  
  Congress I/Westin
SATELLITE MEETINGS
(Ancillary meetings sponsored by non-APS groups)

SRC Program Advisory Committee Meeting
Sunday, March 17
8:30am – 3:00pm
House Room/Westin

COSMQC Oversight Committee
Sunday, March 17
2:30pm – 6:00pm
Cameral Room/Westin

Alumni Reunions/Tuesday, March 19
6:00pm – 8:00pm
Unless otherwise noted, all reunions will take place in the Westin Hotel and begin at 6:00pm.

Brown University (Michigan Room, Marriott)
McMaster University (Senate II)
Valparaiso University (Senate I)
Cornell University (Capitol I)
Michigan State (Senate III)
University of Illinois (Capitol II)
MIT (Caucus)
Penn State (Council)
IBM (Grand I)
University of Minnesota (State)
State of Florida Universities (Grand II, 6:30pm)

Alumni Reunion/Wednesday, March 20
Reunion de Argentinos
(Congress II, Wednesday, 7:00pm)

ES2002 Workshop
Tuesday, March 19
8:00pm – 11:00pm
Board Room/Westin

RSI Editorial Luncheon
Wednesday, March 20
12:00pm – 2:00pm
Capitol III/Westin

NSF Drop-In Session
Wednesday, March 20
5:30pm – 7:00pm
Grand III/Westin
Prizes and awards will be presented on Monday, March 18 at 5:30pm.

David Adler Lectureship Award
Chris G. Van de Walle, Xerox
Session D6
For his incisive theoretical contributions to the understanding of the behavior of hydrogen in semiconductors and heterostructure energy band diagrams and the exceptional exposition of this work in the scientific community.

Apker Award Ph.D
Kathryn Todd,
California Institute of Technology
Session Q4
“Studies of Double-Layer Two-Dimensional Electron Gases”

Apker Award Non Ph.D
Robert Wagner,
Illinois State University
Session Q4
“Intense Laser Physics Theory”

Biological Physics Prize
Carlos Bustamante,
University of California, Berkeley
Session D2
For his pioneering work in single molecule biophysics and the elucidation of the fundamental physics principles underlying the mechanical properties and forces involved in DNA replication and transcription.

Oliver E. Buckley Prize
Jainendra Jain
Pennsylvania State University
Session G2
Nicholas Read,
Yale University
Session G2
Robert Willett
Lucent Technologies
Session G2
For theoretical and experimental work establishing the composite fermion model for the half-filled Landau level and other quantized Hall systems.

John H. Dillon Medal
Timothy J. Bunning
Air Force Research Laboratory
Session J2
For his outstanding accomplishments in developing polymer based materials for optical applications and for elucidating the physics and chemistry underlying their formation.

Polymer Prize
Tom Witten,
University of Chicago
Session F2
For outstanding theoretical contributions to the understanding of polymers and complex fluids.

George E. Valley, Jr. Prize
David Goldhaber-Gordon,
Stanford University
Session T6
For the discovery and elucidation of the physics of the Kondo effect in single electron transistors.
**APS PRIZES AND AWARDS**

**Frank Isakson Prize**  
James Allen,  
*University of Michigan*  
Session M1  
Thomas Timusk,  
*McMaster University*  
Session M1  
For their outstanding contributions to the field of spectroscopy in strongly correlated electron systems leading to elucidation of many-body physics.

**James C. McGroddy Prize**  
Sumio Iijima,  
(no picture available)  
NEC  
Session D6  
Donald S. Bethune,  
(no picture available)  
IBM  
For the discovery and development of single-wall carbon nanotubes, which can behave like metals or semiconductors, can conduct electricity better than copper, can transmit heat better than diamond, and rank among the strongest materials known.

**Keithley Award**  
Robert J. Soulen, Jr.,  
*Naval Research Laboratory*  
Session R7  
For developing low temperature noise thermometry to achieve an absolute thermometer which now defines the year 2000 International Temperature Scale between 1 mK and 1 K to an accuracy of 0.1%, and for other significant contributions to thermometry measurement over a distinguished career.

**Maria Goeppert-Mayer Award**  
Deborah S. Jin,  
*National Institute of Standards and Technology*  
Session M3  
For her innovative realization and exploration of a novel quantum system, the degenerate Fermi atomic gas, and the scientific promise portended by her pioneering work.

**Lars Onsager Prize**  
Anatoly I. Larkin,  
*University of Minnesota*  
Session Q3  
For elucidating roles of fluctuations and randomness in collective phenomena, including critical behavior of uniaxial ferroelectrics, dependence of critical exponents in four dimensions on symmetry, and how impurity pinning of vortices in superconductors destroys lattice order and controls critical currents.

**George E. Pake Prize**  
Paul Horn,  
*IBM*  
Session M2  
For his innovative contributions to the understanding of 1/f noise, the elucidation of surface phases and phase transitions, and his signal achievements in managing IBM Corporation’s global research team.

**Earle K. Plyler Prize**  
Graham Fleming,  
*University of California, Berkeley*  
Session S32  
For his seminal work on chemical reaction dynamics in liquids and the dynamics of fundamental biological processes using femtosecond laser spectroscopy.
FOCUS SESSIONS

DBP:
Session B30: Biomolecules in Minimal Solvent Environments
Session M29: Single Molecule Imaging
Session Q29: Micro-Nanofabrication in Biological Physics
Session Q30: Dynamics of Cardiac Fibrillation
Session U30: Dynamics of Evolution/Neurobiological Physics

DCMP:
Session B12: Vortex Phases
Session D12: Superconducting Qubits I
Session G12: HTS: Pseudogap in Cuprates
Session J13: Josephson Junction Arrays and XY Models
Session J18: FQHE I: Composite Fermions
Session L13: Classical and Quantum Monte Carlo Studies
Session L18: FQHE Edges/Phonon Scattering in Magnetic Fields
Session M14: STM Spectroscopy of Oxide Superconductors
Session M17: GaN, GaP, and Related Materials
Session Q12: HTS: Optical Properties I

DCP:
Session A32: Two Dimensional Nonlinear Spectroscopy
Session B32: Nonlinear Computing and Polarization Spectroscopy
Session D32: Molecular Dynamics From Nonlinear Spectroscopy
Session F31: Metal Nanoclusters: Physical Properties and Preparation
Session F32: Nonlinear Spectroscopy and Molecular Choreography
Session G31: Metal Nanoclusters: Chemistry I
Session G32: Nonlinear Spectroscopy, Single Molecules and Molecular Control
Session J31: Metal Nanoclusters: Chemistry II
Session J32: Protein Dynamics: Ion Channels and Protein-Ligand Interactions
Session L31: Metal Nanoclusters: Spectroscopy and Structure

Session L32: Protein Dynamics: Quantum Dynamics and Transport
Session M32: Protein Dynamics: Longtime Dynamics
Session Q32: Protein Dynamics: Folding
Session S31: Surface Science
Session S32: Protein Dynamics: Photo-Induced Dynamics
Session T31: Tribology of Chemically Modified Interfaces
Session T32: Vibronic Chemistry in the Gas Phase of Multiple Potential Energy Surfaces
Session U28: Improvements in Conjugated Polymer Device Design and Understanding
Session U31: Physics of Chemically Modified Semiconductor Surfaces I
Session U32: Vibronic Chemistry: Vibrational Influences on Electron Transfer
Session W28: Theoretical Advances in the Electronic Structure of Conjugated Polymers
Session W31: Physics of Chemically Modified Semiconductor Surfaces II
Session W32: Vibronic Chemistry at Surfaces
Session X31: Electron Transmission through Chemically Modified Interfaces
Session X32: Vibronic Chemistry: Spectroscopy of Clusters

DMP:
Session A11: Organic Electronic Materials and Devices
Session A14: MgB2 Basic Properties, Pressure Effects
Session A16: Magnetoresistive Oxides: Phase Separation I
Session A19: Spin-dependent Phenomena in Semiconductors I: Spin Injection into Semiconductors
Session A22: Surface Dynamics I
Session A24: Nano-Clusters, Wires, Assemblies - I
Session A25: Synthesis and Characterization of Carbon Nanotubes and Peapods
Session B11: Organic Electronic Materials and Devices II
Session B14: MgB2 Synthesis and Doping
**FOCUS SESSIONS**

**Session B15:** Magnetic Coupling in Multilayers  
**Session B19:** Spin-Dependent Phenomena in Semiconductors II  
**Session B22:** Nanowires at Surfaces  
**Session B23:** Electronic States at Surfaces  
**Session B24:** Nano-Clusters, Wires, Assemblies II  
**Session B25:** Synthesis and Characterization of Carbon Nanotubes  
**Session B26:** Thermoelectric Materials and Novel Thermoelectric Phenomena II  
**Session B9:** Piezoelectric Multiferroics  
**Session D14:** MgB2 Phonons, Electron-Phonon Coupling  
**Session D16:** Magneto-resistive Oxides: Polaron  
**Session D19:** Spin-dependent Phenomena in Semiconductors III: Magnetotransport in Ferromagnetic Semiconductors  
**Session D22:** Diffraction Methods  
**Session D26:** Search for Next Generation Transparent Conducting Oxides  
**Session F11:** Organic Electronic Materials and Devices III  
**Session F16:** Magneto-resistive Oxides: Charge and Orbital Ordering I  
**Session F19:** Spin-Dependent Phenomena in Semiconductors IV: Spin Transport in Semiconductors  
**Session F22:** Surface Dynamics II  
**Session F25:** Optical Spectroscopy of Carbon Nanotubes  
**Session F27:** Disorder Controlled Interfaces in Condensed Matter  
**Session G16:** Magneto-resistive Oxides: Spin and Charge Excitations  
**Session G22:** Group IV Epitaxy  
**Session G25:** Electronic and Transport Properties of Carbon Nanotubes  
**Session J11:** Excited State Electron Structure I  
**Session J12:** Synthesis and Structure of High-Tc Superconductors  
**Session J14:** MgB2: Two-band Superconductivity  
**Session J16:** Magneto-resistive Oxides: Transport Properties  
**Session J19:** Spin-dependent Phenomena in Semiconductors VI: Electron and Nuclear Spin Manipulations in Nanoscale Geometries  
**Session J22:** Semiconductor Epitaxial Growth  
**Session J23:** Transport Through Nanowires and Nanojunctions (II)  
**Session J25:** Carbon Nanotube Electronic Properties and Devices  
**Session L14:** Stripes and Lattice Structure  
**Session L16:** Magnetoresistive Oxides: Phase Separation II  
**Session L19:** Spin-Dependent Phenomena in Semiconductors VII: Inhomogeneous and Dynamical Magnetism in Ferromagnetic Semiconductors  
**Session L22:** Non-Linear Optical Interactions: Ultra-Fast Spectroscopy  
**Session L24:** Nano-Clusters, Wires, Assemblies III  
**Session L25:** Thermal and Magnetic Properties of Carbon Nanotubes  
**Session M16:** Magneto-resistive Oxide: Magnetic Oxides  
**Session M19:** Spin-dependent Phenomena in Semiconductors VIII: Ferromagnetic Semiconductors  
**Session M22:** Spectroscopy and Materials Modification  
**Session M23:** Transport in Low-dimensional Superconducting and Magnetic Systems  
**Session M24:** Nano-Clusters, Wires, Assemblies - IV  
**Session M25:** Mechanical Properties of Nanotubes and their Composites  
**Session M9:** Ferromagnetic Multiferroics  
**Session Q16:** Magneto-resistive Oxides: Cobaltates and Ruthenates  
**Session Q19:** Group III-Nitride Devices and Structures  
**Session Q22:** Structural Transitions at Surfaces  
**Session Q25:** Multifunctional Nanotube Composites  
**Session Q27:** Stress Driven Processes: Fracture  
**Session Q8:** Thin Film Processing  
**Session S16:** Magneto-resistive Oxides: Structure-Property Relationships  
**Session S19:** III-Nitrides Dislocations and Growth  
**Session S22:** Organics and Biopolymers at Surfaces
FOCUS SESSIONS

Session S25: Aligned Nanotube Growth and Field-Emission Properties
Session S27: Stress Driven Processes: Multiscale Modeling and Plasticity
Session T11: Organic Electronic Materials and Devices
Session T12: Excited State Electronic Structure II
Session T16: Magnetoresistive Oxides: Charge and Orbital Ordering II
Session T19: III - Nitrides, Optical Properties
Session T22: Metal Growth at Surfaces
Session T25: Carbon Nanotubes: Chemical Functionalization and Properties
Session T27: Stress Driven Processes: Heteroepitaxy
Session T2: Silicon Carbide - Defects and Processing
Session U11: Organic Electronic Materials and Devices
Session U12: Excited State Electronic Structure III
Session U14: MgB2: Microwave Properties, Thin Films, Wires
Session U17: II-IV Semiconductors
Session U25: Carbon Nanotubes: Gas Adsorption and Transport
Session U27: Stress Driven Processes: Friction
Session W14: MgB2: Microstructure and Vortex Behavior
Session W26: Surface Structure and Dynamics I
Session X14: Superconducting and Magnetic Boron Compounds, Etc.
Session X26: Ice: Surface Structure and Dynamics II

Session U9: Glass Transition in Bulk Polymers

FIAP:
Session A26: Thermoelectric Materials and Novel Thermoelectric Phenomena I
Session A8: IR Applications of Semiconductor Nano and Microstructures I
Session B8: IR Applications of Semiconductor Nano and Microstructures II
Session D24: Understanding Molecular and Nano Electronics I
Session D8: Optical Spectroscopy for Industrial Applications
Session F8: Progress in Sensors and Catalysis
Session G24: Understanding Molecular and Nano Electronics II
Session G8: Quantum Cascade Lasers and Applications
Session J8: MEMS/NEMS Science, Technology, Applications and Measurements
Session L8: Progress in Sensors and Fuel Cells
Session M8: Terahertz Technologies for Sensing and Communication
Session S18: Defects in Electronic Materials and Devices I
Session S24: Nanostructured Materials for Enhanced Mechanical and Tribological Properties
Session T18: Defects in Electronic Materials and Devices
Session U18: Physics of the Silicon Bond in Electronic Materials
Session X23: Understanding Molecular and Nano Electronics III

GIMS:
Session G26: Emerging Instrumentation for Commerce and Space Research
Session S21: Synchrotron Base Instruments and Measurements
Session S7: Instrumentation and Measurements for the Semiconductor Industry
Session T21: Synchrotron Based Measurement and Science
FOCUS SESSIONS

Session W1: Spectroscopy at High Magnetic Fields

GMAG:

Session A15: Effects of Spin-Polarized Currents
Session B17: Antiferromagnetism II: Pyrochlores and Frustrated Systems
Session D15: Patterned Magnetic Films
Session F15: Spin Polarization of Ferromagnets
Session G15: Exchange Biasing: Role of AF and Theory
Session J15: Magnetic Clusters and Arrays
Session L15: Magnetic Tunnel Junctions
Session M15: Exchange-Biasing: New Materials and Structures
Session Q15: Magnetic Domains in Nanostructures
Session S15: Magnetic Nanoparticles: Theory
Session T15: Giant Magnetoresistance
Session W15: Magnetic Nanoparticles: Experiment
Session W2: Magnetization Dynamics and Excitations

GSNP:

Session D29: Coarsening in Pattern Forming Systems
Session J27: Jamming: From Glasses to Granular Media
Session M28: Noise and Stochastic Resonance
Session U4: Nonlinear Dynamics of Mixing

POSTER SESSIONS

Poster sessions will be held on Monday, Tuesday and Wednesday. Posters will be on display from 10:00am to 5:00pm. Authors should be in attendance at the times listed below. APS is not responsible for poster materials that are left in the exhibit hall after the session is over. No A-V is allowed in posters sessions.

B33—Poster Session I
Monday, March 18, 2002
Authors in attendance from 11:00am–2:00pm
Exhibit Hall
Posters 1-99: Polymer Physics

C33—Poster Session II
Monday, March 18, 2002
Authors in attendance from 2:00pm–5:00pm
Exhibit Hall
Posters 101-124: Superconductivity
Posters 125-151: Structured Materials
Posters 152-194: Semiconductors
Posters 195-203: Instrumentation and Measurements
Posters 204-207: Society of Physic Students Posters

H33—Poster Session III
Tuesday, March 19
Authors in attendance from 2:00pm–5:00pm
Exhibit Hall
Posters 1-11: Insulators and Dielectrics
Posters 12-43: Magnetism
Posters 44-56: Chemical Physics
Posters 57-76: Nonlinear Physics
Posters 77-91: Theory: General
Posters 92-114: Surfaces, Interfaces and Thin Films
Posters 115-128: Phase Transition and Strongly Correlated Systems
Posters 129-153: Metals

M33—Poster Session IV
Wednesday, March 20, 2002
Authors in attendance from 11:00am–2:00pm
Exhibit Hall
Posters 1-96: Polymer Physics
Posters 97-122: Biological Physics
Posters 123-136: Fluid Dynamics
Posters 137-153: Complex Structured Systems

P33—Poster Session V
Monday, March 18, 2002
Authors in attendance from 1:30 pm–4:00pm
Exhibit Hall
Posters 154-268: Post-Deadline Posters
Program Time-Blocks

Normally contributed and invited sessions at APS general meetings are three hours in length - three sessions per day at 8:00am, 11:00am, and 2:30pm. The time blocks are designated in alpha order beginning with time-block “A” on Monday at 8:00am, and ending with “X” designating the 11:00am time-block on Friday.

Session Codes

The number following the alpha that designates the time-block represents the sequential numbering of the sessions within the time-block. Session A1 is one of several sessions taking place in parallel in the first time-block on Monday. The number following the decimal in the session code represents the sequence of the papers to be presented in that session. For example: B3.4 = Time-block B (Monday at 11:00am); Session 3 (of several) within that time-block; and the 4th paper to be presented in that session.

Poster Codes

The poster sessions will take place on Monday, Tuesday, and Wednesday in the Exhibit Hall. A breakdown of the topics presented in each category is listed on page .

- Monday poster sessions = Sessions B33 & C33
- Tuesday poster session = Session H33
- Wednesday poster sessions = Session M33 & P33

Each poster presentation (board) within each poster session is numbered sequentially.

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.

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.

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 Monday, Tuesday; 10:00am to 4:00pm, Wednesday. Consult the Poster Session Schedule for exact times and a breakdown of poster topics.

Guidelines for Session Chairs

- Please check the Bulletin to determine if any supplementary papers have been assigned to the session you are chairing. Prior to the session, check the Corrigenda distributed with the Bulletin, as well as the Program-Changes Board in the registration area to see if any papers have been withdrawn.
- 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.
- Start the session on time. Briefly introduce yourself, announce the first paper and author, and start the timer.
- 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.

Note: 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.

- 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.

- 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.
- 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.
- 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.
- 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.

## PROGRAM FORMAT

### A-V POLICY AT THE MARCH MEETING

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

**General 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.

**A-V in Contributed and Focus Sessions**

The standard A-V package for contributed and focus sessions consists of an 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 located in Room 259. The speaker is responsible for the cost of renting any additional equipment.

**A-V in Invited Sessions Rooms**

The standard A-V package for invited sessions (scheduled in designated invited session rooms in which all speakers are invited speakers giving 36 minute presentations) consists of an overhead projector, LCD 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 located in Room 259. The speaker is responsible for the cost of renting any additional A-V equipment.

**Policy and Guidelines on Use of LCD Projectors**

The responsibility for a smooth, technically trouble-free presentation ultimately rests with the presenter.

*Invited* 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. Do not bring your own projector to the meeting. **NOTE:** APS is not responsible for the security of personal laptop computers.
- Visit the Speaker-Ready room located in Room 140 to run through the presentation to ensure a
smooth and technically trouble-free talk. Testing your presentation in the Speaker-Ready room prior to your presentation is strongly recommended to minimize equipment compatibility difficulties. Remember - time used to set up equipment reduces the time you have to make your presentation.

- Bring a back-up vu-graph presentation in case there are set-up difficulties with the LCD equipment.

**NOTE:** 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. Speakers presenting contributed papers who wish to use LCD projection must rent the projector from APS’s A-V contractor.

### Divisions

- DAMOP ................. Division of Atomic, Molecular and Optical Physics
- DAP ..................... Division of Astrophysics
- DBP ..................... Division of Biological Physics
- DCP ..................... Division of Chemical Physics
- DCMP .................... Division of Condensed Matter Physics
- DCOMP ................. Division of Computational Physics
- DFD ..................... Division of Fluid Dynamics
- DLS ..................... Division of Laser Science
- DMP ..................... Division of Materials Physics
- DNP ..................... Division of Nuclear Physics
- DPB ..................... Division of the Physics of Beams
- DPF ..................... Division of Particles and Fields
- DPP ..................... Division of Plasma Physics
- DPOLY .................. Division of Polymer Physics

### Topical Groups

- GFBS .................... Few Body Systems Topical Group
- GGR ..................... Gravitation Topical Group
- GIMS ..................... Instrumentation and Measurement Science Topical Group
- GMAG .................... Magnetism and Its Applications Topical Group
- GPAP .................... Topical Group on Plasma Astrophysics
- GSNP .................... Statistical and Non_linear Topical Group
- GFC ..................... Precision Measurement and Fundamental Constants Topical Group
- GSCCM .................. Shock Compression of Condensed Matter

### Forums

- FEd ..................... Forum on Education in Physics
- FHP ..................... Forum on History of Physics
- FIAP ..................... Forum on Industrial and Applied Physics
- FIP ..................... Forum on International Physics
- FPS ..................... Forum on Physics and Society

### Committees

- COM ..................... Committee on Minorities
- CSWP ..................... Committee on the Status of Women in Physics
### MARCH MEETING 2002 EXHIBITORS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Research Systems</td>
<td>MDC Vacuum/Insulator Seal</td>
<td>Witec Wissenschaftliche Instrumente und Technologie</td>
</tr>
<tr>
<td>AJA International</td>
<td>Mettler-Toledo</td>
<td>Wolfram Research</td>
</tr>
<tr>
<td>Alpha Scientific Electronics</td>
<td>Minus K Technology</td>
<td>World Scientific Publishing</td>
</tr>
<tr>
<td>Ambios Technology</td>
<td>MMR Technologies</td>
<td>Wyatt Technology Corp</td>
</tr>
<tr>
<td>American Association of Physics Teachers</td>
<td>Molecular Imaging</td>
<td></td>
</tr>
<tr>
<td>American Institute of Physics</td>
<td>Molecular Metrology</td>
<td></td>
</tr>
<tr>
<td>American Magnetics</td>
<td>Nanodevices</td>
<td></td>
</tr>
<tr>
<td>American Physical Society</td>
<td>Nanomagnetics Instruments</td>
<td></td>
</tr>
<tr>
<td>Amplifier Research</td>
<td>Nanoway Oy</td>
<td></td>
</tr>
<tr>
<td>Amuneal Manufacturing</td>
<td>National Electrostatics Corp</td>
<td></td>
</tr>
<tr>
<td>Andeen-Hagerling</td>
<td>National High Magnetic Field Laboratory</td>
<td></td>
</tr>
<tr>
<td>Applied Surface Technologies</td>
<td>National Research Council Canada/</td>
<td></td>
</tr>
<tr>
<td>Asylum Research</td>
<td>NRC Research Press</td>
<td></td>
</tr>
<tr>
<td>Blake Industries</td>
<td>National Academy of Sciences</td>
<td></td>
</tr>
<tr>
<td>Bruker BioSpin Corporation</td>
<td>Nature Publishing Group</td>
<td></td>
</tr>
<tr>
<td>Cambridge University Press</td>
<td>Neutron Scattering Society of America</td>
<td></td>
</tr>
<tr>
<td>Cougar Labs</td>
<td>Nor-Cal Products</td>
<td></td>
</tr>
<tr>
<td>Cryo Industries of America</td>
<td>Ocean Optics</td>
<td></td>
</tr>
<tr>
<td>Cryogenic Control Systems</td>
<td>OriginLab Corporation</td>
<td></td>
</tr>
<tr>
<td>Cryomagnetics</td>
<td>Oxford Applied Research</td>
<td></td>
</tr>
<tr>
<td>Cryomech</td>
<td>Oxford Instruments</td>
<td></td>
</tr>
<tr>
<td>Desert Cryogenics</td>
<td>Oxford University Press</td>
<td></td>
</tr>
<tr>
<td>Design Science</td>
<td>Photonics Spectra</td>
<td></td>
</tr>
<tr>
<td>Duniway Stockroom Corp</td>
<td>Physics Academic Software</td>
<td></td>
</tr>
<tr>
<td>EDP Sciences</td>
<td>Physics Today/The Industrial Physicist</td>
<td></td>
</tr>
<tr>
<td>Electron Tubes</td>
<td>Piezomax Technologies</td>
<td></td>
</tr>
<tr>
<td>Elsevier Science</td>
<td>Princeton University Press</td>
<td></td>
</tr>
<tr>
<td>EV Group</td>
<td>Quantum Design</td>
<td></td>
</tr>
<tr>
<td>GMW Associates</td>
<td>Quantum Technology Corp</td>
<td></td>
</tr>
<tr>
<td>Gottlieb, Rackman &amp; Reisman, PC</td>
<td>Quesant Instrument Corp</td>
<td></td>
</tr>
<tr>
<td>Hamamatsu Corporation</td>
<td>Raith USA</td>
<td></td>
</tr>
<tr>
<td>Huntington Labs</td>
<td>RHK Technology</td>
<td></td>
</tr>
<tr>
<td>Hysitron</td>
<td>Scientific Instruments</td>
<td></td>
</tr>
<tr>
<td>International Cryogenics</td>
<td>Signal Recovery/ORTEC/SENSE-ations</td>
<td></td>
</tr>
<tr>
<td>IntraAction Corp</td>
<td>South Bay Technology</td>
<td></td>
</tr>
<tr>
<td>IOP Publishing</td>
<td>SPEC S Scientific Inst.</td>
<td></td>
</tr>
<tr>
<td>Janis Research Company</td>
<td>Springer Verlag New York</td>
<td></td>
</tr>
<tr>
<td>JEOL USA</td>
<td>Staib Instruments</td>
<td></td>
</tr>
<tr>
<td>Jobin Yvon</td>
<td>Stanford Research Systems</td>
<td></td>
</tr>
<tr>
<td>Keithley Instruments</td>
<td>STAR Cryoelectronics</td>
<td></td>
</tr>
<tr>
<td>Kimball Physics</td>
<td>Taylor &amp; Francis</td>
<td></td>
</tr>
<tr>
<td>Kluwer Academic/Plenum Publishers</td>
<td>Teachspin</td>
<td></td>
</tr>
<tr>
<td>Kurt J. Lesker Company</td>
<td>Thermo Noran</td>
<td></td>
</tr>
<tr>
<td>LakeShore Cryotronics</td>
<td>Thermo Vacuum Generators</td>
<td></td>
</tr>
<tr>
<td>Leybold Vacuum USA</td>
<td>Thomson, Brooks/Cole</td>
<td></td>
</tr>
<tr>
<td>Linear Research</td>
<td>Tristan Technologies</td>
<td></td>
</tr>
<tr>
<td>MacKichan Software</td>
<td>Varian</td>
<td></td>
</tr>
<tr>
<td>Mad City Labs</td>
<td>Veeco Metrology Group</td>
<td></td>
</tr>
<tr>
<td>Materials Research Society</td>
<td>WebAssign</td>
<td></td>
</tr>
</tbody>
</table>