# MARCH MEETING PROGRAM

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We welcome you to the 2008 March Meeting in New Orleans, Louisiana. The headquarters hotel is the New Orleans Marriott at 555 Canal Street, just steps away from the French Quarter. All non-technical APS-sponsored and satellite meetings will take place at the Marriott. Busing will be provided to the convention center from all hotels not within walking distance.

**GENERAL INFORMATION**

The scientific sessions for the March Meeting will be held at the New Orleans Convention Center. An outstanding scientific program will be presented consisting of more than 90 invited sessions and 550 contributed sessions at which approximately 6,500 papers will be presented. In addition, tutorials and workshops will be offered. A larger and enhanced exhibit show will round out the program during which attendees can visit vendors who will be displaying the latest products, instruments and equipment, and computer software, as well as scientific publications related to the research and application of physics.

**PARTICIPATING APS UNITS**

**Divisions:** Condensed Matter Physics; Materials Physics; Polymer Physics; Chemical Physics; Biological Physics; Fluid Dynamics; Computational Physics; and Atomic, Molecular and Optical Physics

**Topical Groups:** Instrument and Measurement Science; Magnetism and Its Applications; Statistical and Nonlinear Physics; Quantum Information

**Forums:** Industrial and Applied Physics; Physics and Society; History of Physics; International Physics; Education; 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 March Meeting, please communicate your needs in advance to the APS Meetings Department.

**PARENT’S/CHILDREN’S QUIET ROOM**

Convention Center • Room B211
Monday, March 10 – Thursday, March 13 • 7:00am – 6:00pm
Tuesday, March 14 • 7:00am – 3:00pm

At the March Meeting APS will designate a small room for parents who are bringing young children to the meeting. The purpose of the room is to provide a quiet place for parents of infants and young children to come for quiet time and relaxation with their children. This is not intended to be a playroom. The room will be furnished with comfortable furniture and water. Children must be supervised by a parent at all times.

**REGISTRATION LOCATION/HOURS**

Convention Center • Lobby A

The APS Registration Desk will open and close at the following times.

- Sunday, March 9 ............................. 2:00pm – 7:00pm
- Monday, March 10 ......................... 7:00am – 5:00pm
- Tuesday, March 11 ......................... 7:00am – 5:00pm
- Wednesday, March 12 .................... 7:30am – 4:00pm
- Thursday, March 13 ...................... 7:30am – 3:00pm
- Friday, March 14 ........................... 7:30am – 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 and the exhibit show. Attendees without badges will not be admitted to sessions and exhibits. If you lose your badge, please go to the APS registration desk for a new one. We will give you one replacement badge free. After that replacement badges will cost $10.00.

**SHUTTLE BUS SERVICE**

Most hotels in the APS housing block require busing service to the convention center. Shuttle bus service will begin from the hotels listed below on Sunday, March 9 at 1:30pm. The last trip from the hotels to the convention center on Sunday will be at 6:30pm. Registration opens at the convention center at 2:00pm in Lobby A. A schedule of the shuttle busses will be available at your hotel upon your arrival, and printed bus schedules will be available at the convention center when you arrive to register. The following hotels will have shuttle bus service:

- New Orleans Marriott (HQ)
- JW Marriott
- Chateau Sonesta (French Quarter)
- Chateau LeMoyne (French Quarter)
- DoubleTree Hotel
- Drury Hotel
- Hilton Garden Inn (French Quarter)
- Holiday Inn (French Quarter)
- Le Pavillion
- Staybridge Suites
CD-ROM PROGRAM

There are a limited number of copies of the Scientific Program on CD-ROM. If you would like one go to the APS Registration Desk.

APS MEMBERSHIP BOOTH

Convention Center • Lobby A

The APS Membership Department staff will be on hand to answer questions about APS Membership, journal subscriptions and other new services.

Monday – Wednesday ................... 8:00am – 5:00pm
Thursday ........................................ 8:00am – 3:00pm

APS SOUVENIR STORE

Convention Center • Lobby A

Come browse our t-shirts, bumper stickers and more.

Monday –Wednesday .................... 9:00am – 5:00pm
Thursday ......................................... 8:00am – 1:00pm

NEW ORLEANS CITY INFORMATION DESK

Convention Center • Lobby A

The New Orleans Convention and Visitors Bureau will host an information desk during the March Meeting. Stop by to get a city map and inquire about sightseeing opportunities.

Sunday, March 9............................. 2:00pm – 6:00pm
Monday, March 10......................... 9:00am – 5:00pm
Tuesday, March 11 .......................... 11:00am – 5:00pm

RESTAURANT RESERVATIONS DESK

Convention Center • Lobby A

If you are looking to make dinner reservations at one of the many fine New Orleans restaurants stop by the Restaurant Reservations Desk for information on restaurant cuisine, cost, and location. They’ll make your dinner reservations for you.

BUSINESS CENTER

The New Orleans Convention Center business center is located in the Lobby E Concourse. The business center offers a full range of services and is open Monday through Friday 7:30am-5:30pm. Lobby E is a bit of a walk from Lobby A, so you might consider using the business office in your hotel, or the Marriott across the street from the Convention Center.

APS EXHIBIT SHOW/ATTENDEE LOUNGE

Convention Center • Exhibit Hall A

Monday, March 10 ......................... 10:00am – 5:00pm
Tuesday, March 11 ......................... 10:00am – 5:00pm
Wednesday, March 12 ................... 9:00am – 4:00pm

The annual exhibit show days are Monday through Wednesday. 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.

NOTE: You must display your badge to be admitted to the exhibit hall.

KAVLI FOUNDATION SPONSORED COFFEE BREAK

Monday, March 10 • 10:45am – 11:30am
Convention Center • Exhibit Hall A

APS gratefully acknowledges the Kavli Foundation for sponsoring this coffee break for March Meeting attendees.

SPECIAL ART EXHIBIT

Modern Physics and the Mystery of Reality

Monday, March 10 – Tuesday, March 11 • 10:00am – 5:00pm
Wednesday, March 14 • 9:00am – 4:00 pm
Convention Center • Exhibit Hall A

Visual Works inspired by Modern Physics
Co-curated by Melody Guichet and Kristin Malia Krolak

This is a collection of 16 original paintings, a collaboration between five physicists from the Department of Physics & Astronomy at Louisiana State University, Baton Rouge, and 16 painters from six Louisiana universities. The physicists wrote short descriptions of concepts such as “relativity of time”, “flying near a black hole”, “superposition”, “quantum entanglement”, “flavor oscillations”, “Schroedinger’s cat”, etc., which the painters rendered in their own medium. The display puts these words by physicist and painter alongside the paintings.

In the words of curator and painter Melody Guichet: “The presentation of these ideas to the greater community and the involvement of a wide range of participants is creating the opportunity to impact many people from a broad spectrum of backgrounds. A major intent of the exhibition is to shed light, in an interesting way, on some of these startling and provocative revelations in modern physics. We also hope to foster a spirit of interactive inquiry among creative thinkers in all fields of interest. Finally, the link between these two fields for me is this: artists spend their lives interpreting reality. The science of physics does the same.”

This project has been supported by the Louisiana College of Art and Design, the LSU School of Art, the LSU Department of Physics & Astronomy, the LSU Center for Computation and Technology, and Coca-Cola.

A-V OFFICE

Convention Center • Room 201
**Speaker-ready room**
Convention Center • Room 202
The speaker-ready room will be open as follows:
Sunday, March 9 ..................... 1:00pm – 7:00pm
Monday, March 10 .................... 7:00am – 5:00pm
Tuesday, March 11 ................... 7:00am – 5:00pm
Wednesday, March 12 .............. 7:00am – 5:00pm
Thursday, March 13 ................. 7:00am – 5:00pm
Friday, March 14 ..................... 7:00am – 12:00 noon

**Audio Visual Equipment**
All rooms will be equipped with an LCD projector, overhead projector, screen, lavalier microphone, and pointer. If you plan on doing a PowerPoint presentation, please bring your presentation 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. (You might also want to bring your presentation on vugraphs as a back-up to your computer presentation.) 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. Additional A-V may be ordered on-site at the meeting directly through the A-V company. The cost of additional equipment must be covered by the speaker. Note: You are not allowed to bring/use your own projectors at the meeting.

**Email service**
An email pavilion will be set up in the exhibit hall for attendees to retrieve and send email messages on Monday, Tuesday, and Wednesday during exhibit hours only. On Thursday, email service will be available during registration hours near the APS registration desk. Email access is available in the business offices at most hotels for a fee. Please be advised that email access is provided as a service to attendees, and that we cannot provide unlimited access to email stations, both in terms of the number of e-mail stations provided and the times they are available.

Convention Center • Exhibit Hall A
Located in Lobby A near APS Registration
Monday, March 10 ..................... 10:00am – 5:00pm
Tuesday, March 11 ................... 10:00am – 5:00pm
Wednesday, March 12 .............. 9:00am – 4:00pm
Thursday, March 13 ................. 7:00am – 6:00pm
Friday, March 14 ..................... 7:00am – 12:00 noon

**Wireless Service**
APS will sponsor complimentary wireless in the public space in the New Orleans Convention Center. Wireless service will not be available in the meeting rooms.

**APS Job Fair**
Monday, March 10 • 10:00am – 5:00 pm
Tuesday, March 11 • 10:00am – 5:00 pm
Convention Center • Exhibit Hall A
The Job Fair is the best place to connect with employers and job seekers from all areas of physics. Attendees are encouraged to visit the Job Fair to take advantage of our many recruiting services:
- Showcase your company with a Recruitment Exhibit
- Search our high-powered job and resume database
- Network and interview with companies and job candidates on-site
- Create alerts to inform you of new resumes and jobs
- Manage your interview calendar online

The Job Fair is free of charge to candidates seeking employment. For more information or registration, please visit www.aps.org/careers/employment/jobfairs.cfm or contact Alix Brice at:
APS Job Fairs
One Physics Ellipse
College Park, MD 20740
Tel: 301-209-3187
Fax: 301-209-0841
Email: jobfairs@aps.org

**Press Room**
Convention Center • Exhibit Hall B2-2
Monday, March 10 – Thursday, March 13 ........ 8:00am – 5:00pm
Phone: 504-670-6800
Fax: 504-670-6804

**News Conference Room**
Convention Center • Exhibit Hall B2-2
A schedule of news conferences can be obtained from the Press Room.
**Pre-Meeting Programs**

**DPoly Short Course: High-Throughput Approaches to Polymer Physics and Materials Science**

*Pre-registration only — no on-site registration*
Saturday, March 8/Sunday, March 9 • 8:00am – 5:00pm
La Galerie 4
Marriott Hotel • 555 Canal Street

**Tutorials**

*Pre-registration only — no on-site registration for tutorials*
Sunday, March 9
Marriott Hotel • 555 Canal Street

*Tutorial Program Chair:* David Jiles, Wolfson Centre for Magnetics, Cardiff University, Cardiff, UK. Eight half-day tutorials will be presented. You must pre-register for tutorials—you will not be able to register on-site for tutorials.

**A.M. Tutorials • 8:30am – 12:30pm**

**T1** Basics of Density Functional Theory, Static and Time-Dependent
La Galerie 6

**T2** Spintronics
La Galerie 3

**T3** Fundamentals of Quantum Entanglement
La Galerie 2

**T4** Advances in Neutron Scattering
La Galerie 1

**P.M. Tutorials • 1:30pm – 5:30pm**

**T5** Will Carbon Replace Silicon? The Future of Graphitic Electronics
La Galerie 3

**T6** Nanomagnetism: Manufacture, Physics, Devices, Modeling
La Galerie 6

**T7** Quantum Noise, Quantum Limited Measurements, and Conditional Quantum Evolution
La Galerie 2

**T8** Ethics Education
La Galerie 1

**5th APS Workshop on Opportunities in Biological Physics**

Sunday, March 9 • 9:00am – 4:30pm
Balcony I – J
Marriott Hotel • 555 Canal Street
Organized by APS Division of Biological Physics

Life provides a wellspring of opportunities for physical analysis. This workshop will introduce two exciting areas in biological physics: biomechanics and genetic networks. Topics will include motion science, the physics of walking, artificial hands, the physics of cell shape, the dynamics and noise in genetic and signal transduction networks. Speakers from academia and industry will provide extensive tutorial overviews, accessible to non-specialists. There will be ample time for participants to discuss their current and future scientific and career directions with the speakers.

The workshop is aimed at all physicists who are curious about the interface between physics and biology, especially graduate students and post-docs who are eager to apply their expertise in novel ways in the life sciences. The workshop will start at 9:00am and run until approximately 4:30pm. The pre-registration deadline is February 11, 2008. Pre-registration fees are $50 for students, $75 for postdoctoral researchers and $100 for all others. The fee includes continental breakfast and a box lunch. Limited on-site registrations will be allowed with a late fee ($25) for each category and cash payment only (no credit cards). Availability of box lunches is not guaranteed for on-site registrants.

**Speakers**

K. C. Huang, *Princeton University*
“The Biophysical Origins of Spatio-temporal Network Dynamics”

Art Kuo, *University of Michigan*
“Mechanics and Control of Human Locomotion: Let your Physics do the Walking?”

John Milton, *Claremont McKenna College*
“Motion Science: A New Frontier for Physicists”

Gurol Suel, *U.T. Southwestern*
“Cellular Differentiation: Noisy and Dynamic, but Tunable”

Yuhai Tu, *I.B.M. Watson Research*
“From Molecules to Behavior: A Single Cell’s Memory, Computation and Taxis”

Francisco Valero-Cuevas, *U.S.C.*
“Why Haven’t We Made Better Artificial Hands?”

**Steering Committee**

*Chair:* Stephen Quake, Vice-Chair, DBP (quake@stanford.edu)
*Members:* Shirley Chan, Secretary-Treasurer, DBP (ChanShirley@mailaps.org)
John Milton, Member-at-Large, DBP (jmilton@jsd.claremont.edu)
Chao Tang, Member-at-Large, DBP (chao.tang@ucsf.edu)

Financial support provided in part by: Agouron Foundation

**Professional Skills Development Workshop for Post-docs and Newly-Tenured or Tenure-Track Women Physicists**

Sunday, March 9 • 8:00am – 5:00pm
St. Charles Room
Marriott Hotel • 555 Canal Street
Workshop Attendees Reception at 5:00pm
Mardi Gras C
Marriott Hotel • 555 Canal Street
APS is pleased to offer a series of workshops designed to provide women physicists with professional training in effective negotiation, communication and leadership skills. In addition, the workshops offer a special opportunity for networking. Past workshops have been well-attended and have received very enthusiastic evaluations from the participants.

This series of workshops will offer sessions aimed at postdoctoral associates and sessions aimed at women faculty in physics in US institutions. Women of color are especially encouraged to participate. These workshops are intended to produce more women leaders in physics through professional training and networking, to achieve their full potential, advance in their careers and reach the top ranks in their profession. In 2008, the two professional skills development workshops will offer one session aimed at postdoctoral associates and one session aimed at newly tenured (or tenure track) women faculty in physics.

**WORKSHOP: OPPORTUNITIES IN ENERGY RESEARCH**
Sunday, March 9 • 8:30am – 6:30pm  
Balcony M-N  
Marriott Hotel • 555 Canal Street

This is a one-day workshop for graduate students and post-docs that will highlight the contributions physics-related research can make toward meeting the nation's energy needs in environmentally friendly ways. The workshop will feature plenary talks by leaders in the field of energy research with lots of time for discussion, a “lunch with the experts,” a panel on careers and funding for energy research, and a late afternoon informal reception.

This workshop is aimed at showing physics graduate students and post-docs how they can contribute to environmental solutions while doing exciting scientific research. We hope to attract young physicists who are concerned about the environment and who would like to find ways to use their scientific and quantitative skills to help meet the environmental challenges that the world faces.

The US Department of Energy has provided funding that will enable APS to partially defray the expenses of those who need financial assistance to attend the workshop.

**FIAP ENTREPRENEURIAL WORKSHOP**

Sponsored by the Forum on Industrial and Applied Physics  
Sunday, March 9 • 1:30pm – 5:00pm  
Mardi Gras E  
Marriott Hotel • 555 Canal Street

**Overview and Goals:**

If you have an idea for a product or service and would like to take it to market and profitability, come to this free workshop and panel discussion where you will hear sage advice from experts on starting and building a business, intellectual property, financing, technology transfer, and assistance. This workshop is open to all: students, faculty, and non-academics. Even if you currently do not have an idea that you want to convert into an opportunity, you might become inspired! Bring your questions and get answers that will help you as an entrepreneur and improve your position. If you are interested in attending, go to info@chem-consult.com.

**WORKSHOP: WRITING AN EFFECTIVE OP-ED**
Sunday, March 9 • 2:00pm – 4:30pm  
Bacchus Room  
Marriott Hotel • 555 Canal Street

Interested in learning how to write a great op-ed? Then register for this op-ed workshop to be conducted by Annette Naake Sisco, Op-ed Editor of the New Orleans Times-Picayune newspaper. The workshop will offer tips on how to craft a well-written piece that's sure to capture an editor's attention. To register contact Tawanda Johnson: tjohnson@aps.org.

**CAREER WORKSHOP**
Sunday, March 9 • 5:00pm – 8:00pm  
Mardi Gras G - H  
Marriott Hotel • 555 Canal Street  
Cost: Free

Do you need some useful guidance that will take your job search to the next level? Come to this free interactive Career Workshop where you will learn the fine points of networking to tap into the hidden job market, how to improve your resume, and ways to ace your interview, plus a host of other helpful hints. There will also be opportunities to put your new networking skills to practice.
**CONTACT CONGRESS**

Sunday, March 9 • 3:00pm – 6:00pm  
Monday, March 10 – Wednesday, March 12 • 9:00am – 6:00pm  
Thursday, March 13 • 9:00am – 1:00pm  
Convention Center • 2nd Level  
Sponsored by the Division of Condensed Matter Physics and the Division of Materials Physics

**Q: What’s the best-spent minute at the March meeting?**  
**A:** Stopping by the Contact Congress booth to sign your name to letters to your Congressional delegation on the importance of federal funding for basic research. It takes only a minute. By doing so, you are making your voice heard in Washington and helping to influence the funding levels for physics research and education. 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 run by the APS Washington Office. If you have any questions about what is happening in DC, just stop by to ask the experts.

**INTEGRATED COMPUTATIONAL MATERIALS ENGINEERING SESSIONS**

Sunday, March 9 – Wednesday, March 12  
New Orleans Convention Center

In March 2008, the Minerals, Metals and Materials Society (TMS) and the American Physical Society (APS) will be holding overlapping technical conferences at the New Orleans Convention Center. Between March 9 and March 12, TMS and APS will be holding collaborative programming highlighting advancements in integrated computational materials engineering (ICME).

The following symposia will be open to attendees of both the TMS 2008 Annual Meeting and the APS March Meeting 2008:

- Creating the ICME Cyberinfrastructure: An Interdisciplinary Technology Forum (TMS)
- Frontiers of Computational Materials Science (APS)
- Materials Informatics: Enabling Integration of Modeling and Experiments in Materials Science (TMS / APS)
- Computational Thermodynamics and Kinetics (TMS)

**KAVLI FOUNDATION SPONSORED COFFEE BREAK**

Monday, March 10 • 10:45am – 11:30am  
Convention Center • Exhibit Hall A

APS gratefully acknowledges the Kavli Foundation for sponsoring this coffee break for March Meeting attendees.

**GALLERY OF NON-LINEAR IMAGES**

Sunday, March 9 – Wednesday, March 12  
New Orleans Convention Center

The 5th annual Gallery of Nonlinear Images consists of aesthetically pleasing, insightful displays of pictures, computers graphics, and video clips submitted by attendees. Outstanding entries, selected by a panel of referees for originality and ability to convey and exchange information, will be honored during the meeting, placed on display at the Annual meeting of the Division of Fluid Dynamics, and will appear in the annual Gallery of Nonlinear Images article in the December 2008 issue of Chaos.

**APS JOURNALS BOOTH/TALK TO THE APS JOURNAL EDITORS**

Booths #601-603  
Monday, March 10 – Wednesday, March 12 • 10:00am – 5:00pm  
Convention Center • Exhibit Hall A

Editors from Physical Review Letters, Physical Review B, Physical Review E, Physical Review Special Topics: Physics Education Research, and Reviews of Modern Physics and members of the technical and marketing staffs will be on hand at the APS Journals Booth located in the exhibit hall to answer questions on all matters pertaining to the APS journals. Access to the online journals will be available. Come to the booth and celebrate 50 years with Physical Review Letters. Your ideas, concerns, and suggestions are welcome.

We look forward to interacting with you on any journal matters, and to the opportunity to thank you in person for your contributions as an author or reviewer. We are always pleased to receive feedback on our journals, to hear your ideas and concerns, and to learn more from our community about all aspects of physics research. We hope you will be able to drop by! The APS Booth will be open throughout the Exhibit Show for information on the APS and its journals.

**WINE AND CHEESE RECEPITIONS**

Monday, March 10 and Tuesday, March 11 • 4:00pm – 5:00pm  
Convention Center • Exhibit Hall A

**AWARDS PROGRAM**

Monday, March 10 • 5:45pm – 6:45pm  
Convention Center • Room 206

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. The names of the awards and awardees will be included in the printed program distributed at the meeting and in the on-line program to be posted to the web in January. The Awards Program will be followed by the Welcome Reception at 7:00pm in Exhibit Hall B.
WELCOME RECEPTION
Monday, March 10 • 6:45pm – 8:00pm
Convention Center • Exhibit Hall B2
All attendees are invited.

SPECIAL SYMPOSIUM - SESSION G1
25 Years of Scanning Probe Microscopy
Monday, March 10 • 8:00pm – 10:00pm
Carondelet Room
Marriott Hotel • 555 Canal Street

Speakers:
Don Eigler, IBM
Classical Computation in Quantum Nanostructures: A Long Road to an Uncertain Future
Roland Wiesendanger, University of Hamburg
Scanning Probe Microscopy for Spin Mapping and Spin Manipulation on the Atomic Scale
Sergei Sheiko, University of North Carolina
Understanding Polymer Properties Through Imaging of Molecules

APS-SPONSORED COFFEE BREAK
Tuesday, March 11 • 10:00am – 11:00am
Convention Center • Exhibit Hall A

ESTATE PLANNING SEMINAR
Tuesday, March 11 • 1:00pm – 2:30pm
Convention Center • Room 226

MEET THE EDITORS OF AIP AND APS AND CELEBRATE 50 YEARS OF PRL
Tuesday, March 11 • 6:30pm – 8:30pm
Balcony L – M
Marriott Hotel • 555 Canal Street

Physical Review Letters turns 50 in 2008, and is still going strong. Please join the editors of the journals of the American Physical Society and the American Institute of Physics, and our special guests from the Physical Society of Japan, in celebrating 50 years of publication of interesting and important physics. Refreshments will be served. Please note that there will be a special symposium on the History of PRL on Tuesday morning at the convention center. (Session J2)

Journals of the American Institute of Physics:
Applied Physics Letters
Biomedical Physics
Chaos
Journal of Applied Physics
The Journal of Chemical Physics
Journal of Mathematical Physics
Physics of Fluids
Physics of Plasmas
Review of Scientific Instruments

Journals of The American Physical Society:
Physical Review A
Physical Review B
Physical Review E
Physical Review Focus
Physical Review Letters
Physical Review Special Topics – Physics Education Research
Reviews of Modern Physics

PHYSICS SING-ALONG/LISTEN-ALONG
Tuesday, March 11 • 8:30pm – 9:30pm
Regent Room
Marriott Hotel • 555 Canal Street

TOWN HALL MEETING - SESSION T16
Materials Physics at Gigabar Pressures
Wednesday, March 12 • 5:30pm – 7:30pm
Convention Center • Room 208
Chair: Russell Hemley, Carnegie Institution for Science

Speakers
Raymond Jeanioz, UC Berkeley
David Stevenson, Caltech
Richard Martin, UIUC

All attendees are invited.

SPECIAL SYMPOSIUM - SESSION T1
From Quarks to Cosmos: Breaking News at the Interface of Particle, Nuclear and Astrophysics
Wednesday, March 12 • 7:30pm – 9:15pm
Carondelet Room
Marriott Hotel • 555 Canal Street

Speakers
Joe Lykken, Fermilab
Michael Turner, University of Chicago
Michael Wiescher, University of Notre Dame

Profound connections join scales all the way from the very smallest to the very largest that we can explore, and these connections now link the fields of astrophysics, cosmology, nuclear physics and particle physics. Research that crosses these traditional boundaries are beginning to reveal new states of matter, how the Universe began, the role of neutrinos in shaping the Universe, nature of space and time and the unification of the forces, and the nature of dark matter and dark energy. These three talks will showcase these connections, highlight recent exciting results, and look toward the future.
COMPANION’S WELCOME BREAKFAST
Monday, March 10 • 8:30am – 10:00am
St. Charles Room
Marriott Hotel • 555 Canal Street
Cost: Free to companions and families of attendees only.

Companions of the attendees of the March Meeting are invited to a complimentary breakfast to meet other companions and learn about the city of New Orleans. Presentations will be made by a representative of the New Orleans Convention and Visitors Bureau. At the breakfast you will receive information about the sites and attractions in the city. Restricted to companions and families only — registered meeting attendees not admitted.

CSWP/FIAP NETWORKING BREAKFAST FOR WOMEN IN INDUSTRY
Tuesday, March 11 • 7:30am – 9:30am
St. Charles Room
Marriott Hotel • 555 Canal Street
Cost: $15; $5 (students) — Seating is limited.

DCMP/DMP/DCOMP/DCP FELLOWS AND AWARD WINNERS RECEPTION
Tuesday, March 11 • 5:30pm-7:00pm
Mardi Gras D-E
Marriott Hotel • 555 Canal Street

STUDENT RECEPTION
Sponsored by APS and the Forum on Graduate Student Affairs (FGSA)
Tuesday, March 11 • 5:30pm – 6:30pm
Convention Center • Exhibit Hall B2-1

All students are welcome. Plan to attend and socialize with your fellow students and enjoy the refreshments. The Forum on Graduate Student Affairs (FGSA) will present a short program highlighting their latest activities.

FORUM ON INTERNATIONAL PHYSICS (FIP) RECEPTION
Tuesday, March 11 • 6:00pm – 8:00pm
Mardi Gras G – H
Marriott Hotel • 555 Canal Street

COM/CSWP DESSERT RECEPTION
Tuesday, March 11 • 7:00pm – 8:30pm
Mardi Gras B
Marriott Hotel • 555 Canal Street

Enjoy a dessert buffet, learn about the work of the Committee on Minorities in Physics and the Committee on the Status of Women in Physics, network with colleagues, and unwind after a long day of sessions.

TUTORIAL FOR AUTHORS AND REFEREES
Wednesday, March 12 • 9:00am – 10:30am
Convention Center • Room 226

Editors from Physical Review Letters and Physical Review will provide useful information and tips for our less experienced referees and authors. The information presented will be relevant to anyone who is looking to submit to or review manuscripts for any of the APS journals, or to anyone who would like to add to their knowledge and experience of the authoring and refereeing processes. Topics for discussion will include:

• how to write good manuscripts and useful referee reports;
• differences between manuscripts and referee reports for PRL and PR;
• the roles of authors and referees in the review process, etc.

Following a short presentation from the editors, there will be a moderated discussion of these and other topics. Questions from the audience will be most welcome. Refreshments will be served.

STUDENTS LUNCH WITH THE EXPERTS
Wednesday, March 12 • 1:00pm – 2:30pm
Convention Center • Exhibit Hall B2-1

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 on page 17 Sign-up for Lunch with the Experts will begin on Monday, March 10 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.
APS UNIT BUSINESS MEETINGS

TUESDAY, MARCH 11
5:45pm – 6:45pm
Convention Center

GQI Business Meeting................. Room 207
DBP Business Meeting............... Room 208
DPOLY Business Meeting .......... Room 210
GSCCM Business Meeting .......... Room 215
GMAG Business Meeting.......... Room 219
GSNP Business Meeting.......... Room 221
FIAP Business Meeting.......... Room 227
GIMS Business Meeting.......... Room 228

TUESDAY, MARCH 11
7:00pm – 8:00pm
Marriott Hotel • 555 Canal Street

DCP Business Meeting.............. Beauregard Room
DCOMP Business Meeting......... Galvez Room
DMP Business Meeting........... Audubon Room
DCMP Business Meeting......... Jackson Room
SATELLITE MEETINGS
(ancillary events sponsored by non-APS groups)

COMMERCIAL WORKSHOP
INTRODUCTION TO DOING PHYSICS WITH MATHEMATICA 6
Sponsored by Wolfram Research
Sunday, March 9 • 2:00pm – 5:00pm
Mardi Gras F
Marriott Hotel • 555 Canal Street
Cost: $50
To register go to: www.wolfram.com/aps

COMMERICAL WORKSHOP
HARMONIX IMAGING FOR RAPID MATERIAL MAPPING
Sponsored by Veeco Instruments
Monday, March 10 • 6:45pm – 8:00pm
Balcony I
Marriott Hotel • 555 Canal Street

ELECTRONIC STRUCTURE WORKSHOP: ADVISORY COMMITTEE MEETING
Monday, March 10 • 8:00pm – 10:00pm
Bacchus Room
Marriott Hotel • 555 Canal Street

OPEN MEETING OF ADVANCED LAB INSTRUCTORS
Tuesday March 11 • 5:30pm – 7:30pm
Bacchus Room
Marriott Hotel • 555 Canal Street

RESEARCH CORPORATION RECEPTION
Tuesday, March 11 • 5:30pm – 7:30pm
St. Charles Room
Marriott Hotel • 555 Canal Street

ALUMNI REUNIONS
Tuesday, March 11 • 6:00pm – 8:00pm
Marriott Hotel • 555 Canal Street
Brown University............................... Mardi Gras C
Cornell University............................. La Galerie 3
IBM............................................. La Galerie 6
University of Illinois......................... La Galerie 4-5
Michigan State ............................... Mardi Gras A
Yale University............................... Mardi Gras F
State of Florida Universities............ La Galerie 2
Boston University.......................... Bonaparte

AMERICAN CHAPTER OF THE INDIAN PHYSICS ASSOCIATION
Tuesday, March 11 • 7:30pm – 9:30pm
La Galerie 1
Marriott Hotel • 555 Canal Street

RSI EDITORIAL BOARD MEETING
Wednesday, March 12 • 12:00noon – 2:00pm
Balcony L
Marriott Hotel • 555 Canal Street

FUNDING OPPORTUNITIES IN NSF’S DIVISION OF MATERIALS RESEARCH
Wednesday, March 12 • 5:45PM – 7:15pm
Balcony L
Convention Center • Room 209

INSTITUTE OF PHYSICS CHINESE ACADEMY OF SCIENCES RECEPTION
Wednesday, March 12 • 6:30pm – 9:00pm
Balcony M-N
Marriott Hotel • 555 Canal Street

JOURNAL OF POLYMER SCIENCE PART B EDITORIAL BOARD MEETING
Wednesday, March 12 • 6:30pm – 8:00pm
Balcony L
Marriott Hotel • 555 Canal Street
STUDENTS LUNCH WITH THE EXPERTS

Wednesday, March 12 • 1:00pm – 2:30pm
Convention Center • Exhibit Hall B2-1

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 Monday, March 10 at 1:00 p.m. at the APS registration desk, and will be on a first-come, first-served basis. Attendance is limited to eight students per topic.

Topics Sponsored by the Division of Materials Physics (DMP)

1. Laura Greene  
   University of Illinois  
   High-Temperature Superconductivity: Transforming Science, Policy and the Power Grid

2. Dan Dahlberg  
   University of Minnesota  
   Condensed Matter Experimentalist

3. Sam Bader  
   Argonne National Labs  
   Nanomagnetism

4. Stuart Wolf  
   University of Virginia  
   Spintronics—Is it the “Holy Grail” for Electronics Beyond Moore’s Law?

5. Suni Sinha  
   UCSD  
   Synchrotron and Neutrons

Topics Sponsored by Division of Condensed Matter Physics (DCMP)

6. Mark Meisel  
   University of Florida  
   Magnetism: Molecule-Based Systems Where Physics Meets Chemistry

7. Robert McMichael  
   NIST  
   Magnetic Dynamics

8. Eric Fullerton  
   UCSD  
   Magnetic Nanotechnology

9. Alan Dorsey  
   University of Florida  
   Supersolids

10. Karin Dahmen  
    University of Illinois  
    Non-equilibrium Dynamical Systems

11. Nitin Samarth  
    Penn State  
    Magnetic Semiconductors and Molecular Beam Epitaxy

12. Ying Liu  
    Penn State  
    Frontiers in Superconductivity Research

13. Jun Zhu  
    Penn State  
    Electronic Properties on Nanometer Scale Materials

Topics Sponsored by Topical Group on Magnetism (GMAG)

14. James Rhyne  
    LANL  
    What’s Cool About Neutron Scattering?

15. Michael Pechan  
    Miami University  
    Anisotropy in Magnetic Nanostructures

16. Stephen Hill  
    University of Florida  
    Molecular Magnets

Topics Sponsored by Topical Group of Quantum Information (GQI)

17. Dave Bacon  
    University of Washington  
    Quantum Information and Quantum Computation

18. Richard Martin  
    University of Illinois  
    Computational Physics: Electronic Structure

19. David Ceperley  
    University of Illinois  
    Computational Physics: Challenges in Quantum Monte Carlo

20. Matthias Troyer  
    ETH Zurich  
    Computational Physics: Strongly Correlated Quantum Systems

21. Francois Gygi  
    University of California, Davis  
    Computational Physics: First-principles Simulations on Petascale Computers

Topics Sponsored by Topical Group on Statistical and Non-linear Physics (GSNP)

22. Jennifer Schwarz  
    Syracuse University  
    What’s Up with Correlated Percolation?
PRIZES AND AWARDS

Award Session
Monday, March 10 • 5:45pm – 6:45pm
Convention Center • Room 206

DAVID ADLER AWARD
Session A31
Karin Rabe
Rutgers University
For research, writings and presentations on the theory of structural phase transitions and for the application of first-principles electronic structure methods to the understanding of technologically important phenomena in ferroelectrics.

JOHN DILLON MEDAL
Session L18
Kari Dalnoki-Veress
McMaster University
For significant and innovative experiments in glass formation and polymer crystallization at the nanoscale.

DANNIE HEINEMAN PRIZE
Session U1
Mitchell Feigenbaum
Rockefeller University
For developing the theory of deterministic chaos, especially the universal character of period doubling, and or the profound influence of these discoveries on our understanding of nonlinear phenomena in physics.

OLIVER BUCKLEY PRIZE
Session J1
Mildred Dresselhaus
Massachusetts Institute of Technology
For pioneering contributions to the understanding of electronic properties of materials, especially novel forms of carbon.

FRANK ISAKSON PRIZE
Session U1
Joseph Orenstein
University of California, Berkeley
For pioneering contributions to the understanding of optical phenomena in complex materials including conducting polymers, semiconductors, and high temperature superconductors.

DELBRECK PRIZE
Session B7
Steven Block
Stanford University
Citation: For his originality in the direct measurement of forces and motions in single biomolecular complexes undergoing the nucleoside triphosphate hydrolysis reactions that drive intracellular transport, cell motility, and DNA and RNA replication.

KEITHLEY AWARD
Session S4
Björn Wannberg
Gammadata Scienta AB
For advances in the development of angle-resolved electron analyzers for photoelectron spectroscopy.
PRIZES AND AWARDS

JAMES McGRODDY PRIZE
Session J1
Jun Akimitsu
Aoyama-Gakuin University

Robert C. Haddon
University of California, Riverside

Arthur F. Hebard
University of Florida
For the discovery of high temperature superconductivity
in non-oxide systems.

GEORGE PAKE
Session J1
Julia M. Phillips
Sandia National Laboratories
For her leadership and pioneering research in materials physics
for industrial and national security applications.

EARLE PLYLER
Session Y7
Steven G. Boxer
Stanford University
For his creation of the new spectroscopic technique
of vibrational Stark spectroscopy, and its insightful
applications to a variety of condensed phase systems,
including the bacterial photosynthetic reaction center.

NICHOLSON MEDAL
Session U1
David Landau
University of Georgia
For his work in computational physics recognized internationally,
and his creation and leadership of the Center for Simulational
Physics that has had great success in educating young scientists
from many countries in computer simulations.

POLYMER PRIZE
Session H3
Kenneth S. Schweizer
University of Illinois
For outstanding theoretical contributions to
the fundamental understanding of structure and
dynamics in polymer melts, polymer blends, polymer-particle
composites, and glasses.

LARS ONSAGER PRIZE
Session L1
Tin-Lun Ho
Ohio State University
For his contributions to quantum liquids and
dilute quantum gases, both multi-component and rapidly rotating,
and for his leadership in unifying condense matter and atomic physics
research in this area.

Gordon Baym
University of Illinois

Christopher Pethick
NORDITA
For fundamental applications of statistical physics to quantum fluids,
including Fermi liquid theory and ground-state properties
of dilute quantum gases, and for bringing a conceptual unity to these areas.

ANEESUR RAHMAN PRIZE
Session A18
Gary S. Grest
Sandia National Laboratories
For his ground-breaking development of computational methods
and their application to the study of soft materials, including
polymers, colloids, and granular systems.
**FOCUS SESSIONS**

**DAMOP**
- J14 Focus Session: Berezinskii-Kosterlitz-Thouless Regime and Rotating Quantum Gases
- U14 Focus Session: Exotic phases in ultracold Fermi gases
- X9 Focus Session: Spinor Condensates and Dipolar Gases

**DBP**
- D17 Focus Session: Time-Resolved Structural Investigations on Protein Folding and Function
- L16 Focus Session: Brownian Motors
- Q17 Focus Session: Hydrophobic Interactions at Multiple Scales in Biology
- S16 Focus Session: General Techniques and Radiation Therapies in Biological Physics
- U16 Focus Session: Medical Physics and Radiation Biology
- V16 Focus Session: Medical Imaging and Related Technologies
- W16 Focus Session: Novel Biomedical Techniques

**DBP/DFD**
- H16 Focus Session: Biochip Physics I
- J16 Focus Session: Biochip Physics II

**DBP/DMP**
- A38 Focus Session: Biocompatibility
- J17 Focus Session: General Biological Patterns

**DPB/DPOLY/DFD**
- P16 Focus Session: Cytoskeletal Dynamics and Cell Motility I
- Q16 Focus Session: Cytoskeletal Dynamics and Cell Motility II

**DPB/GSNP**
- W40 Focus Session: Networks, Regulation, and Pathways in Cell Biology

**DCOMP**
- U21 Focus Session: General Theory: Density Functional Theory and Beyond

**DCOMP/DMP**
- J20 Focus Session: Electronic and Lattice Properties of Surfaces and Thin Films
- Q12 Focus Session: Hidden Order and Heavy Fermions
- Q29 Focus Session: Carbon Nanotubes and Related Materials X: p-n Junctions and Mesoscopic Effects in Graphene
- Q38 Focus Session: Ferroelectric Films and Finite Size Effects
- U28 Focus Session: Semiconductor Qubit Approaches II
- U38 Focus Session: Ferroelectric Oxide Superlattices and Oxide Thermoelctrics
- V38 Focus Session: Multiferroics and Multiferroic Composites
- W37 Focus Session: Multiferroicity in BiFeO$_3$-based films

**DCOMP/DFD**
- S13 Focus Session: Frontiers in Electronic Structure Theory I
- U13 Focus Session: Frontiers in Electronic Structure Theory II

**DCOMP/DMP/GMAG**
- A15 Focus Session: Theory of Magnetization Dynamics
- U33 Focus Session: Theory and Simulations of Magnetism I
- Y32 Focus Session: Theory and Simulations of Magnetism II

**COMP/GSCCM**
- A13 Focus Session: Simulations of Matter at Extreme Conditions I: Hydrogen Helium, and Planetary Materials
- B13 Focus Session: Simulations of Matter at Extreme Conditions II: Beryllium, Carbon, and Metals
- H13 Focus Session: Simulations of Matter at Extreme Conditions III: Classical MD, Potentials, and Energetic Materials
- J13 Focus Session: Simulations of Matter at Extreme Conditions IV: Crystalline Solids, Liquids, and Methods

**DCP**
- A26 Focus Session: Photophysics of Cold Molecules I
- B21 Focus Session: Clusters, Cluster Assemblies, Nanoscale Materials I
- B26 Focus Session: Photophysics of Cold Molecules II
- D21 Focus Session: Clusters, Cluster Assemblies, Nanoscale Materials II
- D26 Focus Session: Photophysics of Cold Molecules III
- H21 Focus Session: Clusters, Cluster Assemblies, Nanoscale Materials III
- H26 Focus Session: Photophysics of Cold Molecules IV
- J21 Focus Session: Clusters, Cluster Assemblies, Nanoscale Materials IV
- J26 Focus Session: Quantum Control I
- L26 Focus Session: Quantum Control II
- P21 Focus Session: Fundamental Issues in Catalysis I
- P26 Focus Session: Quantum Control III
- Q21 Focus Session: Fundamental Issues in Catalysis II
- S21 Focus Session: Fundamental Issues in Catalysis III
- S26 Focus Session: Advances in Atmospheric Aerosol Science I
- U26 Focus Session: Advances in Atmospheric Aerosol Science II
- V26 Focus Session: Advances in Atmospheric Aerosol Science III
- W26 Focus Session: Advances in Atmospheric Aerosol Science IV

**DCP/DCOMP**
- V13 Focus Session: Frontiers in Electronic Structure Theory III

**DFD**
- D9 Focus Session: Turbulence
- H8 Focus Session: Glassy Dynamics in Colloids
- Q9 Focus Session: DNA and Biofluid Analysis with Micro and Nano Fluidic Devices
- X8 Focus Session: Wormlike Micellar Fluids and Vesicles

**DFD/DBP**
- A9 Focus Session: Fluid Dynamics of Animal Motion
FOCUS SESSIONS

**DFD/GSNP**

D8 Focus Session: Granular Flows: Vibrated

**DMP**

A11 Focus Session: MgB2-like: Exotic Behavior in MgB2-like Materials
A20 Focus Session: Quantum Dots and Semiconductor Surface Nanostructures
A24 Focus Session: Transport in Nanostructures I: STM and Atomic Control
A28 Focus Session: Optical Properties of Nanostructures I: Carbon Nanotubes
A29 Focus Session: Carbon Nanotubes and Related Materials I: Graphene Transport
B20 Focus Session: Growth, Kinetics and Quantum Effects in Metal Thin Films
B24 Focus Session: Transport in Nanostructures II: Strong Correlations
B28 Focus Session: Optical Properties of Nanostructures II: Graphene, Graphite and Related Materials
B29 Focus Session: Carbon Nanotubes and Related Materials II: Graphene Transport
B30 Focus Session: Carbon Nanotubes and Related Materials III: Synthesis
D10 Focus Session: Hybrid Magnetic-Superconducting Systems I
D19 Focus Session: Dopants and Defects in Semiconductors I
D20 Focus Session: Growth and Properties of Novel Semiconductors and Related Nanostructures
D28 Focus Session: Transport in Nanostructures III: Single Molecules
D29 Focus Session: Carbon Nanotubes and Related Materials IV: Graphene
D30 Focus Session: Carbon Nanotubes and Related Materials V: Nanotube Transport
H11 Focus Session: MgB2-like: Computational Design of Novel Superconductors
H20 Focus Session: Assembly of Nanowires and Related Structures
H23 Focus Session: Probing and Modifying Materials with Lasers I
H24 Focus Session: Optical Properties of Nanostructures III: Functional Nanowires
H29 Focus Session: Carbon Nanotubes and Related Materials VI: Transport in Graphene
J11 Focus Session: MgB2-like: Novel Non-Boride Superconductors
J24 Focus Session: Optical Properties of Nanostructures IV: Quantum Dots
J29 Focus Session: Carbon Nanotubes and Related Materials VII: Electronic Properties
J36 Focus Session: Materials for Photovoltaics and Photocatalysis I
L10 Focus Session: Electronic and Vortex Mechanisms for Higher Performing Superconductors
L19 Focus Session: Dopants and Defects in Semiconductors II
L20 Focus Session: Self-Assembled Organic Overlayers
L23 Focus Session: Probing and Modifying Materials with Lasers II
L24 Focus Session: Transport in Nanostructures IV: 2DES, Dots, and QPCs
L29 Focus Session: Carbon Nanotubes and Related Materials VIII: Electronic Structure of Graphene
P11 Focus Session: MgB2-like: Disorder in Novel Superconductors
P20 Focus Session: Engineering Interfaces for New Materials I: Internal Interfaces
P24 Focus Session: Optical Properties of Nanostructures V: Plasmonics and Metallic Nanostructures
P29 Focus Session: Carbon Nanotubes and Related Materials IX: Graphene Electronic Structure
P35 Focus Session: Materials for Photovoltaics and Photocatalysis II
Q11 Focus Session: Hybrid Magnetic-Superconducting Systems II
Q15 Focus Session: Semiconductor Qubit Approaches I
S19 Focus Session: Dopants and Defects in Semiconductors III
S20 Focus Session: Engineering Interfaces for New Materials III: Heterogeneous Interfaces
S29 Focus Session: Carbon Nanotubes and Related Materials XI: Optical Spectroscopy
U11 Focus Session: MgB2-like: Enhancement of Superconducting Properties
U20 Focus Session: Metal Surfaces, Interfaces, and Thin Films
U24 Focus Session: Transport in Nanostructures VI: Nonequilibrium phenomena and noise
U29 Focus Session: Carbon Nanotubes and Related Materials XII: Graphene Transport
V28 Focus Session: Optical Properties of Nanostructures VI: Nanoscale Metamaterials
V29 Focus Session: Carbon Nanotubes and Related Materials XIII: Optical Spectroscopy
W10 Focus Session: Hybrid Magnetic-Superconducting Systems III
W29 Focus Session: Carbon Nanotubes and Related Materials XIV: Theory and Sensing
W36 Focus Session: Materials for Photovoltaics and Photocatalysis III
X11 Focus Session: MgB2-like: Properties of Exotic Superconductors
X28 Focus Session: Optical Properties of Nanostructures VII: Surface Plasmons and Periodic Arrays
X29 Focus Session: Carbon Nanotubes and Related Materials XV: Electronic Structure and Optical Properties

**DMP/DCOMP**

Q20 Focus Session: Engineering Interfaces for New Materials II: Surfaces

**DMP/DCOMP**

B31 Focus Session: Computational Nanoscience I: Electronic and Optical Properties of Nanoclusters
D31 Focus Session: Computational Nanoscience II: Nanowires and Transport
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<td>Focus Session: Earth and Planetary Materials I</td>
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<tr>
<td>A18</td>
<td>Focus Session: Multiscale Modeling: Polymers, Nanocomposites, and Biomacromolecules</td>
</tr>
<tr>
<td>V22</td>
<td>Focus Session: Organic Electronics: Molecular Junctions</td>
</tr>
<tr>
<td>B18</td>
<td>Focus Session: Mechanical Properties of Polymers: Fracture and Adhesion</td>
</tr>
<tr>
<td>J19</td>
<td>Focus Session: How to Develop an Education Component for an NSF Proposal</td>
</tr>
<tr>
<td>A35</td>
<td>Focus Session: Negative Index Materials I</td>
</tr>
<tr>
<td>D35</td>
<td>Focus Session: Negative Index Materials II</td>
</tr>
<tr>
<td>H35</td>
<td>Focus Session: Negative Index Materials III</td>
</tr>
</tbody>
</table>
FOCUS SESSIONS

W35 Focus Session: Nanotechnology II
Y36 Focus Session: Artificial Neurons

FIAP/DMP

B35 Focus Session: Emerging Materials and Devices I
J35 Focus Session: Emerging Materials and Devices II
Q35 Focus Session: Emerging Materials and Devices III

GIMS

A36 Focus Session: X-ray and Electron Optics and Microscopy
B36 Focus Session: Advances in Scanned Probe Microscopy I: Low Temperatures
H36 Focus Session: Advances in Scanned Probe Microscopy II: Force Methods
P36 Focus Session: X-ray and Neutron Instrumentation and Science
Q36 Focus Session: Advances in Scanned Probe Microscopy III: Force Methods

GMAG

A27 Focus Session: Pyrochlores
B27 Focus Session: Molecular Magnets I
J27 Focus Session: Triangular Lattice
L27 Focus Session: Low-dimensional Spin Systems
P27 Focus Session: Low-dimensional Magnetism
Q27 Focus Session: One-dimensional Spin Chains
V27 Focus Session: Frustrated Theory
W27 Focus Session: Spin Glasses and SrCu2(BO3)2
X27 Focus Session: Exchange Bias and Magnetic Interactions
X32 Focus Session: Magnetic Sensors
Y27 Focus Session: Kagome Magnets

GMAG/DMP

B32 Focus Session: Nanocontacts and Inhomogeneous Magnetic States
D27 Focus Session: Magnetic Nanowires and Nanodots I
H32 Focus Session: Magnetic Imaging
Q32 Focus Session: Molecular Magnets II
S27 Focus Session: Magnetic Nanowires and Nanodots II
U32 Focus Session: Magnetic Multilayers and Nanostructures
V32 Focus Session: Magnetic Semiconductors and Novel Magnetic Materials

GMAG/DMP/FIAP

D32 Focus Session: Spin Transfer Torque I
J32 Focus Session: Damping and Spin Relaxation
L32 Focus Session: Spin Transfer Torque II
S32 Focus Session: Magnetic Tunneling
W32 Focus Session: Domain Wall Motion and Itinerant Magnetism

GMAG/FIAP

P32 Focus Session: Magnetic Media and Hard Magnetic Materials

GMAG/FIAP/DMP

H33 Focus Session: Optical Properties of Magnetic Semiconductors
J33 Focus Session: Mostly Spins in Group IV Semiconductors and Organics
L33 Focus Session: Spins in Quantum Dots
P33 Focus Session: Mostly Spin Injection in Si
Q33 Focus Session: Spin Polarization in Compound Semiconductors
S33 Focus Session: Mostly III-V Semiconductors
V33 Focus Session: Theory of Spin Phenomena in Semiconductors
W33 Focus Session: Spins in Narrow Gap Semiconductors
X33 Focus Session: Magnetic Resonance in Magnetic Semiconductors
33 Focus Session: Diluted Magnetic Oxides

GQI

D15 Focus Session: Foundations of Quantum Theory I
H15 Focus Session: Superconducting Qubits I
L14 Focus Session: Foundations of Quantum Theory II
L15 Focus Session: Progress toward Scalable Quantum Information Processing
P15 Focus Session: Superconducting Qubits II
U15 Focus Session: Open Quantum Systems and Decoherence
Y15 Focus Session: Quantum Metrology and Control: Fundamental Limits and Applications

GQI/DAMOP

A14 Focus Session: Quantum Simulation of Condensed Matter Systems With Ultracold Atoms
GSNP:

A39 Focus Session: Elasticity and Geometry of Thin Objects
D39 Focus Session: Econophysics and Applications Outside of Physics
Q39 Focus Session: Models and Materials Far from Equilibrium
U39 Focus Session: Structure and Dynamics of Complex Networks
V39 Focus Session: Jamming I: Theory

GSNP/DBP

V17 Focus Session: Nonequilibrium Thermodynamics of Small Systems

GSNP/DFD

B39 Focus Session: Collective Dynamics of Self-Driven Particles

GSNP/DMP

L39 Focus Session: Deformation and Fracture

GSNP/DPOLY

U18 Focus Session: Polymer Collapse and Protein Folding
CONVENTION CENTER • EXHIBIT HALL A

Poster sessions will be held on Monday, Tuesday and Wednesday.

Posters will be on display from 10:00am to 5:00pm on Monday and Tuesday, and from 10:00am to 4:00pm on Wednesday. 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. A wine and cheese reception will be held in Exhibit Hall F on Monday and Tuesday from 4:00pm-5:00pm.

**C1: POSTER SESSION I**

Monday, March 10
Authors in Attendance from 2:00pm to 5:00pm
(DPOLY poster session, 11:15am – 2:15pm)

1–101.........................Polymeric and Organic Materials I
102–179.....................Complex Structured Materials
180–182......................Quantum Fluids and Solids
183–189.....................Quantum Information, Concepts, and Computation I
190–196......................High Pressure Physics
197–199.....................General Physics
200–212.....................General Theory Including Computational Methods: Many Body and Strongly Correlated Systems
213–234.....................Instrumentation and Measurements
235–245.....................Metals
246–282.....................Statistical and Nonlinear Physics
283–312.....................Phase Transitions and Strongly Correlated Systems
313–341.....................Post–deadline Abstracts

**R1: POSTER SESSION III**

Wednesday, March 12
Authors in Attendance from 1:00pm to 4:00pm
(DPOLY poster session, 11:15am – 2:15pm)

1–101.........................Polymeric and Organic Materials II
102–143.....................Applications
144–174.....................Atomic, Molecular & Optical (Amo) Physics
175–210.....................Artificially Structured Materials
211–217.....................Computational Methods: Dynamics, Transport, and Plasma
218–263.....................Biological Physics
264–279.....................Insulators and Dielectrics
280–284.....................Supplementary Abstracts
285–350.....................Post–deadline Abstracts

**K1: POSTER SESSION II**

Tuesday, March 11
Authors in Attendance from 2:00pm to 5:00pm

1–50.........................Superconductivity
51–121.....................Magnetism (Experiment, Theory, Applications)
122–160.....................Chemical Physics
161–214.....................Semiconductors
215–225.....................Society of Physics Students
226–235.....................Physics Education
236–239.....................History of Physics
240–247.....................General Theory Including Simulations of Matter at Extreme Conditions; Computational Nanoscience; and Computational Methods: Multiscale Modeling
248–296.....................Fluids and Soft Matter
297–304.....................Quantum Information, Concepts, and Computation II
305–325.....................Surfaces, Interfaces and Thin Films
326–341.....................Post–deadline Abstracts
PROGRAM TIME-BLOCKS

Contributed and invited sessions at APS general meetings are three hours in length—three sessions per day at 8:00am, 11:15am, and 2:30pm. The time-blocks are designated in alpha order beginning with time-block “A” on Monday at 8:00am, and ending with “Y” designating the 11:15 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: B3.004 = Time-block B (Monday at 11:15am); 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 20.

Monday poster session (2:00 – 5:00pm) = Sessions C1
Tuesday poster session (2:00 – 5:00pm) = Sessions K1
Wednesday poster session (1:00 – 4:00pm) = Sessions R1
Each poster presentation (board) within each poster session is numbered sequentially. Each poster board is 4’ x 8’.

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 10:00am on the day of your poster presentation to which you have been assigned, and taken down immediately at the end of the day. You must be on hand at the beginning of the poster session (see Epitome for times). 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. Each poster board is 4’ x 8’.

GUIDELINES FOR SESSION CHAIRS

• 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 in the session you are chairing 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. Technicians will be on hand to assist. If you encounter problems, you should immediately alert the A-V tech by picking up the extension on any of the marked “A-V Hotline” phones.

• 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 the final bell to ring 5 minutes later. Then set the timer for 6 additional minutes for questions from the audience.

  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, you must wait 12 minutes before going on to the next speaker. 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. A second abstract submitted by the same author is automatically assigned to a poster.
• 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 APS staff.

**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 2 lapel microphones – one for the chair and one for the speakers. Any additional A-V equipment must be rented by the speaker directly through APS’s designated A-V provider located in Room 202. 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. 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 202 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 that 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

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**MARCH MEETING UNIT ACRONYMS**

**DIVISIONS**

DAMOP Division of Atomic, Molecular and Optical Physics  
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  
DMP ...... Division of Materials Physics  
DPOLY. Division of Polymer Physics

**FORUMS**

FEd........ Forum on Education in Physics  
FGSA ... Forum on Graduate Student Affairs  
FHP ...... Forum on History of Physics  
FIAP...... Forum on Industrial and Applied Physics  
FIP......... Forum on International Physics  
FPS....... Forum on Physics and Society

**TOPICAL GROUPS**

GHP...... Topical Group on Hadronic Physics  
GIMS..... Instrumentation and Measurement Science Topical Group  
GMAG .. Magnetism and Its Applications Topical Group  
GSNP .... Statistical and Non-linear Topical Group  
GSCCM Shock Compression of Condensed Matter  
GQI....... Quantum Information, Concepts and Computation

**COMMITTEES**

COM..... Committee on Minorities  
CSWP... Committee on the Status of Women in Physics
MARCH MEETING EXHIBITORS & SHOW GUIDE 2008

EXHIBIT SCHEDULE
Monday, March 10 & Tuesday, March 11 • 10:00am – 5:00pm
Wednesday, March 12 • 9:00am – 4:00pm

A&N Corporation
Advanced Research Systems, Inc.
Agilent Technologies
AJA International, Inc.
American Institute of Physics
American Magnetics, Inc.
American Physical Society
Amuneal Manufacturing Corporation
Andeen-Hagerling, Inc.
Applied Surface Technologies
AR RF Microwave Instrumentation
Asylum Research
Attocube Systems AG
Blake Industries, Inc.
Bruker AXS Inc.
Bruker BioSpin Corporation, EPR Division
Cambridge Magnetic Refrigeration
Cambridge University Press
Computing in Science & Engineering (CiSE)
Cryo Industries of America, Inc.
Cryogenic Control Systems, Inc.
Cryogenic Ltd.
Cryomagnetics, Inc.
Cryomech Inc.
DCA Instruments
Dryogenic
Electro Optical Components
Gems & Crystals Unlimited
GMW Associates
Hamamatsu Corporation
High Precision Devices, Inc.
HTS-110
ICE Oxford
IET/Inspec
IOP Publishing
J.A. Woollam Co., Inc.
Janis Research Company, Inc.
Keithley Instruments
Kepco Inc.
Kimball Physics, Inc.
KLA-Tencor Corporation
Kurt J. Lesker Co.
Lake Shore Cryotronics, Inc.
Lambda Americas
MacKichan Software
Mad City Labs, Inc.
Mantis Deposition
Materials Research Society
MDC Vacuum Products
NanoAndMore USA, Inc.
Nanomagnetics Instruments
Nanonics Imaging Ltd
Nanonis GmbH
National Research Council of the National Academies
Nature Publishing Group
New Focus, a Division of Bookham
Nor-Cal Products, Inc.
Omicron Nanotechnology USA
Optical Society of America
OriginLab Corporation
Oxford Applied Research
Oxford Instruments
Oxford University Press
Park Systems, Inc.
Photonics Spectra
Physics Today
Physics Today
Princeton Scientific Corp
Princeton University Press
Quantum Design
Raith USA, Inc.
RHK Technology, Inc.
Rigaku Americas Corporation
Ripplon Software Inc.
Sciencetech Inc.
Scientific Instruments, Inc.
Scientific Magnetics Ltd.
Signal Recovery
SPECS USA, Inc.
Springer
Staib Instruments, Inc.
Stanford Research Systems
STAR Cryoelectronics
Taylor & Francis Group LLC - CRC Press
Teachspin, Inc.
The Institute of Pure and Applied Physics
Time-Bandwidth, Inc.
Varian Inc.
Veeco Instruments
VG Scienta, Inc.
WebAssign
Wiley
Witec Instruments Corp.
Wolfram Research
World Scientific Publishing Company
Wyatt Technology Corporation
A&N Corporation ................................................................. #403  
www.ancorp.com

A&N Corporation, manufacturer of high vacuum components since 1965,  
offers researchers and laboratories an extensive line of standard high and ultra-
high vacuum components, as well as custom valves and process chambers.  
A&N products are designed to meet or exceed the standards required by  
industrial and academic users.

Advanced Research Systems, Inc. ................................. #500, 502  
www.arscryo.com

ARS offers its Displex and Helitrans Cryostats for Material  
Characterization. Cryostats are available for Optical, Transport, XRD, UHV  
and other applications. The Closed Cycle, ARS Displex Cryostats have been  
redesigned for a temperature range of sub 1.5 - 300K or 3 - 800K. With  
the lowest vibrations at the sample it is the cryocooler of choice for sample  
characterization. Low vibrations systems available for Mossbauer, Optical and  
Ellipsometry applications. ARS is introducing the low cost 77K closed cycle  
cryostats for optical and non-optical experiments as well as the Cryogenic  
Probe Station with up to 4 probes. ARS manufacturers the Open and Closed  
Cycle cryocoolers, the vacuum shrouds, radiation shields and sample holders  
resulting in the most effective design with commitment to integrity and quality of the product.

Agilent Technologies ..................................................... #200,202  
www.agilent.com

Agilent Technologies offers a wide range of high precision Atomic Force  
Microscope systems to meet your unique research needs. Agilent’s industry-  
leading environmental/temperature options and fluid handling enable superior  
control for materials & life sciences including electrochemistry & polymer  
applications. Agilent delivers worldwide support, provided by experienced  
application scientists and technical service personnel.

AJA International, Inc. ................................................... #401  
www.ajaint.com

Sputtering and E-beam Systems for R&D and Pilot Production; Static and  
Rotating Magnetron Sputter Sources for HV and UHV; Substrate Holders  
with Rotation, RF Biasing, Heating and Cooling; Sputter Targets / Deposition  
Materials; Microwave, RF and DC Power Supplies; Microwave Components  
and Plasma Sources; RF/ I/on/Plasma Sources.

American Institute of Physics ......................................... #700, 702  
www.aip.org

AIP offers an open-access publishing option, Author Select, to contributors  
to AIP journals. RSS feeds are available for AIP journal content by topic and  
for the journals full content. Purchase an AIP Article Pack; prepay for a set  
number of articles from AIP journals for as low as $2.50 per article.

American Magnetics Inc. .................................................. #419  
www.amagnetic.net

AMI offers liquid helium cooled and cryogen free superconducting magnet  
systems for a wide range of applications. These systems are offered with  
sample inserts going down to a few mK using He3 cryostats or dilution  
refrigerators. Different types of SPM probes are also available for use  
with our standard magnet systems. AMI also works with industry partners  
to produce cryogen free dilution refrigerators for our MAxes (multi-axis)  
magnets. Near zero loss liquid helium Dewars are also available for use  
with our magnet systems. These use 4K pulse-tube or GM cryocoolers to  
recondense helium back into the Dewar, thereby facilitating use of existing  
magnets and sample inserts. AMI also offers custom cryogen free magnets  
to fit compact goniometers. These are very popular for use in synchrotron  
facilities around the world. Other product offerings include power supplies  
for superconducting magnets, low loss current leads, liquid helium level  
instrumentation and cryogenic autofill systems.

American Physical Society ......................................... #601,603  
www.aps.org

The American Physical Society is the publisher of the world’s most prestigious  
and widely-read physics research journals: Physical Review A, B, C, D, E,  
Physical Review Letters, Reviews of Modern Physics, PROLA (Physical Review  
Online Archive), PR-Special Topics-Accelerators and Beams, PR-Special Topics-  
Physics Education Research and PR Focus. PROLA’s full searchable content  
and full-text articles includes everything published by APS back to 1893. 2008  
makes the 50th anniversary of Physical Review Letters. Visit booth 601 for  
details.

Amuneal Manufacturing Corporation ............................ #219  
www.amuneal.com

Amuneal Manufacturing Corporation designs and fabricates custom magnetic  
shield components and assemblies for both room temperature and cryogenic  
applications, and is a world leader in providing cost-effective shielding solutions  
to the applied physics community. From shield design and attenuation  
calculations to 3D modeling, we work with you to provide the design for your  
specific application. All Amuneal fabricated magnetic shields are hydrogen  
ameannealed in our in-house heat treat center for maximum shielding properties.

Andeen-Hagerling, Inc. ................................................... #615  
www.andeen-hagerling.com

Andeen-Hagerling (AH) manufactures the world’s most precise capacitance/  
loss bridges and capacitance standards. AH bridges are fully automatic and  
resolve sub-attofarad measurements. Loss (dissipation factor) is measured  
down to 1.5x10^-8 tan?. Capacitance standards are available from 0.1pF to  
100 fF. Standards have a temperature coefficient of 0.1ppm/C, stability of  
0.3ppm/year, and are NIST traceable to 2ppm accuracy.

Applied Surface Technologies ......................................... #405  
www.co2clean.com

Surface cleaning with the CO2 Snow Jet will be demonstrated. The Snow Jet  
is a simple, yet novel surface cleaning process that can remove particles of all  
sizes and also organic residues from surfaces. This cleaning process works well  
for cleaning substrates, vacuum parts, analytical samples (AFM), optics, and  
many other applications. The Snow Jet process is nondestructive, residue-  
free with no environmental limitations. Bring test samples!

AR RF/Microwave Instrumentation ............................... #625  
www.ar-worldwide.com

AR RF/Microwave Instrumentation will be exhibiting its new broadband  
amplifier, model 800A3 (800 watts, 10kHz to 3MHz), for applications that  
require high voltage and high impedance. The 800A3 drives loads without  
mismatch by a switchable impedance matching output transformer that can  
be set to 12.5, 25, 50, 100, 150, 200 and 400 ohms. If higher impedance is  
required, an external matching transformer is available. For higher power  
requirements, model 1500A3 provides 1500 watts and the model 5000A3  
provides 5000 watts of power over the same frequency range.

Asylum Research ......................................................... #335  
www.asylumresearch.com

Featured is the MFP-3D™ AFM with unprecedented precision, accuracy  
and image resolution—setting the industry standard for advanced operation  
and flexibility. New advances include the new Piezo Force Module that  
meets the highest requirements, model 1500A3 provides 1500 watts and the model 5000A3  
provides 5000 watts of power over the same frequency range.

Attocube systems AG ................................................... #213, 215  
attocube systems AG offers a wide range of high-precision nanopositioning  
systems, easy-to-use scanning probe microscopes and probe stations.  
Temperatures down to 10 mK, high magnetic fields up to 28 T, and ultra-high
vacuum conditions – our nanopositioners solve your experimental task at the cutting edge. Our instruments enable to analyze samples in various ways with atomic precision – even at Milli-Kelvin-temperatures. Enhance your productivity and time efficiency by implementing our innovative products in experimental setups ranging from scientific research to industrial applications!

Blake Industries, Inc. .........................................................#235
Will be exhibiting the Blake-Huber line of x-ray and synchrotron instruments and accessories, including rotary tables, goniometers, translation stages and Eulerian Cradles.

Bruker AXS Inc. ..............................................................#300
www.bruker-axs.com
Bruker AXS provides Advanced X-ray Solutions for chemistry, life and materials sciences. A wide range of single module CCD systems is available in the PLATINUM series of detectors which feature the newest 4K CCD chip, with lower noise, faster readout and highest sensitivity. Nanotechnology research systems include a range of powder diffraction and single crystal solutions.

Bruker BioSpin Corporation, EPR Division ......................#334
www.bruker-biospin.com
Bruker BioSpin Corporation highlights the ELEXYS line of FT-EPR spectrometers featuring Linux workstations. Complementing the EMX Series, the ELEXYS spectrometers provide the ultimate in CW, Pulse-FE-EPR, CW, High Frequency and Pulse ENDOR/TrIPLE instrumentation. The EMX series offers simplicity and reliability for traditional continuous wave EPR.

Cambridge Magnetic Refrigeration ...............................#307
CMR will be displaying its mFridge range of general purpose demagnetization refrigerators for hassle free cooling to as low as 30mK. You will be able to talk to our scientists about how ADR technology can benefit your work and discover the full temperature range and convenience of the modular and reliable mFridge family. CMR—Setting new standards in cooling technology.

Cambridge University Press .......................................#434,436
www.cambridge.org/us
Please stop by the Cambridge University Press booth. On display we have the classic books Principles of Condensed Matter Physics by Chaikin and Lubensky, and Electronic Structure by Martin. Exciting new titles include Mermin’s Quantum Computer Science, Kardar’s Statistical Physics of Particles and Statistical Physics of Fields, and Methods in Molecular Biophysics by Serdyuk, Zaccari and Zaccari

Computing in Science & Engineering (CISE) ...................#703
www.cise.aip.org
CISE is a bimonthly magazine providing computational tools and methods for 21st-century science. It is peer-reviewed and multi-disciplinary. APS members can subscribe for $45/year (instead of $75). Readers say CISE bridges the communications gap between researchers and IT professionals. Come by for free back issues, pens and CDs!

Cryo Industries of America, Inc. .................................#319
www.cryoindustries.com
Our new generation of cryogenic systems addresses the growing liquid helium shortage! The XE102 flow cryostat with lowest LHe losses ever, microscopy at 50% cryogen savings, DStat (storage dewar mount) with static losses only 0.020 l/hr and cryogen-free superconducting magnets with sample temperatures down to 1.5 K.

Cryogenic Control Systems, Inc. .................................#513
www.cryocon.com
Manufacturers of precision electronic instrumentation for both laboratory and industrial process control applications. Cryo-con offers a full line of cryogenic temperature controllers, monitors, cryogenic accessories and temperature sensors. We will be demonstrating our new 2 and 4 channel controllers perfect for He3 applications. Also on display will be our new 8 channel monitor and new sensors

Cryogenic Ltd. ...............................................................#629
www.cryogenic.co.uk
Cryogenic is a recognized leader in the design and manufacture of high field measurement systems to +18 Tesla for the study of electrical, magnetic or thermal properties of material. This includes magnetic moment, specific heat, Hall effect, Seebeck effect and Resistivity. The company provides high field superconducting magnets to +20 Tesla, Cryogen Free magnets to +16 Tesla, split pair/optical magnets to +12 Tesla, ESR/EPR magnet to 16 Tesla, He-3 and Low temperature inserts. Visit our stand number 830 to find out more on the wide range of low temperature systems offered by Cryogenic Ltd.

Cryomagnetics, Inc. .........................................................#516
www.cryomagnetics.com
Offers a complete superconducting magnet system, related electronic instrumentation, and cryogenic accessory line. New products include our Model 4G Superconducting Magnet Power Supply. Our C-Mag line of cryogen-free superconducting magnet systems includes options for variable temperature and optical access in a compact package. Cryomagnetics is committed to staying at the forefront of superconducting magnet technology and welcomes the opportunity to discuss your requirements.

Cryomech Inc. ..............................................................#412
www.cryomech.com
Cryomech manufactures Gifford McMahon and Pulse tube style cryorefrigerators that are capable of temperatures from 2.8K to 100K in various capacities. We are introducing the Cryomech Liquid Helium Plant which can produce more than 12 liters of liquid helium a day. Our portable Liquid Nitrogen Plants are capable of producing liquid nitrogen directly from the air in most locations around the world.

DCA Instruments ..........................................................#402
www.dca.fi
Designs and manufactures a wide range of UHV deposition systems and components. The products include MBE, UHV sputtering, PLD and UHV cluster tools. These DCA deposition systems are suitable for deposition of thin films of semiconductors, magnets, oxides, metals under UHV.

Dryogenic .................................................................#305

Electro Optical Components .........................................#318
www.eoc-inc.com
Electro Optical Components provides advanced components for laser and optoelectronic systems (UV to the far IR). Products include FEMTO signal recovery and lock-in amplifiers, and photoreceivers; DEXTER thermopile detectors; IFW UV detectors; INTEX IR Sources; IMM visible and IR laser diodes and modules; CO2 optics; NOC IR interference filters; LEYSOP E-O modulators and drivers.

Elsevier .................................................................#439,441
www.elsevier.com
FEMTO Messtechnik GmbH ........................................#318
FEMTO offers a line of high quality specialty amplifiers for signal recovery and processing. These products include Low Noise Current Amplifiers, High and Low Frequency Voltage Amplifiers, Photoreceivers, High Speed GHz Amplifiers and Lock-In Amplifiers. New Products: HCA-S-400M - 400 MHz
photoreceivers. HCA-400M-5K-C high speed current (transimpedance) amplifier.

Gems & Crystals Unlimited .................................................... #210,212

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