Winter 2015 Newsletter

DMP NEWSLETTER
Division of Material Physics

In this issue

A Message from the Chair

This Newsletter outlines the many DMP sessions and activities at the upcoming March Meeting, the recipients of the Adler Award and McGroddy Prize, the new APS Fellows who were nominated through the DMP, and the newly elected members of the DMP Executive Committee. We are delighted to show how DMP is working to recognize our younger, emerging materials physicists: the DMP student travel award winners the IUPAP C-10 Young Scientist Prize, the Stanford R. Ovshinsky Travel Awardees and the recipients of the Inaugural Richard L. Greene Dissertation Award in Condensed Matter and Materials Physics.

Now is the time to propose new Focus Topics for the 2016 March Meeting by contacting Michael Flatté, who will be the DMP Program Chair for the 2016 March Meeting March 14 – 18 in Baltimore, MD. The DMP focus topics provide an opportunity to gather related talks in distinct and well-defined focus sessions on topics of intense interest; they also provide the opportunity to mix invited and contributed talks in the same forum. Your colleagues will appreciate and benefit from your suggestions, so please see the detailed instructions below and send Michael Flatté (michael_flatte@mailaps.org) your ideas. After the new focus topics are announced later this year, please consider suggesting invited speakers to the organizers, so that the sessions will include the best possible invited program.

This is also a time to nominate distinguished members of our community for the David Adler Lectureship Award in the Field of Materials Physics, and the James C. McGroddy Prize for New Materials. Both of these awards bring high visibility and recognition to the recipients, so please consider who among your colleagues might be deserving and then put together a nomination packet. See http://www.aps.org/programs/honors/ for details of the nomination processes.

As will be immediately evident from the March Meeting program, materials physics is an exciting and spectacularly-quickly growing field. The DMP membership contributes enormously to every aspect of the APS, and the DMP Executive Committee members are very pleased that we can play a role. In my new role as APS Vice President, I can clearly see how DMP is a great driver in our physical society, and I am proud that we are leaders in recognizing and supporting our junior members.

Finally we remind you of the DMP/DCMP Reception were we recognize all of our Awardees, Tuesday March 3, 5:30 – 7:30 pm in Texas DE in the Grand Hyatt, and our DMP Business meeting is at 7:30 pm that evening in Bowie C of the Hyatt. We hope to see you at those important functions.

We all look forward to seeing you in San Antonio,

Laura H. Greene, Chair
Division of Materials Physics
Vice President, American Physical Society

Call for DMP Focus Session Topics for 2016 APS March Meeting

The Division of Materials Physics organizes a large number of Focus Topics for each APS March Meeting. A Focus Topic generally consists of a series of sessions, each of which is typically seeded with one invited talk, the remainder of the session being composed of contributed talks (see http://www.aps.org/units/dmp/newsletters/summer2014.cfm for a list of Focus Topics for the 2015 March Meeting). While many Focus Topics are continued from year to year, some are removed and some new topics are added in fields of current interest.

We are now soliciting new ideas for Focus Topics for the 2016 March Meeting, and we hope you will send suggestions. Your suggestions should provide the following information:

- Title of the Focus Topic
- The nominator's name, affiliation, phone number and e-mail address
- Suggestions for possible organizers
- A brief description of the scope of the topic.

While the deadline has passed proposals submitted by March 1 to DMP Secretary/Treasurer Robert Nemanich (robert.nemanich@asu.edu) will be considered if at all possible. Suggestions received after March 1 will be reviewed by the DMP Executive Committee if time allows.

March Meeting: Location

The 2015 March Meeting of the APS will take place, March 1-6, 2015 in the Henry B. Gonzalez Convention Center, San Antonio, Texas. All scientific sessions will be in the Convention Center but events and activities may be in the Convention Center or the Grand Hyatt San Antonio hotel. Check event details for time and place.

For further information see:
http://www.aps.org/meetings/march/index.cfm

For the DMP sponsored sessions see:
http://meetings.aps.org/Meeting/MAR15/sessionindex2?SponsorID=DMP

March Meeting: DMP Sponsored Meetings

The Division of Materials Physics will sponsor the following meetings during the 2015 March meeting in San Antonio, Texas. This is your opportunity to interact with the Executive Committee and to become informed of the activities of the Division.

Tuesday, March 3
DCMP/DMP New Fellows & Award Winners Reception
5:30 p.m. - 7:00 p.m.
Grand Hyatt San Antonio, Texas DE

DMP Business Meeting
7:30-8:30pm
Grand Hyatt San Antonio, Bowie A

The American Physical Society-Division of Materials Physics Ovshinsky Student Travel Awards

The Ovshinsky Student Travel Awards have been established to assist the career of student researchers. The Awards are named after Iris and Stanford Ovshinsky who had a very strong interest and commitment to scientific education. The awards have been endowed by the Ovshinsky family, their colleagues at Energy Conversion Devices (ECD) companies and all their numerous friends from many social, intellectual and business relationships.

The Ovshinsky Student Travel Awards will be presented at the DCMP/DMP New Fellows and Award Winners Reception, Tuesday, March 3, 5:30 p.m. in Texas DE at the Grand Hyatt San Antonio,

We are extremely grateful to the Ovshinsky family for this award. Special thanks go to Prof. Brian Schwartz who has made this award possible and for all his efforts on behalf of Materials Physics over the years.

The winners of the 2015 Ovshinsky Student Travel Awards for Materials Physics are:

NAME	INSTITUTION
Urusa Alaan	Stanford University,
Brian Capozzi	Columbia University,
Ankit Disa,	Yale University,
Kurt Fredrickson	The University of Texas at Austin,
Kenneth Gotlieb	University of California Berkeley,
Alannah Hallas	McMaster University,
Xu Han	University of Massachusetts, Amherst,
Claire-Alice Hebert	University of California, Santa Barbara,
James Lourembam	Nanyang Technological University,
Evgeny Mikheev	University of California, Santa Barbara,
Saima Siddiqui	Massachusetts Institute of Technology,

Award and Prize Winners

James C. McGroddy Prize for New Materials

Hideo Hosono
Tokyo Institute of Technology
"For his discovery of iron-based superconductors."

David Adler Lectureship Award

Jacqueline Krim
North Carolina State University
"For pioneering work in the physics of tribology, including elucidation of the relative importance of electronic and phononic dissipation mechanisms, and for excellent outreach to scientific and nonscientific audiences."

IUPAP Young Scientist Prize in the Structure and Dynamics of Condensed Matter (C10)

Dr. Keji Lai
University of Texas at Austin
"For his outstanding contribution in nanoscale impedance imaging of strongly correlated and low-dimensional quantum materials"

Richard L. Greene Dissertation Award in Experimental Condensed Matter or Materials Physics

Moureen C. Kemei
California Institute of Technology
"For employing advanced characterization tools to gain new insights into the structure and electronic properties of magnetic materials."

Matthew D. Reed
HRL Laboratories
"For original contributions to research on Superconducting Qubits and for a remarkably detailed and complete description of the state-of-the-art in solid state quantum computing."

2014 APS Fellows nominated through DMP:

Elke Arenholz
Lawrence Berkeley National Laboratory
Citation: For developing and applying advanced soft x-ray instrumentation to achieve seminal advances in understanding magnetic materials and thin films.

David A. Broido
Boston College
Citation: For seminal theoretical contributions to the fundamental understanding of thermal and thermoelectric transport in bulk and nanostructured materials.

Jinghua Guo
Lawrence Berkeley National Laboratory
Citation: For pioneering soft x-ray spectroscopic studies of correlated solids, nano-scaled materials, and liquid phase systems.

Reizo Kato
RIKEN – Saitama
Citation: For pioneering works on the physics and materials science of molecular conductors and magnets.

Pawel J. Keblinski
Rensselaer Polytechnic Institute
Citation: For significant contributions to fundamental understanding of interfacial heat flow using computational materials science tools.

Richard A. Lesar
Iowa State University
Citation: For insightful work in theory, simulation, and modeling of the properties, transitions, and dynamics of molecular solids under high pressures, and of distributions of dislocations.

Ju Li
Massachusetts Institute of Technology
Citation: For seminal work on understanding the fundamental properties of ultra-strength materials and formulating the concept of elastic strain engineering.

Despina A. Louca
University of Virginia
Citation: For demonstration of the importance of the local atomic structure for elucidating the physical properties of complex oxides including the transition metal oxides through neutron scattering using the pair-density-function analysis.

Angelo Mascarenhas
National Renewable Energy Laboratory

Citation: For his key experimental contributions to unravelling the effects on the electronic structure that result from processes such as spontaneous ordering and giant band gap bowing that are observed in non-equilibrium growth of semiconductor alloys.

Jose Menendez,
Arizona State University
Citation: For significant contributions to the use of Raman spectroscopy in condensed matter physics and the understanding of lattice vibrations in semiconductor materials and superlattices.

Federico Rosei
INRS - Energie et Materiaux
Citation: For his pioneering and innovative work on the physical properties of organic/inorganic surfaces and interfaces and of molecular self-assembly in two dimensions.

Avadh B. Saxena
Los Alamos National Laboratory
Citation: For foundational contributions to phase transitions in functional materials and nonlinear excitations in low-dimensional electronic materials.

Ram Seshadri
University of California, Santa Barbara
Citation: For major contributions to developing structure-composition-property relations in functional inorganic oxides, to the understanding of the role of lone-pair electrons in polar and ferroic behavior, to frustrated magnetism and frustrated ferroics, and to novel phosphors for solid-state lighting.

Li Shi
University of Texas, Austin
Citation: For his pioneering work on thermal transport measurements of nanostructures and his discoveries of size effects in thermal and thermoelectric transport properties of one-dimensional and two-dimensional materials.

Yinmin Wang
Lawrence Livermore National Laboratory
Citation: For his major contributions to the understanding of deformation physics of nanocrystalline and nanotwinned materials, and for developing effective strategies to enhance the ductility of these superstrong materials for technological applications, including fusion energy targets.

Jiandi Zhang
Louisiana State University
Citation: For his significant contributions to elucidating the correlation between bulk and surface static and dynamic properties of complex materials.

March Meeting: DMP Sponsored Symposia & Special Events

I. Session D46: Invited Session: Organo-Metallic Perovskites for Photovoltaic Energy Conversion

Sponsoring Unit: DMP
Room: 217A, Monday, March 2, 2:30 – 5:30 pm
Chair: Andre Schleife, University of Illinois-Urbana

2:30 – 3:06 pm
D46.00001: Achieving High Performance Perovskite Solar Cells
Invited Speaker: Yang Yang

3:06 - 3:42 pm
D46.00002: Modeling organohalide perovskites for photovoltaic applications: From materials to interfaces
Invited Speaker: Filippo De Angelis

3:42 - 4:18 pm
D46.00003: Interface Energetics in Organo-Metallic Halide Perovskite-based Photovoltaic Cells
Invited Speaker: Philip Schulz

4:18 - 4:54 pm
D46.00004: Impact of Atomic Structure on Absolute Energy Levels of Methylammonium Lead Iodide Perovskite
Invited Speaker: Joshua Choi

4:54 - 5:30 pm
D46.00005: Electronic structure of hybrid halide perovskite photovoltaic absorbers
Invited Speaker: Mark van Schilfgaarde

II. Session H2: Graduate Student Lunch with the Experts

Convention Center, Ballroom A; Tuesday, March 3, 12:30 - 2:00 pm

Graduate students may sign up to enjoy a complimentary box-lunch while participating in an informal discussion with an expert on a topic of interest to them.

Division on Materials Physics (DMP) Sponsored Topics:
Beyond Graphene: To the Moon, Or to History Books?
David Cobden, University of Washington
Complexity in Functional Materials: Why Should We Care?
Ram Seshadri, University of California, Santa Barbara
Oxide Heterostructures
Susanne Stemmer, University of California, Santa Barbara
Computational Materials Discovery
James Rondinelli, Northwestern University

III. Session G19: Invited Session: Caloric Materials and Advances in Solid State Cooling Technologies

Sponsoring Units: FIAP DMP
Room: Mission Room 103B; Tuesday, March 3, 11:15 am – 2:15 pm
Chair: Jun Cui, Pacific Northwest National Laboratory

11:15 - 11:51 am
G19.00001: Magnetocaloric cooling: the phenomenon and materials
Invited Speaker: Vitalij Pecharsky

11:51 am - 12:27 pm
G19.00002: Elastocaloric cooling materials and systems
Invited Speaker: Ichiro Takeuchi

12:27 - 1:03 pm
G19.00003: Modeling and design aspects of active caloric regenerators
Invited Speaker: Kurt Engelbrecht

1:03 - 1:39 pm
G19.00004: Developing Electrocaloric (EC) Materials with Giant EC Response and Chip-Scale EC Cooling Devices
Invited Speaker: Qiming Zhang

1:39 - 2:15 pm
G19.00005: Effective Mass of Thermoelectric Materials with Non-Parabolic Kane Bands
Invited Speaker: G. Jeffrey Snyder

IV. DCMP/DMP New Fellows & Award Winners Reception

Sponsoring Unit: DMP and DCMP
Room: Grand Hyatt San Antonio, Texas DE, Tuesday, March 3, 5:30 p.m. - 7:00 p.m.

V. Session K16: DMP Business Meeting

Sponsoring Unit: DMP
Room: Grand Hyatt San Antonio Bowie A; Tuesday, March 3, 2014 7:30PM – 8:30PM

VI. Session M46: Invited Session: Physics for Everyone

Sponsoring Units: DMP
Room: 217A; Wednesday, March 4, 11:15 am – 2:15 pm
Chair: Michael Flatté, University of Iowa

11:15 am - 11:51 am
M46.00001: Soft Electronics for the Human Body
Invited Speaker: John Rogers

11:51 am - 12:27 pm
M46.00002: The Physics of Food

Invited Speaker: David Weitz

12:27 - 1:03 pm
M46.00003: Picasso at the Nanoscale: The Art of Using Cutting-Edge Science to Understand Cultural Heritage
Invited Speaker: Volker Rose

1:03 - 1:39 pm
M46.00004: A molecular compass for bird navigation
Invited Speaker: Peter Hore

1:39 - 2:15 pm
M46.00005: The Physics of Data: Can your degree in condensed matter theory get you a job at Google?
Invited Speaker: Jeff M. Byers

VII. Session T40: Invited Session: DMP Prize Session

Sponsoring Unit: DMP
Room: Grand Ballroom C3; Thursday, March 5, 11:15 am - 2:15 pm
Chair: John Mitchell, Argonne National Laboratory

11:15 - 11:51 am
T53.00001: **James C. McGroddy Prize Lecture: Iron-Based Superconductors: Discovery and Progress**
Invited Speaker: Hideo Hosono

11:51 am - 12:27 pm
T53.00002: **David Adler Lectureship Award Talk: Friction and energy dissipation mechanisms in adsorbed molecules and molecularly thin films**
Invited Speaker: Jacqueline Krim

12:27 - 1:03 pm
T53.00003: **IUPAP Young Scientist Prize in the Structure and Dynamics of Condensed Matter (C10):** Nanoscale Impedance Imaging of Novel Quantum Materials
Invited Speaker: Keji Lai

1:03P - 1:39 pm
T53.00004: **Richard L. Greene Dissertation Award in Experimental Condensed Matter or Materials Physics Recipient:** Magnetostructural coupling in spinel oxides
Invited Speaker: Moureen Kemei

1:39P - 2:15 pm
T53.00005: **Richard L. Greene Dissertation Award in Experimental Condensed Matter or Materials Physics Recipient:** Entanglement and Quantum Error Correction with Superconducting Qubits
Invited Speaker: Matthew Reed

March Meeting: APS Special Symposia & Events

Session B4: Meet Your Future: Industrial Careers for Physicists: An Interactive Workshop

Sponsoring Units: FIAP
Room: Mayor Cockrell Room 004, Monday, March 2, 11:15am - 1:45 pm
In this special lunchtime session, representatives from industry will provide information about physics careers in the private sector. Topics include research opportunities for physicists in industry, strategies for successfully pursuing industrial jobs, and advice on how to thrive in this exciting and challenging work environment.

Session E1: Prizes & Awards Ceremonial Session

Sponsor: APS
Room: Mission Room 103B; Monday, March 2, 5:45 – 6:45 pm
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 Meeting Program (Preamble). You may get a print version at the Meeting or view it online in February.

Session EE1: Welcome Reception

Sponsor: APS
Room: Exhibit Hall C; Monday, March 2, 2014 6:45 - 8:15 pm
Join colleagues and other meeting attendees to network and mingle. Light refreshments will be provided.

Session E20: Exploring Career Pathways: An Interactive Panel Discussion for Undergraduates

Sponsor: APS
Room: Mayor Cockrell 004; Monday, March 2, 2014 6:00 – 8:00 pm
Panel Discussion for Undergraduates
Only one-fifth of physics graduates will find permanent employment in academia and yet most students only have access to academic role models. In this interactive panel, students will have an opportunity to meet working physicists representing a diversity of backgrounds, degrees, and career paths. Students will learn about panelists' daily activities, and receive advice and guidance on how to best prepare for their own professional lives. Light refreshments will be served.

Session EE2: Special Outreach Session: Helium Availability: Impact on Basic Science and Alternative Technology

Sponsoring Units: DCMP
Chair: William Halperin, Northwestern University
Room: 205, Monday, March 2, 7:30 - 9:30 pm

7:30 - 8:00PM
EE2.00001: The Federal Helium supply: How we got here and where we might be going
Invited Speaker: Mark Elsesser

8:00 - 8:30PM

EE2.00002: Building a Cryogen Efficient Low Temperature Lab
Invited Speaker: John Davis

8:30PM - 9:00PM
EE2.00003: Extending cryogen-free experimental platforms into the microkelvin regime
Invited Speaker: Andrew Casey and John Saunders

9:00PM - 9:30PM
EE2.00004: Beating liquid helium: the technologies of cryogen-free superconducting magnets
Invited Speaker: John Burgoyne

CSWP Coffee Break

Sponsored: Committee on the Status of Women in Physics (CSWP)
Location TBA, Tuesday, March 3, 10:00 - 10:30 a.m.
Take a break from sessions to enjoy coffee and to meet and network with the APS Committee on the Status of Women in Physics (CSWP) and other meeting attendees.
There is no cost to attend but tickets are required. Stop by the APS Education & Diversity Booth in the APS Village on Monday, March 2 to pick up a ticket.

Session H2: Graduate Student Lunch With The Experts

Sponsoring Units: APS
Room: Ballroom A, Tuesday, March 3, 12:30 - 2:00PM
Students may sign up on site to enjoy a complimentary box-lunch while participating in an informal discussion with an expert on a topic of interest to them. Sign up begins in the Registration Area. Tickets are available on a first-come, first-served bases. Attendance is limited to eight students per topic/expert. You must show your ticket and badge at the door, and sit at the table number listed on your ticket.

Session DA1: Meet the APS Editors Reception

Sponsor: APS
Room: Tower View; Tuesday, March 3, 4:30 – 6:00 pm
The APS Journal Editors invite you to join them for conversation and light refreshments. The Editors will be available to answer questions, discuss your ideas, and listen to your comments about the journals. All are welcome to attend.

Session K20: Student Reception, Awards Ceremony, and Dance Party

Sponsoring Units: APS and Forum on Graduate Student Affairs (FGSA)
Room: Ballroom A, Tuesday, March 3, 5:30 - 6:30 pm
Students are invited to relax, mingle, and enjoy light refreshments while learning about programs and resources offered by APS and the Forum on Graduate Student Affairs (FGSA). After the reception, stick around for Club Physics!

DCMP/DMP New Fellows & Award Winners Reception

Sponsoring Unit: DMP and DCMP
Room: Grand Hyatt San Antonio, Texas DE, Tuesday, March 3, 5:30 p.m. - 7:00 p.m.

Session K16: DMP Business Meeting

Sponsor: DMP
Room: Grand Hyatt San Antonio Bowie A; Tuesday, March 3, 7:30PM – 8:30PM

Session L4: Tutorial for Authors and Referees

Sponsoring Units: APS
Room: Mayor Cockrell Room 004, Wednesday, March 4, 8:00 - 9:30 am
Editors from *Physical Review Letters* (PRL) and *Physical Review* (PR) will provide information and tips for our less experienced referees and authors. This session is aimed at anyone looking to submit to or review for any of the APS journals, as well as anyone who would like to learn more about the authoring and refereeing processes. Topics for discussion will include advice on how to write good manuscripts, similarities and differences in writing referee reports for PRL and PR, and other ways in which authors, referees, and editors can work together productively. Following a short presentation from the editors, there will be a moderated discussion. A light breakfast of bagels, pastries, coffee and tea will be served.

Session LA1: Meet the APS Editors Coffee Break

Sponsor: APS
Room: Hall C; Wednesday, March 4, 10:45 – 11:30 am
The editors of the APS journals invite you to join them for a reception on Tuesday, March 3 and a coffee break on Wednesday, March 4. The editors will be available to answer questions, hear ideas, and discuss comments about the journals. Editors from the following publications will be available:

Session Q0: Kavli Foundation Special Symposium: Frontiers of Light

Sponsoring Units: APS
Room: Ballroom A, Wednesday, March 4, 2:30 – 5:30 pm

2:30 - 3:06PM
Q0.00001: The Optical Microscopy Revolution
Invited Speaker: Stefan Hell

3:06PM - 3:42PM
Q0.00002: Light and Single-Molecule Spectroscopy, Imaging, and Photocontrol: Foundations for Super-Resolution Microscopy
Invited Speaker: W.E. Moerner

3:42PM - 4:18PM
Q0.00003: Developing Photo Activated Localization Microscopy
Invited Speaker: Harald Hess

4:18PM - 4:54PM
Q0.00004: History and Future Developments of Blue/Green/White LEDs and Laser Diodes
Invited Speaker: Shuji Nakamura

4:54PM - 5:30PM
Q0.00005: The Light Science of Coherent X-rays: How Quantum Dynamics Solved a 50 Year Challenge
Invited Speaker: Margaret Murnane

Session R21: Joint Task Force on Undergraduate Physics Programs

Sponsoring Units: APS and AAPT
Room: 201, Wednesday, March 4, 5:45 - 6:45 pm
How should physics departments improve undergraduate programs to help students prepare for 21st

century careers? Members of the physics community are invited to participate in an open forum to discuss this issue. What experiences and skills do graduates need to be prepared to begin their careers in various employment sectors? How can physicists help students achieve that preparation? Light refreshments will be provided. The Joint Task Force on Undergraduate Physics Programs (J-TUPP) seeks your input!

Session R52: Special Evening Event Hosted by the Editors of Physics

Sponsoring Unit: APS
Room: Texas DE, Wednesday, March 4, 7:30 PM–9:30 PM
Chair: Jessica Thomas, Editor, Physics

8:00 – 9:30 pm
R52.00001: Rise of the Colloidal Machines
Sharon C. Glotzer

Science Film: An Aperture into Science Advocacy

Grand Hyatt, Texas E, Thursday, March 5, 5:30 - 7:00 p.m.
The current funding environment for scientific research necessitates a change in how we foster support for the endeavor. Federal spending is not likely to grow unless constituents—APS members—help communicate the value of science to members of Congress and the public in a compelling and individual way. The event explores how popular film with science-based plots can help physicists communicate the value of science to members of Congress and an increasingly diverse electorate.

March Meeting: Pre-meeting Workshops

U.S.-China Young Physicists Forum for Graduate Students in Condensed Matter & Materials Physics (Invite Only)

Location TBA; Saturday, February 28, 8:30 am – 9:00 pm and Sunday, March 1 8:30 am – 2:00 pm
The scientific sessions of the meeting will focus upon two of the major physics sub-disciplines addressed at the March Meeting — Condensed Matter Physics and Materials Physics. Senior physicists will present plenary talks to the students, followed by parallel sessions with the students themselves presenting to each other. Perhaps most exciting, a poster-session/networking-reception will allow students to discuss their research with not only their international peers, but also with leaders in Condensed Matter Physics, Materials Physics and with distinguished VIPs from APS and CPS. During this networking reception/poster-session, graduate students can discuss their work and connect with potential partners or mentors in a smaller, more intimate setting than the larger March Meeting will allow. All graduate students will be expected to participate scientifically, either through presenting their research during a parallel session, or presenting a poster during the poster-session/networking-event.
APS 2015 Vice President Laura Greene will provide a session on “Publishing in Peer-Reviewed Journals,” a session that she has given to international audiences of young scientists around the globe. In addition to the scientific presentations and poster session, two panel discussions focused upon professional development and career-building will be tailored to both U.S. and Chinese graduate student interests. These include: “Careers Outside of Academia in the U.S. and China,” and “Life as a Graduate Student in the U.S. and China.”

DPOLY Short Course on Glasses

The glass transition in polymers, small molecule glass formers, and colloids: Recent advances in theory, experiment, and open challenges

Location TBA; Saturday, February 28, 1:00 p.m. - 6:15 p.m, and Sunday, March 1 8:30 a.m. - 6:15 p.m.

The glass transition is an area of intense fundamental research and remains a deep challenge to our understanding of complex materials. Yet, it is also highly important in practical applications as it determines use temperatures of polymers and composites, long term durability, and performance in novel nanotechnology applications. In the present course we review classic theories of the glass, the fundamental phenomenology of the glass transition and how practical applications are affected by the glassy behavior of polymers. In addition, we provide descriptions of the modern glass transition theories and simulation methods. Finally, the course gives a window on open questions and unresolved problems in glassy materials.

Professional Skills Development Workshop - Women Postdocs and Early Career Women Physicists

Grand Hyatt, Bowie B; Sunday, March 1, 8:00 AM- 6:30 PM

Professional Skills Development workshops are designed to provide women physicists with professional training in effective negotiation, communication and leadership skills, as well as a special opportunity for networking. The primary workshop goal is to produce more women leaders in physics and to help these women achieve their full potential in the top ranks of their profession.

Workshop on Energy Research and Applications

Convention Center Room TBA; Sunday, March 1 8:30 AM - 6:30 PM

This is a one-day workshop for graduate students and postdocs that highlights the contributions physics-related research can make towards meeting the nation's energy needs in environmentally friendly ways. The workshop is aimed at 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 challenges that the world faces.

The workshop features plenary talks by leaders in the field of energy research. After an overview talk, there are talks on different cutting-edge research areas. Each talk is aimed at the level of physics graduate students who are not experts in energy research. The goal of the workshop is to provide information to physics graduate students and postdocs on how they can contribute to energy and environmental solutions while doing exciting scientific research.

Upcoming Scientific Opportunities at the Linac Coherent Light Source II

Convention Center, Room 206A, Sunday, March 1, 2:00 p.m. - 5:00 p.m.

The Linac Coherent Light Source (LCLS) is an x-ray free electron laser user facility at SLAC supported by the Department of Energy. Addressing a broad range of scientific problems, the LCLS delivers coherent, intense, ultrafast x-ray pulses to a diverse suite of instruments. The LCLS-II is a major upgrade project that will increase the x-ray pulse repetition rate by four orders of magnitude to 1 MHz.

This workshop will highlight some of the scientific discoveries made at LCLS in the area of condensed matter physics during the first five years of operation. These presentations will also show how the LCLS-II, a high repetition rate x-ray FEL, will be a revolutionary scientific tool in the areas of quantum materials, magnetic systems and materials physics.

The workshop will begin with an overview of the scientific capabilities of LCLS as well as a description of the upgrade. At the end of the workshop, attendees will participate in a discussion of new scientific possibilities and the associated technical requirements. These discussions will be used to further develop the scientific objectives of LCLS-II, informing the ongoing design, construction and commissioning of this major new facility.

Careers in Physics Workshop

Location TBA, Sunday, March 1, 4:00 p.m. - 7:00 p.m.
In this informative workshop, career coach and author Peter Fiske will provide advice and strategies for taking your physics job search to the next level. Topics of the workshop include:

- Career planning and self assessment
- Networking
- Resumes and CVs
- Interviewing and negotiation **s**kills

March Meeting: Tutorials

Sunday, March 1
Convention Center

Morning Tutorials
Convention Center
8:30 a.m. - 12:30 p.m.

Tutorial #2: Quantum Annealing (Room 207B)
Instructors: Daniel Lidar, University of Southern California, Eleanor Rieffel, NASA Ames Research Center, Robin Blume Kohout, Sandia National Labs

Tutorial #4: Iridates (Room 207A)
Instructors: Young-June Kim, Hae-Young Kee, James Analytis, George Jackeli,

Afternoon Tutorials
Convention Center
1:30 p.m. - 5:30 p.m.

Tutorial #3: The Physics of Climate Change (Room 206B)
Instructors: Kerry Emanuel, MIT, Daniel Rothman, MIT, Sam Stechmann, University of Wisconsin-Madison, Mary-Louise Timmermans, Yale University

Tutorial #5: Quantum Gasses for Simulation (Room 207B)
Instructors: John Bollinger, NIST, Jason Ho, Ohio State University, Ian Spielman, University of Maryland and NIST, Additional lecturer to be announced, Martin Zwierlein, MIT, Benjamin Lev, Stanford University

Tutorial #6: Resources for Computational Materials Science (Room 207A)
Instructors**:** S. Curtarolo, Duke University, M. Buongiorno Nardelli, University of North Texas, M. Fornari, Central Michigan University, I. Takeuchi, University of Maryland

March Meeting: Editorial Events:

Sessions DA1 and LA1: Meet the APS Editors Reception & Coffee Break

Reception: Convention Center, Tower View; Tuesday, March 3, 4:30 – 6:00 pm
Coffee Break: Convention Center, Exhibit Hall C; Wednesday, March 4, 10:45 - 11:30 am

The editors of the APS journals invite you to join them for a reception on Tuesday, March 3 and a coffee break on Wednesday, March 4. The editors will be available to answer questions, hear ideas, and discuss comments about the journals.

DMP Executive Committee

The Executive Committee Officers for the 2015-2016 year, who begin their terms immediately following the March meeting in San Antonio, are:

Chair: John F. Mitchell, (04/14 - 03/15)
Argonne National Lab
Chair-Elect: Michael E. Flatté, (04/14 - 03/15)
University of Iowa
*Vice Chair: Daniel S. Dessau, (04/14 - 03/15)
University of Colorado, Boulder
Past Chair: Laura H. Greene, (04/14 - 03/15)
University of Illinois - Urbana
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