

# The DPP Chronicle

Portland, Oregon

A Division of The American Physical Society

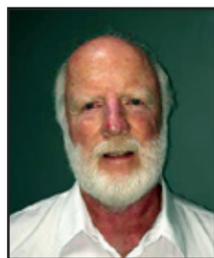
November 5 - 9, 2018



## James Clerk Maxwell Prize for Plasma Physics

*"For pioneering research, including key experimental advances and diagnostic development, that established the links between sheared plasma flow and turbulent transport, leading to improved confinement regimes for magnetized plasmas through turbulent transport reduction by sheared flow."*

**Keith H. Burrell**  
General Atomics



Keith H. Burrell received a B.S. in physics from Stanford University in 1968, an M.S. in physics from Caltech in 1970 and a Ph.D. in Physics, Applied Mathematics and History from Caltech in 1974. He has worked on magnetic confinement fusion research for the past 44 years at what is now General Atomics. His experimental research has primarily been done on the DIII-D tokamak and its predecessor, Doublet III; the first four years of his research was carried on ISX-A and ISX-B at Oak Ridge National Laboratory.

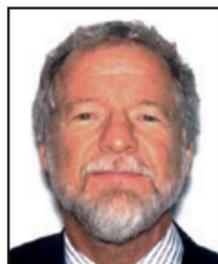
The major focus of his research has been energy, particle, and angular momentum transport in the core and in the edge of H-mode plasmas. He played a major role in experimentally establishing the paradigm of  $E \times B$  shear stabilization of turbulence in magnetically confined plasmas. For this work, he was one of four recipients of the American Physical Society (APS) Division of Plasma Physics Excellence in Plasma Physics Award in 2001. Dr. Burrell has led the research into the physics of quiescent H-mode plasmas since their discovery in 1999. He helped establish that these plasmas exhibit all the confinement advantages of H-mode discharges without the major problems caused by edge MHD instabilities. His work also has a significant focus on diagnostic development. He led the work developing the charge exchange spectroscopy systems on Doublet III and DIII-D which measure ion temperature, impurity density, rotation speed, and radial electric field profiles.

Dr. Burrell is a Fellow of the APS (1985) and a Fellow and Chartered Physicist of the Institute of Physics in the UK.

## John Dawson Award for Excellence in Plasma Physics Research

*"For the first experimental demonstration of the stabilization of edge localized modes in high-confinement diverted discharges by application of very small edge-resonant magnetic perturbations, leading to the adoption of suppression coils in the ITER design."*

**Max E. Fenstermacher**  
Lawrence Livermore  
National Laboratory



Max Fenstermacher has been a physicist in the Magnetic Fusion Energy Program at Lawrence Livermore National Laboratory (LLNL) since 1988. He graduated with a double major in mathematics and physics from Kalamazoo College in 1978, and completed both his M.S. (1980-ELMO Bumpy Torus) and Ph.D. (1983-Stochastic Differential Equations in the Kinetics of Magnetized Plasmas) in nuclear engineering at the University of Michigan. He began his career on location at LLNL as a member of the TRW plasma physics group supporting the MFTF-B tandem mirror. In 1988 he joined the LLNL staff supporting the Microwave Tokamak Experiment (MTX) to couple the ALCATOR-C tokamak to a free electron laser (FEL). His other research interests have included fusion reactor optimization studies for both tandem mirrors and tokamaks, lower hybrid current drive simulations, divertor detachment physics and 2D fluid modeling, high temporal resolution edge localized mode (ELM) characterization, and quiescent H-mode (QH-mode) research. His primary research focus since 2005 has been the control of ELMs in tokamaks including ITER, using 3D magnetic perturbation fields. Max is a member of Phi Beta Kappa, Tau Beta Pi and the American Physical Society. He currently serves as a U.S. representative to the ITER Science and Technical Advisory Committee (STAC), has been the chair of the ITPA ELM Control working group since 2008, and has served for eight of the last 10 years as the experimental coordinator for the DIII-D tokamak program.

**Richard Alan Moyer**  
University of California,  
San Diego

*"For the first experimental demonstration of the stabilization of edge localized modes in high-confinement diverted discharges by application of very small edge-resonant magnetic perturbations, leading to the adoption of suppression coils in the ITER design."*



Dr. Richard A. Moyer is a research scientist in the Center for Energy Research and a senior lecturer of mechanical and aerospace engineering at the University of California, San Diego. His research focuses on understanding and controlling transients in tokamak plasmas that can limit the performance or damage the device, with a goal of developing actuators to suppress or mitigate the consequences of these events. In 2003, Dr. Moyer and Dr. Todd Evans of General Atomics, invented a technique to suppress edge localized modes (ELMs) using small magnetic field perturbations (RMPs), research which led in 2005 to the first magnetic confinement fusion paper published by Nature in over 30 years. Today, RMP ELM suppression is a major area of tokamak fusion research worldwide. Dr. Moyer also studies disruption mitigation and runaway electron dissipation techniques in tokamaks, and is active in STEM outreach. He was an early participant in the American Physical Society (APS) Division of Plasma Physics Plasma Exos and in the APS Lead Scientist/Teacher Alliance 2000, and has been a regular presenter in Expanding Your Horizons San Diego workshops. Dr. Moyer received a B.S. with honors in physics from the Honors Tutorial College of Ohio University (1979), and an M.S. in nuclear engineering (1981), and Ph.D. in plasma physics (1988) from the University of Wisconsin-Madison. He is a member of the Sigma Pi Sigma and Pi Mu Epsilon national physics and mathematics honorary societies, and was elected an APS fellow in 2017.

**Todd E. Evans**  
General Atomics

*"For the first experimental demonstration of the stabilization of edge localized modes in high-confinement diverted discharges by application of very small edge-resonant magnetic perturbations, leading to the adoption of suppression coils in the ITER design."*



Dr. Evans received a B.S. in physics and engineering physics from Wright State University (1978), an M.S. in physics from the University of Texas at Dallas (1979) and a Ph.D. in physics from the University of Texas at Austin (1984), where his dissertation and postdoctoral research covered experimental measurements of driven Global Alfvén Eigenmodes in the PRETEXT tokamak. He joined General Atomics in 1985 where he has carried out experimental studies and numerical modeling of small resonant and non-resonant 3D magnetic perturbation effects on magnetically confined toroidal plasmas. He has authored or co-authored over 265 journal articles and book chapters covering research on tokamaks and stellarators in the U.S., Europe, Japan, and South Korea, including: PRETEXT, TEXT, TORE SUPRA, TEXTOR, JIPP T-IIU, ASDEX, ASDEX-Upgrade, NSTX, KSTAR and LHD. He was the 1984 recipient of the R. L. Book Award for distinguished graduate research and was awarded the 2008 International Atomic Energy Agency Nuclear Fusion Prize for his work on the suppression of large edge localized modes with edge resonant magnetic fields in high-confinement DIII-D plasmas. He became an American Physical Society fellow in 2009, based on his contributions to the understanding of complex 3-D magnetic field topologies and their application to the beneficial control of the plasma edge in high temperature fusion plasmas and has been a Sigma Pi Sigma, Phi Kappa Phi, Institute of Electrical and Electronics Engineers, Mathematical Association of America, The New York Academy of Sciences, and Sigma Xi member.

### Landau-Spitzer Award

*"For experimental verification, through collaborative experiments, of a novel and highly efficient ion cyclotron resonance heating scenario for plasma heating and generation of energetic ions in magnetic fusion devices."*

**Yevgen Kazakov**  
Laboratory for Plasma Physics,  
Royal Military Academy,  
Brussels, Belgium



Yevgen Kazakov, Ph.D., is a research scientist at the Laboratory for Plasma Physics of the Ecole Royale Militaire - Koninklijke Militaire School (LPP-ERM/KMS) in Brussels. Dr.

Kazakov is one of the main coordinators of the experimental development of novel ion cyclotron resonance heating (ICRH) scenarios on JET (Culham, UK) and AUG (Garching, Germany) tokamaks. He is currently deputy leader of the task force 'Heating, Fueling and Current Drive' on the stellarator Wendelstein 7-X (Greifswald, Germany), and coordinates the development of high-performance heating scenarios and fast-ion physics studies in W7-X. Dr. Kazakov received his MSc degree in 2007 and his PhD in 2011 in plasma physics from the V.N. Karazin Kharkiv National University (Kharkiv, Ukraine). His PhD thesis, supervised by Prof. Igor Girka, focused on theoretical studies to enhance the efficiency of mode conversion of ion cyclotron waves in fusion plasmas. In 2011, Dr. Kazakov joined the Chalmers University of Technology (Göteborg, Sweden) as a postdoctoral researcher and member of the plasma theory group led by Prof. Tünde Fülöp. During his postdoctoral stay at Chalmers, he was awarded an EFDA Fusion Researcher Fellowship for his project to study the interaction between ICRH heating and impurities in tokamak plasmas. Since 2013 he is employed by LPP-ERM/KMS in Brussels, and in 2015 he was promoted to a non-stipendiary (oavlönad) docent at the Chalmers University of Technology.

**Jozef Ongena**  
Laboratory for Plasma Physics,  
Royal Military Academy,  
Brussels, Belgium

*"For experimental verification, through collaborative experiments, of a novel and highly efficient ion cyclotron resonance heating scenario for plasma heating and generation of energetic ions in magnetic fusion devices."*



Jozef Ongena, Ph.D., is research director at the Laboratory for Plasma Physics of the Ecole Royale Militaire-Koninklijke Militaire School (LPP/ERM-KMS) in Brussels. Dr. Ongena completed

his undergraduate and graduate studies in low temperature plasma physics at the University of Gent (Belgium), under the supervision of Professor Robert Bouciqué and Professor Willem Wieme, completing his Ph.D. on excimer formation in Krypton in 1985. In 1987, he joined the collaboration between LPP/ERM-KMS and the Institut für Plasmaphysik of the Forschungszentrum in Jülich (FZJ), Germany, working under then director, Professor Paul Vandenplas. He was actively involved in ICRH and NBI heating and confinement studies on the tokamak TEXTOR and, together with Dr. André Messiaen and Professor Roger Weynants, he pioneered the radiatively improved confinement mode (RI-Mode), obtained with impurity seeding using Ne, Ar and Si on TEXTOR. He also did experiments with impurity seeding on TFTR, DIII-D, Tore-Supra and JET. In 1999 he began a three-year assignment as task force

leader on JET for the development of the H-Mode, followed by a year as the scientific assistant of the JET director, followed by five years as task force leader for heating studies. He is now project leader for the development of the ICRH system for the stellarator W7-X, in a collaborative effort between the Institute for Energy and Climate Research/Plasma Physics (IEK-4) in FZJ and LPP/ERM-KMS.

**John C. Wright**

MIT Plasma Science and Fusion Center

*"For experimental verification, through collaborative experiments, of a novel and highly efficient ion cyclotron resonance heating scenario for plasma heating and generation of energetic ions in magnetic fusion devices."*



Dr. Wright is a principal scientist at MIT Plasma Science & Fusion Center. He received his B.A. in applied physics from Columbia University in 1991 and his Ph.D. in astrophysical sciences from Princeton University in 1998. His research is in developing and applying new capabilities in radio frequency simulations that contribute to improved understanding of the theory and experiments in wave-particle interactions in plasmas. These physics advances have been accompanied by contributions in computer science, including advanced parallel linear algebra algorithms, integrated multi-physics simulation frameworks, and a Web-based approach to workflow, data, and provenance tracking. He is active in several international and multi-institutional domestic collaborations focused on improving the understanding of radio frequency actuators in tokamaks and stellarators.

**Stephen J. Wukitch**

MIT Plasma Science and Fusion Center

*"For experimental verification, through collaborative experiments, of a novel and highly efficient ion cyclotron resonance heating scenario for plasma heating and generation of energetic ions in magnetic fusion devices."*



Dr. Stephen J. Wukitch is a principal scientist at MIT Plasma Science & Fusion Center. He earned a B.S. in nuclear engineering from Pennsylvania State University in 1991, an M.S. in 1993 and a Ph.D. in 1995 from the University of Wisconsin, both in engineering and engineering physics. He had overall responsibility for the physics program and operation of the 8 MW ion cyclotron range of frequency (ICRF) system on Alcator C-Mod. His research interests include RF wave physics, RF-plasma edge interactions, and antenna, transmission, and source technological challenges. The three ion scenario development was motivated by the need to understand and control the high energy 3.5MeV 4He ions that result from the D+T fusion reaction. For an economical operation of a future fusion reactor, it is essential that their energy is optimally transferred to core plasma particles before they escape the device. The three ion scenario has the potential to provide a test population of energetic ions for investigating energetic particle physics in present and future devices. Presently, he leads a collaborative effort on DIII-D National Fusion Facility to validate the physics and technology for high field side launch of lower hybrid waves (HFS LHCD). HFS LHCD in double null configurations represents an integrated solution for efficient off-axis current drive and potentially mitigates PMI /coupling issues in present day experiments and future burning plasmas. He was elected an American Physical Society fellow in 2010.

### Thomas H. Stix Award for Outstanding Early Career Contributions to Plasma Physics Research

*"For seminal contributions that advanced the field of laboratory astrophysics through numerical simulations and leadership of experiments on particle acceleration, collisionless shocks, and magnetic reconnection."*

**Frederico Fiuza**

SLAC National Accelerator Laboratory



Frederico Fiuza is a Staff Scientist & the Theory Group Leader at the High Energy Density Science division at the SLAC National Accelerator Laboratory since 2015. He obtained his degree in

Physics Engineering and his PhD degree in Plasma Physics from Instituto Superior Tecnico, Portugal, in 2007 and 2012, respectively. He subsequently became a Lawrence Postdoctoral Fellow at the Lawrence Livermore National Laboratory between 2012 and 2015, before joining SLAC. He is interested in the combination of massively parallel kinetic simulations and experiments to explore a wide range of topics in astrophysical and laboratory plasmas, including particle acceleration, magnetic field amplification, collisionless shocks, magnetic reconnection, and instabilities in fusion plasmas. Frederico has been awarded the Oscar Buneman Award for Best Visualization of Plasmas in 2011, the Lawrence Fellowship in 2012, the European Physical Society PhD Research Award in 2013, and the DOE Early Career Research Program Award in 2017.

### Marshall N. Rosenbluth Outstanding Doctoral Thesis Award

*"For major contributions to understanding, simulating, and diagnosing turbulence in compressing plasmas; for the identification of the sudden dissipation effect and suggestions for exploiting it; and for the derivation of a practical lower bound on turbulent dissipation in compressing plasma."*

**Seth Davidovits**

Princeton Plasma Physics Laboratory



Seth Davidovits earned a B.A. in applied physics from Columbia University in 2010, graduating as valedictorian of Columbia Engineering. As an undergraduate, he worked at the

Columbia Non-neutral Torus Laboratory and, on a computational biology project, at Argonne National Laboratory. He then entered the Ph.D. program in plasma physics at Princeton University, where he held a Department of Energy Computational Science Graduate Fellowship. His Ph.D. thesis, completed in 2017 under the direction of Professor Nathaniel Fisch, focused on the theory and simulation of turbulence in compressing fluids, with an emphasis on effects unique to plasma, such as a novel sudden viscous dissipation mechanism. He is now a postdoctoral research fellow in the Department of Astrophysical Sciences at Princeton, where he holds a Department of Energy Fusion Energy Sciences postdoctoral fellowship. He is a member of the American Physical Society and was chosen as a 2018 Howes Scholar. Dr. Davidovits continues to pursue the compression of turbulent plasma, with applications in inertial-confinement-fusion experiments, Z-pinch experiments, and astrophysical plasmas.

### Will Allis Prize for the Study of Ionized Gases

*"For major contributions to understanding, simulating, and diagnosing turbulence in compressing plasmas; for the identification of the sudden dissipation effect and suggestions for exploiting it; and for the derivation of a practical lower bound on turbulent dissipation in compressing plasma."*

**Leanne Pitchford**

CNRS &  
Université Toulouse III - Paul Sabatier



Leanne Pitchford received a B.S. in physics and mathematics from East Texas State University in 1970 and a Ph.D. in atomic physics from University of Texas at Dallas in 1976. In 1989, Dr. Pitchford was

recruited by the French Centre National de la Recherche Scientifique (CNRS) and has since been affiliated with the LAPLACE laboratory on the campus of the Université Toulouse III - Paul Sabatier, where she is presently an emeritus senior research scientist. Prior to that, she held the following positions: post-doc at the Commissariat L'Energie Atomique (CEA) in Saclay, France (1976-1977); post-doc at JILA in Boulder, Colorado (1977-1979); member of the technical staff at Sandia National Laboratories in Albuquerque (1980-1984); and Discharge Physics Department manager (1984-1988) at GTE Laboratories in Waltham, Massachusetts. Dr. Pitchford's research activities have focused on numerical modeling of low-temperature plasmas, both for fundamental studies of plasma properties and for the development of plasma sources for technological applications. Her main contributions to the field relate to improving the quality of the various input data needed for models. Recently, she has been involved in a community-wide project to make charged-particle transport and collision data available on-line. She is a member of American Physical Society and a fellow of the Institute of Physics (UK). She was awarded a CNRS Silver Medal in 1999 and the von Engel and Franklin Prize in 2015.

### Housing Information

**Hilton Portland Downtown Hotel**  
921 SW Sixth Avenue, Portland 97204  
(\$227.50 Standard Rate)

**DoubleTree by Hilton Hotel Portland**  
1000 NE Multnomah Street,  
Portland 97232  
(\$166 Standard Rate)

**Courtyard Portland Downtown Convention Center**  
435 NE Wasco Street, Portland 97232  
(\$151 Standard Rate)

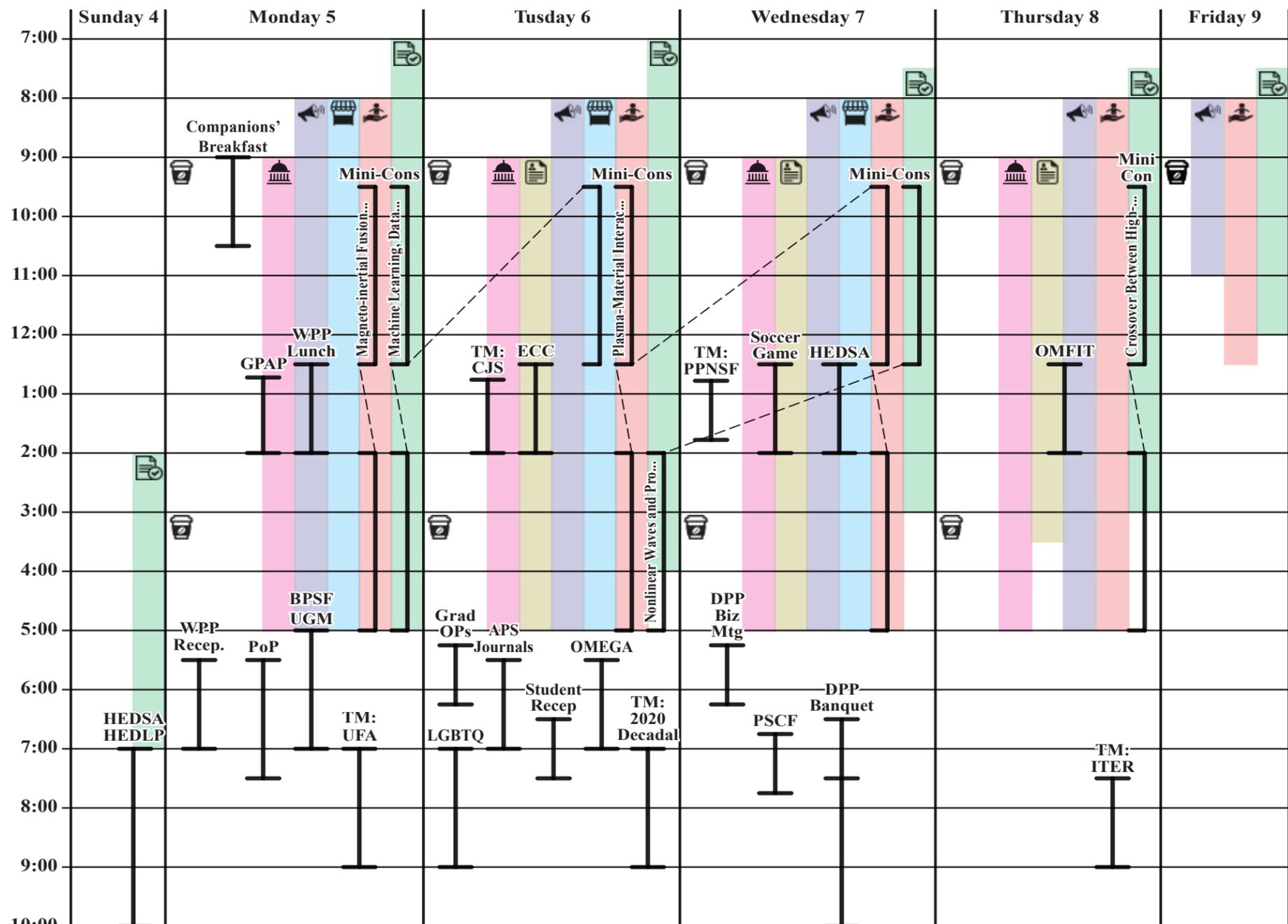
Guest room rates are subject to 14.5% tax per night.

The prevailing government rate is \$150 plus tax, per room per night.

### What's In a Name?

Portland got its name when founders Asa Lovejoy and Francis Pettygrove flipped a coin in 1845. Lovejoy was from Massachusetts and wanted to name the city Boston, while Pettygrove was from Maine and wanted to name the new town Portland. Since the official naming of Portland, this Oregon city has collected several nicknames. In 1888, the Episcopal Church held a convention where attendees referred to Portland as the "City of Roses." This nickname caught on in 1905 when mayor Harry Lane came up with the idea of an on-going festival dedicated to roses. Portland has another nickname of "Stumptown" because in its early years the stumps of trees were left in the middle of new city streets. Nowadays, you may hear Portland referred to as "PDX", referring to the International Air Transit Association airport code for the Portland International Airport. Whatever you call it, folks agree Portland is a pretty great place to be!

## Meeting Events Calendar



Registration Desk  
 Résumé Help Desk  
 Speaker Ready Room Hours  
 APS DPP Membership  
 Caregiver/Children's Room  
 Coffee Breaks  
 Contact Congress

### Did You Know?

Portland is one of two US cities with a dormant volcano within city limits, Mt. Tabor.

### COPY SHOPS

**DocuMart**  
511 SW 10th Ave #104, (503)241-1918, www.documart.com

**FedEx Office Print and Ship Center** (two locations)  
221 SW Alder St, (503)224-6550, www.local.fedex.com  
1605 NE 7th Ave, (503)284-2129, www.local.fedex.com

**Minuteman Press Lloyd Center**  
1015 Broadway St, (503)284-6414, www.broadway.minutemanpress.com

### Mobile App

APS DPP is pleased to announce that the DPP 2018 mobile app for your iOS or Android device will be available in Portland. Once you have downloaded the app you will be able to view the entire scientific program on your mobile device. You can browse the sessions, search authors, and get important information about the annual meeting.

For instructions on how to download the app, please see the flyers at the DPP Registration Desk or at the APS DPP Meeting Information Booth.

< **Sunday, November 4th** >

### DPP Registration Desk Hours

#### Wisconsin Center, Concourse

Sunday, Nov. 4, 2:00 p.m. - 7:00 p.m.  
Monday, Nov. 5, 7:00 a.m. - 5:00 p.m.  
Tuesday, Nov. 6, 7:00 a.m. - 4:00 p.m.  
Wednesday, Nov. 7, 7:30 a.m. - 3:00 p.m.  
Thursday, Nov. 8, 7:30 a.m. - 3:00 p.m.  
Friday, Nov. 9, 7:30 a.m. - 12:00 p.m.

### HEDSA Symposium on High Energy Density Laboratory Plasmas

Sunday, November 4  
7:00 p.m. - 10:00 p.m.

**Oregon Convention Center, B113-114**

The High Energy-Density Science Association (HEDSA) will hold its Annual Symposium on High Energy Density Plasmas in Portland. Six half hour invited talks will be given focusing on the most exciting elements of the field. All attendees of the conference, especially graduate students and post docs are encouraged to attend for this exciting opportunity to learn about the trending directions of HED plasma physics research. The HEDSA symposium is free to all conference attendees.

### Wireless Access

WiFi will be available in the Oregon Convention Center and in public space in the Hilton Portland Downtown Hotel.

< **Monday, November 5th** >

### Review Talks

Review talks start at 8:00 a.m.  
Monday - Friday

**Oregon Convention Center, 201-203**

### Did You Know?

Ahead of the game on food trailer eateries, Portland first started making spaces for food carts as early as 1912!

The population of women to men is fairly even. With just .5 percent difference, 50.5% of the population in Portland are female.

### APS DPP Membership Booth and Store

Monday - Wednesday  
November 5-7  
8:00 a.m. - 5:00 p.m.

**Oregon Convention Center, Pre-Function C**

The APS Membership Department staff will be on hand to answer questions about APS and DPP membership. Stop by for information on how to become a member, renew lapsed membership, and purchase some fun and practical items. Joining APS and DPP is a perfect way to stay connected with the most recent developments in the physics community. Browse the selection of t-shirts, caps, and more.

### Speaker Ready Room Hours

**Wisconsin Center, Oregon Convention Center C126**

Monday, Nov. 5, 8:00 a.m. - 5:00 p.m.  
Tuesday, Nov. 6, 8:00 a.m. - 5:00 p.m.  
Wednesday, Nov. 7, 8:00 a.m. - 5:00 p.m.  
Thursday, Nov. 8, 8:00 a.m. - 5:00 p.m.  
Friday, Nov. 9, 8:00 a.m. - 11:00 a.m.

### Caregiver/Children's Room

Monday - Thursday,  
November 5 - 8,  
8:00 a.m. - 5:00 p.m.

Friday, November 9,  
8:00 a.m. - 12:30 p.m.

**Oregon Convention Center, C128**

A caregiver/children's room will be available for parents and caregivers to use at no cost to attendees. The room is intended

for parents or caregivers who have brought infants or young children to the annual meeting. The room will be furnished with comfortable furniture and with a limited number of toys, natural organic snacks, and beverages for young children.

### Did You Know?

Portland (and all of Oregon) has no sales tax.

### Morning Beverage Breaks

Monday-Friday,  
9:00 a.m. - 9:30 a.m.  
Oregon Convention Center,  
Ballroom Lobby and Exhibit Hall A1-A

### Afternoon Beverage Breaks

Monday-Thursday,  
3:00 p.m. - 3:30 p.m.  
Oregon Convention Center,  
Ballroom Lobby and Exhibit Hall A1-A  
*Note: Beverages will not be replenished.*

### Résumé Help Desk

Tuesday - Wednesday  
November 6 - 7,  
9:00 a.m. - 5:00 p.m.

Thursday, November 8  
9:00 a.m. - 3:30 p.m.

**Exhibit Hall A-A1**

Back by popular demand, DPP is hosting a résumé help desk as a FREE service to meeting attendees! The Résumé Help Desk is located in the Job Fair area. Interested attendees should stop by the Job Fair

### Did You Know?

Portland ranked as the 10th Best Big City in the U.S. Condé Nast Traveler spoke to over 100,000 people to get their picks for the best big cities and Portland came out in the top 10.

### Did You Know?

Springtime in the Portland area provides opportunities for quite an array of activities. It would be feasible to snowboard on Mount Hood in the morning, water ski in downtown Portland in the afternoon and surf in Seaside in the evening. ALL IN ONE DAY.

### Contact Congress (Sponsored by the APS Office of Public Affairs)

**Monday - Thursday,  
November 5-8  
9:00 a.m. - 5:00 p.m.**

### Oregon Convention Center, Pre-Function C

Stop by the Contact Congress desk to sign your name to letters addressed to your Congressional delegation on the importance of federal funding for basic research. It takes only a couple of minutes. By doing so, you are making your voice heard in Washington DC and helping to influence the funding levels for physics research. To amplify the impact, the APS Public Affairs Office will follow-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.

If you have any questions about what is happening in Washington DC, just stop by the Contact Congress desk to ask the experts.

### Companions' Breakfast

**Monday, November 5  
9:00 a.m. - 10:30 a.m.**

### Hilton Hotel, Broadway I

Note: Breakfast is only for companions and their children.

Join other companions who are attending the annual meeting for a DPP-sponsored complimentary breakfast at the Hilton Portland Downtown Hotel. Reacquaint with friends and other companions from past DPP meetings. A representative from Portland Travel will attend the breakfast and share tour and site information while visiting the city.

### Did You Know?

Because it is encompassed by the Willamette and Columbia River, Portland has 10 bridges! They are St. Johns, Fremont, Broadway, Steel, Burnside, Morrison, Hawthorne, Marquam, Ross Island and Sellwood

### Women in Plasma Physics Reception

**Monday, November 5  
5:30 p.m. - 7:00 p.m.**

### Broadway, Plaza Level, Hilton Hotel

The members of the Committee on Women in Plasma Physics invite you to join them for a panel discussion regarding women in physics. The panel will include Dr. Radha Bahukutumbi, University of Rochester Laboratory for Laser Energetics; Dr. Hui Chen, Lawrence Livermore National Laboratory; Dr. Cami Collins, General Atomics; Dr. Maria Gatu Johnson, Massachusetts Institute of Technology; and Dr. Francesca Poli, Princeton Plasma Physics Laboratory. Information will be on display representing the progress of women in plasma physics. All DPP and GEC attendees are welcome.

### Did You Know?

The Portland International Airport (PDX), is ranked as the #1 World's Best Airport (domestic).

### Topical Group on Plasma Astrophysics (GPAP) Business Meeting

**Monday, November 5, 2018  
12:30 p.m. - 2:00 p.m.**

### Oregon Convention Center, C123

GPAP will hold their annual business meeting during the DPP annual meeting in Portland. The GPAP meeting is open to all annual meeting attendees.

### Mini-Conferences

Five mini-conferences are scheduled Monday through Thursday in the Oregon Convention Center. Check the Epitome for the presenter start times.

All mini-conferences are organized with oral presentations plus time for Q&A. They employ a question-oriented format to stimulate discussion and interaction among attendees. Audio visual equipment and meeting space which will be used in all mini-conference oral sessions, will be provided by the DPP.

### Mini-Conference on Magneto- inertial Fusion Science and Technology

### Oregon Convention Center, C123

**Monday, 9:30 a.m. & 2:00 p.m.**

*Organizers: Kyle Peterson (Sandia Labs),  
Johathan Davies (U Rochester), Patrick  
McGrath (ARPA-E)*

To highlight recent advances in science, technology, and fundamental understanding in the field of Magneto-inertial fusion (MIF). MIF is a growing research field, not just in the United States, but internationally as well. In recent years, there has been some exciting developments in the field such as the demonstration at Sandia Labs that pre-heated and pre-magnetized plasmas can be relatively slowly compressed to thermonuclear conditions.

### Mini-Conference on Machine Learning, Data Science, and Artificial Intelligence in Plasma Research

### Oregon Convention Center, C124

**Monday, 9:30 a.m., & 2:00 p.m.,  
Tuesday, 9:30 a.m.**

*Organizers: J. Luc Peterson (LLNL),  
Cristina Rea (MIT), Zhehui "Jeph" Wang  
(LANL), David Humphreys (GA)*

The ability of modern experimental and computational plasma science to generate large quantities of complex data, combined with advances in mathematics, analytics and computation, has motivated researchers to explore the application of advanced statistical techniques to problems of plasma science. Such technologies include machine learning (ML), artificial intelligence, dataset generation and curation, and predictive analytics, in both experimental and computational contexts. In this mini-conference we aim to stimulate an already lively interest from the community by providing a common forum for experts in plasma physics and machine learning to share data science techniques and applications thereof to problems of interest.

### Mini-Conference on Plasma- Material Interactions in Fusion Devices: ITER and Beyond

### Oregon Convention Center, C123

**Tuesday, 9:30 a.m., & 2:00 p.m.,  
Wednesday, 9:30 a.m. & 2:00 p.m.**

*Organizers: Karl Hammond (U Missouri),  
Ilon Joseph (LLNL), Sergei Krasheninnikov  
(UCSD), Ane Lasa Esquisabel (U  
Tennessee, Knoxville)*

The SciDAC (Scientific Discovery through Advanced Computing) on plasma material interactions was selected last year for 5-year project funding, building



### APS DPP Job Fair 2018

**Monday - Wednesday  
Nov. 5 - 7, 9:00 a.m. - 5:00 p.m.**

**Thursday  
Nov 8, 9:00 a.m. - 3:30 p.m.**

### Exhibit Hall A-A1

Are you an employer looking to hire a physicist for your science and technology jobs? Are you a physicist looking to connect with potential employers to learn about opportunities, or interview for a job? If so, you will not want to miss the APS DPP 2018 Job Fair at the Oregon Convention Center from Monday - Thursday, November 5 - 8, 2018.

#### Participating employers can:

- Showcase their companies by purchasing a Recruitment Booth;
- Receive unlimited job board postings during the event;
- Search the resume database for promising candidates;
- Interview with potential candidates on-site (private interview space provided).

#### Job Seekers will be able to:

- Do a targeted search of the job database to identify recruiters attending and interviewing at the meeting;
- Schedule private interviews with recruiters during the meeting;
- Store multiple copies of your resume to share with participating employers.

To register for the event, please stop by the Job Fair information desk in the Exhibit Hall or visit our APS DPP Job Fair page: <http://www.aps.org/careers/employment/jobfairs/dpp/index.cfm>.

#### RESUME HELP DESK

We are once again hosting a resume help desk as a FREE service to meeting attendees! The Resume Help Desk is located in the Job Fair area of the Exhibit Hall, and will operate under the same hours as the Job Fair, Tuesday - Thursday, November 6 - 8.

To sign up for a 30-minute block to meet with a professional scientist for advice on how to construct an effective resume or CV, please visit the Job Fair information Desk, which will be located in the Job Fair Area in the Exhibit Hall.

upon a successful 5-year prior project. Our milestone focuses on high-performance computing with coupled boundary plasma physics and materials surface models to predict fuel recycling and tritium retention in the ITER divertor for D-T burning plasma conditions, accounting for erosion, re-deposition, and impurity transport in the plasma boundary, as well as an initial evaluation of the influence of material deposition on recycling and retention. We believe some GEC researchers are also involved in the studies of plasma-material interactions and there are enough common issues and overlapping interests that we could learn a lot from each other.

### Mini-Conference on Nonlinear Waves and Processes in Space Plasmas

### Oregon Convention Center, C124

**Tuesday, 2:00 p.m.,  
Wednesday, 9:30 a.m.**

**(Thursday, 9:30 a.m., Poster Session VII)**

*Organizers: Mark Koepke (West Virginia  
U), David Knudsen (U of Calgary, Canada),  
Sergey Savin (Space Research Institute,  
Russia), Gregory Howes (U of Iowa),  
William Daughton (LANL)*

Theory and observation of nonlinear wave coupling phenomena in solar-system plasma from rocket and satellite observations have provided evidence of nonlinear processes in space plasma, relevant to subjects as diverse as general relativity, high-energy particle and plasma physics, fluid and solid mechanics, nonlinear electrical circuits, nonlinear optics, random-microstructure media, Bose-Einstein condensation, atmosphere and ocean dynamics, chemical reaction, and biology, wherein remarkable agreement between theory and experiment can be claimed.

We hope to provide a forum for developing modeling methods and tools, to foster cross-fertilization among subdisciplines of application, and to enable communication between the theorists who build the models and simulations and the experimentalists who apply them. Nonlinear waves, wave-wave interactions, and chaos are believed to play dominant roles in the heating and acceleration of charged particles and in generating turbulence in lab, space,

and astrophysical plasma. These waves represent the electromagnetic signature of solar-terrestrial coupling and are useful for the forecasting and monitoring of space weather. There will be one poster session Thursday morning (TP11).

### Mini-Conference on the Crossover Between High-energy- density Plasmas (HEDP) and ultracold neutral plasmas (UNP)

### Oregon Convention Center, C123

**Thursday, 9:30 a.m. & 2:00 p.m.  
(Friday, 9:30 a.m., Poster Session IX)**

*Organizers: Michael Murillo  
(Michigan State U), Scott Bergeson  
(Brigham Young U)*

High-energy-density plasmas (HEDPs) play a key role in national security and energy research. Creating, diagnosing, and understanding these fusion-class systems requires the best experimental techniques, advanced plasma theories, and cutting-edge computer simulations. The experimental conditions are difficult or perhaps impossible to measure with enough certainty to effectively guide theoretical development. Ultracold neutral plasmas (UNPs) operate in a completely different region of phase space. Yet with temperatures of a few K and densities of  $10^9$ - $10^{12}$  cm<sup>-3</sup>, they are also weakly non-ideal. Using precision spectroscopy tools in this quiescent environment, the collisional properties of non-ideal plasmas can be measured. These measurements can be used to benchmark MD simulations, to test advanced formulations of the Coulomb logarithm beyond the Landau-Spitzer model, and to guide theoretical developments at the frontier of plasma science. While both HEDP and "complex" plasmas are traditionally part of DPP, this mini-conference will enable a focused opportunity to explore the surprising crossover of these two fields. There will be one poster session on Friday morning (YP11).

### Did You Know?

Portland has one of the largest Urban Parks in the U.S., Forest Park, which is approximately 5,000 acres. It is also home to the smallest Urban Park, Mills End Park, measuring a mere two feet across.

Please join us at the 60th Annual Meeting of the American Physical Society  
Division of Plasma Physics to review the Findings and  
Recommendations of the 2018 OMEGA Laser Users Group Workshop

Tuesday, November 6, 2018 at 5PM-6:30PM

Room C120, Oregon Convention Center, 777 NE MLK, Jr. Blvd



NLUF & LBS Manager John Soures is recognized by OLUG



Students and Postdocs



10<sup>th</sup> Omega Laser Facility Users Group (OLUG)  
Workshop Attendees  
25-27 April 2018



Laboratory for Laser Energetics (LLE)  
University of Rochester  
Rochester, New York USA



### Women in Plasma Physics Luncheon

Monday, November 5  
12:30 p.m. - 2:00 p.m.

Cosmopolitan Ballroom,  
Hotel Eastlund,  
1021 NE Grand Avenue

The members of the Committee on Women in Plasma Physics invite you to join them for lunch with guest speaker Dr. Njema Frazier, Director of the Office of Experimental Sciences at the U.S. Department of Energy's National Nuclear Security Administration. To attend the luncheon, mark the appropriate space on the DPP on-site registration form. The lunch tickets are \$25 for regular attendees and \$10 for graduate and undergraduate students. Limited seating is available. The lunch cost is partially subsidized by DPP and GEC.

### Basic Plasma Science Facility Users Group Meeting

Monday, November 5  
5:00 p.m. - 7:00 p.m.

Oregon Convention Center,  
B110-B112

The Users Group of the Basic Plasma Science Facility at UCLA will hold a meeting to discuss current status and plans for the user facility and the Large Plasma Device (LAPD). A brief presentation will be made by Professor Troy Carter, the facility director, discussing machine status and opportunities for experimental time on

the facility. The Chair of the BaPSF Users Group, Professor Fred Skiff (University of Iowa), will facilitate the opportunity for feedback to the facility director from current and potential users. Current users, those interested in becoming users of the facility and those just curious to learn about BaPSF are welcome.

### Did You Know?

The median age of Portland residents is 36.3 years old. Comparatively, median ages in a few other cities are: 41.3 in Honolulu, HI, 28.8 in Salt Lake City, UT, 38.4 in Queens, NY, and 34.2 in Austin, TX.

### Physics of Plasmas Reception in Honor of All Authors and Invited Speakers

Monday, November 5  
5:30 p.m. - 7:30 p.m.

Hilton Hotel, Pavilion Ballroom  
West, Plaza Level

The Editors of Physics of Plasmas and AIP Publishing invite you to a reception in honor of the Invited, Tutorial, and Review speakers and the authors and referees who have contributed to the published record of many advancements of plasma physics during the past year.

In recognition of Ronald Davidson's 25 years of exception service as Editor-in-Chief of Physics of Plasmas, AIP Publishing is also pleased to present the 2018 Ronald C. Davidson Award for Plasma Physics to Dr. Daniel S. Clark of the Lawrence Livermore National Laboratory.

### Dr. Daniel S. Clark receives the 2018 Ronald C. Davidson Award for Plasma Physics from AIP Publishing



Dan Clark, is a physicist at Lawrence Livermore National Laboratory and leader of the NIF Capsule Modeling Working Group within the ICF Program, has won the 2018 Ronald C. Davidson Award for Plasma Physics.

The award is provided by AIP Publishing in honor of Ronald Davidson's exceptional contributions as Editor-in-Chief of Physics of Plasmas for 25 years. The annual award of \$5,000 is presented in collaboration with the APS Division of Plasma Physics and recognizes outstanding plasma physics research by a Physics of Plasmas author.

Dr. Clark was selected from among the most highly cited and most highly downloaded articles from Physics of Plasmas during the past five years. The paper titled, "Detailed implosion modeling of deuterium-tritium layered experiments on the National Ignition Facility," Physics of Plasmas 20, 056318 (2013) was co-authored with Drs. Denise Hinkel, Dave Eder, Ogden Jones, Steve Haan, Bruce Hammel, Marty Marinak, Jose Milovich, Harry Robey, Larry Suter, and Richard Town. The paper reported state-of-the-art, high-resolution 3D modeling of National Ignition Campaign (NIC) implosions, incorporating all known sources of hydrodynamic perturbation and

drive asymmetry. This paper continues to guide implosion designs within the ICF Program and resulted in two additional papers authored by Clark and colleagues: "Radiation hydrodynamics modeling of the highest compression inertial confinement fusion ignition experiment from the National Ignition Campaign," Physics of Plasmas 22, 022703 (2015) and "Three-dimensional simulations of low foot and high foot implosion experiments on the National Ignition Facility," Physics of Plasmas 23, 056302 (2016).

This year's award selection committee, consisting of Michael Keidar (representing the APS-DPP) and Eric Esarey, Todd Evans, Yu Lin, and Jie Zhang from the Physics of Plasmas Editorial Board, reviewed the top-cited articles and nominated several authors from across the topical focus areas of Physics of Plasmas. The final selection was made by vote of the full Editorial Board.

The presentation of the 2018 Ronald C. Davidson Award for Plasma Physics will be presented to Dr. Clark during the Physics of Plasmas Reception in honor of authors and invited speakers at 5:30 p.m. on Monday, November 5, Pavilion Ballroom West, Hilton Portland Downtown Hotel (Plaza Level).

### University Fusion Association (UFA) General Meeting

Monday, November 5  
7:00 p.m. - 9:00 p.m.

Oregon Convention Center,  
204 Oregon Ballroom

The University Fusion Association (universityfusion.org) is a nonprofit organization focused on the development of plasma science and technology for the long-term development of a new, environmentally attractive energy source using controlled thermonuclear fusion energy. Officers of the UFA advocate in an official capacity for fusion science funding at universities, as representatives of the UFA membership, in concert with leadership from national laboratories and private industry. The UFA General Meeting discusses issues of relevance to fusion energy and plasma science research in U.S. universities. The UFA meeting is open to all members of the community and all conference attendees.

The current president of UFA is Professor David Maurer, Auburn University (term ends 2018). He will be replaced by the vice president Professor John Sarff, University of Wisconsin-Madison.

### Stay for the Invited Talk Session on Friday... Win a Prize in a Raffle!



128GB wifi iPad



B&O E4 Noise Cancelling Earphones

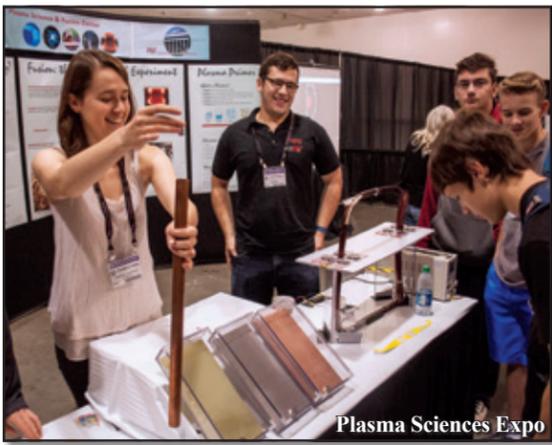
Go to the DPP Meeting Registration Desk and ask for a numbered ticket stub for the raffle that takes place

AFTER the Invited Sessions on Friday!

After the conclusion of the Friday morning sessions, on November 9 in Oregon Ballroom 204 John Cary and David Newman will draw three raffle tickets at random. The winners of the drawing must be present to win.



250GB Wireless SSD External Portable Drive



Plasma Sciences Expo

### Portland is Pumped about Plasma

The APS-DPP Education Outreach Planning committee is excited with the early response from Portland, Oregon to science education events offered every year at the annual meeting: Science Teachers Day and the Plasma Science Expo. Teachers have been registering for these events earlier and in greater numbers than in recent years.

The enthusiasm started generating in May, when committee members visited the conference city to meet local educators and discuss the education events held in conjunction with the annual meeting. Arturo Dominguez (Princeton Plasma Physics Laboratory), Julie Harris (General Atomics) and Paul Rivenberg (MIT Plasma Science and Fusion Center), met with local education contacts to discuss ways of reaching the local community and exciting them about free plasma science education opportunities.

This year Dominguez, along with National Ignition Facility experimental physicist Tammy Ma, will take advantage of Portland's "Science on Tap" [www.viaproductions.org/events/alberta\\_nov\\_5\\_fusion/program](http://www.viaproductions.org/events/alberta_nov_5_fusion/program),

to introduce fusion to the general public. They will present "Fusion: Creating a Star on Earth for Clean and Limitless Energy" at the Albert Rose Theatre on Monday, November 5 at 7pm. The informal environment offers a full bar, plus an assortment of munchies. Some tickets to the event will be available free to APS-DPP members.

Local teachers will have their first chance to experience APS-DPP education when they arrive at the Hilton Portland Downtown for Science Teachers Day on Tuesday, November 6. They will spend the morning learning about the fundamentals of fusion energy and plasma science. For the remainder of the day they will attend workshops about content of their choosing, focusing on such subjects as the nature of matter, the electromagnetic spectrum, Newton's Laws, and how to bring hands-on plasma activities into the classroom.



Plasma Sciences Expo

Teachers attending past events have praised the workshops and the collegial environment. A lunch with scientists and other teachers, sponsored by APS-DPP, is a highlight, providing a kind of networking rarely available to them.

The Plasma Sciences Expo, at the Oregon Convention Center, will be open for school groups on November 8 and 9 from 8 a.m. to 2:30 p.m., and for the general public on October 26 from 6 to 8:00 p.m. APS-DPP members are welcome to stop in and check out the Expo at any time it is open. Members on the way to a poster session will find it easy to drop by. (Note: for best daytime viewing arrive before 10am or after 1pm).

The Expo features hands-on experiments from national and international institutions, as well as local education and industrial venues. Local exhibitors joining this year include Oregon Museum of Science and Industry, Oregon Small Satellite Project, Portland State University, Willamette University and Reed University.

The committee is always looking for new people to help maintain these important educational programs. Members can participate in planning, creating new workshops, or manning an exhibit at the Expo. They are also looking for financial support. A donation box for DPP education activities will be available at registration. There are many ways to support the program.

Interested in the APS-DPP outreach efforts? Find out more. Please contact Arturo Dominguez at [arturod@pppl.gov](mailto:arturod@pppl.gov).



Teacher's Day

### < Tuesday, November 6th >

#### U.S. Federal Perspectives on the Future of Plasma Science

##### GEC Session DT2

Chair: Mark Koepke, West Virginia University

Tuesday, November 6  
8:00 a.m. - 9:00 a.m.

Oregon Convention Center,  
A105

Please join us for a special session dedicated to interacting with funding program officers. Listen and ask questions about future priorities of plasma science research investments.

8:00 a.m. Overview of DOE/FES program activities for low temperature plasma science research, Nirmol Podder, U.S. Department of Energy

8:20 a.m. Overview of AFOSR Plasma and electro-energetic physics investments in low-temperature, non-equilibrium plasma physics for reactive environments, Jason Marshall, AFOSR

8:40 a.m. Support for low-temperature plasma science and collision physics studies at the National Science Foundation, Vyacheslav (Slava) Lukin, NSF

#### Edge Coordinating Committee Annual Technical Meeting

Tuesday, November 6  
12:30 p.m. - 2:00 p.m.

Oregon Convention Center,  
B117-B119

"Integrated Modeling of the Plasma Materials Interactions in ITER during Burning Plasma Operation"

Speakers:

Brian Wirth and Colleagues,  
University of Tennessee-Knoxville

"Advances in Understanding Detachment in Open and Closed Divertors"

Speakers:

Houyang Guo and Colleagues, General Atomics DIII-D National Fusion Program

#### Did You Know?

Portland averages 42 inches of rain per year and 154 days per year that have some measurable level of precipitation.

#### Town Meeting on Concerns of Junior Scientists

Hosts: Eve Stenson and Elizabeth Merritt

Tuesday, November 6  
12:45 p.m. - 2:00 p.m.

Oregon Convention Center,  
B113-B114

The Committee on the Concerns of Junior Scientists (COJS) is dedicated to helping early career scientists find their place in the field of plasma physics. This year's Town Hall Meeting -- a joint DPP/GEC event -- will take the form of a panel discussion with 4-5 speakers from a range of backgrounds (e.g., national labs, research universities, and/or private industry), who share stories from their careers, offer advice to those just beginning, and answer questions from the audience.

#### Fellowship Opportunities for Graduate Students in Plasma Physics

Tuesday, November 6  
5:15 p.m. - 6:15 p.m.

Oregon Convention Center,  
Oregon Ballroom 204

Graduate students and undergraduates thinking about graduate school are especially welcome to attend this info session on fellowship opportunities. Representatives from DOE, NSF and NASA will be presenting on programs designed to support students at different stages of their academic careers. Recipients of these fellowships may also share their experiences.

#### Meet the Editors of the APS Reception

Tuesday, November 6  
5:30 p.m. - 7:00 p.m.

Oregon Convention Center,  
Ballroom Foyer

The editors of APS journals cordially invite you to join them for conversation and refreshments at a reception. Your questions, suggestions, compliments, and complaints about the journals are welcome. All meeting attendees are invited.

#### Did You Know?

Portland has more microbreweries than any other city in the world and has been ranked the #1 Best Beer City in the World.

#### Student Appreciation Reception

Tuesday, November 6  
6:30 p.m. - 7:30 p.m.

Oregon Convention Center,  
B113-114

Please plan to attend a complimentary reception in honor of high school and undergraduate students. Professor John Cary, DPP Chair, cordially welcomes all DPP meeting attendees, and encourages open discussion on topics of interest to plasma physics students. Student Poster Award recipients will be announced during the reception. Student advisors are particularly encouraged to attend. Refreshments will be served.

#### Town Meeting on the National Academies' Decadal Assessment of Plasma Science

Tuesday, November 6  
7:00 p.m. - 9:00 p.m.

Oregon Convention Center,  
Oregon Ballroom 201-203

Session I:

Decadal Study Introduction and Directed Q&A

Session II:

Two-minute "Lightning" Presentations

Session III:

Open-mic Public Comment

The National Academies of Sciences, Engineering, and Medicine is conducting a Decadal Assessment of Plasma Science to help federal agencies, policymakers, and academic leadership understand the importance of plasma research and make informed decisions about funding, workforce, and research directions. Community input is critical for the success of this assessment, and we invite members of the plasma science community to attend this town hall to share their input on the future of the field with members of the study committee.

In addition to general discussion during the town hall, we invite members of the community to apply to give short "lightning" presentations (less than 2 minutes, with a single slide) to the committee on their

thoughts for the future of plasma science. For instructions on how to apply and submit your slide, please visit our website at: <http://nas.edu/plasma-townhall>.

This study is supported by the Department of Energy, National Science Foundation, Air Force Office of Scientific Research, and the Office of Naval Research. Learn more about the study on our website at <http://nas.edu/plasma>.

#### LGBTQ Networking Dinner

Tuesday, November 6  
7:00 p.m. - 9:00 p.m.

Join fellow LGBTQ plasma physicists and their families for an informal networking dinner on Tuesday evening in Portland. We'll meet in front of the DPP Meeting Registration Desk, Oregon Convention Center, at 7:00 p.m. and walk to a local restaurant. Please bring a method of payment for your dinner. RSVP encouraged, but not required.

Organizer:

Derek Schaeffer ([dereks@princeton.edu](mailto:dereks@princeton.edu)).

### < Wednesday, November 7th >

#### HEDSA Annual General Meeting

Wednesday, November 7  
12:30 p.m. - 2:00 p.m.

Oregon Convention Center,  
B113-114

HEDSA will hold its general meeting in Portland. The purpose of this meeting is to announce the new steering committee members and HEDSA leadership. A report will be given regarding 2018 HEDSA activities. Program Managers from Federal Funding Agencies such as OFES, NNSA, AFOSR and NSF will provide updates on the state of sponsored research in HED plasmas, and to engage the community in an open dialogue. To join HEDSA please visit [hedsa.org](http://hedsa.org). Current members of HEDSA and all graduate students are strongly encouraged to attend. Bring your lunch and join us! The HEDSA general meeting welcomes all conference attendees.

#### Did You Know?

The overall Portland Metropolitan area has grown almost 50 percent in the last quarter-century with 65% of this growth was attributed to people moving to this growing city.

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### Did You Know?

Portland averages 42 inches of rain per year and 154 days per year that have some measurable level of precipitation.

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### DPP Soccer Game

East vs. West

Wednesday, November 7  
12:30 p.m.

The traditional DPP soccer game will happen Wednesday afternoon. We will meet at the DPP Registration Desk after the morning sessions and head to the field. Please bring a dark and a white shirt. For those not in the existing mail list, a signup sheet will be on the Message Board in the registration area. We will be playing on a grass field unless weather is horrible. Everyone is welcome!

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### Town Meeting on Plasma Physics at the National Science Foundation

Chair: Vyacheslav Lukin,  
National Science Foundation

Wednesday, November 7  
12:45 p.m. - 1:45 p.m.

Oregon Convention Center,  
B115-116

The Town Meeting on Plasma Physics at the National Science Foundation will provide an opportunity for Q&A about the variety of NSF programs and solicitations relevant to a broad cross-section of the academic plasma science community, from graduating college seniors to senior leaders in the field, and from plasma astrophysics to basic physics to plasma engineering communities. We will discuss recent NSF-hosted events, research awards, and multi-agency partnerships aimed at enabling the progress of science in plasma science and engineering. Future outlook, for plasma physics and broader plasma science support at NSF, with an emphasis on how you can help NSF to help the community, will be speculated upon within the uncertainty of the federal budgeting process.

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### Division of Plasma Physics (DPP) Business Meeting

Wednesday, November 7  
5:30 p.m. - 6:30 p.m.

Hilton, Broadway I

The business meeting of the Division of Plasma Physics will include reports of actions undertaken by DPP on issues important to our membership. New items of business will be considered in the following order: (1) Written motions, together with any supporting arguments, received by the Secretary-Treasurer, Hui Chen, at the DPP Registration Desk, Oregon Convention Center, before noon on Monday, November 5, or which were emailed to Dr. Chen (chen33@llnl.gov) by noon on Friday, November 2, 2018. Copies of such material will be displayed on a bulletin board near the DPP registration area to give members reasonable notice in case they wish to participate in the discussion and vote on such motions. (2) Written motions submitted to the Secretary-Treasurer prior to the start of the business meeting. (3) Other new business not included in (1) or (2).

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### DPP Banquet

Wednesday, November 7

Reception: Hilton Galleria,  
6:30 p.m.

Dinner: Hilton Grand Ballroom,  
7:30 p.m.

The official banquet of the DPP will be held on Wednesday evening. A cash-bar reception preceding the evening banquet will be held in the Hilton Portland

Downtown Hotel. A subsidized banquet ticket can be purchased for \$50 at the DPP registration desk up to 5:00 p.m. Tuesday, November 6. Tickets will be sold on a space-available basis and are non-refundable. Tickets must be presented for admission at the door of the ballroom. Tickets will not be sold at the door. The banquet program will include presentation of the James Clerk Maxwell Prize, the John Dawson Award for Excellence in Plasma Physics Research, the Thomas H. Stix Award for Outstanding Early Career Contributions to Plasma Physics Research, the Marshall N. Rosenbluth Outstanding Doctoral Thesis Award in Plasma Physics, the Landau-Spitzer Award, and recognition of newly elected APS Fellows.

Live music entertainment by Bossa PDX will entertain banquet attendees.



Bossa PDX

Led by pianist and vocalist Kerry Politzer, Bossa PDX is a Portland-based band that plays homage to the masters of the bossa nova era. The band plays lovingly transcribed arrangements of Gilberto Gil, Caetano Veloso, Chico Buarque, Joao Donato, and Antônio Jobim compositions that are among their mainstream performance repertoire. The group also plays a selection of upbeat Brazilian jazz tunes. Their instrumentation includes vocals, piano, sax or flute, guitar, electric bass, and percussion. Bossa PDX is known in Portland as “pleasantly propulsive”.

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### Did You Know?

Oregon is one of only two states where you can't pump your own gas, with New Jersey being the other.

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### Review, Tutorial and Invited Speaker Poster Sessions

Oregon Convention Center,  
Exhibit Hall A1-A

Poster versions of review, invited, and tutorial papers are optional and are scheduled Monday through Friday, in the following half-day session, in a designated area of Exhibit Hall A1-A. For example, the Monday morning review and invited talks may also be presented as posters in the Monday afternoon poster session. This option will be available on Monday morning for invited papers scheduled on Friday morning, November 9.

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### Plasma Science Christian Fellowship

Wednesday, November 7  
6:45 a.m. - 7:45 a.m.

Oregon Convention Center,  
C123

The Plasma Science Christian Fellowship (PSCF) is an informal affiliation of students and scientists working in plasma and fusion energy research. Formed in 2006, the PSCF seeks to provide a forum to discuss how faith connects to the workplace experience and life as scientists. Please join us for an hour on Wednesday morning before the opening session review talk. Bring your coffee and join us. Contact Darren Craig (darren.craig@wheaton.edu) if you have questions or need additional information. We hope to see you there!

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### Did You Know?

Portland has the largest number of vegetarian and vegan options for diners in the country, and almost 80% of the restaurants are local.

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### < Thursday, November 8th >

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### Town Meeting on ITER Research Plan

Speaker: Dr. Tim Luce, Director, ITER Organization Science and Operations Division

Thursday, November 8  
7:30 p.m. - 9:00 p.m.

Oregon Convention Center,  
Oregon Ballroom 204

The U.S. Burning Plasma Organization is pleased to welcome Dr. Tim Luce, who will give an update on ITER's construction status and discuss the recently released ITER Research Plan (IRP). The IRP describes both the research program taking ITER from its first plasma (now just seven years away!) to Fusion Power Operation with DT fuel and present-day research that should address outstanding physics issues before ITER operates.

ITER (the Latin word for "The Way") is a large-scale scientific experiment intended to prove the viability of fusion as an energy source. ITER is currently under construction in the south of France. In an unprecedented international effort, seven partners—China, the European Union, India, Japan, Korea, Russia and the United States—have pooled their financial and scientific resources to build the biggest fusion reactor in history. ITER will not produce electricity, but it will resolve critical scientific and technical issues in order to take fusion to the point where industrial applications can be designed. By producing 500 MW of power from an input of 50 MW—a "gain factor" of 10—ITER will open the way to the next step: a demonstration fusion power plant.

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### One Modeling Framework for Integrated Tasks (OMFIT) Users Group

Thursday, November 8  
12:30 p.m. - 2:00 p.m.

Oregon Convention Center,  
C120-122

OMFIT [1] is an integrated modeling and experimental analysis software framework. Users and developers of OMFIT currently reside in many parts of the world. The OMFIT User Group Meeting at APS DPP will provide an opportunity to meet face to face with other users and developers. During the meeting, the current status of OMFIT will be reported (including OMFIT's initial interfaces with ITER's IMAS data schema via the OMAS library [2]), and future plans discussed, including soliciting feedback. Future users of OMFIT and other interested attendees are welcome.

[1] <http://gafusion.github.io/OMFIT-source/>

[2] <http://gafusion.github.io/omas/>

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### 2018 DPP Election Results

#### Vice-Chair:

Michael Brown, Swarthmore College

#### Councilor:

Amitava Bhattacharjee, Princeton University

#### Executive Committee Members:

Cami Collins, General Atomics (early career committee member)

Félicie Albert,  
Lawrence Livermore National Laboratory

Scott Hsu,  
Los Alamos National Laboratory

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### Code of Conduct for APS Meetings

It is the policy of the American Physical Society (APS) that all participants, including attendees, vendors, APS staff, volunteers, and all other stakeholders at APS meetings will conduct themselves in a professional manner that is welcoming to all participants and free from any form of discrimination, harassment, or retaliation. Participants will treat each other with respect and consideration to create a collegial, inclusive, and professional

environment at APS Meetings. Creating a supportive environment to enable scientific discourse at APS meetings is the responsibility of all participants.

Participants will avoid any inappropriate actions or statements based on individual characteristics such as age, race, ethnicity, sexual orientation, gender identity, gender expression, marital status, nationality, political affiliation, ability status, educational background, or any other characteristic protected by law. Disruptive or harassing behavior of any kind will not be tolerated. Harassment includes but is not limited to inappropriate or intimidating behavior and language, unwelcome jokes or comments, unwanted touching or attention, offensive images, photography without permission, and stalking.

Violations of this code of conduct policy should be reported to meeting organizers, APS staff, or the APS Director of Meetings. Sanctions may range from verbal warning, to ejection from the meeting without refund, to notifying appropriate authorities. Retaliation for complaints of inappropriate conduct will not be tolerated. If a participant observes inappropriate comments or actions and personal intervention seems appropriate and safe, they should be considerate of all parties before intervening.

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### Did You Know?

There is a strange law in Portland that says shoelaces must be tied while walking down the street.

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### Call for Nominations for 2019 Prize and Awards

Deadline: Friday, March 29, 2019

APS prizes and awards recognize outstanding achievements in research, education and public service. With few exceptions, they are open to all members of the scientific community in the U.S. and abroad. The nomination and selection procedure, involving APS-appointed selection committees, guarantees their high standards and prestige.

DPP annually solicits nominations for one prize and three awards. Please take time to nominate exceptional DPP colleagues in 2019. A nominator does not have to be an APS DPP member. Anyone except a member of the selection committee may submit one nomination or seconding letter for each prize or award in any given year. Self-nominations are not accepted.

Go to this web address: <http://www.aps.org/programs/honors/nomination.cfm> for additional Nomination Guidelines.

The deadline for receipt of all nominations is Friday, March 29, 2019. Acknowledgement of receipt can be requested. The DPP dissertation award has other requirements in addition to those listed on the APS Nomination Guidelines website, so check for descriptions of the awards to which you are making a nomination.

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#### James Clerk Maxwell Prize for Plasma Physics

James Drake, Chair  
University of Maryland  
drake@umd.edu

#### John Dawson Award for Excellence in Plasma Physics Research

Scott Parker, Chair  
University of Colorado  
sparker@colorado.edu

#### Marshall N. Rosenbluth Outstanding Doctoral Thesis Award in Plasma Physics

Alexey Arefiev, Chair  
University of California, San Diego  
aarefiev@ucsd.edu

#### Thomas H. Stix Award for Outstanding Early Career Contribution to Plasma Physics Research

Dustin Froula, Chair  
University of Rochester  
dustin.froula@rochester.edu

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### Did You Know?

Hosting an annual World Naked Bike Ride, Portland is living up to its unofficial motto, "Keep Portland Weird."

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