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 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.

Code of Conduct APS Meeting Hotline: (844) 660-3924 or aps.ethicspoint.com
Confidential, easy-to-use, and always available.

GENERAL INFORMATION

Welcome to the 50th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, held in Milwaukee, Wisconsin at the Wisconsin Center.

All scientific sessions, and most ancillary meeting events, will be held at the Wisconsin Center.

The scientific sessions will open with the plenary prize session at 8:00 am on Tuesday, May 28 and continue with other exciting sessions until 12:30 pm on Friday, May 31. A number of special events will also take place during the conference, including a welcome reception on Monday, May 27 at 6:00 pm.

REGISTRATION

Wisconsin Center – Main Lobby

Hours:
Monday, May 27 ......................3:00 pm - 8:00 pm
Tuesday, May 28 ......................7:00 am - 4:00 pm
Wednesday, May 29 .................7:00 am - 4:00 pm
Thursday, May 30 ....................7:00 am - 3:00 pm
Friday, May 31 .......................7:30 am - 12:00 pm

The conference registration fee includes all oral, poster, and plenary sessions, coffee breaks, the welcome reception on Monday, and the conference banquet on Thursday evening.

AMERICANS WITH DISABILITIES ACT STATEMENT

The APS and DAMOP wish to take any steps required to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently due to the absence of auxiliary aids and services identified in the Americans with Disabilities Act. If any such services are necessary in order for you to participate in the DAMOP Meeting, please communicate your needs in advance to the APS Meetings Department at meetings@aps.org.
**Wisconsin Center - First Floor Foyer**

Exhibitor display tables will be open throughout the conference during the scientific sessions. The following are Exhibitors registered at the time this Bulletin went to print:

Exhibitors TBD

**APS MEMBERSHIP DESK**

**Wisconsin Center - Main Lobby**

**Hours:**
- Tuesday, May 28: 9:00 am - 4:00 pm
- Wednesday, May 29: 9:00 am - 4:00 pm
- Thursday, May 30: 9:00 am - 4:00 pm

Stop by the APS Membership Desk if you have questions about APS membership or journal subscriptions.

**APS JOURNALS TABLE**

**Wisconsin Center - Main Lobby**

**Hours:**
- Tuesday, May 28: 9:00 am - 4:00 pm
- Wednesday, May 29: 9:00 am - 4:00 pm
- Thursday, May 30: 9:00 am - 4:00 pm

Stop by the APS journals table to learn more about our newest multidisciplinary open access journal.

**LABESCAPE**

**Wisconsin Center - 201C**

**Hours:**
- Monday, May 27: 1:00 pm - 9:30 pm
- Tuesday, May 28: 9:00 am - 9:30 pm
- Wednesday, May 29: 9:00 am - 9:30 pm
- Thursday, May 30: 9:00 am - 9:30 pm
- Friday, May 31: 9:00 am - 12:30 pm

As part of the celebration of its 50th anniversary, DAMOP will host LabEscape, a STEM-outreach escape room developed at the Univ. Illinois. World-renowned quantum physicist Professor Alberta Pauline Schrödenberg desperately needs your help — the fate and security of the entire world (and more importantly, her funding!) hang in the balance. You’ll have to search her lab, solve mind-blowing puzzles to reveal clues, and hopefully find a way to escape! This APS- and NSF-funded outreach project is, we believe, the world’s only science-based ‘escape-room’, in which all the puzzles involve various physics phenomena, e.g., polarization, blackbody radiation, magnetism, etc. Our goal is to show that science can be useful and accessible (no prior background is assumed), as well as beautiful and fun! LabEscape will be open Monday afternoon through Friday. Create a team of 3-7 Agents (or join someone else’s) and sign up online at LabEscape.org/DAMOP — it’s free! But sign up soon — this event quickly ‘sold out’ at the APS March Meeting in Boston. For more information, see LabEscape.org (but don’t book from there!) or email LabEscape@illinois.edu.

**SPECIAL EVENTS**

**MONDAY, MAY 27**

**Session A01: Graduate Student Symposium**
- **Monday, 8:55 am - 4:00 pm**
  - **Wisconsin Center - 202C**

DAMOP is hosting a graduate student symposium in conjunction with the DAMOP Meeting. While aimed primarily at graduate students, the symposium is open to all registered meeting participants.

The presentation schedule is as follows:
- 8:55: Welcome and Introductions
- 9:00: Quantum Simulator Package (QuSP): A Robust and Flexible Integrated Modeling Environment for Entangled Quantum Dynamics, Lincoln Carr, Colorado School of Mines
- 10:15: Coffee break
- 10:45: Quantum Engineering with Atoms and Photons, Monika Schleier-Smith, Stanford University
- 12:00: Lunch
- 12:45: Semi-classical & quantum view of an intense laser-atom interaction, Louis DiMauro, The Ohio State University, Columbus
- 2:00: Coffee Break
- 2:30: Collective dynamics of atomic ensembles due to long-range optomechanical forces, Giovanna Morigi, Theoretical Physics, Saarland University, Saarbruecken, Germany

**Tuesday, May 28**

**Session B01: Plenary Prize Session**
- **Tuesday, 8:00 am - 10:00 am**
  - **Wisconsin Center - Ballroom A/B**

This year, the opening prize session of the conference will honor four APS prize and award winners:

- **Robert Forrey**
  - Faculty Member for Research in an Undergraduate Institution Prize Talk: Theoretical AMO Physics at an Undergraduate Institution

- **Jun Ye**
  - I.I. Rabi Prize in Atomic, Molecular & Optical Physics Recipient Talk: Bringing together Chemistry and Physics with Ultracold Polar Molecules

- **Kang-Kuen Ni**
  - Francis M. Pipkin Award Talk: Molecular lattice clock with long vibrational coherence
**Physical Review A Staff Lunch Meeting**
*(Invitation Only: For the staff of Physical Review A)*
**Tuesday, 12:00 pm - 2:00 pm**
**Wisconsin Center - 202D**

**DAMOP Fellowship Committee Luncheon**
**Tuesday, 12:30 pm - 2:00 pm**
**Wisconsin Center - 202E**

The DAMOP Fellowship Committee will meet to discuss DAMOP fellowship nominations.

**Session F01: Women in Physics and Diversity Reception**
**Tuesday, 5:30 pm - 7:00 pm**
**Wisconsin Center - 202B**

Women, underrepresented minority and LGBT physicists are especially encouraged to attend. Refreshments will be served.

**Session F02: What’s New With Regard to AMO Funding Opportunities?**
**Tuesday, 6:30 pm - 8:30 pm**
**Wisconsin Center – 102C**

Chair: John Gillaspy

Come hear Program Directors at Federal Agencies and Private Foundations discuss, and answer questions about, new funding opportunities of interest to the AMO and Quantum Information Science Communities.

**Alex Cronin:** What’s New At NSF?
**Tom Settrenste:** What’s New at DOE?
**Ernie Glover:** What’s new at Moore Foundation?
**Grace Metcalfe:** What’s New at AFOSR?
**Paul Baker:** What’s New at ARL?

**DAMOP2020 Program Committee Luncheon**
**Wednesday, 12:30 pm - 2:00 pm**
**Wisconsin Center - 202A**

The Program Committee for DAMOP2020 will discuss their ideas for next year’s conference in Portland, Oregon, as well as the APS March Meeting 2020. All program committee members active in 2019 are invited to attend.

**DAMOP Graduate Thesis Award Committee Luncheon**
**Wednesday, 12:30 pm - 2:00 pm**
**Wisconsin Center - 202D**

**Session M01: Industry Careers in AMO Physics: An Interactive Panel Discussion**
**Wednesday, 5:30 pm - 7:30 pm**
**Wisconsin Center - 202C**

Representatives from industry will provide information about physics careers for people with AMO backgrounds in private sector environments. Topics will include research opportunities for physicists in industry, strategies for successfully pursuing industrial jobs, and advice on how to thrive in these exciting and challenging work environments. Light refreshments will be served.

**Session M02: DAMOP Business Meeting**
**Wednesday, 6:00 pm - 7:00 pm**
**Wisconsin Center - 101CD**

All meeting attendees are invited to attend and hear about issues pertaining to DAMOP, including future meetings and unit finances.

**PRA-PRL Editorial Board Reception and Dinner (Invitation Only)**

There will be a cocktail reception for the members of the Physical Review A and Physical Review Letters Editorial Boards at 6:30 pm at the Wisconsin Center, 202B. This will be followed by separate dinners for the individual Boards of PRA and PRL.

**Session M03: Evening Lecture (Nobel Symposium)**
**Wednesday, 7:30 pm - 8:30 pm**
**Wisconsin Center – Ballroom A/B**

**Speaker 1:** David J. Wineland, University of Oregon

**Talk Title:** 50 years of DEAP and DAMOP

**Abstract:** It is interesting to look back 50 years ago on Electron and AMO Physics activity within APS and appreciate the amazing accomplishments that have taken place in the intervening years. Some of these accomplishments will be highlighted.

**About the speaker:** David Wineland received a BA degree from the University of California, Berkeley in 1965 and a Ph.D. from Harvard University in 1970. Following a postdoc at the University of Washington, he was a staff member and leader of the Ion Storage group in the Time and Frequency Division of NIST (National Institute of Standards and Technology) in Boulder, Colorado from August 1975 to December 2017. He is currently a faculty member in the Physics Department of the University of Oregon in Eugene, Oregon. Starting with graduate school, a long-term goal of his work has been to increase the precision of atomic spectroscopy. This research has applications to making better atomic clocks and has led to experiments demonstrating precise control of the energy levels and motion of atoms. Such control is now being applied to measurements whose precision is limited only by the constraints of quantum mechanics and to demonstrations of the basic building blocks of a quantum information processor. In 2012 David shared the Nobel prize in physics “for ground-breaking experimental methods that enable measuring and manipulation of individual quantum systems.”

**Speaker 2:** Eric Cornell, JILA, NIST and University of Colorado

**Talk title:** The Three-Legged Stool

**Abstract:** Astrophysical observations provide overwhelming evidence that the current structure of the universe is not due to ordinary gravity acting on ordinary baryons. How can we learn more about the component particles of the physical world, and about the structure and origin of the cosmos? Think of a three-legged stool. For more than a century, physicists have made progress along these lines by colliding particles at ever-higher energies, and drawing inferences from the scattering processes. But the next generation of energy increase is separated from the present day by a minimum of 2 x 10^8 years and 2 x 10^9 dollars. The second leg of the stool is even older: we’ve learned much about the cosmos through ever-improved telescopes (now no longer limited to detecting photons!) and we’ve come to understand that looking further out means looking further back. This approach still holds much promise, but I believe that looking forward, the third leg of the stool, precision measurement, will be increasingly important. Members of DAMOP have much to offer, here! I will give a very incomplete survey of activity in this area, and discuss some activities along this line ongoing at JILA.

**About the speaker:** Eric A. Cornell is a JILA Fellow, NIST and University of Colorado at Boulder. In 2001, he shared the Nobel prize in physics “for the achievement of Bose-Einstein condensation in dilute gases of alkali atoms, and for early fundamental studies of the properties of the condensates.”

**Session R01: Tutorial for Authors and Referees**
**Thursday, 3:30 pm - 4:30 pm**
**Wisconsin Center - 202A**

Editors from Physical Review Letters, Physical Review X, and Physical Review A will provide information and tips for our 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 authoring and refereeing. Topics for discussion will include advice on how to write good manuscripts, similarities and differences in writing referee reports for PRL/PRX and PR, and other ways in which authors, referees and editors can work together productively. The tutorial session will be followed by a Meet-the-Editors reception with light refreshments.
Session T01: Meet the APS Journal Editors
Thursday, 4:30 pm - 6:00 pm
Wisconsin Center - Main Lobby

The editors of Physical Review A, Physical Review X and Physical Review Letters invite you to join them for conversation. The editors will be available to answer questions, hear your ideas, and discuss any comments about the journals. All are welcome. Light refreshments will be served.

Session T02: Career Workshop: Marketing Your Skills to Future Employers
Thursday, 5:30 pm - 7:00 pm
Wisconsin Center - 202C

Physics students graduate with a huge array of transferrable skills, which are extremely useful to employers (particularly in the private sector, which is the largest employment base of physicists at all degree levels). However, the key to successfully connecting with these opportunities lies in how well graduates are able to communicate their skills and abilities to potential employers.

Session U01: Conference Banquet
Thursday, 7:00 pm - 9:30 pm
Wisconsin Center - Ballroom ABC

Following dinner DAMOP and GPMFC prizes, awards and fellowships will be presented. The after dinner talk will be given by:

**Author:** William D. Phillips

**Talk Title:** “A new measure: the reform of the International System of Units”

**Abstract:** The metric system began with the French revolution, and now we are experiencing the greatest revolution in measurement since the French revolution. The definitions of the kilogram, ampere, kelvin, and mole are all changed, being based on chosen and fixed values for Planck’s constant, the electron charge, Boltzmann’s constant, and Avogadro’s number. I will explain how this is possible, and why it was necessary.

**About the Author:** William D. Phillips received his Ph.D. at MIT in 1976. After a Chaim Weizmann post-doctoral fellowship he joined the National Institute of Standards and Technology in 1978, where he is now a NIST Fellow and leads the Laser Cooling and Trapping Group. He is also a Distinguished University Professor at the University of Maryland, and a Fellow of the Joint Quantum Institute. In 1997 he shared the Nobel prize in physics “for developing methods to cool and trap atoms with laser light.”

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**F R I D A Y, M A Y 3 1**

Session W02: Hot Topics
Friday, 10:30 am - 12:30 pm
Wisconsin Center - 101AB

**Ronald Walsworth,** Harvard University and Smithsonian Institution, “Quantum Diamond Sensors”

**Chin-wen Chou,** NIST, “Quantum-Logic Control and High-Resolution Spectroscopy of a Single Molecular Ion”

**Lars von der Wense,** Ludwig Maximilians Universität München, “The challenge of a nuclear clock: Recent progress and perspectives”

**Steven King,** Physikalisch-Technische Bundesanstalt, “Quantum Logic Spectroscopy of an Optical Clock Transition in a Cold Highly Charged Ion”

**COMPANION EVENT**

Companions’ Coffee
Tuesday, 8:00 am - 10:00 am
Wisconsin Center - 202B

Companions of the attendees of the DAMOP Meeting are invited to a complimentary coffee gathering where they may meet other companions and learn more about the city of Milwaukee. Presentations will be made by a representative of the Milwaukee Convention & Visitor’s Bureau. You will receive information about the sites and attractions in the city. This event is restricted to companions and families only.

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**M E A L S**

There are a few dining options inside the Wisconsin Center, as well as several options within easy walking distance.

A light continental breakfast will be provided for registered meeting attendees at 10:00 am (Tuesday to Friday) during the coffee breaks.

**P R O G R A M F O R M A T**

**Program Time-Blocks**
Tuesday:............B-F
Wednesday:...H-M
Thursday:......Q-U
Friday:.........Q-V-W

There are four time blocks for each day of the meeting. (Tuesday through Thursday: Oral sessions at 8:00 am, 10:30 am, and 2:00 pm; Poster sessions at 4:00 pm. Friday: Oral sessions at 8:00 am and 10:30 am). The time blocks are designated in alphabetical order beginning with time block “B” on Tuesday at 8:00 am, and ending with time block “W” on Friday at 10:30 am. See the Epitome for details.

**Post Codes**
Posters are numbered sequentially.

**Poster Presentations**
If you are presenting a poster, please be sure to have your poster up prior to the start of the session to which you have been assigned, and taken down immediately at the end of the session. APS will not be responsible for posters left up after the end of each poster session. No A-V is allowed in the poster sessions. Posters will be on display from 10:00 am to 6:00 pm on Tuesday, Wednesday and Thursday. See the Poster Session Schedule below for exact times and locations.

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**POSTER SESSION SCHEDULE**

**Session E01: Poster Session I**
Tuesday, 4:00 pm - 6:00 pm
Wisconsin Center - Exhibit Hall A

**Xin Xie,** JILA and CU Boulder; **Katherine McAlpine,** University of Washington; **Samuel Lemieux,** University of Ottawa; **Tanya S. Roussy,** JILA, NIST and University of Colorado, Boulder; **Chih-Hsi Lee,** Columbia University; **Chandler Schlupf,** University of California, Los Angeles; **Tao Zheng,** University of Science and Technology of China; and **Dennis Becker,** Leibniz University Hannover are the finalists for the GPMFC Poster Competition. They will present their posters (E01.00177–E01.00184) in Poster Session I.

**Session L01: Poster Session II**
Wednesday, 4:00 pm - 6:00 pm
Wisconsin Center - Exhibit Hall A

**Session S01: Poster Session III**
Thursday, 4:00 pm - 6:00 pm
Wisconsin Center - Exhibit Hall A

**GUIDELINES FOR SPEAKERS**

**Oral Presentations**
Visit the Speaker Ready Room (Wisconsin Center, 201A) provided by APS to run through the presentation to ensure a smooth and technically trouble-free presentation. Testing your presentation in the A-V Room prior to your presentation is strongly recommended to minimize equipment compatibility difficulties. If you encounter difficulties, consult with the A-V technicians.

Please arrive to the session room at least 15 minutes prior to the scheduled time of your talk. Contributed papers are allocated 12 minutes each—10 minutes for presentation and 2 minutes for questions from the audience, unless otherwise specified.

Invited papers are allocated 30 minutes—25 minutes for presentation and 5 minutes for questions from the audience.

**Note:** Occasionally (and unfortunately) the chair for a session may not appear, in which case we ask that the first presenter serve as chair of the session.
GUIDELINES FOR CHAIRS

If you are experiencing technical problems in your session, there will be a number listed in the session room that you may use to call for assistance from an A-V technician who will come to your session room.

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

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

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

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

5. The allotted time for contributed papers is 12 minutes; for invited papers—30 minutes. If you are chairing a session that includes both contributed and invited papers please be aware of the different times allocated for each and set the timer as follows:
   - Contributed papers—set timer for 8 minutes to give initial warning, then set the final bell to go off 2 minutes later. When this time is up, allow 2 additional minutes for questions relating to the paper, thank the speaker and promptly introduce the next paper and speaker.
   - Invited papers—set timer for 20 minutes for initial warning, and the final bell to ring 5 minutes later. Then set the timer for 5 additional minutes for questions from the audience. Explain the timing system to the audience prior to the start of the session, and as often during the session as you think necessary.

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

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

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

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