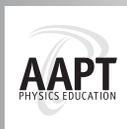


workshop for
**new physics and
astronomy faculty**



NOVEMBER 17-20, 2016
AMERICAN CENTER FOR PHYSICS
COLLEGE PARK, MD

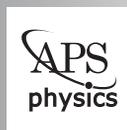
THE WORKSHOP FOR
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BREAKOUT II



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aapt.org/Conferences/wm2017

THURSDAY, NOVEMBER 17

11:00 A.M.–5:00 P.M.	WORKSHOP REGISTRATION Holiday Inn - College Park, MD, 10000 Baltimore Ave.	GRAND BALLROOM FOYER
1:30–3:00 P.M.	WORKSHOP Effective Grant Proposal Writing and Grant Opportunities with Research Corporation Richard Wiener, Sr. Program Director, Research Corporation for Science Advancement, rwiener@rescorp.org	GRAND BALLROOM AB
3:00–4:30 P.M.	WORKSHOP Grant Opportunities at the National Science Foundation Joyce Evans, Division of Undergraduate Education, jevans@nsf.gov Corby Hovis, Division of Undergraduate Education, chovis@nsf.gov Kevin Lee, Division of Undergraduate Education, klee@nsf.gov Kathleen McCloud, Division of Physics, kmcloud@nsf.gov Joe Pesce, Division of Astronomical Sciences, jpesce@nsf.gov Guebre Tessema, Division of Materials Research, gtessema@nsf.gov	GRAND BALLROOM AB
4:30–4:45 P.M.	BREAK	GRAND BALLROOM FOYER
4:45–5:15 P.M.	OPENING REMARKS Welcome and Introductions Robert Hilborn, Associate Executive Officer, AAPT, Chair, Physics and Astronomy New Faculty Workshop Beth Cunningham, Executive Officer, AAPT Cathy O’Riordan, Chief Operating Officer, AIP Kate Kirby, Chief Executive Officer, APS Kevin Marvel, Executive Officer, AAS	GRAND BALLROOM AB
5:15–6:30 P.M.	LARGE GROUP SESSION Peer Instruction Eric Mazur, Harvard University	GRAND BALLROOM AB
6:30–7:30 P.M.	DINNER	GRAND BALLROOM CD
7:30–8:30 P.M.	LARGE GROUP SESSION Interactive Engagement and PER: The Big Picture Melissa Dancy, University of Colorado - Boulder	GRAND BALLROOM AB

FRIDAY, NOVEMBER 18

6:30–7:30 A.M.	BREAKFAST - Holiday Inn - College Park	MOOSE CREEK STEAK HOUSE
7:45 A.M.	SHUTTLE BUS LEAVES (ON TIME) FOR AMERICAN CENTER FOR PHYSICS	
8:20 A.M.	INTRODUCTIONS AND FOLC ANNOUNCEMENT	Robert Hilborn, AAPT and Andy Rundquist, Hamline University
8:30–9:30 A.M.	LARGE GROUP SESSION Just-in-Time Teaching: How to Get Your Students to Prepare for Every Class Andy Gavrin, Indiana University-Purdue University-Indianapolis	CONFERENCE ROOM A
9:30–10:45 A.M.	LARGE GROUP SESSION Tutorials in Physics: A Resource for Improving Student Learning Lillian C. McDermott and Peter Shaffer, University of Washington	CONFERENCE ROOM A

FRIDAY, NOVEMBER 18 (CONT.)

10:45–11:15 A.M.	BREAK	ACP ROTUNDA
11:15 A.M.–12:00 P.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE THREE OF THE FOUR SESSIONS)	
	Lecture-Tutorials in Astronomy Ed Prather and Gina Brissenden, University of Arizona	CONFERENCE ROOM A
	PhET Simulations Kathy Perkins, University of Colorado-Boulder	CONFERENCE ROOM B
	Physlets, Open Source Physics, and Easy-Java Scripts Mario Belloni, Davidson College	CONFERENCE ROOM C
	PhysPort PER Resources for Teaching & Assessment Eleanor Sayre, Kansas State University	5TH FLOOR CONF.
12:00–1:00 P.M.	GROUP PHOTO AND LUNCH	ACP CAFETERIA
1:00–1:45 P.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE THREE OF THE FOUR SESSIONS)	
	Lecture-Tutorials in Astronomy Ed Prather and Gina Brissenden, University of Arizona	CONFERENCE ROOM A
	PhET Simulations Kathy Perkins, University of Colorado-Boulder	CONFERENCE ROOM B
	Physlets, Open Source Physics, and Easy-Java Scripts Mario Belloni, Davidson College	CONFERENCE ROOM C
	PhysPort PER Resources for Teaching & Assessment Eleanor Sayre, Kansas State University	5TH FLOOR CONF.
1:45–2:30 P.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE THREE OF THE FOUR SESSIONS)	
	Lecture-Tutorials in Astronomy Ed Prather and Gina Brissenden, University of Arizona	CONFERENCE ROOM A
	PhET Simulations Kathy Perkins, University of Colorado-Boulder	CONFERENCE ROOM B
	Physlets, Open Source Physics, and Easy-Java Scripts Mario Belloni, Davidson College	CONFERENCE ROOM C
	PhysPort PER Resources for Teaching & Assessment Eleanor Sayre, Kansas State University	5TH FLOOR CONF.
2:30–3:00 P.M.	BREAK	ACP ROTUNDA
3:00–4:15 P.M.	LARGE GROUP SESSION	CONFERENCE ROOM A
	Learner Centered Teaching in Physics and Astronomy Ed Prather, University of Arizona	
4:15–5:45 P.M.	LARGE GROUP SESSION	CONFERENCE ROOM A
	Development and Planning for Think-Pair-Share (Peer Instruction) Ed Prather, University of Arizona	
5:45 P.M.	SHUTTLE BUS LEAVES FOR HOLIDAY INN - COLLEGE PARK	
6:30–7:30 P.M.	DINNER - HOLIDAY INN - COLLEGE PARK	
		GRAND BALLROOM CD
7:30–8:30 P.M.	GROUP MEETING	GRAND BALLROOM AB
	Faculty Online Learning Community Group Meeting Andy Rundquist, Hamline University Adrienne Traxler, Wright State University	

SATURDAY, NOVEMBER 19

6:30–7:30 A.M.	BREAKFAST - Holiday Inn - College Park	MOOSE CREEK STEAK HOUSE
7:45 A.M.	SHUTTLE BUS LEAVES (ON TIME) FOR AMERICAN CENTER FOR PHYSICS	
8:20–9:30 A.M.	SMALL GROUP SESSIONS (PARTICIPANTS GROUPS I, II, III)	CONFERENCE ROOMS A, B, C
	Group Implementation of TPS (Peer Instruction) Questions	
9:30–10:15 A.M.	SMALL GROUP SESSION (PARTICIPANTS GO TO APPROPRIATE SESSION)	
	Primarily Undergrad Institutions	CONFERENCE ROOM A
	PhD Granting Institutions	CONFERENCE ROOM B
10:15–10:30 A.M.	BREAK	ACP ROTUNDA
10:30–11:15 A.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE ONE OF THE TWO SESSIONS)	
	Tenure Matters	CONFERENCE ROOM A
	Steve Turley, Brigham Young University	
	Digital Libraries	CONFERENCE ROOM B
	Bruce Mason, University of Oklahoma	
11:15 A.M. – 12:15 P.M.	LARGE GROUP SESSION	CONFERENCE ROOM A
	The Importance of Diversity in Astronomy and Physics	
	Louis-Gregory Strolger, Space Telescope Science Institute	
12:15–1:15 P.M.	LUNCH	ACP CAFETERIA
1:15–2:15 P.M.	LARGE GROUP SESSION	CONFERENCE ROOM A
	Collaborative Group Problem Solving	
	Ken Heller, University of Minnesota	
2:15–3:15 P.M.	LARGE GROUP SESSION	CONFERENCE ROOM A
	Interactive Engagement in Upper-Level Courses	
	Corinne Manogue, Oregon State University	
3:15–3:30 P.M.	BREAK	ACP ROTUNDA
3:30–4:15 P.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE TWO OF THE FOUR SESSIONS)	
	Problem Solving in Upper-Level Courses	CONFERENCE ROOM A
	Corinne Manogue, Oregon State University	
	Problem Solving in Large Enrollment Courses	CONFERENCE ROOM B
	Ken Heller, University of Minnesota	
	Problem Solving in Small Enrollment Courses	CONFERENCE ROOM C
	Andy Rundquist, Hamline University	
	Problem Solving Using TPS (Peer Instruction)	5TH FLOOR CONF.
	Ed Prather, University of Arizona	
4:15–5:00 P.M.	SMALL GROUP SESSIONS (PARTICIPANTS CHOOSE TWO OF THE FOUR SESSIONS)	
	Problem Solving in Upper-Level Courses	CONFERENCE ROOM A
	Corinne Manogue, Oregon State University	
	Problem Solving in Large Enrollment Courses	CONFERENCE ROOM B
	Ken Heller, University of Minnesota	
	Problem Solving in Small Enrollment Courses	CONFERENCE ROOM C
	Andy Rundquist, Hamline University	
	Problem Solving Using TPS (Peer Instruction)	5TH FLOOR CONF.
	Ed Prather, University of Arizona	

SATURDAY, NOVEMBER 19 (CONT.)

5:00–6:15 P.M.	LARGE GROUP SESSION	CONFERENCE ROOMS A
What Have We Learned and What Questions Do We Have? Corinne Manogue, Oregon State University		

6:15 P.M.	SHUTTLE BUS LEAVES FOR HOLIDAY INN - COLLEGE PARK	
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6:45–7:45 P.M.	DINNER - HOLIDAY INN - COLLEGE PARK	GRAND BALLROOM CD
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SUNDAY, NOVEMBER 20

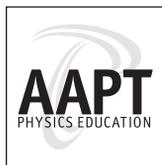
7:00–8:00 A.M.	BREAKFAST - Holiday Inn - College Park Hotel Checkout - before 12:00 noon	MOOSE CREEK STEAK HOUSE
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8:30–9:30 A.M.	LARGE GROUP SESSION	GRAND BALLROOM AB
Departmental Ecosystems: Recruitment, Retention, Mentoring, Diversity, Leadership, and More Ted Hodapp, American Physical Society		

9:30–10:30 A.M.	LARGE GROUP SESSION	GRAND BALLROOM AB
What Will I Do When I Get Back to the Office? Robert Hilborn, AAPT		

10:30–11:00 A.M.	BREAK	GRAND BALLROOM FOYER
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11:00 –11:30 A.M.	LARGE GROUP SESSION	GRAND BALLROOM AB
Final Words, Evaluation Procedures, and Adjourn Robert Hilborn, AAPT		



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AMERICAN ASSOCIATION OF PHYSICS TEACHERS

Founded in 1930, AAPT is the premier professional society established to advance the greater good through physics education. With the support of our members worldwide, AAPT is an action oriented organization designed to develop, improve, and promote best practices for physics education as part of the global need for qualified Science, Technology, Engineering, and Mathematics teachers who will inspire tomorrow's leaders and decision makers.

We serve our members through networking, publications, and programs, but also reach out to the larger community of physics and science teachers—current and future—and we look after issues of significance in science education. Our national office works closely with our dedicated volunteers around the world to promote a better understanding of physics at all levels.

AAPT provides networking opportunities through online discussion lists, social media, the Workshops for New Physics and Astronomy Faculty (with APS and AAS); Physics Department Chairs Conference (with APS), and our two national annual meetings. The association supports physics educators through our publications, the *American Journal of Physics* and *The Physics Teacher*; *Physical Review Special topics – Physics Education Research* (with APS and the APS Forum on Education) and the *eNNOUNCER*; NSF-funded programs including the PER User's Guide, the Physics Teacher Education Coalition, PhysTEC (with APS); Physics Teaching Resource Agents institutes; the digital physics library, ComPADRE (with APS and AIP); Physics Program Reviews, and the student programs and scholarships that we administer, including the Lotze Scholarship for Future Teachers.



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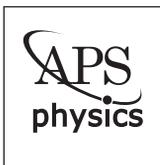
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AMERICAN ASTRONOMICAL SOCIETY

The American Astronomical Society promotes the advancement of astronomy and closely related branches of science. It was founded in 1899. AAS members include professional researchers in the astronomical sciences, and also educators, students, and others interested in the advancement of astronomical research. The Society operates in five major areas: Publications, Meetings, Education, Public Policy and Employment in order to ensure that astronomy remains healthy and vital for the benefit of our profession and society at large. AAS publishes *The Astrophysical Journal* and *The Astronomical Journal*, which are among the most important scholarly journals in the field. The *Bulletin of the American Astronomical Society* reports the latest institutional developments and documents the content of AAS and its divisions' annual meetings. More information about the Society's activities and membership are available on the AAS website, www.aas.org.



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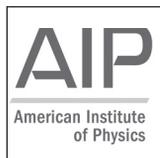
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AMERICAN PHYSICAL SOCIETY

With 53,000 members worldwide, the American Physical Society works to advance and disseminate the knowledge of physics. Since its formation in 1899, it has been dedicated to providing its members and the international physics community with the latest research results through meetings and the most highly respected international journals in physics. These journals include Physical Review Letters, the Physical Review (including an international journal on Physics Education Research), Reviews of Modern Physics, and its newest journals, Physical Review Applied, PRX, and Physical Review Fluids. The APS conducts more than 20 meetings per year, to connect physicists and disseminate physics knowledge and information relevant to the community. In addition, APS vigorously lobbies for funding for physics research and education, provides the physics community with timely information about government affairs, carries out studies of physics-based topics of importance to the country, and promotes the interests of the physics community through extensive public information efforts such as www.PhysicsCentral.com, a website for the public.

APS is actively involved in programs to improve undergraduate and graduate education and to improve the preparation of future physics and physical science teachers through its leadership in the Physics Teacher Education Coalition (www.PhysTEC.org). APS partners with AAPT in PhysTEC and on numerous other education programs, including the New Faculty Workshop, and conferences and workshops on education at various levels. For many years APS has worked to increase diversity in the physics community, and in 2012 launched the APS Bridge Program (www.apsbridgeprogram.org), a national effort to increase the number of underrepresented minorities that receive a PhD in Physics. In addition, APS sponsors the Conferences for Undergraduate Women in Physics – regional conferences to encourage participation of women in the discipline that now attract more than 1,500 undergraduate women each year.



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AMERICAN INSTITUTE OF PHYSICS

AIP's mission is to advance, promote and serve the physical sciences for the benefit of humanity.

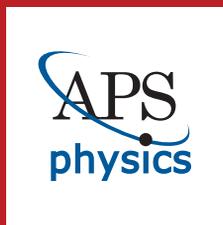
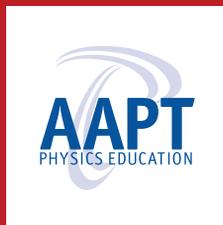
AIP offers authoritative information, services, and expertise in physics education and student programs, science communication, government relations, career services for science and engineering professionals, statistical research in physics employment and education, industrial outreach, and the history of physics and allied fields.

AIP Member Societies cover a broad range of fields in the physical sciences and collectively represent more than 120,000 scientists, engineers, educators and students in the global physical sciences community.



THIS PROJECT IS SUPPORTED IN PART BY THE NATIONAL SCIENCE FOUNDATION.

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