



workshop for  
**new physics and  
astronomy faculty**

NOVEMBER 14-17, 2019

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AMERICAN CENTER FOR PHYSICS

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COLLEGE PARK, MD

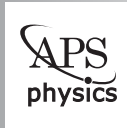
THE WORKSHOP FOR  
NEW PHYSICS AND  
ASTRONOMY FACULTY  
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AMERICAN ASSOCIATION  
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AMERICAN ASTRONOMICAL SOCIETY



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AMERICAN INSTITUTE OF PHYSICS



NATIONAL SCIENCE FOUNDATION



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**Jodi Wesemann**

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## THURSDAY, NOVEMBER 14

	All Sessions at Holiday Inn – College Park, 10000 Baltimore Ave., Beltsville, MD 20740 – Restaurant Meeting Room	
3:00–3:15 P.M.	WELCOME & ICE BREAKER <b>Introducing the NFW and Ground Rules</b> Ed Prather, Bob Hilborn, Andy Rundquist	
3:15–4:15 P.M.	PLENARY <b>Finding Helpful Information About Teaching: Resources at PhysPort and CompADRE</b> Eleanor Sayre	
4:15–4:30 P.M.	BREAK	GRAND BALLROOM FOYER
4:30–6:00 P.M.	PLENARY <b>Experiencing a Day in the Active Learning Classroom</b> Ed Prather	
6:00–7:00 P.M.	DINNER	GRAND BALLROOM CD
7:30 P.M.	<b>Evening Informal Gathering and Conversations with Peers</b>	

## FRIDAY, NOVEMBER 15

6:30–7:30 A.M.	BREAKFAST - HOLIDAY INN	
7:45 A.M.	SHUTTLE BUS LEAVES FOR AMERICAN CENTER FOR PHYSICS	
8:20–8:30 A.M.	WELCOME FROM PROFESSIONAL SOCIETY OFFICERS Bob Hilborn, Associate Executive Officer, American Association of Physics Teachers Ted Hodapp, Director of Project Development, American Physical Society Kevin Marvel, Executive Officer, American Astronomical Society	CONFERENCE ROOM A
8:30–9:45 A.M.	PLENARY <b>The Journey from Traditional Instruction to Active Learning</b> Laurie McNeil	CONFERENCE ROOM A
9:45–10:10 A.M.	BREAK	
10:10–2:35 P.M.	THREE PARALLEL SESSIONS	
10:10–11:10 A.M.	1) <b>Introduction to Interactive Lecture Demonstrations (ILDs) – A Strategy for Creating an Active Learning Environment in Lecture</b> David Sokoloff and Ronald Thornton	CONFERENCE ROOM A
	2) <b>Optimizing Students' Preparation for Class: Just-in-Time Teaching</b> Mario Belloni	CONFERENCE ROOM B
	3) <b>Engaging Students and Supporting Learning with PhET Interactive Simulations</b> Michael Dubson	CONFERENCE ROOM C
11:20–12:20 P.M.	SESSIONS #1–3 REPEAT	

## FRIDAY, NOVEMBER 15 (Cont.)

12:20 P.M.	GROUP PHOTO	ACP ROTUNDA
12:25–1:35 P.M.	LUNCH	ACP CAFETERIA
1:35–2:35 P.M.	SESSIONS #1–3 REPEAT	
2:45–3:45 P.M.	FOUR PARALLEL SESSIONS (CHOOSE ONE)	
	<b>1) Going Deeper with Interactive Lecture Demonstrations</b> David Sokoloff and Ronald Thornton CONFERENCE ROOM A	
	<b>2) Finding Questions and Using Answers: Going Deeper with Just-in-Time Teaching</b> Mario Belloni CONFERENCE ROOM B	
	<b>3) Going Deeper with PhET Interactive Simulations</b> CONFERENCE ROOM C Michael Dubson	
	<b>4) Developing High-Performance Questions and Orchestrating Engagement: Going Deeper with Think-Pair-Share (TPS)</b> Ed Prather 5TH FLOOR CONF. ROOM	
3:45–4:00 P.M.	FREE TIME, PEER DISCUSSION	
4:00–5:00 P.M.	<b>Small Group Collaborative Activities with Tutorials and Ranking Tasks</b> Ed Prather CONFERENCE ROOM A	
5:10–6:10 P.M.	<b>Defining and Achieving Goals in Physics Lab Courses</b> Heather Lewandowski CONFERENCE ROOM A	
6:10 P.M.	SHUTTLE BUS BACK TO HOTEL	
6:30–7:30 P.M.	DINNER GRAND BALLROOM CD	
7:30 P.M.	<b>Evening Informal Gathering and Conversations with Peers</b>	

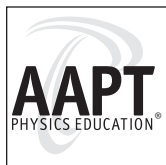
## SATURDAY, NOVEMBER 16

6:30–7:30 A.M.	BREAKFAST	HOLIDAY INN – COLLEGE PARK
7:45 A.M.	SHUTTLE BUS LEAVES FOR AMERICAN CENTER FOR PHYSICS	
8:20–8:30 A.M.	COFFEE AND CONVERSATIONS WITH PEERS	
8:30–9:45 A.M.	PLENARY	CONFERENCE ROOM A
	<b>Using Teaching Principles to Design Activities for the Upper-Division</b> Corinne Manogue	
9:55–12:05 P.M.	THREE PARALLEL SESSIONS (CHOOSE TWO)	
10:00–11:00 A.M.	1) <b>Enhancing Multi-Representational Fluency in the Upper-Division</b> Corinne Manogue	CONFERENCE ROOM A
	2) <b>Using Think-Pair-Share (TPS) to Promote Quantitative Problem Solving</b> Colin Wallace	CONFERENCE ROOM B
	3) <b>Designing Intro Courses that Focus on Improving Students' Problem Solving Abilities</b> Andy Rundquist	CONFERENCE ROOM C
11:05–12:05 P.M.	THREE PARALLEL SESSIONS REPEAT FROM ABOVE	
12:05–1:25 P.M.	LUNCH AND PEER DISCUSSIONS	ACP CAFETERIA
1:25–2:40 P.M.	PLENARY	CONFERENCE ROOM A
	<b>Building Inclusive Communities</b> Jésus Pando	
2:50–4:05 P.M.	PLENARY	CONFERENCE ROOM A
	<b>Challenges, Questions and Solutions – Using Research, Experience and Expertise to Inform our Decisions about Instruction</b> Ed Prather	
4:05–4:25 P.M.	BREAK	ACP ROTUNDA
4:25–5:40 P.M.	PLENARY	CONFERENCE ROOM A
	<b>Navigating Your Department Ecosystem to Solve Problems Beyond Your Classroom</b> Andy Rundquist	
5:50 P.M.	SHUTTLE BUS BACK TO HOTEL	
6:15–7:15 P.M.	DINNER	GRAND BALLROOM CD
7:15 P.M.	<b>Evening Informal Gathering and Conversations with Peers – Optional Tenure Discussion</b>	

## SUNDAY, NOVEMBER 17

ALL SESSIONS AT HOLIDAY INN		
8:00–9:00 A.M.	PLENARY	GRAND BALLROOM AB <b>Discovering the Resources for Solving Education Problems</b> Ted Hodapp
9:10–0:25 A.M.	PLENARY	GRAND BALLROOM AB <b>Final Planning for When I Get Back to my Classroom</b> Robert Hilborn
10:25–10:40 A.M.	BREAK	
10:40–11:55 P.M.	PLENARY	GRAND BALLROOM AB <b>Grant Opportunities with NSF IUSE Program Directors</b> Ellen Carpenter, Div. of Undergraduate Education, elcarpen@nsf.gov
11:55 A.M.–1:00 P.M.	LUNCH	GRAND BALLROOM CD
1:00–2:00 P.M.	PLENARY	GRAND BALLROOM AB <b>Grant Opportunities with NSF MPS Program Directors</b> Kathleen McCloud, Division of Physics, kmcloud@nsf.gov Hans Krimm, Division of Astronomical Sciences, hkrimm@nsf.gov Guebre Tessema, Division of Materials Research, gtessema@nsf.gov
2:00–2:15 P.M.		<b>Final Words, Evaluation Procedures and Adjourn</b>





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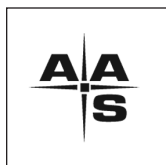
WWW.AAPT.ORG

## 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 Physics and Astronomy New 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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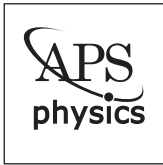
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202-328-2010

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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](http://www.aas.org).



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## AMERICAN PHYSICAL SOCIETY

With more than 55,000 members worldwide, the American Physical Society (APS) works to advance and diffuse the knowledge of physics. Since its formation in 1899, APS has been dedicated to providing its members and the international physics community with the latest research through the most highly respected international physics journals and world-class meetings. The journal collection consists of *Reviews of Modern Physics* and the *Physical Review* family including *Physical Review Letters*, a journal on physics education research (*Physical Review Physics Education Research*), and its newest title *Physical Review Research*. APS convenes more than 20 scientific conferences per year to connect physicists and disseminate information relevant to the community. Additionally, APS lobbies for physics research funding, carries out studies on important physics-based topics, and promotes the interests of the physics community through public engagement efforts.

Through its leadership in the Physics Teacher Education Coalition (PhysTEC), APS is working to improve and promote the education of future physics teachers. Along with PhysTEC, APS partners with AAPT on numerous other education programs including a newly developed Effective Practices Guide for Physics Program (EP3) that informs assessment of all aspects of the undergraduate program, and the STEP UP for Women project which aims to dramatically increase the number of women pursuing undergraduate degrees in physics. For many years, APS has worked to increase diversity in the physics community. Efforts include the APS Bridge Program, a national effort to increase the number of underrepresented minorities that receive a PhD in physics; the National Mentoring Community which provides individual mentors to underrepresented undergraduates; and Conferences for Undergraduate Women in Physics (CUWiP), regional conferences to encourage the participation of women in the physics discipline.



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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.



# 2020 AAPT Winter Meeting Orlando, Florida January 18-21



Join colleagues at the 2019 AAPT Summer Meeting in Orlando, FL. This is your chance to surround yourself with physics educators from around the globe, while attending sessions and workshops, as well as participating in special activities designed with you in mind. Don't miss your opportunity to learn from and network with leaders in the field.

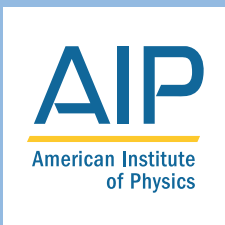
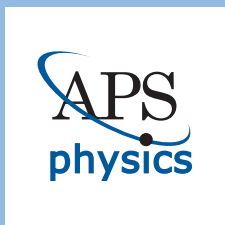
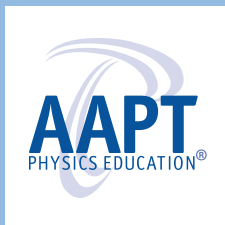


Web: <https://www.aapt.org/Conferences/WM2020> Phone: 301-209-3311 Email: [programs@aapt.org](mailto:programs@aapt.org)



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