



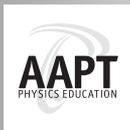
workshop for
**new physics and
astronomy faculty**

OCTOBER 25-28, 2018

AMERICAN CENTER FOR PHYSICS

COLLEGE PARK, MD

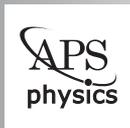
THE WORKSHOP FOR
NEW PHYSICS AND
ASTRONOMY FACULTY
IS SPONSORED BY



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Jianming Wen
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Kyle Wilhelm
United States Military Academy

THURSDAY, OCTOBER 25

	All Sessions at Holiday Inn – College Park, 10000 Baltimore Ave., Beltsville, MD 20740 – Restaurant Meeting Room	
1:30–2:00 P.M.	WELCOME	
	Introducing the NFW, FOLCS, and Ground Rules Ed Prather, Bob Hilborn, Andy Rundquist	
2:00–3:15 P.M.	PLENARY	
	Wise Instructional Choices: Your Roadmap for New Faculty Workshop and Future Teaching Cassandra Horii	
3:15–3:30 P.M.	BREAK	GRAND BALLROOM FOYER
3:30–4:45 P.M.	PLENARY	
	Structure Matters: 21 Strategies to Engage Students and Make Classrooms Inclusive Kimberly Tanner	
4:45–5:15 P.M.	FREE TIME AND PEER DISCUSSION	
5:15–6:30 P.M.	PLENARY	
	Experiencing a Day in the Active Learning Classroom Ed Prather	
6:30–7:30 P.M.	DINNER	GRAND BALLROOM CD
7:30 P.M.	Evening Informal Gathering and Conversations with Peers	

FRIDAY, OCTOBER 26

6:30–7:30 A.M.	BREAKFAST - HOLIDAY INN	
7:45 A.M.	SHUTTLE BUS LEAVES FOR AMERICAN CENTER FOR PHYSICS	
8:20–8:45 A.M.	WELCOME FROM PROFESSIONAL SOCIETY OFFICERS	CONFERENCE ROOM A
	Beth Cunningham, Executive Officer, American Association of Physics Teachers Kate Kirby, Executive Officer, American Physical Society Kevin Marvel, Executive Officer, American Astronomical Society Michael Moloney, CEO, American Institute of Physics	
8:45–9:45 A.M.	PLENARY	CONFERENCE ROOM A
	The Journey from Traditional Instruction to Active Learning Laurie McNeil	
9:45–10:10 A.M.	FREE TIME, PEER DISCUSSIONS, SIGN UP FOR PARALLEL SESSIONS	
10:10–2:15 P.M.	THREE PARALLEL SESSIONS	
10:10–11:15 A.M.	1) Introduction to Interactive Lecture Demonstrations (ILDs) – A Strategy for Creating an Active Learning Environment in Lecture	CONFERENCE ROOM A
	David Sokoloff and Ronald Thornton	
	2) Optimizing Students' Preparation for Class: Just-in-Time Teaching (JITT)	CONFERENCE ROOM B
	Andy Gavrin	

FRIDAY, OCTOBER 26 (Cont.)

WORKSHOP SCHEDULE

	3) Engaging Students and Supporting Learning with PhET Interactive Simulations Ariel Paul CONFERENCE ROOM C
11:15–12:15 P.M.	SESSIONS #1–3 REPEAT
12:15 P.M.	GROUP PHOTO ACP ROTUNDA
12:25–1:15 P.M.	LUNCH ACP CAFETERIA
1:15–2:15 P.M.	SESSIONS #1–3 REPEAT
2:15–2:30 P.M.	BREAK ACP ROTUNDA
2:30–3:30 P.M.	FOUR PARALLEL SESSIONS (CHOOSE ONE) 1) Going Deeper with Interactive Lecture Demonstrations David Sokoloff and Ronald Thornton CONFERENCE ROOM A 2) Finding Questions and Using Answers: Going Deeper with Just-in-Time Teaching Andy Gavrin CONFERENCE ROOM B 3) Going Deeper with PhET Interactive Simulations Ariel Paul CONFERENCE ROOM C 4) Developing High-Performance Questions and Orchestrating Engagement: Going Deeper with Think-Pair-Share (TPS) Ed Prather 5TH FLOOR CONF. ROOM
3:30–3:55 P.M.	FREE TIME, PEER DISCUSSION AND SIGN UP FOR PARALLEL SESSIONS
3:55–6:00 P.M.	THREE PARALLEL SESSIONS (CHOOSE TWO)
3:55–4:55 P.M.	1) The Use of Guided Questioning to Promote Student Learning: Introduction to Tutorials in Introductory Physics Lillian C. McDermott and Peter Shaffer CONFERENCE ROOM A 2) Using Physics Labs to Teach Experimentation and Critical Thinking Natasha Holmes CONFERENCE ROOM B 3) Using Lecture-Tutorials (LTs) to Promote Critical Thinking in the Astronomy Classroom Ed Prather CONFERENCE ROOM C
5:00–6:00 P.M.	THREE PARALLEL SESSIONS REPEAT FROM ABOVE
6:10 P.M.	SHUTTLE BUS BACK TO HOTEL
6:30–7:30 P.M.	DINNER GRAND BALLROOM CD
7:30 P.M.	Evening Informal Gathering and Conversations with Peers – Optional FOLC Discussion: Andy Rundquist and Jason Ybarra

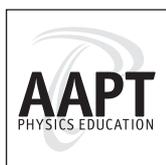
SATURDAY, OCTOBER 27

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
	Using Teaching Principles to Design Activities for the Upper-Division Corinne Manogue	
9:45–10:00 A.M.	FREE TIME, PEER DISCUSSIONS AND SIGN UP FOR PARALLEL SESSIONS	
10:00–12:10 P.M.	THREE PARALLEL SESSIONS (CHOOSE TWO)	
10:00–11:00 A.M.	1) Enhancing Multi-Representational Fluency in the Upper-Division	CONFERENCE ROOM A
	Corinne Manogue	
	2) Using Think-Pair-Share (TPS) to Promote Quantitative Problem Solving	CONFERENCE ROOM B
	Ed Prather	
	3) Designing Intro Courses that Focus on Improving Students' Problem Solving Abilities	CONFERENCE ROOM C
	Andy Rundquist	
11:00–11:10 A.M.	BREAK	ACP ROTUNDA
11:10–12:10 P.M.	THREE PARALLEL SESSIONS REPEAT FROM ABOVE	
12:10–1:10 P.M.	LUNCH AND PEER DISCUSSION	ACP CAFETERIA
1:10–2:25 P.M.	PLENARY	CONFERENCE ROOM A
	Targeted Instructional Change Alice Olmstead	
2:25–2:55 P.M.	FREE TIME AND PEER DISCUSSION	
		ACP ROTUNDA
2:55–3:55 P.M.	PLENARY	CONFERENCE ROOM A
	Finding Helpful Information About Teaching: Online Resources at PhysPort and ComPADRE Eleanor Sayre	
3:55–4:05 P.M.	BREAK	ACP ROTUNDA
4:05–5:25 P.M.	PLENARY	CONFERENCE ROOM A
	Navigating Your Department Ecosystem to Solve Problems Beyond Your Classroom Andy Rundquist	
5:30 P.M.	SHUTTLE BUS BACK TO HOTEL	
6:00–7:00 P.M.	DINNER	GRAND BALLROOM CD
7:00 P.M.	Evening Informal Gathering and Conversations with Peers – Optional Tenure Discussion	

SUNDAY, OCTOBER 28

WORKSHOP SCHEDULE

All Sessions at Holiday Inn – College Park		
8:00–9:00 A.M.	PLENARY	GRAND BALLROOM AB
Discovering the Resources for Solving Problems Monica Plisch		
9:00–9:15 A.M.	BREAK	GRAND BALLROOM FOYER
9:15–10:30 A.M.	PLENARY	GRAND BALLROOM AB
Final Planning for When I Get Back to my Classroom Robert Hilborn		
10:30–10:45 A.M.	BREAK	GRAND BALLROOM FOYER
10:45 –11:45 A.M.	PLENARY	GRAND BALLROOM AB
Funding Opportunities for Early-Career Physicists through Research Corporation Mats Selen		
11:45 –12:45 P.M.	LUNCH	GRAND BALLROOM CD
12:45 –1:45 P.M.	PLENARY	GRAND BALLROOM AB
Grant Opportunities with NSF Physics Program Directors Kathleen McCloud, Division of Physics, kmcccloud@nsf.gov Hans Krimm, Division of Astronomical Sciences, hkrimm@nsf.gov Guebre Tessema, Division of Materials Research, gtessema@nsf.gov		
1:45 –2:00 P.M.	BREAK	GRAND BALLROOM FOYER
2:00–3:00 P.M.	PLENARY	GRAND BALLROOM AB
Grant Opportunities with NSF IUSE Program Directors Steve Turley, Division of Undergraduate Education, rturley@nsf.gov		
3:00–3:30 P.M.	Final Words, Evaluation Procedures and Adjourn	



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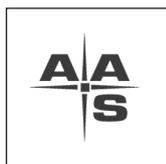
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AMERICAN ASSOCIATION OF PHYSICS TEACHERS

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 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.



KEVIN MARVEL
EXECUTIVE OFFICER

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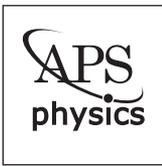
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AMERICAN ASTRONOMICAL SOCIETY

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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With 54,000 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* (with a 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](http://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 national Conferences for Undergraduate Women in Physics (www.aps.org/cuwip) – a set of regional conferences to encourage participation of women in the discipline.



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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.

2019 WINTER MEETING

January 12-15 Houston, Texas



Join your colleagues at the 2019 AAPT Winter Meeting in Houston, Texas. 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.



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January 12-15 Houston, TX

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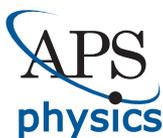
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