

A person is seen from behind, standing in a field at night. They are holding a flashlight that is pointed upwards, illuminating a section of the Milky Way galaxy. The sky is filled with stars, and the galaxy's structure is clearly visible. The foreground shows dark silhouettes of trees and a field.

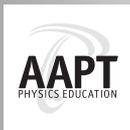
workshop for
**new physics and
astronomy faculty**

JUNE 24-27, 2019

AMERICAN CENTER FOR PHYSICS

COLLEGE PARK, MD

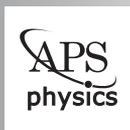
THE WORKSHOP FOR
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MONDAY, JUNE 24

1:00–5:00 P.M.	WORKSHOP REGISTRATION Holiday Inn – College Park, 10000 Baltimore Ave., Beltsville, MD 20740	GRAND BALLROOM FOYER
3:00–3:15 P.M.	WELCOME AND ICE BREAKER Introducing the NFW, FOLCs, and Ground Rules Ed Prather, Bob Hilborn, and Andy Rundquist	GRAND BALLROOM AB
3:15–4:15 P.M.	PLENARY The Journey from Traditional Instruction to Active Learning Laurie McNeil	GRAND BALLROOM AB
4:15–4:30 P.M.	BREAK	GRAND BALLROOM FOYER
4:30–6:00 P.M.	PLENARY Structure Matters: 21 Strategies to Engage Students and Make Classrooms Inclusive Kimberly Tanner	GRAND BALLROOM AB
6:00–7:00 P.M.	DINNER	GRAND BALLROOM CD
7:30 P.M.	GROUP MEETING Evening Informal Gathering and Conversations with Peers	GRAND BALLROOM AB

TUESDAY, JUNE 25

6:30–7:30 A.M.	BREAKFAST AT HOLIDAY INN RESTAURANT – COLLEGE PARK	
7:45 A.M.	BUS TO AMERICAN CENTER FOR PHYSICS	
8:20–8:45 A.M.	WELCOME Welcome from Professional Society Officers Beth Cunningham, Exec. Officer, American Association of Physics Teachers Kate Kirby, Exec. Officer, American Physical Society Joel Parriott, Deputy Exec. Officer, American Astronomical Society Steve Mackwell, Deputy Executive Officer, American Institute of Physics	CONFERENCE ROOM A
8:45–10:00 A.M.	PLENARY Experiencing a Day in the Active Learning Classroom Ed Prather	CONFERENCE ROOM A
10:10–11:10 A.M.	THREE PARALLEL SESSIONS (PARTICIPANTS CHOOSE ONE OF THE SESSIONS)	
	1) Introduction to Interactive Lecture Demonstrations (ILDs)— A Strategy for Creating an Active Learning Environment in Lecture David Sokoloff	CONFERENCE ROOM A
	2) Optimizing Students' Preparation for Class: Just-in-Time Teaching (JiTT) Andy Gavrin	CONFERENCE ROOM B
	3) Engaging Students and Supporting Learning with PhET Interactive Simulations Katherine Perkins	CONFERENCE ROOM C
11:20 A.M.–12:20 P.M.	THREE PARALLEL SESSIONS (PARTICIPANTS CHOOSE ONE OF THE SESSIONS) Repeat from 10:10–11:10 a.m.	

TUESDAY, JUNE 25 (CONT.)

12:20 P.M.	GROUP PHOTO	ROTUNDA
12:25–1:35 P.M.	LUNCH	ACP CAFETERIA
1:35–2:35 P.M.	THREE PARALLEL SESSIONS Repeat from 10:10–11:10 a.m.	(PARTICIPANTS CHOOSE ONE OF THE SESSIONS)
2:45–3:45 P.M.	FOUR PARALLEL SESSIONS 1) Going Deeper with Interactive Lecture Demonstrations David Sokoloff 2) Finding Questions and Using Answers: Going Deeper with Just-in-Time Teaching Andy Gavrin 3) Going Deeper with PhET Interactive Simulations Katherine Perkins 4) Developing High-Performance Questions and Orchestrating Engagement: Going Deeper with Think-Pair-Share (TPS) Ed Prather	(PARTICIPANTS CHOOSE ONE OF THE SESSIONS) CONFERENCE ROOM A CONFERENCE ROOM B CONFERENCE ROOM C 5TH FLOOR CONFERENCE ROOM
3:45–4:00 P.M.	FREE TIME, PEER DISCUSSION, AND SIGN UP FOR PARALLEL SESSIONS	
4:00–5:00 P.M.	THREE PARALLEL SESSIONS 1) The Use of Guided Questioning to Promote Student Learning: Introduction to Tutorials in Introductory Physics Lillian McDermott and Peter Shaffer 2) Using Physics Labs to Teach Experimentation and Critical Thinking Natasha Holmes 3) Using Lecture-Tutorials (LTs) to Promote Critical Thinking in the Astronomy Classroom Ed Prather	(PARTICIPANTS CHOOSE TWO OF THE SESSIONS) CONFERENCE ROOM A CONFERENCE ROOM B CONFERENCE ROOM C
5:10–6:10 P.M.	THREE PARALLEL SESSIONS Repeat from 4:00–5:00 p.m.	
6:10 P.M.	BUS BACK TO HOTEL	
6:30–7:30 P.M.	DINNER	GRAND BALLROOM CD
7:30 P.M.	GROUP MEETING Evening Informal Gathering and Conversations with Peers – Optional FOLC Discussion Andy Rundquist	GRAND BALLROOM AB

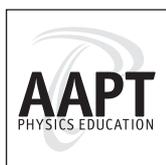
WEDNESDAY, JUNE 26

WORKSHOP SCHEDULE

6:30–7:30 A.M.	BREAKFAST: HOLIDAY INN RESTAURANT – COLLEGE PARK
7:45 A.M.	BUS TO AMERICAN CENTER FOR PHYSICS
8:20–8:30 A.M.	COFFEE AND CONVERSATIONS WITH PEERS ROTUNDA
8:30–9:45 A.M.	PLENARY CONFERENCE ROOM A Using Teaching Principles to Design Activities for the Upper-Division Corinne Manogue
9:55–11:05 A.M.	THREE PARALLEL SESSIONS (PARTICIPANTS CHOOSE TWO OF THE SESSIONS) 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
11:05 A.M.–12:05 P.M.	THREE PARALLEL SESSIONS Repeat from 9:55–11:05 a.m.
12:05–1:25 P.M.	LUNCH AND PEER DISCUSSIONS ACP CAFETERIA
1:25–2:40 P.M.	PLENARY CONFERENCE ROOM A Finding Helpful Information About Teaching: Online Resources at PhysPort and ComPADRE Eleanor Sayre
2:50–4:05 P.M.	PLENARY CONFERENCE ROOM A Challenges, Questions and Solutions – Using Research, Experience and Expertise to Inform our Decisions About Instruction Ed Prather
4:05–4:25 P.M.	BREAK ACP ROTUNDA
4:25–5:40 P.M.	PLENARY CONFERENCE ROOM A Navigating Your Department Ecosystem to Solve Problems Beyond Your Classroom Andy Rundquist
5:40 P.M.	BUS BACK TO HOTEL
6:15–7:15 P.M.	DINNER GRAND BALLROOM CD
7:15 P.M.	GROUP MEETING GRAND BALLROOM AB Evening Informal Gathering and Conversations with Peers – Optional Tenure Discussion

THURSDAY, JUNE 27 (at Holiday Inn, College Park)

8:00–9:00 A.M.	PLENARY Discovering the Resources for Solving Educational Problems Ted Hodapp	GRAND BALLROOM AB
9:10–10:25 A.M.	PLENARY Final Planning for When I Get Back to my Classroom Robert Hilborn	GRAND BALLROOM AB
10:25–10:40 A.M.	BREAK	GRAND BALLROOM FOYER
10:40–11:55 A.M.	PLENARY Funding Opportunities for Early-Career Physicists through Research Corporation Richard Wiener, Research Corporation for Science Advancement	GRAND BALLROOM AB
11:55 A.M.–1:00 P.M.	LUNCH	GRAND BALLROOM CD
1:00–2:00 P.M.	LARGE GROUP SESSION Grant Opportunities with NSF Physics Program Directors 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	GRAND BALLROOM AB
2:10–3:10 P.M.	LARGE GROUP SESSION Grant Opportunities with NSF IUSE Program Directors Corby Hovis, Division of Undergraduate Education, chovis@nsf.gov Steve Turley, Division of Undergraduate Education, rturley@nsf.gov	GRAND BALLROOM AB
3:10–3:30 P.M.	LARGE GROUP SESSION Final Words, Evaluation Procedures and Adjourn	GRAND BALLROOM AB



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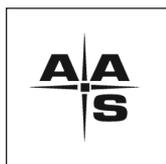
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AMERICAN ASSOCIATION OF PHYSICS TEACHERS

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.



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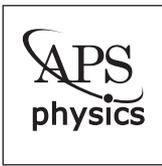
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AMERICAN ASTRONOMICAL SOCIETY

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.

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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.



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