Attendee emails will be shared with conference exhibitors.

## **Meeting Registration Form**

		Received by 5/31/17	Received by 6/22/17	Onsite 6/23-7/26
How to Register	Registration Fees (circle one)			
	AAPT Member – Full meeting	\$385	\$509	\$708
Register online at www.aapt.org	AAPT Member – Retired/Emer./Lifetime	\$290	\$450	\$622
Mail form to: AAPT Programs & Conferences	Non-member – Full meeting	\$600	\$724	\$924
One Physics Ellipse, College Park, MD 20740	Under. /Grad. student AAPT members	\$45	\$55	\$75
	AAPT Member – 1 Day (day?)	\$260	\$394	\$540
■ Member No.: ■ Nonmember	Non-member – 1 Day (day?)	\$475	\$609	\$755
First Name	High School Students	Complime \$85	ntary	
Tist Name	Workshop Only Family/ Guest Registration:   \$40 (Spous)		30 Child (7_1	6 vr)
Last Name	NAME(S):	φ φ	6 & unde	-
Address	Members and Non-members, use Workshop Sunday workshop without attending the Mee		attending Sat	urday or
	Workshop Only (not attending meeting) \$85	•	S	
	(fill out form on next page; write i	n fee)	S	
CityState/Province	Commercial Workshops (free) (check or	1e)		
suito/110vinee	☐ CW01: Foster Learning, 7/24, 12–1 p.m. C			_
CountryZip/Postal Code	□ CW03: PASCO, 7/24, 1:30–2:30 p.m. □			_
	CW06: Perimeter Institute, 7/25, 12–1 p.r.	n. 🗖 CW07: 1	Vernier, 7/25	, 12–2 p.m.
Institution:	Special Events (optional)			
Email	☐ 1. Cincinnati Reds Stadium Tour # Saturday, July 22, 1:30 p.m.	Persons ——	@\$22	\$
Emergency Contact	_	ersons		(free)
Phone:	_	Persons		(free)
Fax	4. Early Career Professionals Speed Network Monday, July 24, 12–1:30 p.m			(free)
Cheek applicable bayes	5. High School Physics Teachers Luncheon Monday, July 24, 12–1:30 p.m		_ @\$40	\$
Check applicable boxes	<ul> <li>6. Meet-up for Members and Supporters of L</li> <li>Monday, July 24, 12–1:30 p.m</li> </ul>			(free)
Attending for the first time	_	Persons		(free)
Becoming an AAPT member	Monday, July 24, 9–12 p.m.			
Renewing my membership	<ul> <li>8. Cincinnati Observatory Visit and Tour TBA # Persons _</li> <li>9. AAPT Fun Run/Walk</li> </ul>			
Type of school affiliation:	Tuesday, July 25, 6–8 a.m. #	Persons	@\$30	\$
☐ High School ☐ Two-Year College ☐ Four-Year Collge ☐ Other	☐ 10. Two-Year College Breakfast # Tuesday, July 25, 7–8:30 a.m.	Persons	@\$35	\$
Disabilities/ Special Needs	☐ 11. Retired Physicists Luncheon #1 Tuesday, July 25, 12–1:30 p.m	Persons	@\$23	\$
If something comes up and you simply can't attend, all requests for	☐ 12. A Night on the Banks of the Ohio River Tuesday, July 25, 6:30–8 p.m.	# Persons	@\$47	\$
cancellation must be made in writing by the following dates and the <b>following fees will apply:</b>	☐ 13. Monday Raffles: Headphones 10:20 a.m. Echo Dot 3:50 p.m.		# @ \$2 e # @ \$2 e	
Cancellations by May 31, 2017 Midnight EST = \$75	14. Tuesday Raffles: \$100 Gift card 10:20 a.r		# @\$2 ea	
	Kindle Fire 3:50 p.m.		#@ \$2 ea.	<b>5</b>
Cancellations from June 1, 2017 to June 22, 2017 = \$100	Registration Fee			\$
Cancellations June 23 – July 6, 2017 = \$125	Workshop Fee(s)			\$
No Refunds after July 6, 2017	Special Events Fee(s) \$10 Administration Fee			\$ \$_10
<b>Photo Release:</b> AAPT and its legal representatives and assigns, retain the right and permission to publish, without charge, photographs taken during this event. These photographs may be used in publications, including electronic publications, or in audio-visual presentations, promotional literature, advertising, or in other similar ways.	TOTAL: Make checks payable to AAPT; No of Purchase Order No.		_	S



## **Workshop Registration Form**

Registration for workshops is first-come, first-served, so register early to secure a place in the workshop of your choice. Please use a checkmark for your initial choices, then indicate subsequent choices (in case first choice is unavailable) numerically. No form received after July 6, 2017 will be accepted in the Executive Office for processing. Workshop abstracts can be found online at www.aapt.org/Conferences/sm2017/workshops.cfm.

## NAME

(Use checkmarks for 1st choices, then rank subsequent choices numerically  $\dots$  1, 2, 3, etc.)

All workshops will be held at the University of Cincinnati

Workshops, Saturday July 22	Time	Fees			
				Mem.	Non-Mem.
W01	Designing Circuits Activities for Middle School Students		W01:	\$70	\$95
W02	Making High Speed Videos	•	W02:	\$60	\$85
W03	Mathematical Modeling with Desmos	•	W03:	\$60	\$85
W04	iMobile Physics and iPhysics Classroom	_	W04:	\$60	\$85 —
W05	Make and Take Low Cost Spectrograph for Physics Labs		W05:	\$85	\$110
W06	Modern Physics Labs on a Budget Using LEDs and Mixed Signal Processors	8:00 a.m.–12:00 p.m.	W06:	\$85	\$110
W07	"Can We Have a Group Test?" Designing Collaborative, Active, Alternative				
	Assessments for Physics Classes	•	W07:	\$60	\$85
W08	Introductory Labs for Electricity and Magnetism		W08:	\$72	\$97
W11	Activity-based Physics in the Advanced High School Classroom		W11:	\$75	\$120
W12	Physics Activities for the Life Sciences (PALS)		W12:	\$85	\$110
W13	Learn Physics While Practicing Science: Introduction to ISLE		W13:	\$95	\$120
W14	The Perplexed Physicists' Primer on Teaching Astronomy		W14:	\$85	\$110
W17	Low-Cost Open-Source Laboratory Instruments		W17:	\$60	\$85
W18	Physics of Toys		W18:	\$61	\$86
W19	Computational Modeling with GlowScript and VPython	1:00 p.m.–5:00 p.m.	W19:	\$60	\$85
W20	Examining the Relationships among Intuition, Reasoning, and Conceptual				
	Understanding in Physics		W20:	\$60	\$85
W21	An Example of Tutorials for Upper-division Physics Courses: Quantum Mechanics		W21:	\$65	\$90
W22	PIRA Lecture Demonstrations I & II Condensed: Selections from the PIRA 200		W22:	\$95	\$120
W23	An Introduction to Race, Ethnicity, and Equity in Physics Education		W23:	\$65	\$90
W24	Student Activities from the IceCube Neutrino Experiment	1:00 p.m5:00 p.m.	W24:	\$60	\$85
Wor	kshops, Sunday, July 23	Time		Fee	es
		Time	W27:	<b>Fee</b>	<b>9S</b> \$100
W27	kshops, Sunday, July 23	Time8:00 a.m.–12:00 p.m.	W27: W28:		
W27 W28	kshops, Sunday, July 23 High Altitude Ballooning	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.		\$75	\$100
W27 W28 W30	kshops, Sunday, July 23  High Altitude Ballooning  Physics Invention Tasks: Developing Mathematical Creativity as a Scientific Practice	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.	W28:	\$75 \$60	\$100 \$85
W27 W28 W30 W31	Kshops, Sunday, July 23  High Altitude Ballooning  Physics Invention Tasks: Developing Mathematical Creativity as a Scientific Practice Fun and Engaging Labs	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.	W28: W30:	\$75 \$60 \$60	\$100 \$85 \$85
W27 W28 W30 W31 W32	Kshops, Sunday, July 23  High Altitude Ballooning	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.	W28: W30: W31:	\$75 \$60 \$60 \$70	\$100 \$85 \$85 \$95
W27 W28 W30 W31 W32 W33	Kshops, Sunday, July 23  High Altitude Ballooning	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.	W28: W30: W31: W32:	\$75 \$60 \$60 \$70 \$60	\$100 \$85 \$85 \$95 \$85
W27 W28 W30 W31 W32 W33	High Altitude Ballooning	Time8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m8:00 a.m.–12:00 p.m.	W28: W30: W31: W32:	\$75 \$60 \$60 \$70 \$60	\$100 \$85 \$85 \$95 \$85
W27 W28 W30 W31 W32 W33 W34	Kshops, Sunday, July 23  High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m8:00 a.m12:00 p.m8:00 a.m12:00 p.m8:00 a.m12:00 p.m8:00 a.m12:00 p.m.	W28: W30: W31: W32: W33:	\$75 \$60 \$60 \$70 \$60 \$60	\$100 \$85 \$85 \$95 \$85
W27 W28 W30 W31 W32 W33 W34	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m.	W28: W30: W31: W32: W33:	\$75 \$60 \$60 \$70 \$60 \$60	\$100 \$85 \$85 \$95 \$85 \$85 \$100
W27 W28 W30 W31 W32 W33 W34	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m.	W28: W30: W31: W32: W33: W34:	\$75 \$60 \$60 \$70 \$60 \$60 \$75	\$100 \$85 \$85 \$95 \$85 \$85 \$100 \$85
W27 W28 W30 W31 W32 W33 W34 W35 W37	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$60	\$100 \$85 \$85 \$95 \$85 \$100 \$85 \$85
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$60 \$85	\$100 \$85 \$85 \$95 \$85 \$100 \$85 \$110
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W39:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$85 \$60	\$100 \$85 \$85 \$95 \$85 \$100 \$85 \$110 \$85
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W39:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$85 \$60	\$100 \$85 \$85 \$95 \$85 \$100 \$85 \$110 \$85
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W39:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$60 \$85 \$60 \$65	\$100 \$85 \$85 \$95 \$85 \$85 \$100 \$85 \$110 \$85 \$85 \$90
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W40:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$60 \$85 \$65	\$100
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W40: W41:	\$75 \$60 \$60 \$70 \$60 \$60 \$65 \$65 \$65	\$100 \$85 \$85 \$95 \$85 \$85 \$100 \$85 \$85 \$110 \$85 \$90 \$90 \$85 \$90
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W35: W37: W38: W39: W40: W41: W42:	\$75 \$60 \$60 \$60 \$60 \$75 \$60 \$85 \$60 \$65 \$65 \$65 \$60 \$20	\$100
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41 W42 W43 W44	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W35: W37: W38: W39: W40: W41: W42: W43:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$85 \$60 \$65 \$65	\$100
W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41 W42 W43 W44	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W34: W35: W37: W38: W40: W41: W42: W43: W44: W45: W46:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65	\$100
Worl W27 W28 W30 W31 W32 W33 W34 W35 W37 W38 W39 W40 W41 W42 W43 W44 T01 T02	High Altitude Ballooning	Time8:00 a.m12:00 p.m8:00 a.m12:00 p.m1:00 p.m5:00 p.m.	W28: W30: W31: W32: W33: W35: W37: W38: W40: W41: W42: W43: W44:	\$75 \$60 \$60 \$70 \$60 \$60 \$75 \$60 \$85 \$60 \$65 \$65 \$65 \$85	\$100