



• Sunday, July 21, 2019

**Registration fees**

Attendee One-Day Registration: \$85

Member Member No.: \_\_\_\_\_  Non-member

First Name \_\_\_\_\_ Last Name \_\_\_\_\_

School Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email \_\_\_\_\_

Phone:  Home  Work (\_\_\_\_) \_\_\_\_\_

Fax  Home  Work (\_\_\_\_) \_\_\_\_\_

Emergency Contact \_\_\_\_\_ Phone No: \_\_\_\_\_

**Check applicable boxes**

- Attending for the first time
- Becoming an AAPT member
- Renewing my membership

Disabilities/ Special Needs \_\_\_\_\_

**Total Fees**

- |                                                   |                                                |          |
|---------------------------------------------------|------------------------------------------------|----------|
| <input type="checkbox"/> Check made out to AAPT   | Registration Fee (\$85)                        | \$ _____ |
| <input type="checkbox"/> Money Order              | Guest Fee \$82 (Includes registration & lunch) | \$ _____ |
| <input type="checkbox"/> Credit Card              | Children \$72 (Includes registration & lunch)  | \$ _____ |
| <input type="checkbox"/> Purchase Order No. _____ | Workshop fees:                                 | \$ _____ |

**Please print clearly.**

\_\_\_\_ Visa \_\_\_\_ MasterCard \_\_\_\_ Discover \_\_\_\_ Am. Express

Account Number \_\_\_\_\_

Expiration Date \_\_\_\_\_

Sec. Code \_\_\_\_\_

Name on Card \_\_\_\_\_

Signature: \_\_\_\_\_

Diversity T-shirt (\$22): \$ \_\_\_\_\_

**TOTAL:** \$ \_\_\_\_\_

**Photo Release:** 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. **Attendee emails will be shared with conference exhibitors.**

There will be a **\$30** processing fee for all canceled registrations.

By registering for the event, you agree to follow the AAPT Code of Conduct. Please visit [https://aapt.org/aboutaapt/organization/code\\_of\\_conduct.cfm](https://aapt.org/aboutaapt/organization/code_of_conduct.cfm) to read it.

**Mail form to:** AAPT Programs and Conferences, One Physics Ellipse, College Park, MD 20740; **Fax:** 301-209-0845

**This registration offer is only valid for 1st time attendees. If AAPT finds prior meeting registrations, your registration will be cancelled.**

# 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 12, 2019 will be accepted in the Executive Office for processing. Workshop abstracts can be found online at [www.aapt.org/Conferences/sm2019/workshops.cfm](http://www.aapt.org/Conferences/sm2019/workshops.cfm).

**NAME** \_\_\_\_\_

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

All workshops will be held at BYU (Saturday) and Utah Valley University (Sunday)

Workshops, Saturday, July 20		Time	Fees			
			Mem.	Non-Mem.		
W01	Learn Physics While Practicing Science: Introduction to ISLE.....	8:00 a.m.–5:00 p.m.	W01:	\$87	\$112	___
W02	Physics Activities for the Life Sciences (PALS).....	8:00 a.m.–5:00 p.m.	W02:	\$85	\$110	___
W03	Developing and Implementing NGSS 3-D Physics Lessons .....	8:00 a.m.–5:00 p.m.	W03:	\$85	\$110	___
W04	High Altitude Ballooning .....	8:00 a.m.–5:00 p.m.	W04:	\$120	\$145	___
W05	Visualizing Contemporary Physics .....	8:00 a.m.–5:00 p.m.	W05:	\$105	\$130	___
W06	Quantum Mechanics with Mathematica.....	8:00 a.m.–12:00 p.m.	W06:	\$60	\$85	___
W07	Get the Facts Out: Changing the Conversation Around Teaching as a Profession.....	8:00 a.m.–12:00 p.m.	W07:	\$60	\$85	___
W08	Fun and Engaging Labs.....	8:00 a.m.–12:00 p.m.	W08:	\$60	\$85	___
W09	PIRA Lecture Demonstrations I & II Condensed: Selections from the PIRA 200.....	8:00 a.m.–12:00 p.m.	W09:	\$95	\$120	___
W10	Mobilizing the Forgotten Army: Equipping TAs with Inquiry-based Instruction Methods	8:00 a.m.–12:00 p.m.	W10:	\$80	\$105	___
W11	Introductory Labs for Optical and Wave Physics.....	8:00 a.m.–12:00 p.m.	W11:	\$72	\$97	___
W12	Understanding the Mathematical Constructs that Boggle New Physics Students.....	8:00 a.m.–12:00 p.m.	W12:	\$70	\$95	___
W13	Graph Out Loud .....	1:00 p.m.–5:00 p.m.	W13:	\$60	\$85	___
W14	Using Universal Design for Learning to Prepare for Variation in Physics Learners’ Needs, Abilities and Interests .....	1:00 p.m.–5:00 p.m.	W14:	\$63	\$87	___
W15	PICUP: Integrating Computation into Introductory Physics .....	1:00 p.m.–5:00 p.m.	W15:	\$60	\$85	___
W16	LIGO & Interferometers.....	1:00 p.m.–5:00 p.m.	W16:	\$100	\$125	___
W17	Using Astronomy Demonstration Videos.....	1:00 p.m.–5:00 p.m.	W17:	\$30	\$43	___
W18	Getting Your Paper Published.....	1:00 p.m.–5:00 p.m.	W18:	\$60	\$85	___
W19	Breaking Glass with Sound Waves (Make & Take).....	1:00 p.m.–5:00 p.m.	W19:	\$80	\$105	___
W20	Machine Learning in PER.....	1:00 p.m.–5:00 p.m.	W20:	\$135	\$160	___
W21	Use of 3D Pens in HS Labs and Community .....	1:00 p.m.–5:00 p.m.	W21:	\$65	\$90	___
Workshops, Sunday, July 21		Time	Fees			
W22	Teaching Innovation and Entrepreneurship in Physics: Helping Physics Students Change the World.....	8:00 a.m.–5:00 p.m.	W22:	\$85	\$110	___
W23	An Introduction to Data Science for Emerging Quantitative Researchers with R-Studio ..	8:00 a.m.–12:00 p.m.	W23:	\$60	\$85	___
W24	Designing Economical Outreach Kits for Physics.....	8:00 a.m.–12:00 p.m.	W24:	\$80	\$105	___
W25	Creating Sustainable Change in University Departments: Theory and Practice .....	8:00 a.m.–12:00 p.m.	W25:	\$62	\$87	___
W26	Fun, Engaging, Effective, Research-Validated Lab Activities and Demos for Introductory University, College and High School Physics.....	8:00 a.m.–12:00 p.m.	W26:	\$75	\$100	___
W27	Just-in-time Teaching .....	8:00 a.m.–12:00 p.m.	W27:	\$30	\$43	___
W28	Demo Kit in a Box: Sound and Waves.....	8:00 a.m.–12:00 p.m.	W28:	\$95	\$120	___
W29	A Primer on Computing with Python .....	8:00 a.m.–12:00 p.m.	W29:	\$60	\$85	___
W30	Fostering Inclusivity in Physics: Resources, Strategies, and Interventions.....	8:00 a.m.–12:00 p.m.	W30:	\$60	\$85	___
W31	PTRA: Cartoon Physics .....	8:00 a.m.–12:00 p.m.	W31:	\$70	\$95	___
W32	Designing and Building Informal Programs .....	8:00 a.m.–12:00 p.m.	W32:	\$65	\$90	___
W33	PICUP: Integrating Computation into Upper-Level Physics .....	8:00 a.m.–12:00 p.m.	W33:	\$60	\$90	___
W34	Coding Integration in High School Physics and Physical Science.....	8:00 a.m.–12:00 p.m.	W34:	\$30	\$43	___
W35	Group-Worthy Tasks.....	8:00 a.m.–12:00 p.m.	W35:	\$60	\$85	___
W36	New Resources for AP Physics .....	8:00 a.m.–12:00 p.m.	W36:	\$60	\$85	___
W37	Improving the Pedagogical Content Knowledge of Teaching Assistants and Instructors ...	1:00 p.m.–5:00 p.m.	W37:	\$60	\$85	___
W38	Getting Students to Think Critically In Intro Labs.....	1:00 p.m.–5:00 p.m.	W38:	\$60	\$85	___
W39	Developing the Next Generation of Physics Assessments.....	1:00 p.m.–5:00 p.m.	W39:	\$60	\$85	___
W40	Adapting Research-based Materials for Teaching Quantum Mechanics at Your Institution..	1:00 p.m.–5:00 p.m.	W40:	\$60	\$85	___
W41	Teaching Introductory Physics in an Earth & Space Science Context .....	1:00 p.m.–5:00 p.m.	W41:	\$60	\$85	___
W42	Activity-based Physics and NGSS .....	1:00 p.m.–5:00 p.m.	W42:	\$80	\$105	___
W43	Teaching Physics towards Social Justice .....	1:00 p.m.–5:00 p.m.	W43:	\$65	\$90	___
W44	Intermediate and Advanced Labs .....	1:00 p.m.–5:00 p.m.	W44:	\$85	\$110	___
W45	Modifying Introductory Labs to Target Scientific Reasoning, Decision-Making Abilities.	1:00 p.m.–5:00 p.m.	W45:	\$60	\$85	___
W46	Astronomy Research Seminar Workshop.....	1:00 p.m.–5:00 p.m.	W46:	\$60	\$85	___
W47	Teaching About Work and Energy .....	1:00 p.m.–5:00 p.m.	W47:	\$60	\$85	___
W48	Curriculum Swap: Creating, Sharing, and Improving Student-centered Physics Activities for Life Science Students.....	1:00 p.m.–5:00 p.m.	W48:	\$60	\$85	___
W49	STEP UP 4 Women – Take Action to Engage Women in Physics.....	1:00 p.m.–5:00 p.m.	W49:	\$60	\$85	___
W50	Field Tested Systems; Intro to Spectroscopy .....	:00 p.m.–5:00 p.m.	W50:	\$60	\$85	___