

PTRA Oversight Committee Meeting WM2020
Director's Report, submitted by Karen Jo Matsler

Summer Institute

The PTRA leadership institute was held after the AAPT meeting at Capitol Reef National Park in Utah July 24-28, 2019. The main focus of the institute was astronomy and was led by Emma Smith. We were fortunate to have other experts who were willing to donate their time to also present and made huge contributions to the institute:

Tom O'Kuma: Apps for Stars and Planets, Light and Astronomy, Exoplanets,

Mario Belloni, Wolfgang Christian: Physlets, PWAs, Tracker and Astronomy

Alice Flarend: Updated resources on Quantum Cryptography

Kenric Davies: Updated PI resources and LC for Blackholes and M87

Janie Head: AP Physics

Damian Pope: Perimeter Institute (skyped in to answer questions on M87, etc)

Duane Merrell was an EXCELLENT host, chef, and overall organizer. Many thanks to him as well as Spencer Perry and Josh Stowers (BYU) who came and gave of their time an expertise to help us find constellations in the night sky and drove vans to help us get there. Thank you so much.

Attendees were required to pay a registration fee of \$200 which was put into the Continuation Fund. There were 33 attendees this year, 5 of those being new. All travel and housing costs were paid by the PTRAs, but those with qualifying workshops or CF donations were eligible to receive up to \$500 in reimbursements.

Quantum Initiative

Matsler met with Hilborn and others interested in a AAPT Quantum Initiative in Provo.

Immediate action has been postponed until the national sites are identified. However, recognizing that most teachers have limited background knowledge of how quantum relates to future jobs, I believe we need to move forward with establishing ourselves as a valid PD provider for helping teachers incorporate quantum to their classrooms. To that end, I attended a weekend at the Institute for Quantum Computing Nov. 21-24 in Waterloo, Canada and on Monday, Nov. 25, I met with representatives from IQC and PI (Damian Pope, Greg Dick, Tonia Williams, John Donahue, and Martin LaForest) to discuss how to integrate the resources they have with our personnel and future workshops. Since the OC approved to help fund two PD institutes that focus on quantum principles in the summer of 2020, I felt it was imperative to have a face to face meeting on how these should look and get clarification on some of the potential content issues. The meeting went well and we are moving forward with having the two summer workshops.

In addition to meeting with IQC and PI, I have submitted a proposal to NSF to help support some of these workshops. No word yet as to whether that is going to be an option or not.

2019 Workshop Attendance

Although we try to gather information from workshop/institute/session participants, it is always a challenge to get everyone to sign in (whether by QR code or paper). However, based

on what information we are able to gather, we can identify areas that seem to be areas that teachers are seeking help or want more ideas. Below is a chart indicating the topics that were reported on surveys, and how many attended. I need to modify the survey to include information regarding whether it was a section meeting, science meeting, etc. in order to identify where our money is best being spent. The number of individuals who completed the surveys was 364, so it is not unreasonable to know we reached over 400 teachers in 2019. Thanks goes to the PTRAs who are diligently seeking opportunities to help their peers!

Date	Workshop Topic	# Attendees	Notes
12/6/19	M87 and Black Holes	12	Central PA Section
11/9/19	Radioactivity	4	
10/26/19	Radioactivity	4	
10/21/19	5E's	13	Texas Science Conf.
10/22/19	Cartoon Physics	14	Texas Science Conf.
10/22/19	Newton's 3 Laws	15	Texas Science Conf.
10/23/19	Technology and Learning	9	Texas Science Conf.
10/23/19	Astronomy as a Lab Base Science	14	Texas Science Conf.
10/23/19	M87	10	Texas Science Conf.
10/23/19	Vocabulary and AP	5	Texas Science Conf.
8/13/19	Cartoon Physics	22	
8/12/19	PBL and Inquiry	11	
8/12/19	STEM Engineering	16	
7/24/19-7/28	PTRA Leadership Institute	31	35+ hours
7/23/19	Gravitational Waves	12	AAPT SM19
7/22/19	Quantum Computing	18	AAPT SM19
7/22/19	Paper Drag Racers	21	AAPT SM19
7/22/19	Make, Play, Do, Learn	24	AAPT SM19
7/22/19	Physics of Sound	10	AAPT SM19
7/21/19	Cartoon Physics	6	AAPT SM19 workshop
6/28/19	Teaching 21st century Physics	4	
6/21/19	Waves	6	
6/10/19	Matter and Energy	13	5 day workshop
5/22/19	Physics Resources	12	UTeach Conference
4/27/19	GPS	3	
3/29/19	Climate Change/PIRA	10	Central PA Section
3/9/19	Energy Houses	3	TSAAPT workshop
2/15/19	Optics	7	
1/13/19	Quantum Cryptography	10	AAPT WM19 workshop
1/12/19	Classroom Resources ALPHA/PTRA	7	AAPT WM19
	Make-n-Take Energy	18	Utah