

AAPT/PTRA History (1984 – 2011)

Era	Year	Events
	1984	Original proposal turned down by NSF – A second Proposal was successful
Original PTRA	1985	<p>PTRA Proposal awarded to AAPT by NSF (1985-1988)</p> <ol style="list-style-type: none"> 1. PI – Don Kirwan and Co-PIs John Layman & Jack Wilson 2. Jack Wilson, AAPT Executive Officer, asked Jim Nelson to be director of original PTRA Program. 3. Summer Institute for teaches held the week before and the week after AAPT summer meeting in University of Northern Arizona, Flagstaff, AZ. Sandwich model – One week before and one week after AAPT summer meeting. 4. Workshops during summer institute are a smorgasbord of topics. 5. Train the Trainer concept. 6. Train Teachers to provide workshops for teachers in their home area. 7. Most workshops during institute are content oriented. 8. PTRAs expected to do two workshops based on summer institute during year after institute.
	1986	Second year of funding for original PTRA grant. Summer AAPT meeting held at Ohio State. After the AAPT summer meeting the PTRAs were bused to University of Maryland where PTRA Institute was held. Don Kirwan and Co-PIs John Layman & Jack Wilson
	1987	Third year of funding for Original PTRA grant. Summer Institute held at University of Montana, Bozeman MT. John Layman replaced Don Kirwan as principal investigator of the grant.
	1988	Extension Year for Original PTRA Summer Institute at San Luis Obispo PI – John Layman
	1989	AAPT meeting at Cornell, but no PTRA summer institute
	1990	AAPT meeting at ???, but no PTRA summer institute
Development of PTRA-Plus	1991	<p>Development of PTRA-Plus, PI – Jim Nelson, Larry Bader & Robert Beck Clark Co-PIs</p> <ol style="list-style-type: none"> 1. Judy Franz, President AAPT, encouraged development of a follow-up PTRA project. 2. Experienced PTRAs invited to return each summer. Once a PTRA Leader always a PTRA Leader. 3. Setup database to maintain PTRA records. 4. Workshops continued to be organized on random content. 5. PTRAs expected to do two workshops during year after institute. 6. Development of PTRA Manuals to support summer training and outreach workshops. Manuals are now known as PTRA Teacher Resource Guides. 7. Attempt to formalize the process associated with the original PTRA project. Established PTRA Continuation Fund. 8. PTRA expected to charge workshop fee. 9. Development of PTRA Leader’s Handbook 10. AAPT starts to published and sell PTRA Workshop Manuals now

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		<p>known as PTRAs Teacher Resource Guides.</p> <ol style="list-style-type: none"> 11. Two tiered system. (National PTRAs and Outreach Participants.) 12. Robert Beck Clark joined project as Co-PI and content specialist. 	
PTRA-PLUS	1992	Summer Institute at University of Maine, Orono, ME Last summer institute using sandwich model.	
	1993	Summer Institute at University of Idaho, Boise, ID	
	1994	Summer Institute at Notre Dame, IN	
	1995	Summer Institute at Spokane, WA	
	1996	Summer Institute at University of Maryland, College Park, MD	
	1997	Summer Institute at Colorado School of Mines, Golden, CO Prototype for Rural Project established at four sites using Continuation Fund and APS's Campaign for Physics funds.	
Urban PTRAs	1998	<p>Urban PTRAs, PI – Jim Nelson, Co-PI – Larry Bader</p> <ol style="list-style-type: none"> 1. Summer Institute at University of Nebraska. 2. Focus on physics teachers in large urban school districts. 3. Week-end workshops, usually one day in length (Typically 6-hours) with no requirement for number of workshops to attend. 4. Segmented curriculum (one-day topics) with workshops focused on specific content. 5. Contact and host for workshops was a school district administrator(s), but led by PTRAs. 6. First weeklong summer outreach institute done for Denver Colorado Teachers at Colorado School of Mines. 7. Invited School Administrators to observe. 	
		1999	Summer Institute at Trinity College in San Antonio, TX
		2000	Summer Institute at University of Guelph, Guelph, Canada
		2001	Summer Institute at Rochester Institute of Technology, Rochester, NY
			Larry Bader retires as Co-PI.
Rural PTRAs	2001	<p>Rural PTRAs, PI – Jim Nelson</p> <ol style="list-style-type: none"> 1. Summer Institute in Boise, Idaho 2. George Amann and Jan Mader became part of the national leadership of PTRAs as Co-PIs. 3. Focus on physical science and physics teachers in small rural middle and high schools 4. Weeklong institutes in the summer (Typically 30 hours) and participants asked to commit to three summers of professional development. 5. Support for two follow-up sessions during academic year. 6. Expectation of 108 hours ($36 \times 3 = 108$) of Professional Development for participants. Participant's stipend depends on number of hours attended. 7. Introduced of a coherent PTRAs curriculum designed around specific topics (Kinematics, Newton's Laws, Energy, Momentum Electricity, Waves, Optics, et cetera) 	

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		<ol style="list-style-type: none"> 8. Developed roadmaps modeled on best practices while focusing on content, pedagogy, and instructional use of technology. 9. Developed Checklists to help leaders and to manage consistence at different sites around the country. 10. Added more emphasis on Instructional Strategies based on Physics Education Research 11. Development and implementation of pre and post Participant Survey to measure participant needs and confidence levels. 12. Development and implementation of participant pre, post and formative content assessments aligned to workshop topic and objectives. 13. Development and implementation of student pre and post content assessments aligned to workshop topic and objectives. 14. Summer Institutes hosted by university faculty called Regional coordinators and led by PTRAs and university faculty following proscribed PTRA curriculum. 15. One PTRA assigned to each site as the Lead PTRA with responsibilities for implementation of the PTRA curriculum, instruction and assessment. 16. Summer Leadership institutes for PTRAs focused on content, instructional technology and PTRAs role as professional development providers with focus on instructional methods (i.e., learning cycles, learning inquiry, practicums, et cetera) 17. National Leadership organized into four national sectors (NE, SE, NW & SW) 18. Supporting vendors established (PASCO, TI, Addison-Wesley, TI) 19. Ranking Tasks and Physlet Physics provided by Addison-Wesley for PTRA workshop participants.
	2003	Summer Institute at Edgewood College in Madison, Wisconsin Karen Jo Matsler became part of the national leadership of PTRA as Co-PI.
	2004	Summer Institute at University of California Sacramento Balance between content and pedagogy (bicycle model) AAPT/PTRA website established
	2005	Summer Institute at University of Utah, Salt Lake, Utah First MSP project lead by Karen Jo Matsler in TX Formation of AAPT/PTRA advisory committee
	2006	Summer Institute at Syracuse of University, Syracuse, NY Second MSP Project in MD Free six-month free AAPT membership provided.
	2007	Summer Institute at University of North Carolina, Greensboro, NC Third MSP Project started in GA Toyota Grant for PTRA Project at James Madison University, Harrison, VA
	2008	Summer Institute at University of Canada, Edmonton, Canada MSP Projects started in NC, DC, ID, AR Support of Perimeter Institute by providing Mystery of Dark Matter for participants.

Era	Year	Events
		First year of AAPT Section mini-grants at six AAPT sections
	2009	MSP Projects in NC expanded from two sites to four. Support for University of Arkansas NSF funded MSP Project. Summer Institute at University of Michigan, Ann Arbor, Michigan. Support of Perimeter Institute for Quantum Conundrum. Continuation of AAPT Section mini-grants.
	2010	Summer Institute at Portland State University, Portland Oregon. Added idea of integration of engineering design into the physics curriculum. Celebration of 25 th year of PTRAs with Invited papers and Plenary
	2011	Summer Institute at Creighton University, Omaha, Nebraska. Added emphasis on Elementary Teachers. APS awarded Excellence in Physics Education Award
	2012	Formation of AAPT/PTRA Oversight Committee

Footnote to summer program descriptions provided in this AAPT/PTRA Timeline. Formal PTRAs activities occurred at the intervening AAPT Winter meetings. This complimented the summer programs that were carried out in the week before and the week after the AAPT summer meetings. In one other year as a prelude to the 1988 AAPT Winter meeting in Crystal City, VA we provided a three-day program held at the University of Maryland to prepare and initiate a modest number of PTRAs. In all of these instances the PTRAs program provided support for attending both annual meetings of the AAPT, a real bonus to the PTRAs program and their own professional activities.

Timeline prepared by Jim Nelson and John Layman