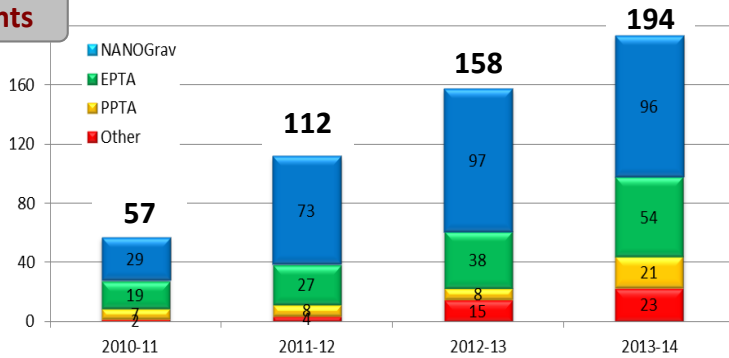


This newsletter presents findings from Quarter 1, 2013 evaluations of the IPTA Summer Meeting in Krabi, Thailand.

### PIRE project participants

PIRE project participation has more than tripled since 2010. Greatest increases came from the EPTA and non-PTA participants, mostly from China.



### PROJECT GOALS

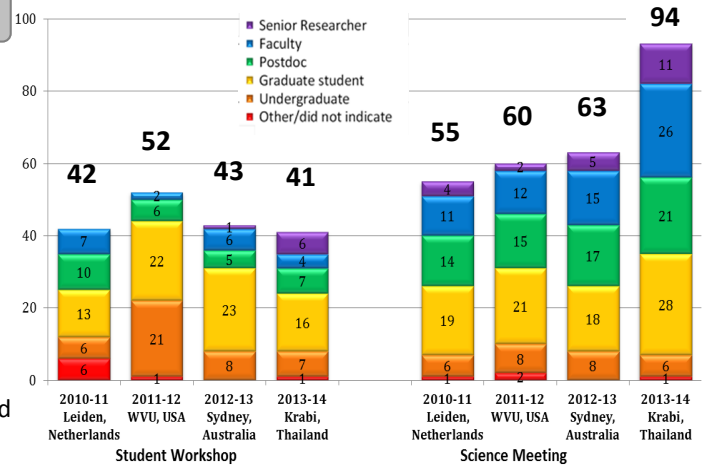
- Goal 1: Knowledge and Skills
- Goal 2: Education
- Goal 3: Partnerships
- Goal 4: Institutional Capacity
- Goal 5: Workforce Development

### Annual IPTA Student Workshop and Science Meeting



During the summer of 2013, PIRE participants attended a Week 1 Student Workshop and a Week 2 Science Meeting in Krabi, Thailand.

- Student Workshop attendance has declined slightly; Science Meeting attendance has grown sharply.
- Graduate student and faculty attendance declined for the Student Workshop, but increased for the Science Meeting, possibly indicating graduate students have sufficient knowledge that they no longer need to attend the student training.



### Participants' suggestions:

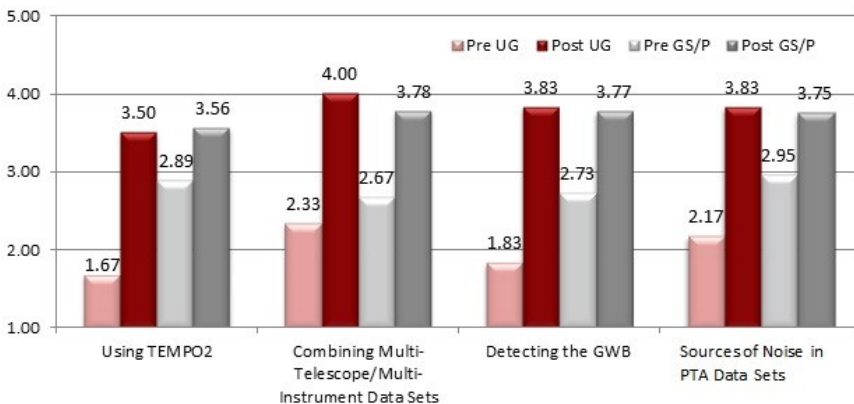
**Student Workshop** - More tutorials, review of terms, and walkthroughs with the worksheets, additional resources, working with examples on the computer, and posting slides on the webpage.

**Science Meeting** - Provide materials to help conceptualize complex topics in the talks, vary delivery techniques, more discussions.

### Data analysis practicum ratings:

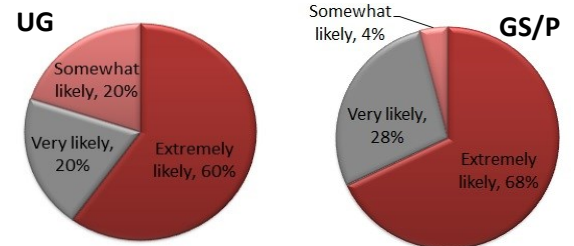
Undergraduates, graduate students, and postdocs rated four data analysis practicums from 1=very low to 5=very high.

- Undergraduate students rated their familiarity with the material lower than graduate students/postdocs before the practicum, but higher than graduate students/postdocs after the practicum.
- Current interest in the topics, ability to do practicum, increased understanding, and usefulness were high or very high for all groups.



### Likelihood to utilize information presented at the Student Workshop:

Participants are *extremely likely* to use information presented in the sessions; however, undergraduates are slightly less likely to use the information than grad students/postdocs.



### New knowledge and skills:

Participants learned how to use Tempo 2 and data analysis techniques. They plan to apply new knowledge to conduct research and write papers.



Reasons for attending, strengths and weaknesses and gains in goal areas

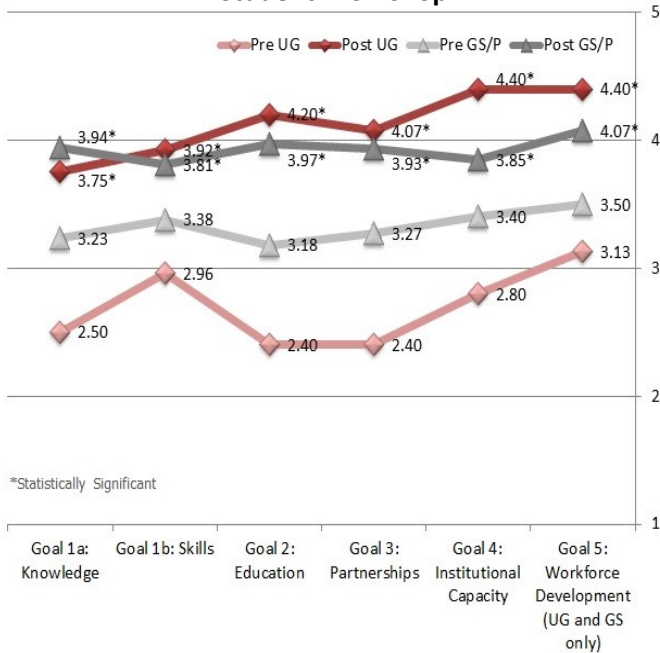
The majority attended the Student Workshop to increase:

- Skills in using astrophysics software
- Understanding of pulsar timing
- Knowledge of how to search for and detect pulsars
- Ability to conduct data analysis modeling
- Collaborations with international scientists

Graduate students/postdocs and undergraduates identified areas of strength and weakness. Highlights indicate 40% or more identified the item as a strength or weakness.

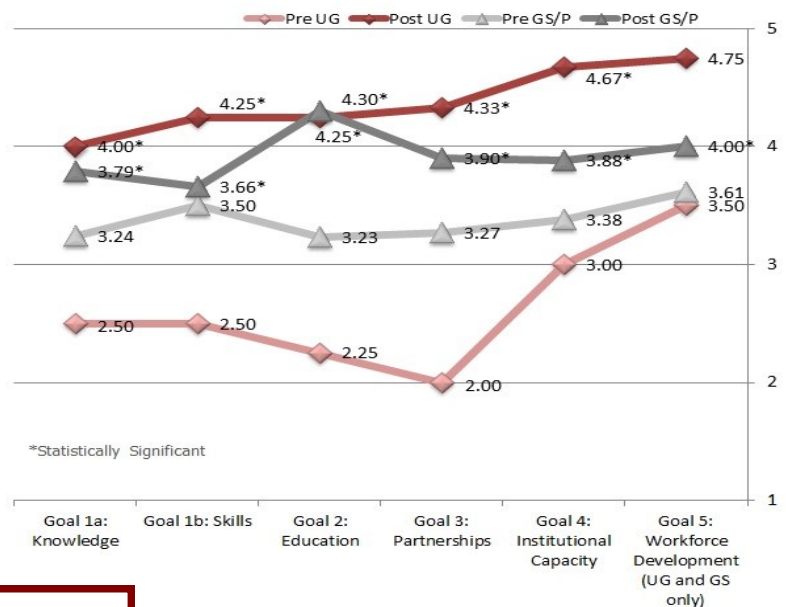
Areas related to astrophysics	GS/P (n=26)	UG (n=6)
<b>Strengths</b>		
Knowing how to search for and detect pulsars.	28%	50%
Understanding sources of gravitational waves.	28%	50%
Understanding pulsar timing.	44%	67%
Conducting data analysis modeling.	50%	33%
Having ideas for possible research projects.	33%	50%
My knowledge of how to collaborate on a scientific research project with a scientist from another country.	33%	33%
Knowing how to work with my educational/research institution to participate in research abroad visit/experience.	28%	50%
My awareness of careers that are available in astrophysics.	22%	0%
My interest in pursuing a career in astrophysics research.	67%	67%
<b>Weaknesses</b>		
Knowing how to search for and detect pulsars.	22%	33%
Understanding sources of gravitational waves.	28%	33%
Understanding pulsar timing.	17%	17%
Conducting data analysis modeling.	28%	17%
Having ideas for possible research projects.	33%	50%
My knowledge of how to collaborate on a scientific research project with a scientist from another country.	39%	50%
Knowing how to work with my educational/research institution to participate in research abroad visit/experience.	44%	33%
My awareness of careers available in astrophysics.	44%	33%
My interest in pursuing a career in astrophysics research.	0%	17%

Gains in goal areas from attending the Student Workshop



\*Statistically Significant

Goal gains from attending the Science Meeting



\*Statistically Significant

Achievement of project goals

At the end of the Student Workshop and Science Meeting, participants rated gains in project goal areas. Overall, undergraduates' ratings had more variation and their post-ratings tended to be higher than the graduate student/postdoc group.

Key Findings and Recommendations

- ◆ Review students' reasons for attending the Student Workshop, along with areas of strength and weakness to identify areas of focus for future workshops.
- ◆ Review project goal area gains and develop activities and workshops to increase participants' knowledge and skills. Add different sessions targeted at beginning, intermediate, and advanced learner levels.
- ◆ Increase Student Workshop attendance by recruiting more undergraduates into the project and providing training for grad students/postdocs/faculty in areas that would benefit them.

Upcoming Evaluation Activities

- Analyze post-survey of Research Abroad Experience students.
- Analyze pre- and post-Intercultural Development Inventory (IDI) results.
- Analyze telephone interviews with Research Abroad Experience mentors.
- Attend and conduct evaluation of fall NANOGrav Meeting in Lancaster, PA.