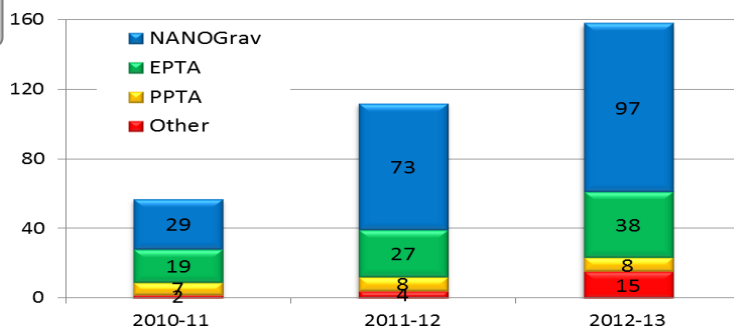


This newsletter presents findings from Quarter 1, 2012 evaluations. Student Workshop and Science Meeting attendees rated sessions, logistical aspects, and gains in knowledge and skills they attribute to meeting attendance.

Project participants

PIRE project participation has tripled since 2010. Greatest increases came from NANOGrav and non-PTA participants primarily from China.



PROJECT GOALS

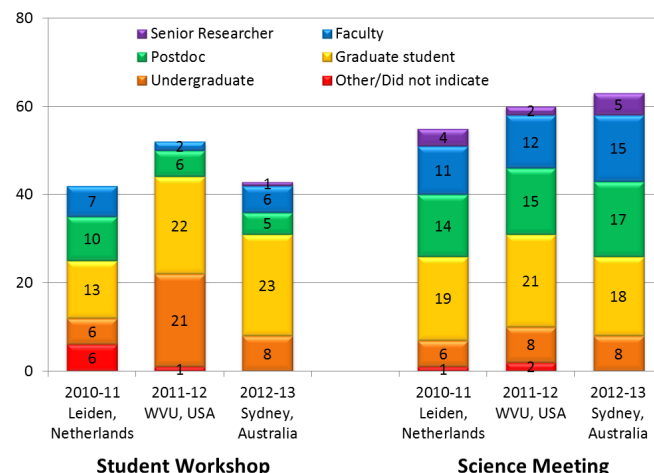
- Goal 1: Knowledge
- Goal 2: Education
- Goal 3: Partnerships
- Goal 4: Institutional Capacity
- Goal 5: Workforce Development

Annual International Student Workshop and Science Meeting



PIRE participants attend a Week 1 Student Workshop and Week 2 Science Meeting each summer.

- 2012 student Workshop was held in Sydney and the science meeting was held in Kiama, Australia.
- Participant numbers have steadily grown.



Student Workshop and Science Meeting ratings: Student Workshop sessions were rated *extremely useful* by attendees. Science Meeting sessions were rated *very to extremely useful*. Ratings of meeting logistics except technology are very high. Participants suggested healthier food, better internet/wireless, and having more computers with software installed.

Data analysis module ratings:

Undergrad, grad, and postdoc ratings (from 1=low to 5=high) of data analysis modules were *very useful* and *interesting*, and *high* in ability to increase understanding and interest. They rated the difficulty level and ability to complete modules lower. Many students struggled with software installation.

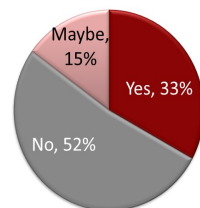
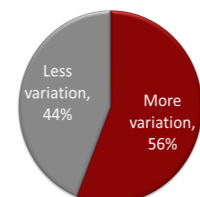
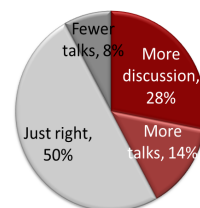
	UG	GS/PD
Usefulness	4.73	4.28
Level of difficulty	3.69	3.36
Ability to do module	3.88	3.62
How interesting	4.68	4.29
Increase understanding	4.65	4.20
Increase interest	4.42	3.95

Organizational content preferences of future Science Meetings:

Types of talks: Half believe topics were well-balanced. Many continue to suggest additional time for group collaboration and discussion.

Variation in topic: Opinions were fairly evenly divided. Many appreciate outside perspectives which may lead to new ideas. Others believe the field is new and prefer to maintain a focused conference.

Theme: One-third favor a theme. Comments against a theme focus on too much material to cover, the IPTA being new, and avoiding being too focused on one area.



Summer meeting Educational Topics Matrix

Topics	2010 Leiden	2011 WVU	2012 Sydney	2013 Thailand	2014 Summer
Pulsar Searching					
Introductory		X	X		
Intermediate/Advanced		X	X		
Pulsar Timing					
Introductory	X	X	X	X	X
Intermediate/Advanced		X	X	X	X
Observing and hardware					
Introductory		X		X	X
Intermediate/Advanced				X	X
Interstellar medium					
Introductory	X			X	
Intermediate/Advanced	X			X	
GW detection/GW data analysis					
Introductory	X	X	X	X	X
Intermediate/Advanced	X	X	X	X	X
GW physics and sources					
Introductory	X	X	X		X
Intermediate/Advanced	X	X			X
Cultural orientation	X		X		X

Annual International Student Workshop and Science Meeting (continued)

Reasons for attending, strengths and weaknesses

Undergrads, grads, and postdocs ranked reasons for attending the Student Workshop and indicated their areas of strength and weakness.

- The majority attended to *increase understanding of pulsar timing and gravitational wave sources*.
- All undergrads attended to *build relationships with scientists from other countries*.
- Knowledge of how to search for and detect pulsars* was indicated as being both an area of strength and weakness.

Educational Topic	Undergrad (n=6)	GS/PD (n=23)
Increase my understanding of pulsar timing.	83%	77%
Increase my understanding of gravitational wave sources.	100%	73%
Increase my skills in using astrophysics software programs.	67%	68%
Obtain ideas for possible research projects.	50%	68%
Build relationships with scientists from other countries.	100%	68%
Increase my skills in using instruments and equipment.	67%	64%
Increase my knowledge of astrophysics research conducted by the IPTA.	17%	64%
Increase my knowledge of how to search for and detect pulsars	67%	59%
Increase my understanding of interstellar medium and mitigation.	50%	50%
Increase or reinforce my interest in IPTA research.	83%	50%
Increase my ability to conduct data analysis modeling	50%	45%
Increase knowledge of careers that are available in astrophysics.	67%	45%
Increase my interest in collaborating with a scientist from another country.	67%	36%
Increase my understanding of stochastic processes.	67%	32%
Increase my ability to analyze astrophysics-related data.	67%	32%
Increase or reinforce interest in pursuing a career in astrophysics research	33%	27%

Goal 1 - Knowledge: Content and Skills

At the end of the Student Workshop and Science Meeting, participants rated gains in content knowledge and skills. Overall, undergrads' ratings had more variation and more areas with *good to great* gains. Generally, participants with less training/education have more opportunity for gains. Participants had relatively lower gains in math skills.

Strengths/weaknesses

1/3 or more postdocs, grads and/or undergrads listed this as a strength.
1/3 or more postdocs, grads and/or undergrads listed this as a weakness.

Key

Reasons for attending

Frequently chosen (>2/3 of participants) reason for attending

Frequently chosen reason for attending by postdocs, grads and undergrads

Gains from attending Student Workshop

UG

1: No gain 2 3 4 Great gain: 5

GS/PD

- Greatest gains for all are in pulsar timing (PT) and gravitational wave sources (GW), which were also ranked as their strongest reasons for attending.
- Least gains were made in mathematical skills (MS).

Content

DP Detecting Pulsars
GW Gravitation Waves
PT Pulsar Timing
StP Stochastic Processes
ISM Interstellar Medium

Skills

IE Instruments & Equipment
SoP Software Programs
MS Mathematical Skills
DAM Data Analysis Modeling
DA Data analysis

Gains from attending Science Meeting

UG

1: No gain 2 3 4 Great gain: 5

GS/PD

Key Findings and Recommendations

- Review students' reasons for attending the Student Workshop, along with areas of strength, weakness, and gains to identify areas of focus for future workshops.
- Attempt to reduce software installation difficulties prior to Student Workshop and improve internet access during meetings.
- Many presenters introduced their topics in a sequential manner, which was highly effective in getting attendees "up-to-speed" on information. Encourage more presenters to: 1) Introduce brief history of the topic and how current situation was reached, 2) show slides with graphs on previous data, 3) present the current situation with current data.

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 Science meeting in Oberlin, OH.



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