NANOGrav PIRE

SmartStart Evaluation Newsletter

Volume 1, Quarter 2 December 2010

This newsletter presents findings from formative and summative evaluations conducted in Quarters 1 and 2. In Quarter 1, NANOGrav-PIRE participants attended the International Science Meetings (ISM) and completed the PIRE project pre-survey. Quarter 2 evaluation components consisted of incorporation of findings from the first Advisory Board Meeting and conducting the research abroad survey.

Formative Evaluation Components

International Science Meeting (ISM):

Detecting Gravitational Waves with Pulsars

The two-week ISM was held in Leiden, Netherlands in August, 2010. Fifteen faculty/senior researchers, 14 post-docs, 19 graduate students and 6 undergraduate students attended the meeting. Attendees were asked how much gain in 4 goal areas they believed they experienced as a result of attending of the ISM. The percentages listed reflect the percentage of participants reporting good to great gains in:

Universiteit Leiden

PROJECT GOALS

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

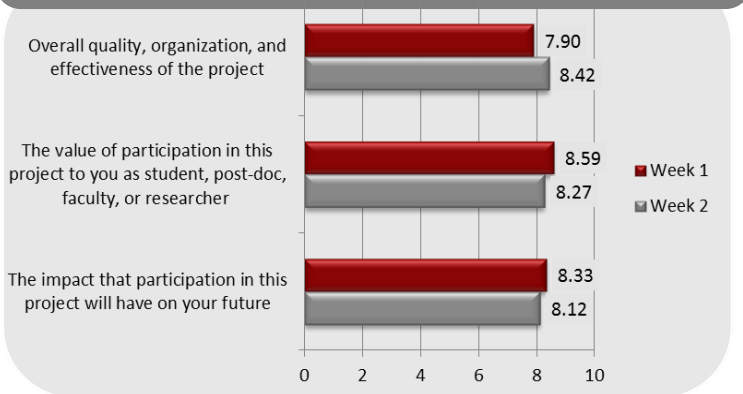
Goal 1. 86% agreed they had good to great gains in **knowledge** of pulsar timing and interstellar medium.

Goal 2. 85% agreed they had good to great gains in **preparing** to collaborate on a scientific research project with a scientist from another country.

Goal 3. 92% agreed they had good to great gains in **building relationships** with scientists from other countries.

Goal 5. 86% agreed they had good to great gains in commitment **to develop and maintain international scientific partnership** and collaborations with scientists from other countries.

ISM participants were asked to rate the overall quality, value and impact of participation in these workshops. Participants rated this ISM very high in all three areas:



Advisory Board Meeting

The NANOGrav-PIRE Advisory Board is composed of 6 members from 5 U.S. institutions. The Advisory Board met with project directors for two days in November 2010 and made recommendations. To facilitate accomplishment of those recommendations, the evaluator encourages project directors to focus on four key issues:

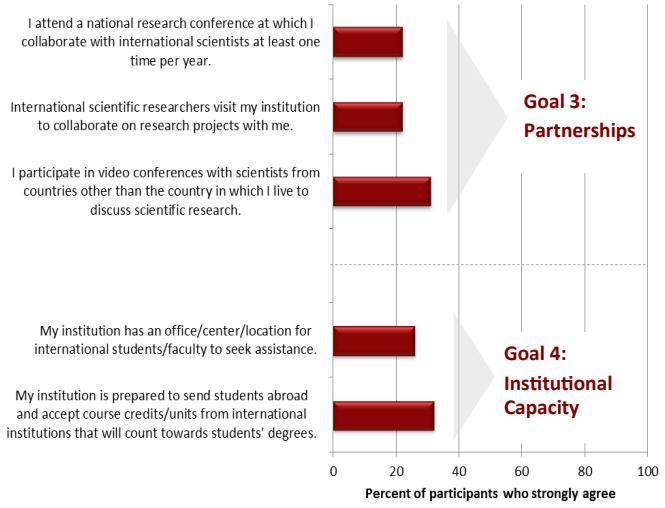
- **Project purpose -** The NANOGrav-PIRE project must identify, establish, and stand firm to a project mission and project goals.
- **Objectives, benchmarks and timelines -** Benchmarks should be determined for each goal area.
- **Management, responsibilities, and accountabilities** Set clear lines of management, responsibilities and accountability and establish a core PIRE management team committed to the success of the project.
- **Policies and procedures -** A document of PIRE policies and procedures should be developed by the PIRE management team, with policies pertaining to research abroad, authorship, data sharing and the role of PIRE as compared to the role NANOGrav.

Project evaluation - To conduct a solid, meaningful evaluation, it is important to have clear, firm, explicit, and unvarying project goals. Once these have been established, the evaluator will refine current evaluation instruments and develop authentic evaluation methods to measure the value, impact, and progress made in all goal areas.

Summative Evaluation Components

Pre-Survey Evaluation Findings

PIRE participants completed the project pre-survey (n=49 of 61) to establish a baseline of participants' current level of attainment of five project goals. Goal achievement varied greatly by the survey respondents position. The following 13 statements (of 38) from 4 project goals were identified as having the greatest need for improvement. The percentage of respondents who strongly agreed with each statement is listed below.



Research Abroad

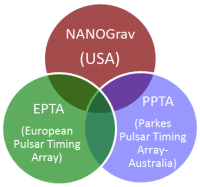
The first PIRE-sponsored research abroad student was from Oberlin College in Ohio. He visited CSIRO just outside of Sydney, Australia for four months in summer and fall 2010 and concurrently attended Sydney University.

The student stated that good to great gains were made in all goal areas as a result of his participation in this research experience. The informational meetings and the support from the home & visiting advisors were rated high. Areas for improvement for the home institution include assistance with travel and accommodations and improved responses to the student's needs from the study abroad office.

Commendations

- The PIRE project has made significant progress in bringing researchers and institutions together from around the world.
  - 61 participants from 23 institutions and 15 countries joined the PIRE project; 82% completed pre-survey
- The project has established a foundation for the discovery of gravitational waves from the timing of radio pulsars.
- Ratings of usefulness of ISMs and quality of presentations were extremely high. Participants praised the expertise of the presenters, the excellent attendance by diverse groups, and the collaborative nature of the meeting.
- The first research abroad students had a very positive experience and expressed good to great gains in all goal areas.
- Due to the strong relationships that have been built between West Virginia University and participating universities and institutions, it is clear that this PIRE project is off to a strong start. Collaborative partnerships and collective knowledge will grow over time to develop enduring impacts on the astrophysics research community.

Recommendations



- **Over next 5 years, focus on assisting participants progress in achievement of the project goals:**
  - **Conduct meetings in all countries that have NANOGrav-PIRE/IPTA participants**
  - **Continue to encourage collegiality, sharing of information, and international collaboration on projects to advance knowledge and discoveries.**
  - **Provide technical support, assistance, and encouragement to students and faculty whose institution and/or country does not have infrastructure and procedures in place to facilitate international research partnerships**
- **Firmly establish a mission, goals, project objectives, benchmarks, timelines, clear lines of management and responsibilities and a document of PIRE policies and procedures.**
- **The evaluator will continue to align and refine the evaluation plan.**

Upcoming Evaluation Activities for Quarter 3

- Research abroad mentor interviews
- NANOGrav-PIRE meeting at University of British Columbia, Vancouver, Canada
- Undergraduate and graduate student focus groups

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