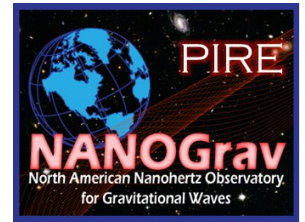




NANOGrav PIRE

SMARTSTART EVALUATION NEWSLETTER



VOLUME 2 QUARTER 1

SEPTEMBER 2011

This newsletter presents findings from formative and summative evaluations conducted in Quarter 1. NANOGrav-PIRE participants attended the Student Workshop and the International Science Meetings (ISM). New participants completed the PIRE project baseline survey. Findings are also presented from the research abroad participant survey and the Advisory Board Meeting.

Student Workshop & International Science Meeting

The 1-week Student Workshop and 1-week ISM were held in Morgantown, West Virginia and the Snowshoe Mountain Resort in June 2011. Participants rated their knowledge, skills, and global engagement before and after the meetings; presented in the graph are the pre- to post-survey **gains** in mean ratings. Participants had significant gains for nearly every statement; two statements for ISM attendees (indicated by ^) did not have significant increases.



PROJECT GOALS

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

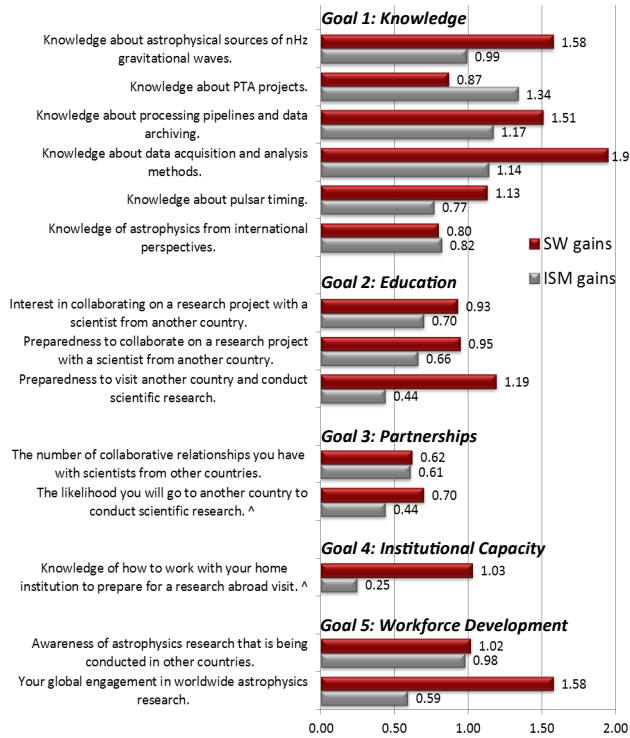
ISM Commendations & Recommendations

Commendations

- * Clear collaboration between talks and among PIRE/IPTA scientists
- * Significant progress on the development of NANOGrav-PIRE authorship/publication, IPTA constitution & steering committee, and data sharing policies
- * Considerable increase in student attendance at the ISM

Recommendations

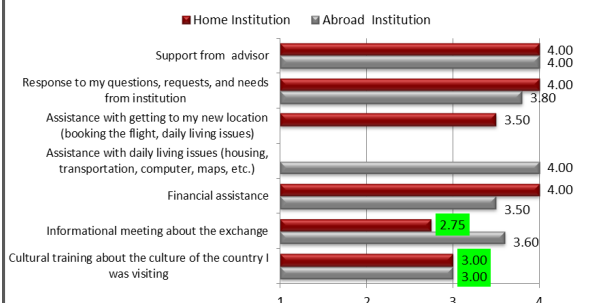
- * Plan further ahead to communicate with workshop and ISM participants more often and more comprehensively
- * Include basic demographic questions on online registration form
- * Consider requesting applications from participants who would like to conduct a presentation
- * On meeting agendas, include information about where speakers are from (university/country), position & research focus
- * Provide a wider diversity of topics & offer breakout sessions or run concurrent sessions to help tailor the meeting to various interests and levels of expertise
- * Provide guidelines for presenters such as Introduce themselves at the beginning of the talk; Include large graphs and tables, provide examples, photos, diagrams, animations, illustrations, etc.
- * Continue to provide time for discussion to collaborate & network



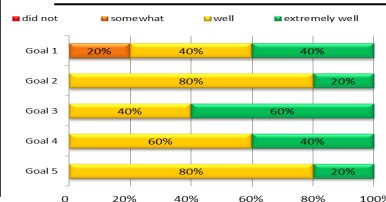
Research Abroad Experience

Five PIRE-sponsored research abroad students from two universities in the United States participated in summer Research Abroad Experiences (RAE) in England, Germany and the Netherlands. Student participants completed the project pre-survey and the RAE post-survey. Students were abroad for 4 – 8 weeks and all report participating in prior international research experiences.

Students rated the usefulness of RAE program components. Lower usefulness ratings are highlighted.

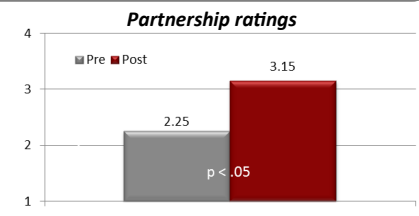


Participants answered baseline and post-survey questions to assess each goal area as they believed themselves to be before and after participation in the RAE. Despite limited sample size, participants had significant gains in the **Goal 3: Partnerships**.



Participants rated how the RAE promoted achievement of the 5 project goals.

- Goal 3: Partnerships rated most highly
- 80-100% of participants stated the RAE promoted project goals well to extremely well



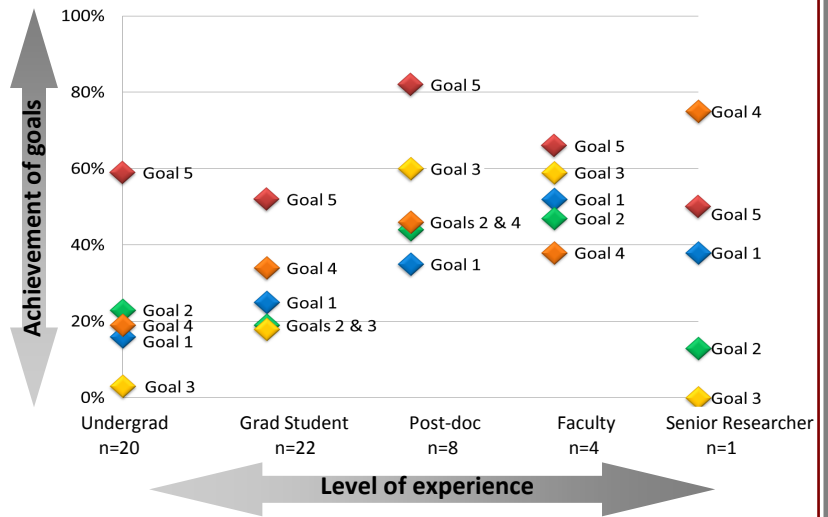
Baseline Survey Evaluation Findings

New PIRE participants completed the project pre-survey (n=55) to establish a baseline of participants' current level of attainment of five project goals. The mean percentage of participants who *strongly agreed* with statements within each goal area are presented.

- Goal achievement varied greatly by position.
- Generally, achievement increased as level of experience increased.
- Goal 5 was rated highly across all positions.

Participants commented on how they envision the project helping them overcome impediments to research:

- *I think the PIRE project can help me become a more well-rounded scientist.*
- *Just knowing there is an organization that supports international collaboration will encourage me to pursue it in the future.*
- *Providing the means to travel/work for pulsar research groups, or in radio-astronomy groups in general.*



Overall Commendations & Recommendations



- **Demographics**— The majority of new PIRE participants are students (undergraduate, 36%; graduate, 40%); 35% are female and 9% are underrepresented minorities. *Identify ways to continue encouraging female and underrepresented minority participation in the PIRE project.*
- **Student Workshop and ISM**— The SW & ISM components & activities were rated highly. The majority of ISM attendees reported the talks being at just the right level (58%), and having the right amount of time for discussion (75%) and unstructured time for networking, collaborating & relaxing (70%).
- **Research Abroad Experience**— RAE students had significant gains in Goal 3: Partnerships, and reported their RAE promoted goal achievement well to extremely well. Five students participated; 100% were Caucasian and 60% were female. *Recruit and encourage minority students to participate in a RAE. Continue to work with US and abroad institutions to improve the research abroad program and support students' visits. Encourage students from other countries to begin participating in research abroad experiences in the US.*



Goal Recommendations:

- **Goal 1: Knowledge**— New participants feel knowledgeable about astrophysics, but less so about having made scientific discoveries, having international perspectives & being able to augment abilities by collaborations with scientists in other fields and countries. *Continue to provide opportunities at student workshops for students to grow in their knowledge and learn about astrophysics from a variety of perspectives.*
- **Goal 2: Education**— Students want to get involved in more NANOGrav-PIRE activities, including RAEs. Students need more scaffolding of training and topics to obtain a comprehensive background of knowledge and skills. *Develop a list of NANOGrav-PIRE educational objectives and topics that should be presented to students throughout the years of the NANOGrav-PIRE project. Offer introductory, intermediate, and advanced trainings on the same topic to meet students' needs.*
- **Goal 3: Partnerships**— Research collaborations, partnerships, visits to other countries by non-undergraduate students, and multi-institutional papers are not being accurately tracked. *The evaluator will track partnerships that have developed as a result of participation in the NANOGrav-PIRE project.*
- **Goal 4: Institutional Capacity**— The EAC and the leadership team discussed symbolic and substantive investments and the importance of tracking these investments. *At a NANOGrav-PIRE leadership meeting discuss this difference that have been made by a university. Identify ways to track symbolic and substantive investments.*
- **Goal 5: Workforce Development**— The area of workforce development had the highest number of goal statements with which greater than 40% of new participants agreed. Part of workforce development is informing people about what NANOGrav-PIRE does *Publicize the project programs locally, nationally and internationally.*



UPCOMING EVALUATION ACTIVITIES FOR QUARTER 2

- Research abroad mentor interviews
- IDI pre/post cultural orientation survey results of research abroad students

General recommendations - Communication & Evaluation

- Include the external evaluators in various forms of communication to better inform them of process and progress related to the NANOGrav-PIRE project
- Provide opportunities for the external evaluator to meet with the project management team two times per year to discuss evaluation findings and to share progress that has been made towards addressing evaluator's recommendations
- Allocate time at meetings for the evaluator to talk to participants about evaluation
- Increase the amount of communication with all NANOGrav-PIRE participants including undergrad students and international participants; expand email lists; include logos on materials

General recommendations - NANOGrav-PIRE website

- Post NANOGrav, EPTA, and PPTA membership lists of countries, universities, and members
- Develop a list of annual successes and maps to post on the website
- Post benchmark charts on the NANOGrav-PIRE webpage
- Develop a list of URL links that pertain to the NANOGrav-PIRE project