NANOGrav-PIRE

Evaluation Newsletter

Volume 1, Quarter 1 September 2010

The West Virginia University NANOGrav-PIRE Project was funded by the National Science Foundation in the Fall of 2010.

Mission

U.S. researchers and students will join with foreign colleagues to form an international pulsar timing array for direct gravitational wave detection, build a diverse community of researchers with international expertise, and lay the groundwork for gravitational wave studies in the next decade and beyond.

Goals

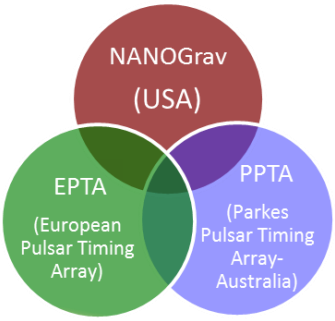
Goal 1 Knowledge - Advance new knowledge and discoveries at the frontiers of science while achieving 3 sigma sensitivity to gravitational waves (GWs) with strain of 2×10^{-15}.

Goal 2 Education - Facilitate greater student and faculty preparation for and participation in international research collaboration.

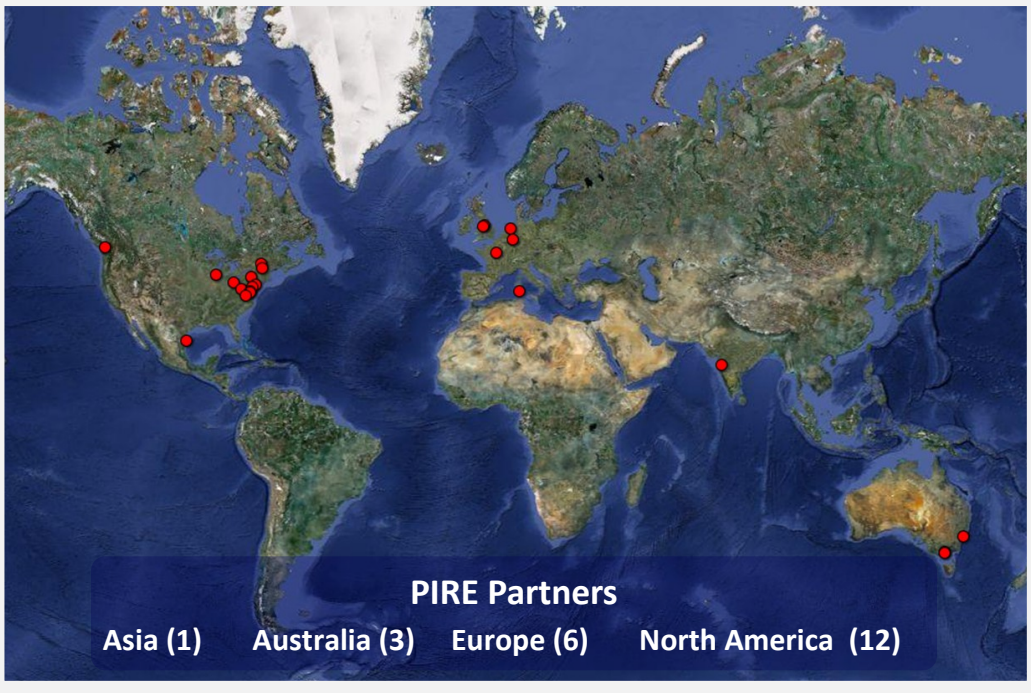
Goal 3 Partnerships - Enable U.S. scientists to establish collaborative relationships and operate effectively in teams comprised of partners from different nations and cultural backgrounds.

Goal 4 Institutional Capacity - Strengthen the capacity of institutions and networks to engage in and benefit from international research and education collaborations.

Goal 5 Workforce Development - Develop a diverse, globally-engaged science workforce by catalyzing a higher level of international engagement by the U.S. science community.



PIRE Participants



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NANOGrav-PIRE Guiding Evaluation Questions

Does participation in the WVU PIRE Project by undergraduates, graduate students, post-docs, faculty, and senior researchers:

- Advance new **knowledge and discoveries** at the frontiers of science and engineering?
- Facilitate greater **preparation** for and participation in international research collaboration?
- Enable U.S. scientists and engineers to establish **collaborative relationships** and operate effectively in teams comprised of partners from different nations and cultural backgrounds?
- Strengthen the **capacity of institutions** and networks to engage in and benefit from international research and education collaborations?
- Develop a diverse, **globally-engaged science and engineering workforce** by catalyzing a higher level of international engagement by the U.S. science and engineering community?

Project Evaluation Components

Formative

The formative evaluation assesses the quality and implementation of the following project components:	Evaluation measures
• Annual international science meeting	• Post evaluations of events • Post evaluation of research abroad • Project post survey • Pre/post IDI cultural orientation survey • Pre/post OPI language assessment • Research abroad mentor interviews
• Annual international student workshops	
• Biannual domestic 2-day NANOGrav workshops	
• International student research abroad programs	
• International collaborative and observing visits	
• International and NANOGrav telecons	
• COACH mentoring and training workshops for undergraduate and graduate students	

Summative

The summative evaluation examines the impact of the PIRE project on:	Evaluation measures
• Advancement of knowledge and scientific discoveries	• Pre/post project survey • Focus groups • Working group reports • Tracking participation and diversity • Tracking participants' achievements
• Development of international partnerships	
• Scientific and educational community	
• Students' intent to pursue an academic and/or career path in astrophysics	
• Participant demographics	
• Faculty and senior personnel	
• Graduate students and post-doctoral researchers	
• Undergraduate students	

Upcoming Evaluation Activities

- Project pre-survey of all PIRE participants
- Evaluation of 2010 International Science Meeting
- Advisory Board Meeting in November 2010
- Research abroad post-survey
- Evaluation chart and timeline
- Logic model and benchmark chart development

Key Terms

NSF	National Science Foundation
NANOGrav	North American Nanohertz Observatory for Gravitational Waves
PIRE	Partnerships for International Research and Education
Formative	Evaluation that assesses the quality and implementation of project components
Summative	Evaluation that examines the impact of the project