

## Physics of Atomic Nuclei (PAN) Teachers 2014

PAN hosted 20 educators from all over the country during the summer of 2014. Professional development for middle and high school physics and chemistry teachers has the potential for the widest reach of all of the JINA outreach and educational programs. During the teacher week of PAN, educators are provided with a research experience in a world leading laboratory while obtaining a deeper background knowledge of nuclear science. The schedule for PAN @ MSU is nearly identical for both the teacher and student versions, although the former has an added focus on implementation in the classroom. Teachers had a choice between creating lesson plans or a poster about their research to use in their classrooms. The groups also presented their experimental results on the last day via a poster session.

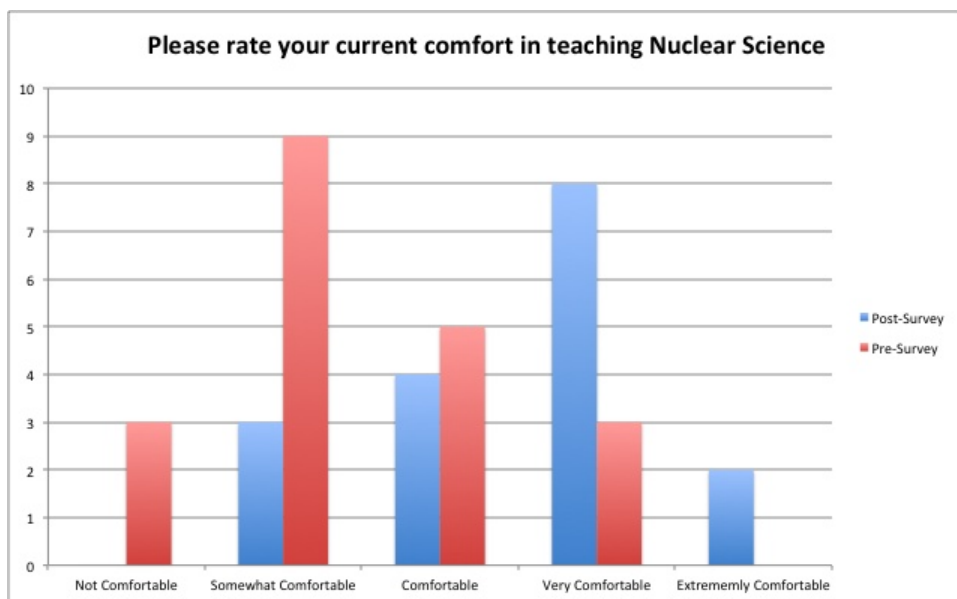
Based on surveys, PAN succeeding in increasing teachers' confidence and comfort teaching both nuclear science (see below) and nuclear astrophysics in their classrooms. 100% Strongly Agreed they would recommend to other teachers.

Group photo of teachers and volunteers



*Thank you for hosting us and for organizing a stellar program. I particularly appreciate Zach and physical devices to increasingly complex and abstract models gave me a scaffold to which I could attach my learning. Another pedagogical technique that I particularly appreciated was the group questions: generating and sharing questions via Google Docs allowed shared questions to be aired without a small handful of participants to monopolize the conversation.*

*It's been 20 years since I have thought about nuclear physics this deeply; I like it this time! I look forward to sharing my new-found enthusiasm with my AP Physics students.*



*Teachers use oscilloscopes to determine the position of neutrons detected by MoNA at NSCL.*

Contact Information:  
JINA Outreach  
(574) 631-5326  
jinaout@nd.edu

More Information:  
[www.jinaweb.org/outreach/PAN](http://www.jinaweb.org/outreach/PAN)  
[www.nscl.msu.edu](http://www.nscl.msu.edu)