

MICHIGAN STATE UNIVERSITY

From: Zachary Constan, NSCL Outreach Coordinator
Subject: The Physics of Atomic Nuclei (PAN) program

The Joint Institute for Nuclear Astrophysics (JINA) and National Superconducting Cyclotron Laboratory (NSCL) are now inviting applications for the sixteenth PAN program in summer 2009. High school students and science teachers are encouraged to apply before the April 30 deadline.

PAN is a free residential summer program on the campus of Michigan State University co-sponsored by NSCL and JINA. The two-week program introduces teachers and pre-college students to the principles and methods of scientific research (focusing on current work in nuclear physics and nuclear astrophysics) as well as life in the university environment. Physics and Chemistry teachers may find this program particularly useful, while pre-service teachers who are looking to expand their content/pedagogy knowledge are especially welcome.

For high/middle school science teachers: August 2-7, 2009

- ❖ Develop professional skills with assistance from NSCL faculty/staff and fellow educators
- ❖ Earn SB-CEUs for participation (number to be determined)
- ❖ Explore behind the scenes at NSCL, a world-class nuclear research laboratory
- ❖ Learn about nuclear science from researchers at the forefront
- ❖ Conduct experiments on cosmic rays using a \$1 million scintillation detector
- ❖ Get hands-on with demonstration development
- ❖ Receive free room and board on the MSU campus (if required)

For currently-enrolled high school students: August 9-14, 2009

- ❖ Discover career opportunities in science
- ❖ Learn about research at NSCL from faculty at the cutting edge of their field
- ❖ Explore the lab, one of the top rare-isotope facilities in the world
- ❖ Conduct experiments on cosmic rays using a \$1 million scintillation detector
- ❖ Experience the atmosphere of college life
- ❖ Receive free room and board on the MSU campus (if required)

Participants in PAN over the years have expressed great satisfaction with the experience. Over 95% of PAN 2008 attendees said they would “definitely” or “probably” recommend the program to others.

The attached poster is available to help to communicate this opportunity to those who may have an interest. Admission to PAN is competitive; up to twenty teachers and twenty-four students will be accepted. More information can be found at the program website (meetings.nscl.msu.edu/PAN) or by contacting me directly.

Also note: the PIXE-PAN program at University of Notre Dame offers a very similar experience for teachers and students. Learn more at www.jinaweb.org/outreach/PIXE/.

Thank you for your assistance,



Zachary Constan
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Dr. Zachary Constan
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PAN

Physics of Atomic Nuclei

Meet Researchers



Explore a nuclear
research laboratory



Catch a Cosmic Ray



Learn the origins
of the elements



Discover careers
in the sciences



Conduct your
own Experiments



**PAN is a free residential summer program
in nuclear science and astrophysics
on the campus of Michigan State University
for science teachers (August 2-7)
and high school students (August 9-14)
Learn more and apply online now at
<http://meetings.nsl.msui.edu/pan/>
Application deadline is April 30**