

Report on SPS Zone 3 meeting
Saturday, April 12 and Sunday April 13
Department of Physics
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University Park, PA 16802

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The Penn State University Society of Physics Students (SPS) chapter and Departments of Physics and Astronomy/Astrophysics co-sponsored a Zone 3 meeting held on Saturday April 12 and Sunday April 13, 2008 at the PSU University Park campus. The proposal to host a Spring 2008 meeting at Penn State arose from the successful visit of a number of PSU SPS students (lead by Ms. Therese Jones, the SPS president) to a similar meeting in Fall 2007 held at Juniata College. A proposal suggesting a PSU Spring Zone 3 meeting was sent to the national office and approval was received on Feb. 19th, at which point we began to finalize the events.

The final schedule included distinguished Penn State Physics and Astronomy faculty members talking about major research developments in their field (many of which they'd contributed to in major ways) on both Saturday afternoon and Sunday morning, a tour of the Penn State Breazeale Nuclear Reactor, dinner for all participants at one of the PSU dining halls, evening outreach activities sponsored by the Astronomy/Astrophysics Department, and a student poster presentation. The exact schedule is included at the zone meeting web site at

http://www.phys.psu.edu/~rick/PSU_SPS.html

The event had roughly 40 attendees, including local Penn State Physics majors, but also students from SPS chapters from as far away as New Jersey. A contingent of 8 students from Bloomsburg University was the single largest group.

The Saturday event began with an introduction and welcome by Dean Daniel J. Larson of the PSU Eberly College of Science, and the four public research talks were

- Prof. Douglas Cowen – *Icefishing for Neutrinos at the South Pole: The Icecube Detector*
- Prof. Aleksander Wolszczan – *The Discovery of Extrasolar Plants* (including his own work as the first scientist to find evidence for an extra-solar planet)
- Prof. Vincent Crespi – *Computational Materials Science – Being a Theorist in the Land of Nanostructures.*
- Prof. Moses Chan (National Academy of Science) – *The Discovery of Supersolid Helium*

The Saturday afternoon tour of the PSU Breazeale nuclear reactor included a brief introduction to the history of the facility (one of the oldest working reactors on any campus), educational/outreach activities including cloud chamber demonstrations, a tour of the facility, and a demonstration of the 'pulse' capability of the PSU reactor (one of the few in the country which can be manipulated in this way.) Dinner on Saturday evening was provided at one of the many Penn State dining hall facilities. Saturday

evening outreach events included a demonstration of the GEOWALL (three-dimensional visualization of the Martian landscape and a virtual tour of the Universe). Students who were staying overnight were housed by local PSU Physics and Astronomy students. This years SPS T-shirts were also on sale at the registration desk and did a brisk business with both the local PSU students and those from other institutions.

An email has been sent out to all registered participants asking for feedback on the program. Some of the pictures taken during the events are included in this report, and these can be downloaded at the zone meeting web site noted above.

More detailed information on the expenses is included below:

Saturday night dinner:

25 off-campus registrants ate at PSU dining commons. The cost was $25 \times (\$9.75) + \25.00 one-time fee for generating swipe cards = \$268.75

Sunday morning breakfast:

Food purchased at local grocery store for 25 participants - \$95.88

Sunday lunch:

Food purchased at local restaurant for 6 participants who stayed over for lunch = \$42.00

The total conference expenditures were therefore \$406.63. We received \$250 from the National SPS before the conference, and are therefore only requesting \$156.63 (instead of the promised additional \$250) to cover these expenses. All other fees (room reservations, AV expenses, parking, poster materials, local housing costs, Xeroxing, etc.) were handled internally.

We include a number of photos of the events on the next pages, but higher resolution electronic copies of these images can be downloaded from the meeting web site, noted on the previous page.



PSU SPS members Greg Diehl and Matt Sutton staff the registration desk.



Prof. Alex Wolzszczan discusses the discovery of extra-solar planets.



Prof. Doug Cowen discussing particle astrophysics with the ICECUBE detector.



Prof. Moses Chan (whose group discovered the supersolid phase of helium) explains his experiments using a mechanical analog of a rotational inertia device.



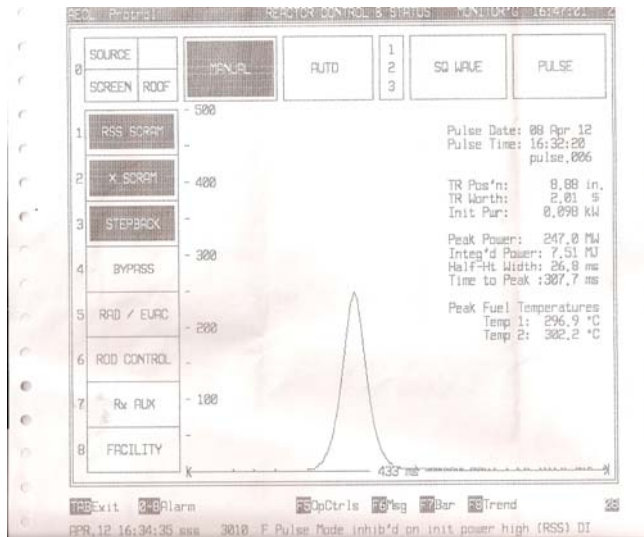
Prof. Vincent Crespi describes his work on numerical simulations of the structures of carbon nanomaterials.



Group photo during a break.



Students from St. Peter's College (New Jersey) present a research poster. Therese Jones (PSU SPS President) is also shown.



Data from a reactor pulse, presented by the educational staff of the Breazeale Nuclear Reactor during the SPS tour. (No photos are allowed inside the reactor facility itself.)



**Logo for the Penn State University Breazeale Nuclear Reactor
(photos not allowed inside facility.)**