

**Sigma Pi Sigma Congress Report
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Raleigh, NC
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Tales from the Road

Our successful fundraising efforts consisted of our vice president and treasurer at the time begging our department head for money. For the first time, NCSU's SPS was given an annual budget (and not a very big one). The physics department was convinced that we couldn't send four people to Chicago on the amount of money that was allocated to us, but sometimes people underestimate the frugality of college students, and we were determined to go. So we immediately bought the cheapest plane tickets possible, got our one hotel room, and registered for the congress.

We left Thursday, November 6 at 4 AM, and got to Chicago by 10 AM. After we landed, we rode the shuttle to the rental car place only to discover that our car had not been paid for. Nearly an hour of explanations and discussions between us four, the rental agent, and NCSU's physics department got that sorted out, and we were on our way.

We decided to visit the University of Chicago and have lunch there. It was about an hour out of our way, but we figured we should make the most of our visit to Chicago. After lunch, we drove up to Naperville, and at 6 PM, after braving the toll roads, traffic, and weather, we finally checked into our hotel.



The view from the top floor of Wilson Hall. Chicago is out there somewhere!

Highlights of the Congress



The representatives of the NCSU chapter of SPS get their picture taken with Jill Tartar, director of the SETI Institute.

We were moved by the society's concern for the welfare of the community as a whole. Not only did the speakers inspire us, but our fellow Sigma Pi Sigma members did. At the end of the congress, we could not wait to get back to NC State and organize outreach events. During our discussion/brainstorming sessions, the synergy between our group members was unbelievable. People were coming up with ideas for community outreach, science education, and ways of

introducing science to young children to build interest in the sciences. The enthusiasm of almost everyone attending

was contagious and certainly spread throughout the entire NCSU SPS chapter.

Point of Focus: The Poster Sessions

One aspect of the congress that was a major point of interest to many was the poster sessions. We enjoyed seeing the research and outreach projects our peers have been working out. The posters were installed in Wilson Hall's atrium, and a sizable crowd quickly formed around them. Despite being organized roughly by topic (biophysics, nuclear physics, particle physics, etc...), all of the posters were fit into a fairly small space, which promoted a lot of interaction between the participants in the poster session. Between answering questions from onlookers, the presenters

traded jokes, tips for better presenting, and even questions about their neighbor's research projects. This all contributed to an exciting and convivial atmosphere during the sessions on both days: small groups would form around posters and instead of a boring ask-and-tell routine, freewheeling conversation about research with a lot of give and take spontaneously formed.



Xandria McWaters, from University of Southern Mississippi, stands next to the poster highlighting her SPS chapter's outreach.

We walked around and talked to a lot of presenters, and they all agreed that the poster session was a lot of fun and that they learned a lot from it. We certainly did. We certainly did. Timothy Jones, from Abeline Christian University presented a poster on particle physics research he'd conducted the year before at Brookhaven National Laboratory. His research focused on understanding the contribution to the proton spin from quarks, as well as developing a database to characterize and track the performance of resistive plate chamber particle detectors. Like all of the poster presenters, Timothy did an amazing job of explaining his research to us, even when we asked really dumb questions. He was very patient, and used the plentiful illustrations and schematics on his poster to explain the obscure workings of particle detectors. Another presenter we bugged with questions was Travis Rasor, from Rhodes College. He presented a poster on his work modeling magnetic fluids, which have never been observed experimentally. His work studied phase transitions between different shapes in a magnetic droplet, and their dependence on particle shape and magnetization. His poster attracted quite a crowd, and he was again very patient and very thorough in answering all of the questions we put to him. Finally, a slightly more unusual poster was that of Xandria McWaters, from the University of Southern Mississippi. Her poster detailed the outreach efforts that her local SPS chapter. Her chapter's impressive outreach has seen it travel over 3000 miles to reach 1000 high school students in twenty schools. We learned a lot of good tips for better outreach from talking to her, such as only planning day trips to reduce travel costs. Her poster was an excellent example of the broad purpose of the Sigma Pi Sigma conference, blending physics outreach with physics research in an engaging and interesting way.

Our Chapter's Response

There were a few physics departments that brought their entire student body to the Congress, it seemed. Coming from a school of 36,000 and a department of roughly 150, we felt somewhat underrepresented. However, since we couldn't bring everyone to the Congress, we brought the Congress back to everyone at NC State. Our November SPS meeting focused on the Sigma Pi Sigma Congress. We talked about what we learned during the tours, talks, and round table discussions, and had our own discussion about science education, an area where we felt we could make the most impact. It inspired our chapter to apply for a Marsh M. White award that would allow us to perform a demo show at local area schools specifically designed to inspire people to practice science.