Sigma Pi Sigma Congress 2008: Fermilab

After Dr. Borgardt mentioned there was a Sigma Pi Sigma congress at Fermilab, we were all excited to see the world's largest working accelerator. The Juniata College chapter of the Society of Physics Students was going to Naperville. We are a small school in the foothills of Huntingdon, PA with a physics department of less than forty students, but we became one of the most well represented schools at the congress with over twenty students in attendance! It was difficult getting funding for that many students, but with some twisting of department funds, chapter resources, and an SPS Reporters grant, we managed to pay for each student's trip in full. The bus ride was an interesting experience, driving ten hours through the night each way. Many of us got a little closer to our peers than expected, but it was worth the opportunity to catch some shut eye.

What we found most compelling about the conference was the chance to see and interact with the scientific community. For many of our group from Juniata College, it was our first conference. The chance to listen to some of the giants of physics and scientific citizenship and to meet fellow physics students was spectacular. Brad Dinardo, one of our students, said, "I loved the anecdote told about Galileo by Leon Letterman. The comparison between the telescope and the LHC; how a discovery by the LHC could have an impact on the state of the world that we cannot imagine." At the meals and workshops we were able to make new contacts with students in other chapters. We were also moved by the theme of the conference. It was inspiring that we, as physicists, can make an impact on the world outside of our field.

On the first full day of the conference we were split into groups to tour the Fermilab facilities. Some of the members of our group went to see D-zero. We were most impressed by the magnitude of the detector and how enthusiastic the scientists were to achieve the goals of their projects. At the astrophysics offices, some of our members were given the chance to see their possible future fields and were able to talk with actual astrophysicists, and see what they do on a day to day basis.

At the Collider Detector at Fermilab (CDF), we were excited to see some equipment that we had experience using in lab scaled up and used in active scientific research. A number of us also went to Miniboon, a device that tracks and records muons that enter through the atmosphere. It is a spherical object filled with oil and little orbs that are photo sensitive and detect any change in light.

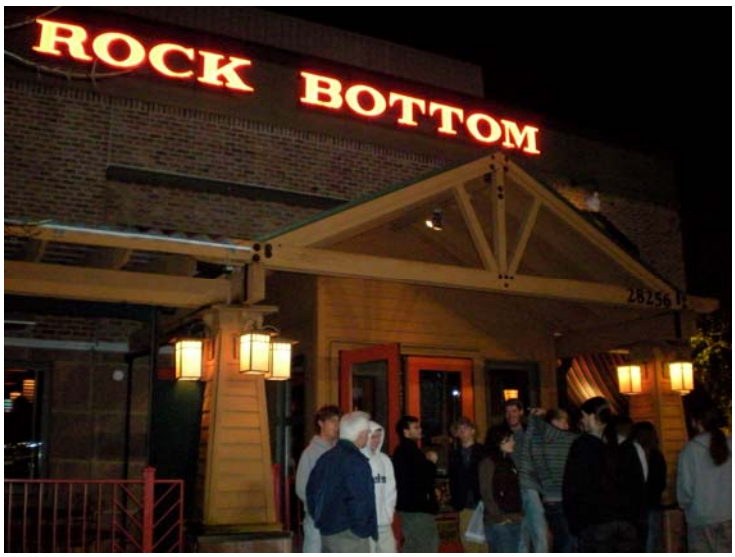
On the architecture tour, we appreciated the attention to detail that was put into the designing of the buildings of Fermilab. We liked the convolution of science and human ideals that came together

to make Fermilab a center of both culture and science. It was inspiring to see the unique way in which architecture and nature coexist together.

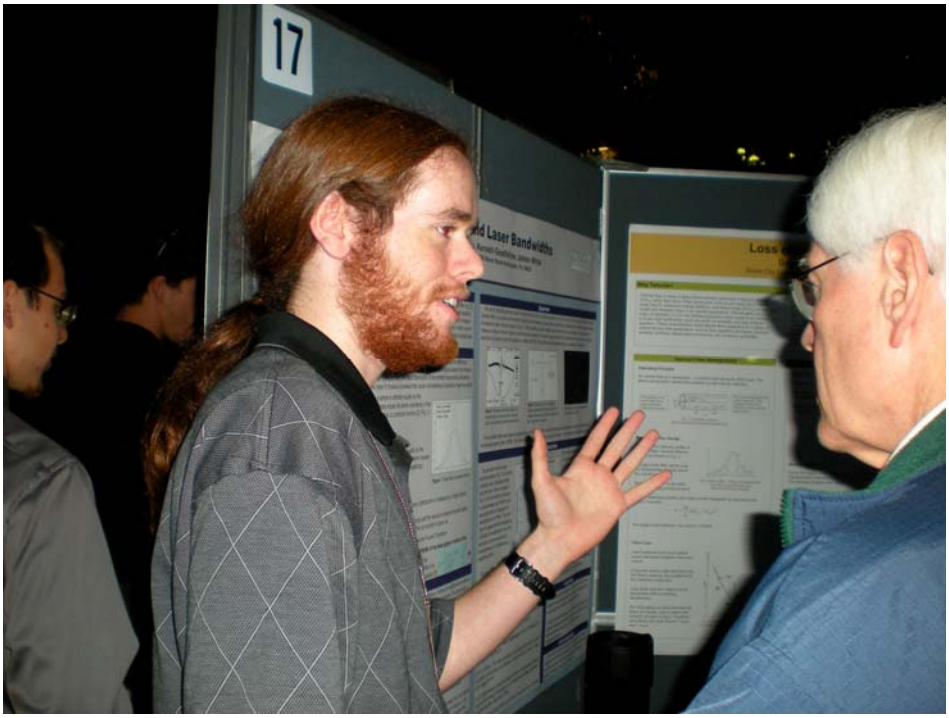
What we enjoyed most about the talk, "Physics where Small and Big Things Meet" by Dr. Young-Kee Kim, was the fact that it emphasized the science that a citizen scientist can do. Since most of our group intends to be scientists in their future career, we enjoyed listening to the story of a successful scientist. Amy Frantz, one of our students, remarked, "As a minority in the realms of physics, it is inspiring to see successful women in the field." We enjoyed the images and the videos that she incorporated allowing us to see exciting moments at Fermilab when the top quark was discovered.

The experience at Fermilab was enlightening. We were able to meet many guest speakers who talked not only about physics but also energy conservation, politics, and education. We saw the number of people who participate in the physics community and the future physicists that were on their way. It showed us that we were not alone in the world of science. And of course we will always remember, as another Juniata student, Jon Greene, so elegantly pointed out about his crumbling dessert at the Friday evening banquet, "This cheesecake isn't stable!"

Photo captions:



After arriving at Fermilab, it doesn't take Juniata long to hit Rock Bottom…



Finding about what other physics students are up to at the poster sessions

Fermilab Deputy Director Young-Kee Kim welcomes ΣΠΣ conference participants, and speaks of importance the scientific citizenship

A Fermilab scientist leads conference participants on a tour of DZero

Yellow school buses took us everywhere

The Juniata College contingent in front of Fermilab's Wilson Hall

Question: How many physicists does it take to get clicker technology to work properly? Answer: Exactly

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Inspired by nature, art and science intertwine at Fermilab

Inspired by Fermilab, art and science intertwine at our buffet table