

# WOOSTER SPS

12 June 2009

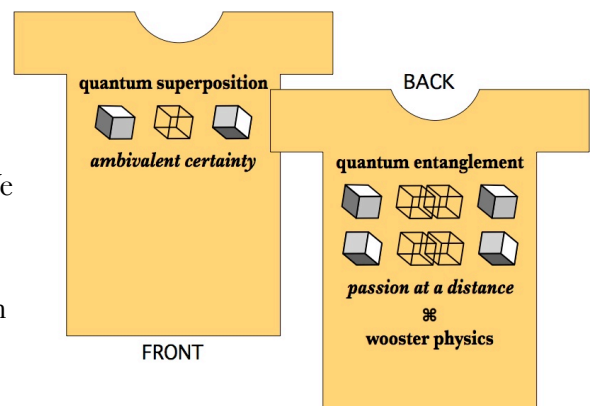


## 2009 Final Report Summary

By Heather Moore, Henry Timmers, Frank King, Mary Mills, and John Lindner

The 2008-2009 academic year has been a very exciting time of significant growth for the Wooster Physics Club. We are proud to have come together as a team to expand as a chapter on both the local and national level. We feel as though we have made leaps and bounds in our connection with the campus and community at Wooster through our flourishing outreach program and the advent of our first annual Science Day. We have also become more aware of the opportunities inherent in being an SPS chapter by showing a strong representation at a national conference. We are proud of

our accomplishments this year as an Outstanding SPS Chapter, and a recipient of the Marsh White Award. The outgoing officers would like to wish incoming officers the best of luck for continued success in the upcoming academic year.



## Scot Spirit Day 29 August 2008

To kick off the start of the academic year, Wooster hosts a campus-wide event that allows all student organizations to showcase who they are and what they do. The Physics Club booth is typically a highlight, popular among students and faculty, and this year was no exception. The Physics Club wowed spectators with a myriad of demonstrations ranging from shattering roses and marshmallows frozen with liquid nitrogen to a bicycle gyroscope. The biggest crowd pleaser by far however was the exploding film canisters. This consistently drew a large gathering, and also turned a few heads from the fraternity table located at the booth “next door.” Overall, the Wooster Physics Club had a very successful representation at Scot Spirit Day, recruiting many new students to the department.



## Luce Dinner 11 September 2008

Every year the Physics Club host a pizza party to allow new members to meet and socialize in an informal setting with both physics faculty members and returning students. This event provides the opportunity for the officers to communicate the goals of the physics club. For example, we feel that it is important for all members to understand the Wooster Physics Club commitment to community

outreach from the start of the year. However, all formalities aside, the students have a fantastic time ‘hanging out’, eating the best pizza in town, and playing with the children of faculty. But wait!!! The highlight of the dinner is dessert. For dessert, a combination of faculty, officers, and new members team up to create the smoothest, creamiest liquid nitrogen ice cream known to human kind. We get a little bit wild, with flavors like heath bar, oreo, and mixed berry.





## Outreach 2008-2009

Throughout the past seven years, the Wooster Physics Club has expanded its outreach program to include four different full-length programs, incorporating demonstrations in forces & motion, air pressure, electricity & magnetism, and waves & optics. We made 23 visits to local elementary schools this year, up from the 14 we made last year. We had such an enthusiastic group of volunteers this year that we were able to support multiple

visits a week and a few visits during college breaks. Our program has developed such a successful reputation that we have presented many demonstrations to entire grades in order to accommodate the volume of teachers that express interest. At one school, to accommodate the schedule for the whole fourth grade, outreach had to be scheduled during the recess hour. Students told us proudly that they willingly gave up their recess in order to attend our demonstration. Students aren't the only observers

to enjoy the outreach. In a recent performance of the optics demonstration, we caught a teacher cutting in front of her third grade students to get a better look at the virtual pig.



## Senior Research Symposium 30 September 2008

Many of our students scatter across the country to perform summer research at peer institutions. In the fall, the physics club takes time to sponsor an event where these students can come back together to present the results of their research. This serves the dual purpose of informing students of the type of cutting edge research that undergraduates are currently involved in, and also gives the speakers a chance to practice formally presenting in a scientific setting. This year we heard from two juniors and three seniors who represented research from Rochester, NY to Menlo Park, CA. Following the talk was... pizza.



## Quadrennial Congress at Fermilab 6-8 November 2008

Ten Wooster Physics Club members attended the SPS Quadrennial Congress held at Fermilab, one of whom presented a poster about the Science Outreach Catalyst Kit. The conference had a turnout of over 500 students from across the country. Over the course of three days students listened to several talks associated with topics ranging from outreach to politics. Students broke up into groups to discuss the issues addressed by speakers. Later, conclusions from each discussion group were summarized to be voted upon in order to create a set of new recommendations for SPS at the national level.

During the first evening, several universities and organizations provided booths, which allowed students to learn about different future possibilities associated with physics. The next morning, a

few of our students attended a breakfast with scientists, while the rest of us were provided a continental breakfast at a local barn. Students were able to tour the accelerator and various other facilities at Fermilab. The dinners, held in a local hotel where all of the students stayed, were comprised of talks by guest speakers. During the last dinner, Leon Lederman, a Physics Nobel Laureate and Director Emeritus of Fermilab spoke, providing comedy to the audience with his "modern technology" - a projector and transparencies. All in all, we were extremely satisfied with the outcome of the Congress.



### Department of Physics

### Summer Research Symposium

- ★ Henry Timmers: The Vibrational Relaxation of OH ( $v=2$ )
- ★ Mike Winters: Self-Organized Criticality in a Bead Pile: Variation across Bead Types
- ★ Heather Moore: Fine Tuning, Functionalizing and Optimizing of an Atomic Force Microscope in Dynamic Mode
- ★ Frank King: Correlation Between Independent Photons
- ★ Marj Mills: Makin' Waves at the American Center for Physics

Tuesday, September 30  
11 a.m.  
Taylor III

**PIZZA**  
following  
the talks (1-12:05)



## COSI 22 November 2008

The Wooster Physics Club gets the chance to head off campus once a year for a day at one of the two nearby science centers. This year the club along with our advisor traveled to Columbus, Ohio to see and experience the Center of Science and Industry (COSI). There are many very popular exhibits among Wooster physicists, but the two favorites are far and away the high-wire unicycle and the gadgets exhibit. The members of the Wooster Physics Club have a great time learning about many new applications in other science fields. Many of us were especially impressed with current gene therapy and DNA research. After an afternoon touring exhibits, the Physics Club took respite in the Imax theatre for a showing of *The Alps - Movie*. We all watched in amazement as one man fulfilled his life long dream of climbing the north face of the Eiger. A day of science can make anyone hungry, so before heading home, the Physics Club stopped at the Spaghetti Warehouse for dinner. Going out to dinner always allows the department to bond.





## Science Day 4 April 2009

The idea for Science Day came about one physics club meeting while officers were discussing a desire to expand our current outreach program that targeted elementary school children to a program that incorporated the local and campus community. We were excited about the full extent of our outreach demonstrations, ranging from basic physics topics such as Newton's Laws to more advanced physics topics such as the inner workings of an electric motor, and wanted to reach out to a larger audience. In addition, we felt that science education in the classroom should be supplemented by activities outside of the classroom and supported by the entire family. From these goals, the Wooster Physics Club decided to host an open house for the entire Wooster community, welcoming families and college students alike to

experience the phenomenon of physics! As planning progressed we felt that it would be an added bonus if we could showcase ALL the science being performed on campus, in addition to physics. We extended an invitation to all the other science clubs to participate in our open house. Upon receiving positive responses from the other clubs, Wooster's first annual Science Day was born. Science Day took over the entire physics wing of Taylor Hall at The College of Wooster and included a

grand total of eleven stations, representing six different fields of science. Science Day was a huge success. All the estimated 200 children, families, and college students expressed an overwhelmingly enthusiastic response to the entire event. We plan to continue to expose the Wooster community to the joy of inquiry by making Science day an annual tradition where we will take the initiative to expand and improve upon this pilot event.





## Taylor Bowl 20 19 April 2009

At The College of Wooster, the physics and math departments both reside in the academic building known as Taylor Hall. There is a yearly rivalry to decide the supreme ruler of Taylor Hall. The champions are decided based on a sport of shared skill, bowling, and the winners get the ultimate prize, department possession of the monstrous slide rule. Every year the physics and math departments duke it out at a bowling competition known as Taylor Bowl, where faculty and students from each department go head to head. Prior to the competition the physics club gets psyched up for the game by watching *The Big Lebowski* by the Coen Brothers over a few boxes of pizza. Our “pre-gaming” strategy

worked this year, as the physics department reclaimed the trophy slide rule at the twentieth annual Taylor Bowl.



## Ethiopian Dinner 2 May 2009

This past year, we received a generous donation from one of our Physics Club alumni who gave us the instruction to “spend the money on something fun and entertaining for the Physics Club.” We decided to use the donation to take the entire department out to eat at The Empress Taytu, an Ethiopian restaurant in Cleveland, OH. On the Saturday before exams, the club filed into three cars and caravanned up to Cleveland for the evening. At the restaurant, we enjoyed exotic appetizers, entrees, deserts and coffee as well as the quirky dinner



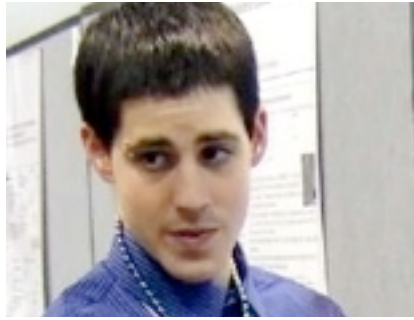
conversations that result from a table full of physicists. The dinner was a lot of fun and

allowed for a great break from the stresses of end-of-the-year projects and exams.

## Outgoing Officers 2008-2009



Heather Moore, President



Henry Timmers, Vice President



Frank King, Treasurer



Mary Mills, Secretary



John Lindner, Advisor

## Incoming Officers 2009-2010



Heather Moore, President



Alison Huff, Vice President



Larry Markley, Treasurer



Mike Winters, Secretary