

2011 Annual Report



President's Report

The 2010-2011 academic year has been a great year for the College of Wooster SPS chapter. The club organized events from hosting our annual Physics Club pizza dinner, a group trip to the Great Lakes Science Center, to hosting our third annual Community Science Day.

Our interactions with the campus and community are ever increasing with our community elementary school outreach becoming a weekly, sometimes even biweekly event. Our Community Science Day has grown to be a large event in the community, attracting over four hundred attendants. We are very proud of the growing support from both the campus community and the local community.

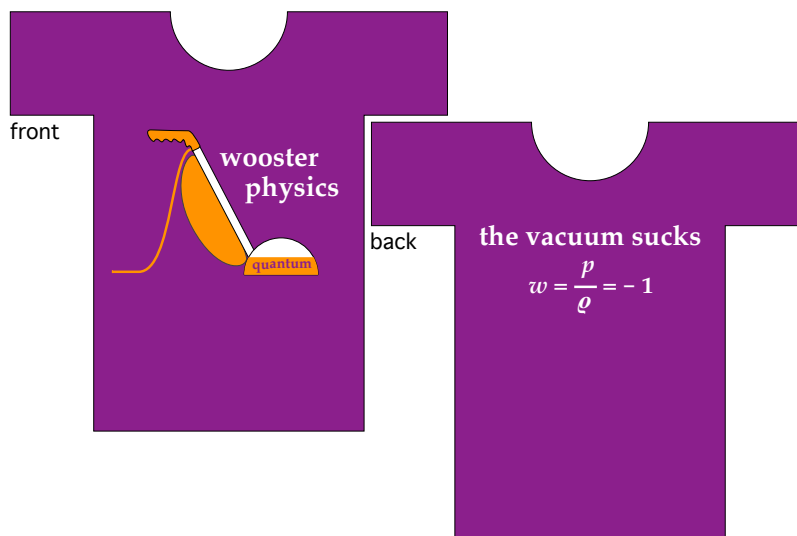
As the incoming president, I would like to thank the outgoing officers for their efforts and look forward to working with the incoming officers.

- David Simpson '12

Quantum Vacuum T-Shirt

The equation of state $p = w\rho$ relates density ρ to pressure p , where the dimensionless proportionality constant $w = 0$ for dust and $w = 1/3$ for radiation. The latest data suggests that $w = -1$ for space itself, which is consistent with

Einstein's cosmological constant, and implies $p = -\rho < 0$. Positive pressure blows, but negative pressure sucks. This negative vacuum pressure anti-gravitates and apparently accelerates the expansion of the universe.



SCOT SPIRIT DAY



Once again, the Physics Club drew large crowds to a small booth on the first Friday of the academic year. Officially entitled ‘Scot Spirit Day’, this is an opportunity for campus organizations to advertise their programs and recruit new members. For over four hours, Physics Club members entertained with demos including liquid nitrogen rockets, a spinning gyroscopic chair, simple motors, polarizers, and 3D real images.

LUCE DINNER



Building on Scot Spirit Day, the formal kickoff event for the Physics Club is the Luce Dinner, which welcomes physics majors back from summer break

and introduces first-year and prospective majors to the club. Over pizza, pop, and a special ice cream dish, physics, Wooster Physics, and the Wooster Physics Club are vigorously discussed, and many students are hooked.

ELEMENTARY SCHOOL OUTREACH



The Physics Club visits local elementary schools to perform physics demonstrations. The goal is to engage and inspire elementary students by introducing them to interesting physical phenomena. Elementary schools can schedule hour length demonstrations of their choice. The four options are: Electricity and Magnetism; Forces and Motion; Light & Sound; and Air Pressure. Volunteers visit local elementary schools almost every Friday afternoon – 19 times this academic year. Even so, the demand is so high that typically teachers will team up so that the volunteers are presenting to entire grade levels. The physics club believes that participating in outreach is a great way to solidify a collegiate understanding of physics. Volunteers embrace the idea that you don’t really understand

something until you can explain it. For these reasons they take the presentations seriously and hold training sessions at the beginning of the academic year to encourage new volunteers and to feel more comfortable with the concepts that are discussed. Ultimately attending an outreach excursion is what keeps new volunteers hooked. With one trip it is clear how much the visiting college students can mean to the elementary students.

COSI COLUMBUS TRIP



Annually in the fall our chapter takes a group of students on a trip to either COSI in Columbus, Ohio or to the Great Lakes Science Center in Cleveland, Ohio. This year our chapter took a trip to COSI. During our trip, we had the opportunity to explore many aspects of science, not just physics. Though, the Science Center certainly had a plethora of different exhibits dedicated to various areas of physics. There were sections devoted to sound, electricity, chaotic systems, and light. This trip is designed to offer a chance for new and old club

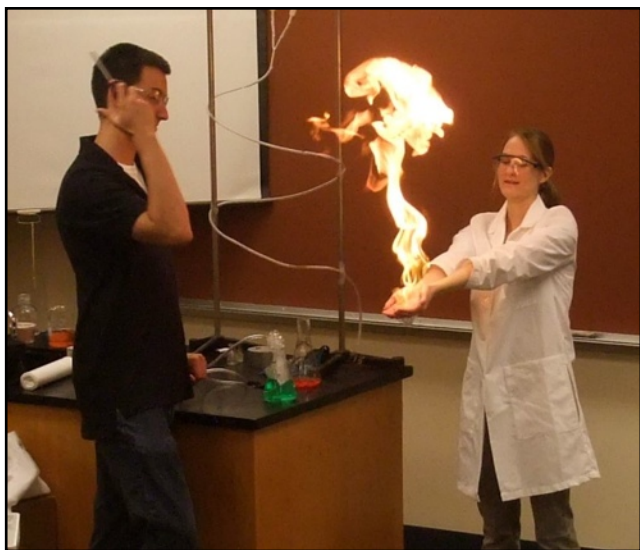
members to bond and help create the type of environment we at the College of Wooster pride ourselves on. To top things off, the group goes to dinner after the trip to further provide opportunity for discussion and camaraderie.

MARCH APS MEETING



Wooster physics has a strong showing each year at the March APS meeting. This year, 7 of us went to Dallas Texas and presented 5 posters on our research. We met with alumni physics majors and had some great Dallas dinners. Wooster's regular, strong showing at this the largest annual physics meeting is impressive. We presented their research alongside professional physicists, gaining valuable experience and wonderful memories of our time in Dallas. It also provided an opportunity to reconnect with some of our recent graduates who were in attendance.

SCIENCE DAY



This year we organized the third annual Science Day at The College of Wooster. The name itself implies that we dedicate this day not only to physics, but to many different sciences including biochemistry and molecular biology, geology, biology, neuroscience, chemistry, and, of course, physics. This event is open to the community and many people come from the surrounding area — an estimated 400 people this year. It is a great opportunity to get young children interested early in science by showcasing many riveting demonstrations of our respected sciences at work. However, high school and college students become extremely involved in demonstrations too! Some of the exhibits include: a giant iguana from the biology club, liquid nitrogen ice cream from the chemistry club, a volcano from the geology club, methane bubbles from the BMB club, hands-on experience from the neuroscience club and a glowing pickle from the physics club.

Science Day is important to the physics club because we feel that science education in the classroom should be supplemented by activities outside of the classroom and supported by the entire family. We therefore also hope to pique the interest of adults; ideally giving them a reason to support a child's interest in science outside the classroom. Science Day is becoming a part of the tradition of community involvement here at Wooster, and we are excited for the event to grow in the many years to come.

TAYLOR BOWL



As one of our final events, the Physics and Math clubs, but residence of Taylor Hall, stage a bowling tournament. The winner gets a giant slide rule that is hung for a year in the winner's department. Despite a record loss, we really enjoyed this year's event, and we look forward to next year's challenge.



Larry Markley '12, President



Karl Smith '13, Vice President



David Simpson '12, Treasurer



D. Alex Sullivan '11, Secretary



Two Wooster students co-authored an AJP cover story this year on novel celestial trackers