

## **Marsh White Award Final Report**

Ohio Wesleyan University – “Ph<sup>3</sup>” – June 2006

In 2005 we became an official chapter at Ohio Wesleyan University. The Marsh White Award was our chapter's first opportunity to extend an outreach program in the community. Our goal was to get high school students excited about physics by providing fun and engaging demos. We had hoped to hold several demonstrations at Columbus area high schools. Unfortunately, even though interest was expressed by local high schools, scheduling conflicts arose, and we were unable to visit these schools. We are still in the process of forming contacts and matching up schedules with these high schools for next semester. Even though we were faced with these problems, we were able accomplish our goal in community outreach to younger students by holding a demonstration in a third grade class at a local elementary school. This gave us an opportunity to share our knowledge of physics while accommodating to appropriate third grade material and language, without losing their interest. This was a wonderful learning experience for everyone involved, for the third graders and the physics students as well. The third graders explored many fun and interesting physics concepts through these demonstrations and we, as students, have a new-found appreciation for teachers and professors.

We were very successful as the students were genuinely enthusiastic and willing participants. When asking for volunteers, there were so many students eager to be involved, that we were unable to accommodate all of them in the time allotted. Their capacity for imagination was astounding, and their curiosity peaked with each new demonstration. They, in turn, demonstrated to us that third graders are more knowledgeable today than we were at that age. Our demonstrations included:

- 1.) Pulling the Tablecloth

- 2.) Bucket of Water Swung Over Head
- 3.) Conservation of Angular Momentum using Dumbbells and a Rotating Stool
- 4.) Differing Amounts of Torque with a Mass Placed Different Distances from the Body
- 5.) Jell-O lenses - \$4
- 6.) Roller Coaster and Centripetal Force
- 7.) Liquid Nitrogen Ice Cream - \$19

Award = \$100

Balance = \$77 (to be used next semester)

Even though we were unable to go to area high schools, in many ways we feel that the outreach was more successful because we were inspiring children to be interested in physics at a much younger age. Due to this success and reasoning, we are contemplating adding elementary, as well as junior high schools as possible program recipients next semester. Our plan is to use the remaining award money to schedule more demonstrations and schools next semester. We would like to thank the SPS Marsh White Grant for giving us this opportunity and Ms. Carrie Hunsicker's class of third graders, including SPS Advisor Dr. Bob Kaye's son, Josh, from Tyler Run Elementary school for helping us accomplish our goal.

## SPS Members Performing Demonstrations at Tyler Run Elementary School



SPS Secretary Stephanie Vasicek performing a demonstration.



SPS Vice President Rachael Roettenbacher leads a demonstration on the concept of torque.



The students are eager to participate and answer questions!



SPS member Claire Ryu shows how to demonstrate conservation of angular momentum.



SPS member Chad Ellis shows students how they can use Jell-O lenses as magnifying glasses.



SPS member Cory Myers demonstrates conservation of energy and centripetal force.



SPS Treasurer Yaser Helal and SPS member Rachel Decker make ice cream using liquid nitrogen.