

April 10, 2006

Society of Physics Students
Blake Lilly Prize Committee
One Physics Ellipse
College Park, MD 20740-3843

Dear Blake Lilly Prize Committee:

I would like to thank you for the consideration of the Hartnell College chapter of the Society of Physics Students for your Blake Lilly Prize.

Outreaches are one of the main focuses of our Physics Club. Besides weekly demonstrations we done for our club meetings, we do demos for school kids and for adults and families that come to the college. We also do demos at college events for other college students.

We have a van with pictures of Einstein and Newton and physics related items like rainbows, falling apples, stars and planets. We drive it when we go to the schools where we do demos for the kids. We usually demonstrate for one class at a time in the classroom, but we are currently making plans to do larger scale demonstrations for two to four classes at once. It is fun to see a physics student go back to their old elementary school and do demos for their fifth grade teacher's current class.

Our lab technician, Tito Polo, and several of our students even did a field trip for a daycare last summer.

We also take the opportunities afforded to us by the school Planetarium, which brings lots of visitors. Sometimes we piggyback a short physics demo with school kids' planetarium field trips during the day. We have also been doing demos for the adults and families who come to the weekly planetarium shows on Friday nights (further proof that physics students don't have real lives). The college catalogue advertises the planetarium shows and demos in six week blocks. We have completed one six week block this year and are part way through another.

One of our largest outreach events is Family Science Day when the whole science department puts on displays and demonstrations. The Physics Club puts on a show every two or three hours throughout the day. We have a large room to make the presentations and we can bring out the really impressive Tesla coil and our "Can Crusher", which one of our students made several years ago and involves pulling a soda can in half by means of a really strong electromagnetic force (due to a large current from a CPU-sized capacitor) and Lenz's Law. We also bring out the Van de Graaf generator, magnets, generators, and all the other fun stuff.

Every time we give a show for school kids we start by asking "Who wants to be a scientist?" Usually five or six out of twenty five or thirty students raise their hands. The kids really respond to all the amazing stuff they see, especially the things they don't expect, like seeing red, green, and blue light combine to make white light. All through the demonstrations they say things like, "Wow, cool!" and "Do it again!" or my personal favorite "What happens if..." and they look for different ways something might work. At the end of the show we ask them again "Who wants to be a scientist?" and at least half of them usually raise their hands. I think our demos are well equipped to show them the really neat parts of science, beyond what they typically get in their classrooms because

the Physics Club has some really neat equipment (including a high-voltage Tesla coil) that their teachers probably don't have and we have the cool factor, college students are so old and so smart.

We also do demos at college events like the Week of Welcome to introduce new students on campus to our club, the upcoming Cinco de Mayo celebration, and the grand opening of our new library. It's fun to see people who "don't like science and math" respond to the neat physics ideas. It is really rewarding to see students who have not yet chosen a major to consider a Physics or Engineering major because they saw how fascinating it is to be able to explain and understand physical concepts.

Most of the students in the Physics Club have participated in demos at one time or another, a lot of us have many times. It is a fun challenge because you have to know how to explain every demo you do and you never know what questions someone will ask. It is really good practice for thinking on your feet. It is also a fun speaking situation because the audience is always fascinated and gives you their undivided attention. One of my favorite rewards is the letters and cards the students send us after a show. The responses range from simple appreciation for seeing amazing things to students who really understood the concepts behind the flashy equipment. It is satisfying to see that what you said really sank in and made an impression.

Once again, thank you for your consideration,

A handwritten signature in black ink, appearing to read "Anna Kimmich". The signature is fluid and cursive, with a large initial "A" and "K".

Anna Kimmich
Vice President, Hartnell College SPS