

## **Final Report on the Marsh White Award**

### **University of Texas – Arlington for 2007-2008**

The Society of Physics Students chapter at the University of Texas at Arlington was awarded \$300 for our Physics Circus demonstration group. Our Physics Circus has already provided demonstrations at the DFW Airport annual Aviation and Career Expo in 2007, an event where over a thousand elementary and secondary school children from all over the Dallas – Ft. Worth Metroplex area attend to discover about science and aviation. We have also exhibited our demonstrations for local schools that come to visit our campus planetarium. The Marsh White award has allowed us to purchase new equipment and demonstrations to provide a very dramatic and impressive physics repertoire for these students. We feel certain that our audiences came away with an excited and positive view of science, and physics in particular.

The SPS members have truly bonded over this Circus experience. Our dedication made us drive out to a location which was far outside of Arlington in order to be present at a public junior high science night. The Circus was so successful at this location that we outshone all the other exhibits, including a hovercraft. The parents and teachers were so grateful at this event that each participating SPS member received their own certificate of appreciation by the middle school. We are truly astounded and humbled by the impact that our Circus has already had for those that we have presented.

The Marsh White award has also encouraged our physics department to contribute. The department has brought out ancient and fantastic demonstrations that have been hidden in storage for years, it seems. It has also matched and exceeded the Marsh White Award funds,

contributing so far almost \$600 dollars for our experiment assembly so far. Recently they have approved a preliminary budget report for over ten times that of our initial award. The Marsh White has not only inspired our students and our audiences, but also our physics faculty. They have requested we bring some of our demonstrations into their classrooms as well. We feel that with these optimistic and exuberant reactions, we are certain to inspire people, of all ages in remembering their young love of physics.

Our demonstrations now include our new Van de Graaf generator, with new gas vacuum tubes and flying cupcake tins, our department recovered Tesla Coil and Spark Generator, as well as a truly excellent Ruben's tube standing wave illustration (which uses a metal tube, propane, and a speaker to show a standing wave in small jets of fire). We purchased newer, more kid-friendly hand weights, in combination with our department-scavenged rotating stool and bicycle wheel gyroscope to demonstrate conservation of angular momentum, and inspire kids to think about how satellites and telescopes could be moved and positioned in outer space. Our future plans include building a proper bed of nails, using one of our SPS members and a cinder block with a sledge hammer for an astounding demonstration.

In summary, the Marsh White award has motivated our own department and SPS members, through our own inspiration and love of the field, to gladly share our own reasons for being drawn to physics in the first place.

A breakdown of the costs is as shown:

Van de Graaf Generator	\$499.99
Discharge Wand	\$74.40
Gas Tubes	\$169.75
Cupcake tins	\$1.99
Coca-Cola Cans	Free (from campus recycling bins)
Fluorescent Lightbulb	Free (kindly donated by our janitorial staff)
Neon Wand	\$8.65
<b>Total</b>	<b>\$754.78</b>

The remainder, after the \$300.00 from the Marsh White award, has been supplied by our extremely supportive physics department.