

# *Traveling Physics Shows*

St. Mary's University Society of Physics Students  
2004 Marsh W. White Award Final Report

## *Introduction*

The St. Mary's University Society of Physics Students is an enthusiastic and rapidly growing chapter. Since January 2004, chapter members presented ten Traveling Physics Shows at local elementary, middle and elementary schools, on the St. Mary's University campus and at a local homeless shelter. In addition, the chapter hosted "The Fiesta of Physics" in which nearly 300 elementary and middle school students were shown, hands-on, the wonders of physics.

## *Traveling Physics Shows*

The Traveling Physics Shows are hour-long presentations which aim to present physics in an exciting and inspiring light and at an age-appropriate level. While our Liquid Nitrogen "Cryoshow" is the most popular show, the demand for other topics, particularly Electricity and Magnetism, is quickly growing. Each show is presented by three or four chapter members. More than a dozen chapter members actively presented shows throughout the Spring semester. By the end of the spring semester, the chapter was receiving a request for a show from a local teacher almost every week. The Science Coordinator of the Edgewood Independent School District, the district which contains many of the schools we visited, recently reported rave reviews from students, teachers and parents about physics shows presented by St. Mary's SPS members. Table 1 provides a list of the schools at which we presented a Traveling Physics Show since January 2004 and the type of show presented at the school.

<b>School</b>	<b>Type of Show</b>
HK Williams Elementary School	Cryoshow (Liquid Nitrogen)
Gardendale Elementary School	Cryoshow (Liquid Nitrogen)
Cenizo Park Elementary School	Cryoshow (Liquid Nitrogen)
Medina Valley High School	Cryoshow (Liquid Nitrogen)
Memorial High School	Cryoshow (Liquid Nitrogen)
Holy Rosary School	Electricity & Magnetism Show
Winston Elementary School	Electricity & Magnetism Show
St. Mary's University	General Physics Show for the "League of United Latin American Citizens (LULAC) Leadership Conference"
St. Marys University	General Physics Show for "Physics in the Quad"
SAMM Homeless Shelter	General Physics Show

*Table 1: Schools visited during the spring semester of 2004. The type of show presented at the school is listed on the right.*

### ***Fiesta of Physics (The Ultimate Traveling Physics Show)***

In addition to shows presented at local schools, our feature event of the year was the "Fiesta of Physics". Our chapter organized and hosted the grand event on April 16, 2004. Nearly 300 elementary and middle school students descended upon the Fiesta of Physics eager to experience science like never before. Thirty tables, each equipped with a hands-on physics demonstration and an enthusiastic SPS or St. Mary's student volunteer (the event was so large that we had to recruit volunteers from outside our chapter), were set up to fascinate young minds with the wonders of physics. The event seemed to make an impact on the way young minds thought about science. As quoted in our university newspaper, *The Rattler*, a local 4<sup>th</sup> grader, after admitting that he always hated science, happily exclaimed "Now I like science. It's cool."

### ***Budget***

The items purchased with Marsh White Award monies are listed in Table 2. In addition to the Marsh White Award, funding for demonstration equipment was also secured from the St. Mary's University Student Government Association and from the State Farm Insurance Good Neighbor Award.

<b>Equipment</b>	<b>Company</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Price</b>
Levitron Platinum Pro	Educational Innovations	1	\$29.95	\$29.95
Magnetic Viewing Film 6" x 6"	<a href="http://www.4quad.com">www.4quad.com</a>	1	\$9.00	\$9.00
Sound Pipes	Educational Innovations	5	\$1.90	\$9.50
Kick 'Dis Air Puck	Educational Innovations	2	\$34.95	\$69.90
Dropper Poppers	Educational Innovations	5	\$2.50	\$12.50
Microscale Vacuum Apparatus	Educational Innovations	1	\$32.95	\$32.95
Steel Sphere Density Kit	Educational Innovations	1	\$19.95	\$19.95
Virtual Reality Mirror	Arbor Scientific	1	\$49	\$49.00
Melting Blocks	Educational Innovations	1	\$18.95	\$18.95
Compasses	Analytical Scientific	2	\$14.40	\$28.80
5/8" Brass Balls	McMaster Carr	1	\$14.13	\$14.13
4quad.com Shipping				\$5.50
<b>Total</b>				<b>\$300.13</b>

Table 2: Equipment budget for Marsh White Award monies. The St. Mary's University Society of Physics Students was awarded \$300.

### ***Conclusion***

In recognition of our chapter's efforts in bringing science to the community, our Society of Physics Students chapter was awarded the St. Mary's University "Community Service Organization of the Year" for the 2003-2004 academic year. With our growing chapter, we plan to continue the Traveling Physics Shows in the coming year with even more gusto and plan to make "The Fiesta of Physics" an annual event. We sincerely thank the Marsh White Award Committee for helping to make all of these activities possible.



Toby Martinez and Christine Zaruba present a Cryoshow at Gardendale Elementary School.



Elementary school students at Gardendale Elementary Schools are enraptured by the science they are seeing in the Cryoshow.



Toby and Christine are enjoying the Cryoshow as much as the students.



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# H. K. Williams Elementary

## 5<sup>th</sup> Grade Science Clinic



Students at HK Williams Elementary School anxiously await the Cryoshow presented by Michelle Kruczek and Geronimo Cortez, both SPS chapter members.



Geronimo (Nimo) lets students feel the fog from Liquid Nitrogen.



Michelle prepares the balloons to be sunk in Liquid Nitrogen.



Michelle shows students the fog that forms when Liquid Nitrogen is taken out of a dewar.



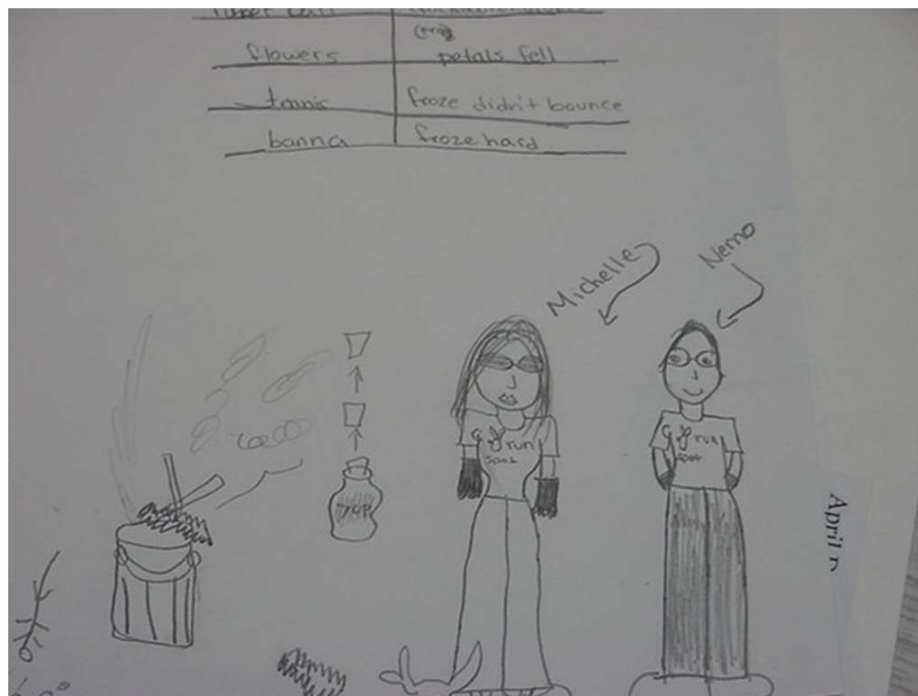
Nimo and Michelle presenting the Cryoshow at HK Williams Elementary School.



Nimo hammers a nail into wood with a banana!



Show's over. Nimo waves goodbye.



HK Williams students show off their drawing skills and recount what they learned from the Cryoshow.



SPS Members Amy Troendle, Jennifer McCall, Christine Zaruba, Sara Reinhard and Michelle Kruczek enjoy an aftershow moment of glory.



Fiesta of Physics volunteers, both SPS members (left, in blue shirts) and non SPS members (right, in yellow shirts).