Marsh White Award Report Template

Instructions: Please complete each section after reading the purple text describing what should be in that section. Then delete the purple text.

Project Proposal Title	Shooting for Clouds: The New Mexico State University Cloud Chamber and Outreach Development Project
Name of School	New Mexico State University
SPS Chapter Number	4749
Project Lead	Khadijih Mitchell
(name then email address)	Eleven11@nmsu.edu
Additional Project Leads	Alistair Mclean <u>amclean@nmsu.edu</u>
(two lists: names then emails)	Dennis Trujillo <u>dptru10@nmsu.edu</u>
	Jerrett Moon <u>jmoon@nmsu.edu</u>
	Fred Smalley <u>fred926@nmsu.edu</u>
SPS Chapter Advisor	Michaela Burkardt
Total Amount Received from SPS	\$300.00
Total Amount Expended from SPS	\$204.05

Summary of Award Activities

The title of our project this past year was Shooting for the Clouds: The New Mexico State University Cloud Chamber and Outreach Development Project. We are very interested in expanding our outreach programs and constantly looking for new ways to reach out to those around us. Our project consisted of the design and fabrication of a cloud chamber and the production of two to four posters to be hung in the physics department. In final reporting we have printed three posters. Our first poster (which we printed two of) is a Society of Physics advertisement poster. It advertises who we are, what we do, and when we meet. We hope that we will be able to bring more people into our meeting by having posters such as this hanging in the hallway. This poster lets incoming students who are unfamilar to our department know about our organization thus giving them a place to go to become comfortable. The second poster we made (which we printed one of) was our Physics Fun Poster. This poster is one that corrects common misconceptions about science. Again this poster will hang

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freely in our department halls and hopefully help people who are just passing through to begin to ponder the world around them and wonder what else they may have a misconception about. Who knows they may take a physics class. Our third and final poster is our energy poster. This poster helps to show how fundamental energy is in our existence. This is the only poster we were unable to print.

This project was a great way to unite us as a group, we all had to work together to make sure the projects were finished correctly and on time. Our main goal was to have two posters completed and the cloud chamber finished. Which is exactly what we accomplished. We are grateful for the Marsh White award for it is only because of this award that we were able to successfully finish this project.

Statement of Activity

The entire Statement of Activities should be no more than 3 pages, and organized as follows.

Overview of Award Activity

In the production of our project there were about 5 individuals who worked very hard to make sure the cloud chamber was properly assembled and in working order. We had 3 individuals work diligently on the posters and the whole of SPS worked together to offer recommendations and advice. We would like to extend a very gracious Thank You! to Joni Clark and Chaz Hammond for going above and beyond to help create the posters.

Roughly every other week at our weekly meetings progress on the posters was shown. There was always constructive recommendations given out and a lot of progress was made because of these sessions.

The target audience of our project is anyone and everyone. The cloud chamber targets students at outreaches and the posters target anyone who will encounter them in our hallways. We hope that our posters will help to not only be informative to the students who pass through our halls but also to the general public and anyone with a curious eye.

This project fits very well into our weekly meeting schedule. We have an undergraduate speaker series that we do every year but we feel it is important to try to make the most of our time and increase what we do as an on campus organization that represents those with a love for physics.

As the Project Lead I would like to say there is something magical about looking back on this last year and this experience. Members of this group worked very hard and were very dedicated in making this project a success. We do indeed have a small group, I mean we have maybe 7 people who attend meetings regularly but then we have these big booming meetings where we have 17 people (where did they all come from where did they all go) But at any meeting when the posters were being addressed and people were dishing our suggestions everyone was very elegant in their way with words. I have to bring this up because I feel this was a real bonding experience for our group.

Impact Assement: How the Project/Activity/Event Promoted Interest in Physics

The proposed project "Shooting for the Clouds" was organized with the sole purpose of educating others of the amazing wonders of science. The Cloud Chamber should make its debut performance in the fall of 2014 when we do our first Outreach Program. The posters will be hung in the Physics department very shortly and we are sure we will see some effect from them in the fall. We hope that the SPS poster will promote our organization and bring in more students to our meetings. The Physics fun poster should be addition to our department and will help to inform other others of some of the daily misconceptions on this earth.

We feel that this project was highly successful. It brought us closer as a group and proved our ability to work together as a team. We were able to create something useful to take to with us on outreach as well as a way to promote our SPS group.

We set out with a goal in mind at the beginning of the fall 2013 semester we knew that we wanted to have a successful project and in order to do that we needed to have a good idea of how we were going to achieve such a thing. The Society of physics students officers at NMSU worked together to come up with a realistic plan for our time over the school year. We worked as a team to produce the cloud chamber and in doing so produced a pretty amazing final project. Our only concern about the cloud chamber is being able make it cold enough for the alpha and beta particles to be produced. The posters were a lot of work and a few select individuals worked very hard to create them and everyone at the meetings took part in the review of the posters. They will make a great addition to the department and we are grateful that we had the opportunity to take on this project.

The poster project will be continued in the following year. Our Third Poster on energy was a much more difficult poster to create in order to live up to our standards. We hope to have this poster finished by the end of summer. This was an extra poster that we wanted to do if we had time. However, our main goal was being able to print two SPS advertisements and one physics fun poster. Even though it was extra the energy poster will be finished, It's best not to leave any part of a project undone.. We hope to be able to print this poster in the 2014-2015 school year.

The Cloud Chamber will need to have constant maintenance. The sealant to hold the chamber together seems to degrade quickly due to the alcohol used to produce the vapor. Also the dry ice to keep the chamber in production has to be refilled after some time. In order to make sure our project remains a success we will want to find a better sealant.

Key Metrics and Reflection

Please answer the questions below. Please indicate if a question is not applicable to your project.

Who was the target audience of your project?	New Mexico State University Physics
	Department Students and visitors, as
	well as students at local outreach.
How many attendees/participants were directly impacted	So far those only a part of SPS however
by your project?	once the posters are on the walls many
Please describe them (for example "50 third grade	more people will see them. We have
students" or "25 families").	hundreds of people go in and out of our
	building in any given week of a semester.
	The cloud chamber will make its first
	appearance at an outreaach program in
	the fall semester.
How many students from your SPS chapter were involved	There were about 5-10 participants in
in the activity, and in what capacity?	the production of our posters and cloud
	chamber. There were 3 people who
	worked very hard to make sure the
	posters were completed and 5 people
	who worked hard on the cloud chamber
Was the amount of money you received from SPS	300.00 No we did not need additional
sufficient to carry out the activities outlined in your	funding. We feel that the amount
proposal? Could you have used additional funding? If yes, how	received was quite adequate in the
much would you have liked and how would the additional	completion of our project.
funding have augmented your activity?	
Do you anticipate repeating this project/activity/event in	We will not nessecariy repeat the project
the future, or having a follow-up project/activity/event? If	so much as maintain it. As stated
yes, please describe.	previously we need to find a different
	sealant for the cloud chamber. The
	poster project will also remain ongoing.
	You can never have to many posters
	about science ©.
What new relationships did you build through this	We all became much closer as a group.
project?	Some people worked very hard to make

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	sure the posters were finished and
	whenever drafts were shown at
	Wednesday meetings we were always
	able to have constructive suggesstions of
	improovement.
If you were to do your project again, what would you do	I think we did this project very well
differently?	however I believe that if we were to
	recreate the cloud chamber we would
	first off want a better sealant and
	secondly we would want a mechanism to
	keep the chamber cold without the use
	of dry ice.

Press Coverage (if applicable)

Our Project did not have any press coverage.

Expenditures

Please provide a brief explanation of your expenses. Include a written description of your expenditures below, those covered by your SPS funding and by other funding sources, and then fill in the table with the name and cost of each item purchased with your SPS funding. Add rows as needed.

For this project we printed three posters at a Fed-ex Kinkos all three of the posters were laminated. We were able to receive a \$50 discount by printing at Kinkos because we belong to the University. We were lucky to not have to purchase very many supplies for the cloud chamber because we were able to have most of them donated to us. We mainly have had to buy dry ice and we still need to find a better sealant to purchase. The funding for this project directly came from the March W. White award.

Expenditure Table

Item	Cost
Society of Physics Students Advertisement poster with	98.40
lamination (Qty-2 size 2'x3')	
Society of Physics- Physics fun Poster with lamination	98.40
(Qty-1 size 3'x4')	
Dry Ice (2 lbs)	7.25
Total of Expenses	204.05

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Activity Photos

Please include captions and credits for each photo. By including photos below, you are giving SPS and the American Institute of Physics permission to use these photos in their online and printed publications.



<u>Vice President Fred Smalley works with Patty Corcoran and other students to create the cloud</u>
chamber

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Looking for the formation of clouds

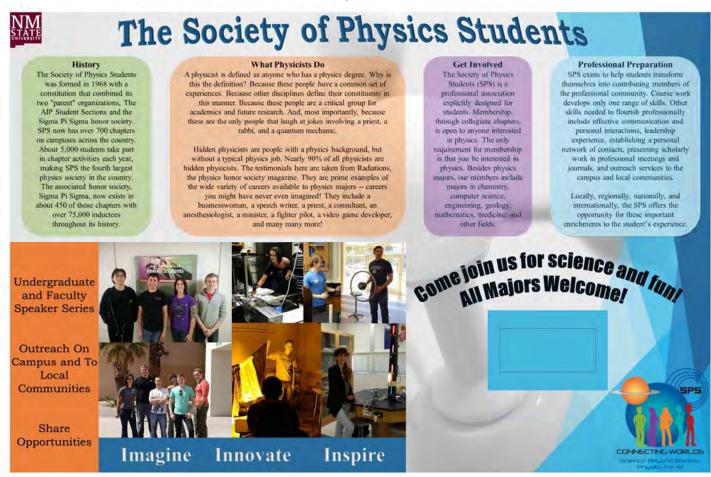


From left to right: Doug Brown, Dennis Trujillo, Fred Smalley, Wendy Garcia. They ponder how to best set up the cloud chamber at a weekly meeting.

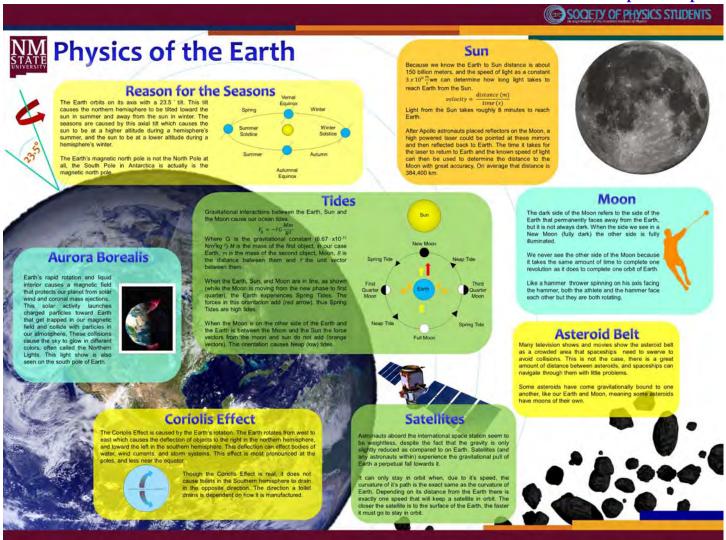
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Cloud chamber: Slight formation of clouds



Poster to advertise SPS at New Mexico State University. The space to the right is left empty and will hold contact information of the local SPS Chapter



Society of Physics Students "Physics of the Earth" Poster. It contains some processes and misconceptions that we can understand and remove using the basic laws of physics.



If you have any questions, please contact the SPS National Office Staff Tel: (301) 209-3007; Fax: (301) 209-0839; E-mail: sps-programs@aip.org