SOCIETY OF PHYSICS STUDENTS
An organization of the American Institute of Physics

Marsh W. White Award Proposal

Project Proposal Title	Astropalooza: a Solar Viewing Experience
Name of School	University of Alaska Fairbanks
SPS Chapter Number	0093
Total Amount Requested	$460

Abstract

The University of Alaska Fairbanks (UAF) studies space physics, which is concerned with the space between the Sun and Earth. The physics of this region are driven primarily by the Sun. To help people understand the research done at UAF, we plan to hold a free solar viewing event.

Proposal Statement

The entire Proposal Statement should be no more than 2 pages, and organized as follows.

Overview of Proposed Project/Activity/Event

One of the main focuses of the University of Alaska (UAF) Physics Department is space physics. Space physics is usually characterized by the interactions and dynamics of fields and particles between the Sun and Earth. This includes the solar wind, both the Earth and Sun's magnetic fields and the Northern Lights, among other things. While this subject is a fascinating and important one, getting the general public interested in it can be challenging. Magnetic fields and the solar wind are hard to visualize. However, the Sun, which is the primary driver of many of the space physics phenomena, is easily viewed with the right equipment. To help engage the public with the research being conducted at UAF and space physics in general, the UAF Society of Physics Students plans to hold a public solar viewing event. We will provide solar telescopes for the public to gaze through and knowledgeable students for them to ask questions of. This event was, in part, inspired by several other, nighttime, astronomy events our organization has hosted. These events were very well received with the most recent one having around 400 people of all ages and backgrounds attend. It is our hope that this event will have a similar impact and audience. Having already held several other similar events, our organization is well poised to carry out this one. We already have the necessary connections, expertise and experience. All that we need is the optical equipment and supplies to make this event a reality.

How Proposed Activity Promotes Interest in Physics

The Marsh W. White Awards are intended to "support projects designed to promote interest in physics among students and the general public." Our event fits this these specifications extremely well. The entire purpose of Solarpalooza: a Solar Viewing Experience is to offer the public an aspect of physics that they may never have seen before. From previous astronomy events we have realized just how inspired and interested the Fairbanks community is in looking through a telescope at astronomical objects. This event will promote that same enthusiasm for the Sun and through it the field of space physics and research being done at our university. Through this event we hope to inspire everyone from grade school students to grandparents to learn more about the Sun and the physics behind it.

Plan for Carrying Out Proposed Project/Activity/Event

Personnel:

- Event lead: Riley Troyer (UAF SPS President) with support from the other officers and interested students.
- SPS students will be the primary volunteers and organizers for the event with an expected 10-15 students helping out.
- Weekly SPS meetings and frequent emails will be used to plan the event and keep everyone up-to-date.

Marketing:

- Paper fliers will be hung up around campus and Fairbanks.

- A Facebook event will be created and advertised through the UAF SPS page, UAF CNSM page, and the UAF page.
- The local public radio station and newspaper will be informed of the event, so that they can help get the word out.

Expertise:

- Through 1 credit courses offered in space physics, plasma physics and solar physics, UAF Physics students are uniquely qualified to talk about solar and space physics to the public.
- Having already held 3 successful and similar astronomy events the UAF SPS chapter has more than sufficient experience to organize this event and make sure it runs smoothly.

Project/Activity/Event Timeline

Late January to early February:

- 3 Eclipsmart Solar Scopes are ordered.

Early-March 2018:

- An event date is scheduled for the beginning to end of April most likely on a Saturday.
- Telescopes arrive and the UAF SPS becomes acquainted with them and their use.

2-3 weeks prior to event:

- Advertising begins for event (Facebook, fliers, local news).
- Additional items needed are purchased (chairs, snacks).
- All parties involved are notified of the event status.

0-1 week prior to event:

- Volunteers are finalized.
- Inventory of all equipment is taken, anything still needed is purchased.

Day of event:

- In the morning volunteers arrive and set up telescopes, tables, chairs and refreshments.
- Community members arrive and view the Sun through telescopes and get information about solar physics and how UAF research plays a role in it.

Activity Evaluation Plan

To determine how well Solarpalooza: a Solar Viewing Experience was received by those who attended it our club will keep track of the number of attendees, and donations made towards our organization. In addition, we will have feedback forms at the event and conduct a Facebook poll after the event. Although harder to measure, we will also keep an ear out for talk around the town and our university regarding the event.

Budget Justification

The primary use of funds requested for this award will go towards purchasing solar telescopes. The event that we would like to hold requires the use of solar telescopes to allow the public safe and unique views of the Sun. Our SPS chapter and department do not own any solar telescopes and therefore we are unable to hold the event without purchasing some. We requested 3 telescopes because of past experience with astronomy events. We have seen that people arrive in waves and having multiple telescopes allows us to handle a larger amount of people and for the event to run smoother. The rest of the funds will be used for refreshments that will be offered at the event and for chairs to be setup at the telescopes and information table. Our department owns several tables, but no chairs to accompany them. In addition to the Marsh W. White Award, we will also be applying for funding from our university to purchase a hydrogen-alpha solar telescope. If received this will add another element to our solar viewing event.