



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Marsh W. White Award Proposal

Project Proposal Title	Where Art and Physics Collide: The Polage
Name of School	Saint Joseph's University
SPS Chapter Number	6186
Total Amount Requested	\$600.00

Abstract

Saint Joseph's University's Society of Physics Students chapter intends to host the event, "Where Art and Physics Collide: The Polage" as their Marsh W. White project during the spring of 2024. This event will be in collaboration with SJU's Art Club to share that physics can be found in anything.

Proposal Statement

Overview of Proposed Project/Activity/Event

"Where Art and Physics Collide: The Polage," is a project that will bring together the art and science community. This project will be in collaboration with the Art Club where we will make polages—polarized images—and discuss the physics behind light and how it interacts with thin films. This event is targeted towards 'non-physics' people to teach them about how physics can be found in anything and expand the areas where physics 'belongs'.

The idea of this project came from Dr. Roberto Ramos' Physics Wonder Girls Summer Camp for middle school girls. Making polages was part of the camp and inspired the idea to share this artistic physics demonstration with others. It is very common for humanities and non-STEM majors to identify themselves as 'non-science' or 'non-physics' people, so this project will show them that science and physics can be for anyone. This project will also expand our connections by collaborating with the Art Club to put on this event.

How Proposed Activity Promotes Interest in Physics

This event will promote physics among students and the general public through making art. The physics of light will be taught in a hands-on and non-technical way, which may be more effective to people who may not necessarily enjoy math or science. Expanding the interests in physics is important to show others that they can enjoy and understand physics without having to do complex calculations or derivations, which is the common assumption about physics.

Plan for Carrying Out Proposed Project/Activity/Event

Personnel – Shayna Sit will be in charge of planning the event and staying connected with the Art Club to coordinate the project. The progress will be monitored by the 2024 President of SPS, which will be determined in December of 2023.

Marketing – This event will be marketed through posts on Instagram, fliers hung around campus, the event being listed on the university calendar, and word of mouth.

SPS member participation – There will be at least 5 SPS members helping out at the event. Two will present on the physics behind polages; two will distribute materials; and one will photograph the event. Once the audience is making their own polage, SPS members will walk around answering any questions and helping participants understand how a polage works. We will also have assistance from SJU's Art Club to coordinate and help out at the event.

Expertise – At least two SPS members, Shayna Sit and Deryk McGarry, have already done similar outreach using polages with SJU's Physics Wonder Girls Summer Camp as camp mentors. Their experience with the event will ensure that it will run smoothly.

Project/Activity/Event Timeline

- Supplies must be ordered by Friday, February 23 to ensure they arrive on time.
- By the end of March, a room/locate will be reserved to host the event.
- By April 5, fliers will be made and approved to be hung. The event will be submitted to the university calendar.
- Throughout the week of April 8-12, materials will be organized and prepared for the event and presentors will prepare their presentation.
- Between April 15-17, presentors will give presentation to volunteers for the event and prepare everyone to teach others about the physics of lights and thin films.
- "When Art and Physics Collide: The Polage" event – Friday, April 19 from 11:30a.m. – 1:30 p.m.

Activity Evaluation Plan

Attendance will be tracked by keeping track of the polage material baggies that we go through, as well as keeping a headcount throughout the event. As people leave from the event, we will have a QR code that is linked to a Google Form survey to better understand the success from the event. In the Google Form survey, we will have a series of statements and have the participants rate on a scale of 1 to 5 of how well they were done. For example, the survey may ask "On a scale of 1 (not well) to 5 (very well), how well did you understand the presentation about light?" In the survey, we will also have a comment section in case the participant would like to provide additional feedback about the event.

Budget Justification

The majority of the items listed in the budget will be ordered through Amazon all at once. We require different sizes of polarizing filters to polarize any source of light for the polages to work properly and so that participants can make polages of different sizes. Transparent paper is required for applying the cellophane tape, optically active material, at different thickness to achieve different colors within their polage. The transparent paper also allows participants to cut into different sizes, depending on the size of the polage that they want to make. Parchment paper can be used for more intricate artworks, so the cellophane tape can be taped onto the parchment paper and then scissors can be used to cut out specific shapes. Lastly, snacks is always an essential part of any event, so that participants can enjoy treats as they make art and learn physics.

Any other light demonstrations will be borrowed from the physics department or the Art Club to emphasize physics concepts. These demonstrations from the physics department may include light spectroscopy using element lamps and other optics demonstrations involving lens and prisms. Some resources from the Art Club would include their digital and instant cameras.