



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Future Faces of Physics Award Proposal

Project Proposal Title	Physics for Everyone
Name of School	Eugenio María de Hostos
SPS Chapter Number	5748
Total Amount Requested	\$500

Abstract

Physics for Everyone is a project designed by the SPS RUM Chapter in Mayagüez, Puerto Rico with the intention of promoting studies in physics for low-income students. The motivation behind this project is the desire to provide opportunities for talented yet impoverished students.

Proposal Statement

Overview of Proposed Project/Activity/Event

With the goal of supporting talented and dedicated students with scarce resources in mind, SPS RUM Chapter has developed a project for outreach and tutoring within low-income schools in Puerto Rico. Said project consists of conferences by experts, demonstrating concepts related to different areas of physics in open-houses and similar events, working in school laboratories to provide a hands-on approach to various topics, and providing council and guidance to aspiring physics students. The intended audience is an approximate amount of 200 primary and secondary school students in underfunded communities. Our chapter has a long-standing history of serving our society as ambassadors for physics by reaching out to local educational centers. Now, we aim to expand this to a broader audience in order to motivate more Puerto Ricans to invest themselves in the study of this fundamental branch of science.

How Proposed Activity Promotes Physics Across Cultures

This project was designed with the goal of promoting physics across cultures. First, the purpose behind conferences is to introduce low-income students to renowned professionals that can serve as role models. Second, by continuing our tradition as ambassadors, participating in activities such as open houses allow us to establish a gateway for those interested in physics specifically, those facing economic needs. Third, members of our chapter will work as instructors and mentors in the Eugenio María de Hostos school laboratory in order to provide an introduction into experimental physics so we can help to debunk the myth of physics being boring. Fourth, as college students, we find ourselves in a better position to advise anyone interested in pursuing studies in physics and areas related to it. Through this detailed project we aim to fill a void left by our educational system and ensure that impoverished students have a better chance in a career this natural science.

Plan for Carrying Out Proposed Project/Activity/Event

The principal details of our project are the following:

- Personnel- Génesis Suárez (President), Christian Nieves (Outreach Coordinator) and Tamara González (Professional Activities Coordinator) will oversee planning and monitoring the events that constitute this project.
- Marketing- To ensure enough participation in our events, these will be coordinated with every school's administration and announced with enough time of anticipation.
- SPS member participation- Around 20 of our members will participate as demonstrators and instructors. In special occasions, members of other societies such as the Meteorological Society of Puerto Rico (SMPR by its acronym in Spanish) and Students for the Exploration and Development of Space (SEDS) will aid our chapter in some events.
- Expertise- Individuals with special expertise in certain areas that will help to ensure success are Prof. Erick Roura (theoretical physics) and Prof. Nohely Miranda (astronomy).

Project/Activity/Event Timeline

The project will last the entire second semester of the academic year 2019-2020. On January 23, our first event will take place in an undergraduate open house convention in San Juan, Puerto Rico. The objective of said activity is to attract high school students to our campus at Mayagüez with the intention of studying physics. After this, our Outreach Committee will pay a visit to WALKS/WEBS school in Mayagüez as part of their Science Night to demonstrate various concepts of physics and provide information related to RUM's physics department. We are currently scheduling other activities to occur across the semester, as our objective is to reach as many students as possible. Our attention will be focused in low-income students. Many of them study at the school Eugenio Maria de Hostos and do not have many resources.

Activity Evaluation Plan

To make sure we are reaching our goal we will create survey and group meetings with the students to see if they are happy with what is been done , what they would like to change from the program. We want to confirm that productivity, scope of work; quality and satisfaction are being accomplished. Some of the evaluations will be:

- Surveys
- Group discussions
- Comprehensive test(to prove that they are learning)
- Competitions (Also to prove the learning quality)

Budget Justification

If our chapter receives this funding, it will be expend on equipment for the academic development of our members and to expand outreach on low-income high schoolers.

The investment of expo markers and white boards will be used by the high-school students to make calculations of physics experiments. This experiments will be done with equipment borrowed from our department of physics at the University of Puerto Rico. The bottles will be used by the students to stay hydrated when we take them out of school for tours like the Arecibo Observatory and other. Not many students are interested in Physics, we want to make them fall inlove with this field so they decide to join

the Physics community. Is very important to expose them to many experiments and tour were they see what physics really is so they can get a sense of what involves being a physicist.