



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Marsh W. White Award Proposal

Project Proposal Title	Knights for Youth in Physics
Name of School	Orlando Gifted Academy
SPS Chapter Number	1076
Total Amount Requested	\$300.00

Abstract

UCF's Society of Physics Students will coordinate with the Orlando Gifted Academy, a local public school, to host demonstrations, present individual research projects in the fields of astronomy, optics, condensed matter, and mathematical physics, as well as stimulate interest in physics among classes of third graders.

Proposal Statement

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

Overview of Proposed Project/Activity/Event

Project Description:

- We will send 5-6 undergraduate SPS members conducting research to the Orlando Gifted Academy (along with some extra helping hands) to present posters and live demonstrations related to their ongoing research projects at UCF. We will specially select the researchers according to their respective fields to get a diverse range of topics about which to talk to the elementary schoolers. We have undergraduates specializing in optical methods for deep-space astronomical observations, modeling the behavior of superconductors using applied mathematics, space exploration and extraterrestrial geology, theoretical condensed matter and quantum materials, medical physics, and gas chromatography and optics. We will be presenting to individual third grade classes throughout the day, so we will be able to deliver a more focused presentation which will allow the students to connect with our lessons and take the experience to heart.

Project Goals:

- Our project aims to impassion the local youth about ongoing projects happening not too far from where they live, and to show them that the future has so much to hold for those of them who dream big and hope to discover. We can never have too many bright minds joining the world of physics, and we hope to convince even a few students to pursue a life in physics.

Intended Audience:

- The intended audience of the project is classes of third grade students at the Orlando Gifted Academy, a public zoneless magnet school.

Background and Motivation:

- The idea for this project stemmed from the fact that the UCF physics program covers very diverse topics in physics, as well as the fact that many of our members went to school in the Greater Orlando area; having a large school such as UCF so close to so many public school districts gave us the golden opportunity to show young students the facilities that could be at their disposal in the future, without having to worry so much about travelling far for school. We have done similar outreach events in the past for younger and older students alike, and will continue to do so in the future.

How Proposed Activity Promotes Interest in Physics

We believe that showing these young students the true extent to which the study of physics permeates our everyday life– and how it is one of the most promising routes to contribute meaningful ideas and changes to the world as we know it– will open their minds to the infinite possibilities provided by this field of study at an early and foundational age. Many of us had similar experiences growing up that ended up instilling lifelong passions for physics; presenting our personal passions through our research will hopefully allow the children to see that they, too, can end up like the physicists who came before them.

Plan for Carrying Out Proposed Project/Activity/Event

Personnel:

- Evan Buckley (Project Lead), Reef Collins (President), Alex Dorne (Vice President), Zakaria El-Helw (Secretary)
 - The project lead will cover the majority of planning and correspondence with the Orlando Gifted Academy, while things like budget and member participation will be coordinated amongst the other fellow officers.

Marketing:

- Attendance to the program will largely be dependent on the cooperation of the individual teachers that may wish to have their class participate. It will not be a mandatory, school-wide assembly, but rather a chance for each class to come and talk to us about what we do here at UCF and any other science-related topics that might interest them.

SPS Member Participation:

- At least 5-6 research presenters will come talk about their general research topics, while other volunteers will assist with supplementary scientific demonstrations, transportation of materials, and other miscellaneous tasks.

Expertise:

- Our chapter is equipped with many qualified undergraduates with both a passion for teaching, as well as the capacity for event planning and participation. Many of us are tutors, teaching assistants, and volunteers that have immense background experience in these kinds of outreach events.

Project/Activity/Event Timeline

November 2025 - January 2026:

- Continue correspondence with the Orlando Gifted Academy
 - Figure out specific attendance numbers, potential dates and time slots

February 2026:

- Have research presenters start to finalize their poster topics and begin preparing for the presentations
 - Poster layouts, speech cards, etc.
- Obtain a definitive date for the project to take place

March 2026 (before UCF Spring Break):

- Finish posters, procure materials for supplemental demonstrations

March 2026 (after UCF Spring Break):

- Commence the project
 - After feedback from the teachers and administration, determine if we are to return in the near future

April 2026 (tentative):

- Potentially return to the school to present in front of a different group of students
- Develop the final report

May 2026:

- Submit the final report on the project

Activity Evaluation Plan

We plan to keep an exact attendance record with the assistance of the teachers at the Orlando Gifted Academy. A key part of the project will be to have the students write (on a distributed sheet) about their favorite thing that they learned from the presentations, as well as something they would like to know more about. At the end of each session, we will gather the sheets and encourage participation among the students by answering their questions and provoking more thoughts.

Budget Justification

Our current plan is not expected to need an operational budget higher than about \$300, accounting for transportation, poster materials, printer/ink expenditures, materials for supplementary demonstrations (likely the most expensive), and snacks and beverages for the students and presenters. We did not deem volunteer shirts necessary to try and keep costs down, though we may reconvene on that proposal after all of the volunteers are chosen and consulted.