



# SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

## Marsh W. White Award Proposal

Project Proposal Title	Becoming Best Buddies with Physics: The Amazing Race
Name of School	Rhodes College
SPS Chapter Number	5940
Total Amount Requested	\$414.00

### Abstract

A fun-spirited competition in the style of Amazing Race provides the perfect environment for the Rhodes College SPS to invite Best Buddies Memphis, a national organization dedicated to serving those with disabilities, into exploration of physics demos.

### Proposal Statement

#### **Overview of Proposed Project/Activity/Event**

This project aims to collaborate with Best Buddies International, an organization dedicated to establishing a global volunteer movement that creates opportunities for one-to-one friendships, integrated employment, leadership development, and inclusive living for people with intellectual and developmental disabilities (IDD) (from the Best Buddies Tennessee website). We will construct an Amazing Race style event where buddies and their friends will compete to complete seven different challenges in the shortest time. The fun will begin with a ceremonial lighting of our fire tornado, and then pairs of buddies and friends will move to one of the seven stations to start the race. They will circulate through the event stations and receive completion stamps after successfully finishing a challenge, after which they will proceed to the next event.

Event descriptions as follows: buddies will pedal a stationary exercise bicycle connected to a generator in order to make 100 W lightbulbs illuminate for twenty seconds; buddies will use a light leaf blower buddies will attempt to throw a beach ball through a hoop; buddies will ride a hovercraft pushed by their friend around a figure-eight track; buddies will knock down a cup pyramid using a vortex air cannon; buddies and friend will compete to spin longer on a rotating platform while holding weights and exploring rotational inertia; buddies will use a catapult à la angry birds to demolish a cardboard setup; buddies will use simple circuit materials to illuminate magic wands. At each station, the physical principles involved will be explained to the buddies. Each team's time will be recorded.

This race event will be followed by a celebratory dinner, as Best Buddies typically provides dinner at events in order to remove responsibility from parents and enable more Buddies to participate in the program.

This project will foster a community of acceptance for buddies on the college campus, a space where people with IDD are underrepresented, as well as an opportunity for buddies to explore science in a supportive environment.

We predict that around twenty-five buddies and friends will attend the event and hope that each attendee will have an enjoyable encounter with physics, and also that any SPS volunteers associated with the event will better understand how to convey scientific concepts to a variety of audiences.

The Rhodes SPS chapter values outreach, particularly for under reached populations. This idea works very well logistically because Best Buddies regularly meets at the Rhodes College campus and seeks to host enriching monthly events for members. Our SPS Secretary is friends with some of the Rhodes buddies and is inspired by their unceasing enthusiasm in trying new things and fun-loving spirits.



Photos of demos that will be featured in the race event

## How Proposed Activity Promotes Interest in Physics

The buddies who will participate in the race event span a broad range of ages and social locations within the city of Memphis. They constitute a niche and often overlooked population within the general public. Additionally, the friends who will accompany their buddies at the amazing race event are Rhodes College students, who likely do not have extensive experience with physics (aside from our secretary, no participants in Rhodes Best Buddies are also members of SPS). Their attendance at the event may spark interest in participating in SPS events or even registering for physics courses. This event is hoped to be the foundation of a new outreach partner for Rhodes SPS. The Marsh W. White Award will be instrumental in modifying the Rhodes SPS chapters' demos to be user-friendly for the target audience of people with IDD, updates which are crucial to the success of the event.

## Plan for Carrying Out Proposed Project/Activity/Event

- Gia Pirro

Gia is our current Chapter Secretary. She has experience with coordinating events and mobilizing teams to accomplish objectives, which will be useful in realizing this event. She is familiar with all Rhodes SPS events and demos, has attended many Best Buddies events, and is personal friends with a buddy, Kirby.

- Mackenzie Gibbs

Mackenzie is heavily involved in SPS and has volunteered for events at every opportunity. She will work closely with Gia in volunteer coordination.

- Anna Murphree

Anna is our current Chapter VP. She has planned our annual Egg Drop the past two years and helped build our current hovercraft. She will help organize and update our demonstrations.

- Alden Raymond

Alden is our current Chapter Treasurer and former VP, so he is experienced with budgeting and organizing events. He will order our supplies and generally help out.

- Dr. Brent Hoffmeister

Dr. Hoffmeister is our chapter advisor and department chair, and is deeply invested in our outreach activities. He will be supervising the planning and execution of this event, and making sure that it achieves its goals.

- Joe McPherson

Joe is one of our Machine Shop instructors, and he helped Anna build the hovercraft. He has agreed to help us update our demonstrations for this project.

This initiative will be planned by Gia Pirro interacting with our contacts in Best Buddies. The specific time and date of the event will be coordinated with this organization. We will be creating a poster to send both to the buddies, to get them excited about the event, as well as to students in our physics department, to encourage them to volunteer. The Best Buddies organization will ensure the attendance of buddies and friends at the event. Overall, we plan to have at least 15 SPS members volunteering in this program. These volunteers would help update and organize the demonstrations before the event, as well as run the activity stations during the event.

## Project/Activity/Event Timeline

We will be implementing this initiative in the spring semester of 2020. The specific deadlines for each step of this project, as well as the SPS members responsible for completing them, are included below.

Date	Action Completed	Coordinator
February 1, 2020	Confirming event with Best Buddies	Gia Pirro
February 10, 2020	Ordering the supplies for the activities and reaching to volunteers	Alden Raymond
March 6, 2020	Completing updates on the activity demonstrations	Anna Murphree and Joe McPherson

March 13, 2020	Finalizing logistic details with Best Buddies (time, date, food coordination, etc.), as well as volunteers for the events	Gia Pirro and Mackenzie Gibbs
March 23-27, 2020	Putting on the event; the specific date will be decided by the Best Buddies organizers	Gia Pirro, and more SPS volunteers
April 15, 2019	Evaluating the event in officer meetings and compiling event photos and documents	SPS officers
April 30, 2019	Completing and submitting the final event report	Gia Pirro and Anna Murphree

## Activity Evaluation Plan

The Rhodes SPS social media chair will document the event with photos and videos, which will help determine the success of the event. Additionally, participant engagement will be a clear marker of the success of the event, including whether the buddies are able to successfully complete most of the challenges and if they appear to be or even say they are enjoying the competition. We will be able to get feedback from the friends on behalf of themselves and their buddies, and friends potentially choosing to opt-in to the SPS email subscription will give us an idea of how effectively the event promoted physics interest for Rhodes students. This evaluation will be discussed in-depth at the officer meeting after the event, as well as with the rest of the chapter members and especially everyone involved in the demos.

## Budget Justification

The allocated budget will primarily be used to make adaptations of pre-existing demos required to make them accessible for the particular needs of buddies with IDD. On the budget, numbers 1-5 will be used for creating the magic wands that provide a safe and easy way for buddies to explore electricity, and numbers 7-8 will be used to modify the rotational inertia demo that will allow buddies with limited balance to be able to participate in the demo. We want to give the magic wands and SPS buttons as take-home prizes for participating in the event and as a lasting reminder of fun physics principles.

Additional money will be used for dinner because Best Buddies typically operates to remove caregiver responsibility by providing meals and allowing caregivers to have a night of rest.