



SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

Future Faces of Physics Award Proposal

Project Proposal Title	Peer Mentorship and Physics Café
Name of School	Stony Brook University
SPS Chapter Number	6786
Total Amount Requested	\$500

Abstract

SUNY Stony Brook's SPS chapter aims to continue our Mentorship Program and Physics Café initiative, both established in 2021. This program's motive is to strengthen relationships between physics students of all backgrounds and identities by giving historically underrepresented students a platform to mentor and receive mentorship in the physics major.

Proposal Statement

Overview of Proposed Project/Activity/Event

This year we are continuing our peer mentoring program which is now quite well established as it has been running for three years. Our mentorship program is meant for students who are physics or astronomy majors, physics-adjacent majors, and those strongly considering such a major. Our goal is to support new physics students, especially those from underrepresented demographics, in the physics major at Stony Brook. Mentors will meet with their mentees at least twice a month, discussing topics such as career paths, research opportunities, classes, and much more. Mentors gain valuable leadership and communication experience, and mentees are able to benefit from their mentor's experience

Continuing last year's weekly Physics Café, students will have an opportunity to talk about a topic in physics that interests them and share it with their peers. Every other week we will hold a round-table discussion on meaningful topics meant to broaden students' knowledge of misunderstood or under-discussed topics relating to physics. Some topics we have discussed include how physics is covered in the news and how to effectively communicate science to a broad audience. Physics Café serves as a means for chapter members to practice science communication with their peers.

How Proposed Activity Promotes Physics Across Cultures

When students enter higher education, they are often met with a variety of new cultures and people of different backgrounds. Cross cultural communication must be fostered, and our Mentorship and Physics Cafe programs seek to encourage it.

The Mentorship Program is particularly designed for incoming freshmen who are unsure of how to navigate the physics major or who need a role model. This is particularly beneficial to international or first generation students who are not familiar with American higher education. It is also beneficial for minorities in the department who struggle to find anyone who looks like them or shares their identity. Female mentees, for example, tend to be paired with female mentors so that they have someone who shares their experiences in a male dominated field. The goal is to create an environment for sharing experiences, building relationships, and exchanging culture between our diverse groups of mentors and mentees. Physics Café serves as another platform for these groups to interact in this way, and allows for freeform discussion between all people. These efforts will aid in not only the retention, but the success of marginalized groups in physics. Hopefully, the continuation of these programs in our chapter will provide an awareness of and appreciation for diversity in STEM.

Plan for Carrying Out Proposed Project/Activity/Event

Our executive board (e-board) consists of seven members, and three e-board members are maintaining the Mentorship Program and two other e-board members are leading the weekly Physics Cafe discussions. Each year, both programs are advertised via the main announcements channel on our Discord server, Instagram, GBMS, and in person flyers posted around the physics building. The Mentorship Program is also advertised to the entire undergraduate department via department email, and membership to our SPS chapter is NOT required for participation in the program.

This year, the Mentorship Program has 25 members, with one mentor having two mentees. These numbers are up from last year's 22 mentors and mentees and the year previous' 20 mentors and mentees. Sometimes graduate students also sign up to be mentors. Physics Cafe encourages SPS members to come by and have informal discussions, and members outside of SPS are also welcome. Between 8-18 students attend Physics Cafe, depending on the topic of discussion and individual schedules. In the future, we aim to expand Physics Cafe to include the graduate student association in our department as well.

The Mentorship Program needs to be maintained by biweekly check-ins between mentors and mentees, and these are reviewed by the e-board. Additionally, group meetings (and a field trip) with all mentors and mentees happen at least once a semester to facilitate communications.

SPS e-board tends to consist of mostly upperclassmen with a few underclassmen, meaning that most have experience on e-board and experience running these programs from past years. These programs rely mainly on the competence of the e-board and also on the support of the department. The surest way to ensure the success of these programs is to continue fostering communication with younger students and encouraging them to run for e-board so that rising upperclassmen can continue these projects.

Project/Activity/Event Timeline

This year we announced the program in mid-September and collected mentor and mentee applications through September 25th. We vetted mentors and mentees during the week of September 26th. We conducted small group interviews with the mentors in which we read and discussed an article about the mentor-mentee relationship. The mentees were sent interview questions to answer in a Google Form. Once the vetting process was completed, we paired up mentors and mentees to the best of our ability based on the interests and goals they indicated in their applications and interviews. We held our launch event on October 6th. This year we are requiring mentor and mentee pairs to meet at least twice a month for the remaining months of the fall semester and then starting up again in the spring semester. In the spring semester we are planning to have a field trip for mentorship program members to the Custer Institute, an observatory that has open observing nights. We are also planning to hold more group events during the year to help foster community rather than only a kickoff and closing events at the beginning and end. We will again hold a closing event at the end of next semester to reflect on the participants' experiences.

Physics Café will be held every Friday that school is in session. Most of the meetings this year will be free-form presentations, with a few round-table discussion meetings on relevant topics like recent physics news.

Activity Evaluation Plan

The initial mentor and mentee application forms had survey questions to evaluate why each applicant wanted to be a mentee or mentor. A demographics section was included on the application forms in order to evaluate our program's reach. Records of mentor-mentee meetings are kept by way of filling out a google form for two of their meetings each month, letting us know briefly what they discussed and learned as well as any questions or feedback they might have for us. As done in previous years, we plan to send participants an exit survey at the end of the year to share what they feel they learned or gained from the experience. We will compare participation numbers and demographics from the previous two years' peer mentoring programs to assess the growth of the program and determine possible improvements to implement in the coming years.

Budget Justification

Our primary use of the funds would be to create an engaging and educational environment for our members through hosting events where our members can connect with their peers and develop skills that would help them further their careers.

We would like to host beginning and end of semester events that foster a sense of community for members of our mentorship program. Providing refreshments at these events creates a welcoming atmosphere, encouraging networking and collaboration.

We would also like to host a field trip for the members of our mentorship program. We propose a trip to the Custer Institute's open observation night, which is a unique opportunity for practical learning and exposure to real-world physics applications. As the Cluster Institute is a volunteer-run organization, it suggests a nominal donation per attendee, and we have predicted the number of attendees based on the number of people in the mentorship program. This trip not only enriches our members' educational experience but also strengthens ties within the physics community.

For Physics Cafe, a relaxed and informal setting is key to promoting open discussions and presentations among peers. Refreshments like tea, coffee, and snacks play a significant role in creating this environment. They encourage attendance and participation, aiding in the development of essential presentation and communication skills. The budget accounts for the cost of refreshments for each week. We would like to purchase a new coffee machine, as our previous one is no longer functional, and a replacement is needed to maintain the inviting atmosphere of the Physics Cafe. This small investment will significantly impact the overall experience and effectiveness of Physics Cafe.