SOCIETY OF PHYSICS STUDENTS
An organization of the American Institute of Physics

Future Faces of Physics Award Report

Project Proposal Title	Peer Mentorship and Physics Café
Name of School	Stony Brook University
SPS Chapter Number	#6786
Project Lead (name and email address)	Evan Trommer evan.trommer@stonybrook.edu
Total Amount Received from SPS	$300.00
Total Amount Expended from SPS	$300.00

Summary of Award Activity

SUNY Stony Brook's SPS chapter aimed to continue our physics mentorship program established in Fall 202
program's motive is to strengthen relationships between physics students of all backgrounds and identities by
historically underrepresented students a platform to mentor students and to receive mentorship in the physics ma

Statement of Activity

Overview of Award Activity

The peer mentoring program is a continuation of the program started last year. Open to physics majors physics-adjacent majors, and those strongly considering such a major, our mentorship program is intended to s new students and students from underrepresented demographics in physics at Stony Brook. Through at least one mentorship meeting per month, mentors gain valuable leadership and communication experience, and mentees insight on topics such as course scheduling, involvement in research, and career opportunities.

We conducted casual interviews with prospective mentees and mentors, and used the insight gained f these interviews to make pairings. An effort was made to create pairs that we expected to get along well and mentors were well equipped to fulfill the needs of mentees. For instance, a mentee who is a physics major and considering doing a double major may be paired with a mentor that has those two majors. We then had pairs an agreement form so the commitment was known and had them meet on their own times to allow maximum flexibility, as well as to lay out communication methods and discuss what goals the mentee wanted to accomp the end of the year.

This year, the program provided 10 freshmen physics students with guidance and advice from their upperclassmen peers. Alongside other SPS initiatives, the mentorship program helped increase understandi physics and helped younger students understand the major. It made mentees more confident in their ability to succe in the major, get involved in research, and make their degrees useful to their careers. It also helped mentors explain ideas to younger students.

The Physics Café initiative was also continued from last year, and allowed students to come together to di physics topics. The audience was aimed at anyone involved in physics and anyone was welcome to walk in. T of discussions were held: topical talks and Socratic discussions. For the talks, participants were given six minutes to give a brief, high-level explanation of a topic they had learned about during the week, whether it be a classroom topic, something they learned from research, or something researched on their own. Speakers had access to a whiteboard to help visualize their topic and after their presentation other participants were given t to ask questions. The Socratic discussions encouraged participants to answer questions on central topics, such as the portrayal of physics in popular news. Free tea and coffee was offered/served to all participants.

Impact Assessment - How the Project/Activity/Event Promoted Physics across Cultures

We set three major goals for our program this year. The first was to support newly admitted, especially those from underrepresented demographics in physics and physics-adjacent majors. The second was to recruit quality student mentors to provide mentees with support by giving advice for scheduling classes, sharing insights from their path through the major, discussing possible career paths, discussing involvement in research, etc. The final goal w this year was to expand the program from last year. We aimed not only to have more participants, but to keep the participants active in the program for longer.

We evaluated the success of our program by comparing demographic and retention statistics from last collecting reflections on mentorship meetings via a Google form to be filled out by the pairs after each of their meetings. The form included inquiries into discussion topics and opportunities for completely open ended res

Our final statistics are promising. Based on responses to our sign up form, about 31%of our mentees came from what the AIP considered to be underrepresented groups in physics. According to collegefactual.com, 17%of Stony Brook's undergraduates in the physical sciences are from these groups. Therefore, our program seems to provide value to members of underrepresented groups in physics. Based on responses to the same from, about 43%of our mentees identified as women. Collegefactual reports that 41.2%of Stony Brook's undergraduates in physical sciences are women, so we are at least matching the representation in our community, though we hope to increase this number in our program's future years.

Our retention improved dramatically this year. Last year, about 20 students signed up to participate in our program, but more than half of the mentor/ mentee pairs dissolved over the course of the year. This year, 22 students signed up and only two pairs dissolved, giving us a retention rate of 82%, which is much better than ~50%. Furthermore, we had mentees from last year return as mentors and mentors from last year be mentors again. Lastly, all four mentors that answered the form and are not graduating indicated that they would return, and all four mentees that answered indicated that they would return as mentors or consider doing so.

Overall, this year we expanded on the initial success of last year's pilot Peer Mentorship program. We saw an increase in the number of students who signed up and, more importantly, we saw better retention. We also achieved our goal of promoting greater diversity within physics by providing mentorship to underrepresented demographics.

Impact Assessment: How the Project/Activity/Event Influenced your Chapter

SPS members were able to strengthen their relationships with other physics majors through the mento program. Both mentors and mentees learned from their interactions, and both groups developed a deep resp each other. Many mentees also developed a stronger sense of understanding as a physics major and learned which classes require which skill sets. They gained confidence about getting involved in undergraduate research an finding careers in either research or industry.

Some responses to the monthly check-ins, used to gauge the progress of the pairings, include:

- "[We discussed] getting involved in (theoretical) physics research, particularly at the YITP [Yang Institu Theoretical Physics]. We also discussed graduate school and how to tailor them to his academic and research goals"
- "[We discussed] research (especially relating to URECA [Stony Brook's summer research fellowship]), midterms, courses for next year"
- "[We discussed] summer projects, possibility of transferring to Stony Brook and what that may look like, industry vs higher education after bachelor's degree"

Some responses to the end of year survey form include:

- "I had a great experience and some really insightful conversations about the physics undergraduate ex [My mentor] and I will keep in touch, possibly for the rest of my time here. I learned the ins and outs of participation in physics and saw a human side to an otherwise hard to approach subject."
- "Thank you [FFoP-E board members] for a great program this year and I look forward to helping out as a mentor."

For our Physics Café initiative, we held weekly meetings on Fridays throughout the Fall semester. This initiati strengthened the bonds between people in the physics major and allowed students to discuss fun physics top homework, and classes in the physics department. We noticed, though, that participation fell off sharply by the end the Fall semester, due to a combination of final exam preparation and other scheduling conflicts. For future p of these cafés, we aim to have continued participation throughout the whole academic year and work with participant

to come up with a schedule that will work for the greatest number of people. People still expressed interest in and asked when the next cafés would be held, so we know that this event is something students appreciated.

Key Metrics and Reflection

The Future Faces of Physics Award is designed to promote projects that cross cultures. What cultures did your project attempt to bring together? (Please be as specific as possible.)	Our mentorship program is designed to support underrepresented people in physics. We made pairings based on gender so that women could have a female mentor, which is often something women do not have in this major. Pairings were made in order to bridge communication gaps between different demographic groups and encourage promotion of diversity in physics. The demographics of our group included Caucasian, Hispanic, Asian, and Indian.
How many attendees/participants were directly impacted by your project? Please describe them (ex: "50 third grade students" or "10 high school volunteers")	18 undergraduate students (freshmen-seniors) out of an initial 22 were active in the Mentorship program throughout the academic year. About 10 undergraduate students regularly attended our Physics Cafés.
How many students from your SPS chapter were involved in the activity, and in what capacity?	We had 8 active members who were mentors, and 10 active members who were mentees. Everyone who attended a Physics Café was a regular member of our chapter.
Was the amount of money you received from SPS sufficient to carry out the activities outlined in your proposal? Could you have used additional funding? If yes, how much would you have liked? How would the additional funding have augmented your activity?	The money was sufficient for this year's activities. However, there are two future goals which could cause funding to become an issue. (1) We are always aiming to grow our program. The cost of items such as food scales with the number of participants. (2) We would have had a trip program trip this year if not for inclement weather. We would have been able to provide transportation for everyone using private vehicles and cover the cost using the allocated funds, but if the program grows we would either need additional funding or to have participants pay for their ways.
Do you anticipate repeating this project/activity/event in the future, or having a follow-up project/activity/event?	We intend to continue both Physics Café and the peer mentorship program next year.
What new relationships did you build through this project?	Mentors and their mentees formed valuable relationships that have the potential to last them throughout their time at Stony Brook. Some of our mentees this year have indicated that they would like to participate in our mentorship program as mentors in future years. Our program also helped us get in touch with graduate students for a future collaboration between our chapter and the Physics Graduate Student Association at Stony Brook.
If you were to do your project again, what would you do differently?	We would change the method of communication, as we found that people were less responsive to emails than we had hoped. We believe that a Discord chat within our club's server or a Slack group chat will better provide an avenue for more consistent communication.

	We would also like to put more time into the Physics Café initiative and have it continue throughout the year. With our new projector, we want to encourage students to make short powerpoint-style presentations that they can display to members.

Expenditures

Our expenditures were mainly in refreshments for the kickoff and end of year celebration. Thi necessary because these refreshments facilitated conversation which was necessary for the With some food and drinks, people were quicker to open up and discuss physics and people were a more inclined to stay for longer so that more could be accomplished. Our other expense was projector, which is a wonderful resource for our organization.

Expenditure Table

Item	Please explain how this expense relates t your project as outlined in your proposal.	Cost
Mentorship Kickoff Celebratio Refreshments	The kickoff celebration allowed mentors and mentees to meet for first time and to get to know eac other. The refreshments facilitated conversation.	$65.13
Projector	The projector allows us to watch educational videos, facilitated presentations, and was made ava for physics café presentations.	$129.99
Mentorship End of Year Celebration Refreshments	The end of year celebration allow mentors and mentees to end on the year. Since the projector cost less expected, more was spent on the of year celebration.	$116.08
	Total of Expenses	$311.20

Activity Photos

Fig. 1: End of year Mentorship Program celebration, where we used our projector to share statistics of the pro
with mentors and mentees and to discuss everyone's experience with the program.

Fig. 2: Also at the end of year mentorship celebration, program members building paper rockets which were lat
launched at our annual spring barbecue.

Fig. 3: One of our e-board members manning the projector at the end of the year mentorship celebration.