



SIGMA PI SIGMA

The physics honor society

Sigma Pi Sigma Chapter Project Award Final Report

Project Title	Science for Humanity
Name of School	St. John's University
Sigma Pi Sigma Chapter Number	303
Total Amount Awarded	\$500
Project Leader	Rachel Tyo, SPS President

Summary of Award Activity

The St. John's University Society of Physics Students, Sigma Pi Sigma Members, Physics Department (as well as professors from other departments such as math and chemistry), students, family, friends, and alumni came together for another inspiring evening at our annual Sigma Pi Sigma Induction Ceremony. This year we took on the theme of "Science for Humanity" and explored the many careers and paths that physics can take you to implement the St. John's Vincentian message and improve humanity and the quality of life.

Statement of Activity

Overview of Award Activity

The goal of our Chapter Project was to unite a welcoming and inspiring community of physicists to celebrate the accomplishments of our inductees as well as discover ways we can improve humanity through the application of physics. We had a mini competition to break the ice amongst the guests at our ceremony and really bring together everyone of all ages, backgrounds, and levels of education, a brief history of the Sigma Pi Sigma organization and its history, a lineup of inspiring alumni that spoke of how they improve humanity on a daily basis, and a beautiful dinner as we honored our inductees into the community of a lifetime and of opportunity.

After our informal greeting session Inductees, Professors and Guests split into groups and undertook our annual and important, fun scientific challenge. This year's challenge was to build the strongest and tallest standing tower out of 10 spaghetti sticks, 1 foot of masking tape, and 3 marshmallows. All models were simultaneously measured after 20 minutes of construction to determine the best designs with prizes for the best tower. The St. John's Chapter of the Society of Physics Students also used the exercise to gain insight into improvising designs for Third World and Emergency applications by testing their knowledge of basic physics. The guests really enjoyed this activity because it really allowed themselves to get creative and quite competitive as well. One team removed one piece of tape from their tower after their measurement and it ended up raising up another 3 inches or so, and possibly would have one if they had not already measured their tower. We had inspiring speeches from

- Mr. Damon Urso, P.E., Nassau County Department of Public Works
- Mr. Kingsley Joseph, Medical Physics Graduate Student, Hofstra University
- Ms. Christina Assante, Electrical Engineering Graduate Student, Stevens Institute of Technology
- Mr. Kenneth Wengler, Ph.D. Candidate, Stony Brook University, Biomedical Engineering
- Emily Lavelle, Esq., Law Offices of Dominick W. Lavelle

who all gave insight to a day in their jobs and how they contribute to humanity. It was nice for our students and even the high school students see the different pathways they could take and how they all make a huge impact upon the world, all at different stages in their lives. It also gave insight to the families of the students of all ages, which is also extremely important, especially when they may not have a career in the STEM-field or may not understand the hardships and successes that come with being a physics major. It was a very inspiring experience for them, which was a success.

Our Society of Physics Students executive board members, Physics Department, and Sigma Pi Sigma members all did a tremendous job in planning, organizing, and executing this induction ceremony from the inductee selection to the very end of clean up.

Impact Assessment: How the Project/Activity/Event Met the Purpose of the Award

Through our induction ceremony we were able to raise awareness to the fact that as physicists we can do more than just research and teach, but really make a difference in the world through exploring the various careers that our alumni have taken since graduating from SJU. High school and college students, alumni, professors, family, and staff alike all worked together in their respectful teams to put their ideas into one tower that was the most efficient in resources, strength, and resilience. They were able to analyze what materials they had and adapt to their situation and think outside of the box to create

something together. The new high school students thoroughly enjoyed the induction ceremony and are now aware of the Society of Physics Students and Sigma Pi Sigma and have joined the familiar high schoolers in their excitement for next year's ceremony.

Our students were inspired by our guest speakers to continue their studies into graduate school, law school, and even into private sectors. They found that all have a common desire to better humanity. Medical physics student from Hofstra University Kingsley Joseph and PhD Candidate at Stony Brook University Kenneth Wengler both inspired students in the medical aspect as well. We had one student who was so inspired by Kingsley that he actually applied to Hofstra University to pursue Graduate level Medical Physics to follow a similar path as Kingsley after hearing his speech at the induction ceremony. Congratulations to Alek Adorno for being accepted into the program as well. Because we had such a positive reaction, this also inspired our next executive board (as this year's members are all seniors except for one) for the SPS to do even more fun labs and hands-on activities through SPS with local high school and middle school students this next year to bring in new physics majors but to also promote for the next induction ceremony. One of these concentrations will be in Arduino construction and application.

Through this induction ceremony we had a further increase in number and variety of students joining and seeking information about our SPS Chapter. Consequently, we believe we are in an excellent position to carry our enthusiasm and momentum into the next academic year.

Key Metrics and Reflection

Please answer the questions below. Please indicate if a question is not applicable to your project.

Who was the target audience of your project?	New and current members with a special focus on encouraging our graduating seniors to seek further education in physics	
How many attendees/participants were directly impacted by your project? Please describe them (for example “3 alumni” or “10 physics majors”).	10 Physics Dept Faculty and Staff 26 Physics Students incl. Inductees 16 Family and Friends 6 High school students and administrators 10 Guest Speakers and Alumni	
How many students from your Sigma Pi Sigma chapter were involved in the activity, and in what capacity?	23=10 current members+ 13 Inductees	
Was the amount of money you received from Sigma Pi Sigma sufficient to carry out the activities outlined in your proposal? Could you have used additional funding? If yes, how much would you have liked and how would the additional funding have augmented your activity?	We had enough money this year as SPS grant covered most of our expenses and St. John’s University provided some additional funds.	
Do you anticipate repeating this project/activity/event in the future, or having a follow-up project/activity/event? If yes, please describe.	This event was extremely popular and motivated our students, we definitely want to carry on with this event in the future	
What new relationships did you build through this project?	We built a strong relationship with our local high school students and administrators, we built stronger, enduring relations with our alumni both recent and old, and most importantly we made a physics department even closer and stronger.	
If you were to do your project again, what would you do differently?	More strict time policy for guest speakers and to rearrange the program to have students inducted right after the history	

Expenditures

Expenditure Table

Item	Please explain how each expense relates to your project as outlined in your proposal.	Cost
Prize for Contest	This is to reward the best participants for their innovation	\$80
Prize for Best High School Student	This is to reward the high school student that was most involved and enthusiastic at the ceremony, it is a motivational incentive for the high school students to continue being quizzical and innovative	\$20
Prize for Best SPS Inductee	This was for the SPS Inductee who displayed the most involvement in classes and in the department throughout the school year	\$20
Guest Gifts	We had a small physics gift for each guest to promote the love for the science	\$80
Prize for Best Undergrad Tutor	This is to reward the student who was inspiring, motivational, and helpful to their fellow students throughout the year	\$20
Prize for Outstanding Contribution to SPS	This is to recognize that hardworkd and dedication in the field of physics and promotion of it can pay off	\$20
Construction Materials (spaghetti, marshmallows, tape)	This is the application of physics in a mini-real life situation	\$25
Gift Bags (12 pack)	For the gifts	\$6
SPS Inductee Gifts	A welcome into our wonderful organization	\$80
Desserts	Always great after working your brain!	\$120
	Total of Expenses	\$471

Activity Photos



1 Anthony S, Dominic T, Michael S, Alexis E, and Jack Y before the ceremony starts



2 Brandon G, Antonia V, Justina D, and friend



3 Jack Y and Michael S building their tower



4 Claire A, friend, Natalie M, Seychelle K, friend, and Austin B waiting for instruction



5 Dr. Fortmann and Dr. Long building their tower



6 Building their tower



7 Trying to build the winning tower





8 Mike B representing his team's winning tower



9 Christina Assante, guest speaker



10 Damon Urso, guest speaker



11 Kingsley Joseph, guest speaker



12 advisor Dr. Fortmann giving president Rachel T a gift after her three years of devotion to SPS



13 Sigma Pi Sigma 2018 newly inducted members!



14 Russell L, next SPS president for upcoming year being inducted by Dr. Fortmann



15 our graduating senior Sigma Pi Sigma members Rachel T, Claire A, Alek A, Antonia V, Natalie M, and Austin B



16 Our hard working 2017-2018 executive board for SPS (VP- Claire Alvine, Secretary- Seychelle Khan, Secretary- Natalie MacDonald, President- Rachel Tyo)

All photos taken by Society of Physics Students 2018-2019 Events Planner, Sedariest Hammond

