

Poster 1:

Student Name: Sanjana Gangishetty

Student Major: Computer Science, Data Science

Scholars Program: Science and Global Change

Title of Project: NitesOut Entertainment

The Specific Class (Code and number: for instance, CPSG230) Used for this Project (note: there is ALWAYS a course they use to get credit): CPSP359G

Briefly describe the nature of the project (activities done; goal of project; results; etc.)

Gangishetty worked with 5 other student developers to create an app/website (NitesOut) that helps people navigate the night life around the surrounding campus area in collaboration with the University of Maryland. She used React Native to create the app as there is built-in implementation of easily transforming the program into an app suitable for download on Google Play and Apple Stores. They organized with other clubs and venues to accurately update the events available to explore.

What were the main benefits (intellectual, personal growth, etc.) the student received from doing the project?

The main benefit of working on this project was being able to collaborate with a group on the project as it allowed her to experience programming in a real-world environment. It also gave her the opportunity to implement her knowledge of data aggregation and processing, analytics tools to analyze user interests to customize the app's recommendations to the user's preferences. Through the project Gangishetty learned React Native, a tool that she wants to continue using in the future, and the development process using GitHub (push, merge, commits, and branching or different versions of the code).

What were the main pitfalls or obstacles during the development and/or undertaking of the project?

There weren't any major pitfalls or obstacles that interfered with the development of the website version of the project. The only issue would've been the time availability of the team as they are all students busy with exams and final projects for their courses. This caused the development of the project to slow, so they have yet to change the website version of the project into a downloadable app. Approval from UMD was also a cause of holdbacks since the team wished to get a grant to publish the app.

What are your future plans with the project?

After finals they plan to continue development to move the project onto its next stage, turning the website version into an app. She also stated that they would like to expand the scope of the projects beyond UMD as the program is designed to be scalable and can be useful beyond finding new experiences for college students. This expansion can also hopefully fulfill their desire to make ticketing easier for local events by implementing a ticketing system so there will be no commission cuts.

Poster 2:

Student Name: Phillip Papadopoulos

Student Major: Biological Science (Cell Biology and Genetics)

Scholars Program: Science and Global Change

Title of Project: Diving into Aquaculture

The Specific Class (Code and number: for instance, CPSG230) Used for this Project (note: there is ALWAYS a course they use to get credit): CPSG250

Briefly describe the nature of the project (activities done; goal of project; results; etc.)

The project that Papadopoulos worked on was research on aquaculture, specifically the optimization of rainbow trout muscle growth and color by identifying the specific genes controlling these trait expressions for selective breeding with the Salem Laboratory. This is for the betterment of fish farmers as larger and heavier fish are more appealing to customers.

What were the main benefits (intellectual, personal growth, etc.) the student received from doing the project?

Through the project, Papadopoulos learned a lot about the trial-and-error process of research and the procedures of laboratory research in real implementation as his team had to develop the procedures themselves. He also became accustomed to sterilization techniques for handling lab samples to ensure reduction of potential errors in the research.

What were the main pitfalls or obstacles during the development and/or undertaking of the project?

The main problems in the research project were figuring out the specific PCR conditions to run the samples under due to the fact that these usually took an hour and a half to complete and varied between samples. A lot of the research ended up being trial and error.

Is your interest mostly in aquaculture?

It has been aquaculture focused on research, but he may move onto other research subjects. One of the other research projects he's done tested the impact of creatine on fish and found that there were improvements to muscle and color changes.

What is the future trajectory of the research?

The research team plans to look at chickens to address wooden breast syndrome so that more of the chicken raised by farmers can be sold for commercial use since the condition causes unusual muscles that are desired for consumption.

Why isn't all of the research done on site?

To examine the samples, it is sent to another lab capable of analyzing the DNA sequences extracted to determine the precise genes amplified through the PCR.

Poster 3:

Student Name: Diallo Barnes

Student Major: Chemistry

Scholars Program: Science and Global Change

Title of Project: Hydrogen Production and Oxygen Storage Materials

The Specific Class (Code and number: for instance, CPSG230) Used for this Project (note: there is ALWAYS a course they use to get credit): CPSP369G

Briefly describe the nature of the project (activities done; goal of project; results; etc.)

Barnes worked in a research lab that examined metal oxides' ability to absorb and release oxygen for environmental preservation and sustainability as it can be used for carbon dioxide tracing. They found that LuMnGaO_4 and YbMnGaO_4 were the best at absorbing oxygen and storing it and could be used for improvements to fuel combustion and conversion.

What were the main benefits (intellectual, personal growth, etc.) the student received from doing the project?

Understanding the different components of inorganic materials to synthesize them and analyze them for absorption of oxygen. He also became accustomed to analyzing the text written by other scientists in the field and utilizing that information for new purposes.

What were the main pitfalls or obstacles during the development and/or undertaking of the project?

The main obstacle that he faced was obtaining the desired product/metal as the environment was very difficult to achieve.

Were there any specific applications or tests that were run that were significant to the project?

During the research, his team read a plethora of papers on past studies of metal oxides, tweaking the past procedures to suit their research. X-ray diffraction played a significant role in the determination of the structure of metal oxides, allowing them to determine if the metal was a good fit for sustainability.

Are there any future plans to continue the project? If so, what are they?

They have yet to test the efficiency of the two metals to release the oxygen that they absorbed as the metals must be capable of to be considered a possible metal for energy conservation. This absorption and release are the oxidation and reduction process, indicating that the metal can be used for environmentally friendly clean energy production and storage. Barnes wants to see how these metals are able to generate hydrogen to examine the relationship between metals that produce hydrogen and absorb the most oxygen.

How would you apply this research to real world applications?

The most effective metal must be determined first so that it can be mass produced by scaling up the creation process and perfecting the environment so it can be used for clean energy.

Poster 4:

Student Name: Aamaly Hossain

Student Major: Psychology and Journalism on Pre-Law Track

Scholars Program: Justice and Legal Thought

Title of Project: British Colonialism: Exploring the Effects on Growth for Bangladeshi/Bengali's

The Specific Class (Code and number: for instance, CPSG230) Used for this Project (note: there is ALWAYS a course they use to get credit): CPJT250

Briefly describe the nature of the project (activities done; goal of project; results; etc.)

Sent out a survey on the impact of colonialism on the personal growth and development of Bengalis to relatives, Bengali student organizations, friends, etc.

What were the main benefits (intellectual, personal growth, etc.) the student received from doing the project?

This project allows Hossain to learn more about her culture and the impact of the Bengali culture identity on others' lives through interviews. She was also able to practice interview and survey writing skills that she wants to implement in future projects.

What were the main pitfalls or obstacles during the development and/or undertaking of the project?

Initially 72 people filled out her survey, but she had to remove some of the datasets since the participants did not identify as Bengali, ending with only 23 responses, severely reducing her dataset. The plotted data didn't find any strong correlation between acceptance of Bengalis identity and the personal growth and development of the individual.

What inspired you to do this project?

Hossain's grandfather was in the military pre-independence fighting for Bangladesh liberation against the British colonizers in 1971. However, during this period Pakistan was also fighting for self-determination and tried to force Bengalis to fight for them. Not wanting to fight for Pakistan, Hossain's grandfather fled just before his village was slaughtered, raped, and looted by the Pakistani forces. Her other family members shared stories of torture and humiliation in front of crowds of their loved ones due to these political conditions. The colonization from the British to mass genocide in the midst of liberation resulted in generational trauma that is carried down through the generations.

If you were to fix anything or continue the project in any way, what would you do?

Since the quantitative data plotted on the graph doesn't accurately represent the responses on the impact of colonialism on Bengali identity thus impacting personal growth from the interviews, she wants to conduct another round of the same project but this time only interviewing people. This would allow for deeper analysis of the post-colonialism Bengali psyche, finding commonality between people's experiences qualitatively.

Poster 5: Discovery

Student Name: Chelsea Ibezimako

Student Major: Public Health Science

Scholars Program: Global Public Health

Title of Project: Pancreatic Cancer Incidence and Historical Trauma in African Americans

The Specific Class (Code and number: for instance, CPSG230) Used for this Project (note: there is ALWAYS a course they use to get credit): CPSP359S

Briefly describe the nature of the project (activities done; goal of project; results; etc.)

Using a combination of researchers to attempt to find a correlation between pancreatic cancer in African Americans and historical trauma. She found that black patients have a high rate of death from pancreatic cancer due to their late diagnosis of the disease due to the lack of healthcare allotted to them. While there isn't definitive proof that historic trauma contributes to pancreatic cancer among the black population, there is a connection between pancreatic cancer and a historical prejudice against black patients.

What were the main benefits (intellectual, personal growth, etc.) the student received from doing the project?

The project helped Ibezimako connect with her mother who had pancreatic cancer, serving as a form of closure for the situation in her life. It also made her very persistent as much of the past research is not applicable to her project.

What were the main pitfalls or obstacles during the development and/or undertaking of the project?

The historical trauma theory is a new concept that is being discussed so there is not much research that supports the concept. The sources she used were also severely limited since she could only use primary sources since she wanted the information to be as accurate as possible.

How do you think the system around health research and healthcare should improve?

There needs to be less of a gender gap between the participants of the research and racial gap. Currently there is a lack of equity in the field, lacking representation and visibility of health issues. The unequal distribution of black patient knowledge causes there to be a lack of biomarkers for pancreatic cancer in black patients.

How can your research be applied?

The research is to open the doors to addressing and connecting the health disparities that have been plaguing the communities. Making the issue more present in the field would help people start to talk about the problem.

Do you think changing the healthcare system would help future generations?

Ibezimako thinks that there will still be a lot of mistrust within the black community towards healthcare due to the history of service and consideration for the people. For the change in the healthcare system to actually improve the lives of black patients, there must be a way to address the distrust first.