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PRESS RELEASE

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10 high schoolers complete UOG's STEM-focused summer program

Ten high school students gained experience and mentorship in marine and environmental research this summer as participants in the National Science Foundation INCLUDES SEAS Island Alliance Summer Science Program. The program was hosted from June to July by the [Center for Island Sustainability](#) and the [Sea Grant](#) program at the University of Guam.

“Ridge to reef is the focus — what we do on the land and what we can do to minimize erosion and the negative impact to the sea,” said Cheryl Sanguenza, team lead for the program and co-principal investigator of the grant funding it.

The program, part of an alliance project crossing oceans with partners in the U.S. Virgin Islands and Puerto Rico, is supported by a \$2.3 million grant from the National Science Foundation. The grant seeks to grow the number and diversity of students interested in pursuing careers in STEM fields.

Through the program, students are provided with training and research opportunities under several mentors.

The students each worked on a project, which they presented at a science fair and symposium held on July 2 at the University of Guam.

Winners of the NSF INCLUDES High School Science Fair:

- **First Place:** Cameron Jae Paulino, Notre Dame High School, “Field Instrumentation and Their Importance in Landslide Assessments”
- **Second Place:** Enqi Yang, Harvest Christian Academy, “Photosynthetic Efficiency of Porites Lobata’s Photosystem II as Affected by Color Morphology”
- **Third Place:** Theo Flores, George Washington High School, “Sediment Clearance Between Leptastrea and Porites Massive”
- **Fourth Place:** Christel Kei Valerio, George Washington High School, “The Effects of Seed Priming as Demonstrated by Artocarpus Mariannensis”

First-place winner Cameron Jae Paulino looked at different natural elements, including grass and rainfall, and their effects on a slope to understand what causes landslides in Guam.

“It is important that we study landslides because of the dangers and destruction they bring,” Paulino said. “Landslides can wipe out villages, injure people, and destroy buildings. They also destroy land, which then flows into the ocean, causing damage and destroying coral reefs. So we are also losing land to the ocean, which we will not be able to get back.”

Second-place winner Enqi Yang experimented with the effects of temperature and light on corals for her project.

“I found out that the purple pigment colors are more efficient [regarding photosynthesis] than yellow colors in strong lighting conditions, which is important in coral restoration,” Yang said.

Sanguenza emphasized the real-life application and impact of the research process for students.

“The practical applications are huge,” she said. “It is beyond what we see in terms of traditional science research.”

According to Austin Shelton, principal investigator of the NSF grant, the winning students may be able to represent the island at international science fairs through a partnership with the Guam Science and Discovery Society.

About NSF INCLUDES SEAS Island Alliance

The National Science Foundation Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES): Supporting Emerging Aquatic Scientists (SEAS) Island Alliance is a collaborative project that takes place in Guam, the U.S. Virgin Islands, and Puerto Rico.

The program aims to broaden the participation of islanders in STEM fields. It is part of a comprehensive national initiative to enhance U.S. leadership in discoveries and innovations by focusing on diversity, inclusion, and increased participation in STEM at scale.

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Photo captions:



2021-NSF-Science-Fair1

High school research interns of the 2021 National Science Foundation INCLUDES SEAS Islands Alliance Summer Science Program pose with their families and mentors at the program's culminating science fair and symposium on July 2 at the University of Guam School of Business Public Administration.



2021-NSF-Science-Fair2

The winners of the 2021 NSF INCLUDES SEAS Islands Alliance Summer Science Program science fair. (From left) Cameron Jae Paulino, Notre Dame High School; Enqi Yang, Harvest Christian Academy; Theo Flores, George Washington High School; and Kei Valerio, George Washington High School.



2021-NSF-Science-Fair3

First-place winner, Cameron Jae Paulino from Notre Dame High School, stands next to her mentor, UOG Associate Professor Ujwalkumar D. Patil, at a science fair concluding the 2021 NSF INCLUDES SEAS Islands Alliance Summer Science program.

Photos courtesy of the University of Guam Center for Island Sustainability