Kapi'olani STEM PROGRAM

Kamehameha Schools Partners with Kapi'olani CC on Project Olonā

by Margot Schrire

Kamehameha Schools has awarded Kapi'olani Community College a two-year grant of $50,000 a year for Project Olonā. This allows students to build upon the work begun in the Fall of 2013. Project Olona engages Native Hawaiian students in the comparison of plant growth rates using traditional soil and hydroponic systems.

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Opportunity Expo 2014

by Naomi Nihipali

For the past 5 years, KCC STEM Program has hosted its annual Opportunity Expo event. The Opportunity Expo is designed to promote career, degree, service, internship and workforce opportunities for students, especially focused on Science, Technology, Engineering and Math majors.

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Kapi'olani Life Science Student wins at SACNAS

On October 18th 2014, Melanie Keli'ipuleole was recognized by the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) for her undergraduate research presentation at their annual conference in California. Melanie, the only winner from a Hawaiian Community College, was recognized for her research on the Hāʻukeʻuke, or Hawaiian Shingle Sea Urchin.

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Kapi'olani CC STEM Students Advance

by Naomi Nihipali

A handful of students have been accepted to attend the Emerging Researchers National Conference in STEM (ERN Conference) in Washington, D.C in February 2015. For these students, the journey of being a researcher started when they participated in KCC's STEM Summer Bridge Program. The Summer Bridge Program is designed to encourage exploration and interest in STEM (Science, Technology, Engineering and Mathematics) majors. Through the Summer Bridge Program students are introduced to the rigors and demands of college life. It's through these and other similar experiences that William Kaeo, Melanie Keliipuleole, Bryson Racoma, and Jennifer Wong-Ala have been able to find their niche and hone in on their career interests. Kaeo and Racoma are both Engineering students, while Keliipuleole is a Life Science major and Wong-Ala is a Physical Science major.

Both engineering students' projects are designed to increase space exploration and advance science and technology efforts. Kaeo will be presenting his research project on building and designing a hexapod locomotion robot. The hexapod design is inspired by six-legged insects and their ability to independently use each leg.

The goal of his research is to develop a robot which could be adopted for use in Mars-like environments for deposit and collection of soil samples. While Racoma's presentation will be focused on a project which simulates the landing of a payload on earth. This project will incorporate the collection of atmospheric pressure, acceleration and video feed through sensors and telemetry from 200 feet above the earth's surface. Both pro jects use a wide array of engineering and mathe matical theory and appli cation.

When students were asked of about their aca demic experiences, Ra coma says "Engineering is fun!" Wong-Ala, who learned about an her internship to Costa Rica through the Summer Bridge Program, says "Being a part of the KCC STEM Program and Summer Bridge has really changed my life. This is more than a program, it's a family who looks after one another. This program has helped me to attend and stay in college." Like many STEM students, Keliipuleole credits her success in research by saying "Summer Bridge was a great experience. My very first research project was conducted during Summer Bridge, and I can honestly say that I wouldn't be on this path if it wasn't for the experiences I had during that summer. The KCC Summer Bridge Program has definitely enhanced my learning experience and inspired me to excel in the STEM field."

For more information on KCC's STEM Summer Bridge Program or STEM Program, please visit our website:

stem.kapiolani.hawaii.edu

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First-year college students apply hands-on research to identify the active ingredients of Hawaiian medicinal plants and to compare the difference in the chemical potency of these plants when grown using different methods. These students also hope to discover potential healing properties of traditional medicinal plants through their knowledge of chemistry.

Keolani Noa, outreach and Native Hawaiian coordinator of the STEM Program said, "We are very excited about this innovative collaboration between Kamehameha Extension Education Services Division and Kapiʻolani CC Science, Technology, Engineering and Mathematics (STEM) program." Noa continued, "Project Olonā will help students enhance their knowledge about Hawaiian culture and science and help them link traditional Hawaiian practices to contemporary science. This program is poised to increase interest and preparedness of Native Hawaiians for STEM related professions."

Through this project, students have the opportunity to work alongside experts in the fields of ethnobotany and chemistry. These experts lead the program and provide them with the scientific skills and knowledge needed to successfully conduct their experiments.

Kapiʻolani CC Chancellor Leon Richards stated, "Through this project Native Hawaiian students will be given the opportunity to find their place and role in the ʻAina in which they live and relate their cultural knowledge and experience to rigorous scientific investigations." Richards continued, "This program supports KCC's broader mission of preparing students for lives of critical inquiry and effective engagement and leadership in careers which strengthen the health, well-being, and vitality of all. We are most grateful to Kamehameha Schools for their vision and generosity."

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This past year 23 agencies and organizations participated in the event, from private industries and University of Hawaii organizations. Some of the industry participants were Engineering Systems, Honolulu Authority for Rapid Transportation, Hawaii Electric Company, Sea Life Park and Papahanaumokuakea to name a few. University of Hawaii-Hilo Math & Science Department, School of Ocean and Earth Science and Technology at University of Hawaii-Manoa and Kapiʻolani Community College Library Services were some of the services available to inform students of resources and transfer programs.

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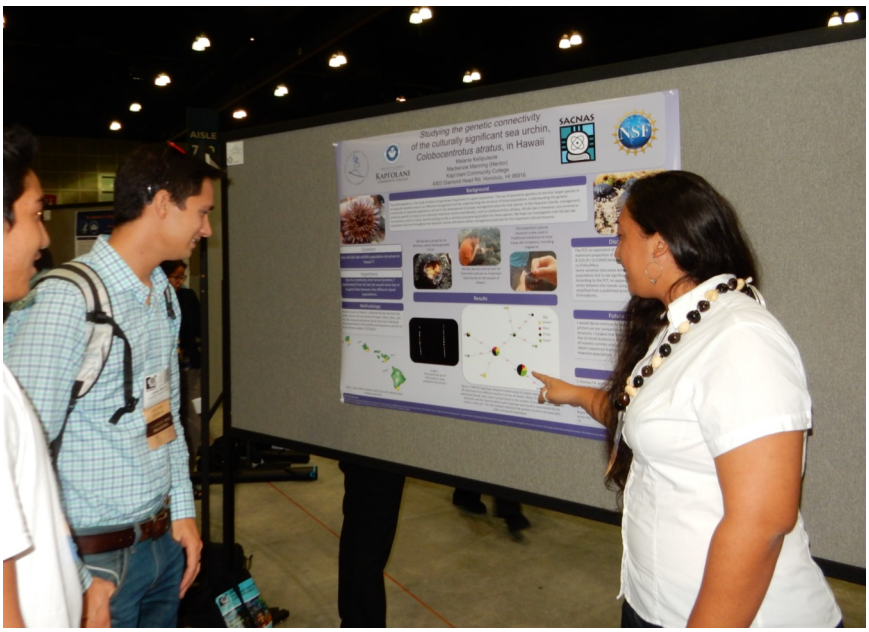
Melanie's poster attracted a lot of attention this year and she only received positive feedback from the attendees. "They were all interested in the cultural aspect of my research. It was a really, really positive experience for me." Melanie hopes that her research will one day lead to the Native Hawaiian *Colobocentrotus atratus* being recognized as its own endemic species.

When asked if she had any advice for her fellow students, she said, "Go to as many conferences as possible. I feel like I get so much out of it. You get to see what everyone is doing in your field all in this one spot. It refuels my passion for what I do and it makes me want to study harder so that I can go to even more conferences."



About Us:

The goal of the STEM Program is to enhance the quality of the science, technology, engineering and mathematics instructional and outreach programs at Kapi'olani Community College as well as to increase the number of STEM students transferring to four-year degree programs as they prepare for careers in the STEM disciplines.

For more information please contact:
Kapi'olani Community College
STEM Program
4303 Diamond Head Road
Honolulu, HI 96816
Kokio 202

STEM Program Director
Dr. Maria Bautista

STEM Outreach Coordinator
Keolani Noa

Phone - (808) 734-9389
Fax - (808) 734-9151

Email - kccstem@hawaii.edu
Web - http://stem.kapiolani.hawaii.edu

Acknowledgements: Thank you to all of the contributing authors.

Layout, Design & Editing by Kendall Kido, Marketing, STEM Program

Phone - (808) 734-9440