



Kapiolani Community College
 STEM Program
 4303 Diamond Head Road
 Honolulu, HI 96816
 Phone: (808)734-9389
 Fax: (808)734-9151
 Email: kccstem@hawaii.edu
 Web: <http://stem.kcc.hawaii.edu>

KapCC STEM Program Newsletter (Vol. 1, Fall 2012)

The STEM Center

In 2011, a major renovation project was put into motion. In an effort to accommodate the constantly growing student body at KapCC, plans were made to expand the Kokio building. In addition to adding more classroom, laboratory and office space, renovations were also made to the STEM Center with the goal of creating more spaces for STEM students as well as the STEM Program staff and administrators.

For significant portions of 2011 and 2012, STEM Center operations were moved to the Atherton and Sinclair wings of Leahi Hospital. During the renovation period, students and faculty/staff members admirably dealt with the less than ideal situation. Math and science faculty members were forced to transport their labs and equipment in order to create temporary labs in the limited space. Meanwhile, students enrolled in science and math courses or looking for STEM Center services had to leave campus grounds to find their classrooms. STEM Program faculty and staff members were also moved temporarily to Leahi Hospital offices, as well as various locations around KapCC campus. Although the STEM Center was running at less than full capacity, the STEM Program managed to push forward.

Thankfully, the STEM Center portion of the renovations has been completed, which means that the Kokio STEM Center is once again open to students. For those who are new to the STEM Program, the STEM Center is an area where all students enrolled in math and science classes at KapCC can go for various free services. In addition to providing computers and study spaces, the STEM Center offers tutoring and peer mentoring for most science and math courses offered on campus. For a full description of the STEM Center and the hours of operation, please visit the STEM Center portion of the STEM Program website (<http://stem.kcc.hawaii.edu>).

Although the STEM Center has been completed, improvements are still being made to the classroom, laboratory and office spaces. We'd like to thank all of the math and science faculty members for their patience during this transitional period. We would also like to take this opportunity to thank the STEM Program students, as well as the rest of the student body at KapCC.



The Kokio Building, home of the STEM Center, at Kapiolani Community College

Faculty/Staff Spotlight

Mrs. Keolani Noa is the STEM Program Outreach Coordinator, but you may already know her as simply "Aunty Keolani." Mrs. Noa helps to recruit the vast majority of STEM students, both during the semester and during the summer through the Summer Bridge Programs. In addition to her official duties, Mrs. Noa assists with the organization of various STEM Program events throughout the year and helps to assign and schedule the peer mentors and tutors in the STEM Center. If you wish to contact Mrs. Noa, she can be reached at keolani@hawaii.edu.

Dr. Herve Collin, who is also a full-time Physics professor at KapCC, is one of the key members of the STEM Program. In the past, he has helped to manage the Science Talent Expansion Program in Urban Polynesia (STEPUP) grant, which was awarded to the STEM Program by the National Science Foundation (NSF). Currently, he is helping to manage the Pre-Engineering Education Collaboration (PEEC) grant, which is also known as the IKE grant. In addition, he acts as an instructor for many of the other STEM related programs, such as the Summer Bridges. If you wish to contact Dr. Colin, he can be reached at herve@hawaii.edu.

Acknowledgements: Special thanks go out to the STEM Program students, faculty/staff members, administrators, as well as STEM student Shelby Burns who created some of the artwork/designs featured in this newsletter.

First Official STEM Program Newsletter!

In the past, the Science, Technology, Engineering and Mathematics (STEM) Program had been exploring various avenues with which to share information with students, faculty/staff members, administrators and the general public. Over time, several online platforms, such as the official Kapiolani Community College (KapCC) STEM Program website, have been created and used to disseminate information. However, individuals have continued to express interest in a printed publication to supplement the online resources. As such, the KapCC STEM Program newsletter, which you are currently reading, is now being published.

The STEM Program newsletter will focus on STEM Program students as well as STEM Program related events. The newsletter, which will be published every semester, will be used to highlight the achievements, such as awards and scholarships, of current STEM students. In addition, the newsletter will also provide updates on the whereabouts of former STEM Program students that have moved on to four-year institutions, graduate school or full-time employment positions. The newsletter will also be used to make announcements and inform current students about important dates and activities.

For the most up-to-date information, please visit the KapCC STEM Program website at <http://stem.kcc.hawaii.edu>. The website is constantly updated and will remain the go-to site for the most recent STEM Program related news and announcements. In addition, the STEM Program website contains various forms and informational materials that are available for free download. The STEM Program newsletter will also be available for download on the website.



KapCC STEM Program students in Waimanalo after learning about traditional navigation techniques

About:

The goal of the STEM program is to enhance the quality of the science, technology, engineering and mathematics instructional and outreach programs at KapCC, 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.

The program was started in August 2005 with a \$1.25 million Tribal Colleges and Universities Program (TCUP) grant from the National Science Foundation (NSF) for the development and implementation of the STEM program. Since that initial grant, additional grants have been awarded to the STEM Program, such as the \$500,000 Science Talent Enrichment Program (STEP) grant in 2007. These grants help the STEM Program to support students interested in pursuing degrees and careers in math and science.



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Events and Conferences

2012 Summer Bridge Programs

Every year, some of the most successful events held by the STEM Program are the Summer Bridge Programs. The Summer Bridges are intensive six-week programs designed for recent Hawaii high school graduates interested in exploring careers in STEM. To help students establish a strong math and science foundation, students are mentored by college faculty and student peers in a supportive and engaging setting. The program runs Monday-Friday from 9:00 a.m. to 4:00 p.m. with a two-hour math course, group study time, and hands-on activities. This year, the STEM Program offered two separate Summer Bridge tracks, HāKilo (ecology) and 'IKE (engineering), which feature learning and work opportunities in the two fields each afternoon. Over the summer, students not only learn about college, but they also explore the relevance of modern science and engineering in relation to sustainability and Hawai'i's past, present, and future. Additionally, the STEM Program has begun to offer Summer Bridge tracks for students that are already in college. More information about the Summer Bridges can be found at <http://stem.kcc.hawaii.edu>.

JAM Conference

Each year, the National Science Foundation (NSF) holds a Joint Annual Meeting (JAM) to assess the progress that the various awarded institutions have made toward grant goals and to receive feedback from those same institutions. The goal of this year's JAM was to broaden participation research. During the meeting, the NSF Division of Human Resource Development (HRD) used several strategies to achieve the goal. First, HRD discussed with grant Principal Investigators (PI) about broadening participation in research and integrating education and social science research into capacity building. Next, HRD supported collaborations among researchers, educators and administrators and trained PI's and their staff regarding NSF policies, procedures and priorities. Third, HRD taught PI's to use NSF resources to advance the missions of NSF, the Directorate for Education and Human Resources' (EHR) and HRD. Last, HRD disseminated information to the PI's about NSF, advances in EHR and BPR. For the 2012 JAM, the KapCC STEM Program sent three representatives: Dean of Arts and Sciences Charles Sasaki, STEM Program Outreach Coordinator Mrs. Keolani Noa and Physics Professor Dr. Herve Collin. For more information about the 2012 NSF JAM, please visit www.nsf.gov.

CanSat Competition

The Can-Satellite (CanSat) competition, which is organized by the American Astronautical Society (AAS) and American Institute of Aeronautics and Astronautics (AIAA), is an annual student design-build-launch competition for space-related topics. Although the "missions" differ from year to year, every mission is focused on the ability of the participating teams to build a satellite that can take various readings after being released from a canister. The KapCC STEM Program has sent an undergraduate research team every year for the past several years and the teams have fared very well despite going up against teams from larger universities, such as Virginia Tech and the University of Michigan. In 2012, the STEM Program again sent a team to the competition. The 2012 mission consisted of launching an autonomous CanSat with a deployable lander containing a raw egg. The team had to not only land the raw egg unharmed, but also had to take several telemetry readings during the descent. This year's competition was once again held in Burkett, Texas and ran from June 8 to June 10. For more information about CanSat and the 2012 competition, please visit www.cansatcompetition.com.

Where Are They Now?

Former STEM Students and Their Many Accomplishments

STEM Student Patricia Cockett Named Featured Researcher at the Kewalo Marine Laboratory



Patricia Cockett

Patricia Cockett, who has been with the STEM Program since 2009, was recently named the featured researcher at the Kewalo Marine Laboratory. The marine lab is a unit of the Pacific Biosciences Research Center of the University of Hawaii at Manoa. The goal of the Kewalo Marine Laboratory, which has been in existence since the mid-1960's, is to "support the investigation of fundamental questions in biology using the rich diversity of animals, plants and microorganisms present in the Hawaiian near-shore marine environment." Patricia's current research focuses on intertidal ecology and the susceptibility of this ecosystem to increased thermal stresses caused by global climate change. Patricia just earned her Bachelor's in Biology this past spring and is currently attending graduate school at Texas A&M University in Corpus Christ where she will continue her research on the Hawaiian intertidal zones. More information about Patricia's research and the Kewalo Marine Lab can be found at www.kewalo.hawaii.edu.

Former STEM Students Win First Place in Business Plan Competition

Congratulations to former KapCC STEM Program students Christian Daoud, Leon Santinizio, Elizabeth Gregg and Huilin Xie, who won first place in the Shidler College of Business (University of Hawaii at Manoa) business plan competition. Their team won the \$10,000 first prize with a business plan for a Unique Lite Design unit load device, designed for compartmentalizing and carrying cargo on a wide body aircraft. For more information about the business plan competition and the winning team, please visit www.shidler.hawaii.edu/bpc. After winning the competition, Christian was interviewed by Howard Dicus on Hawaii News Now to discuss the competition and their winning idea. The video can be viewed online at <http://www.hawaii.newsnow.com/story/17858219/howards-business-hit>. Additionally, we would also like to congratulate former STEM Program student Justin Carland, who was a member of the second place team. Justin's team won second place and \$5,000 with a business plan for Surgical Lighting Solutions, a company that licenses and markets advanced semi-autonomous lighting for the medical industry.



Business Plan Competition First Place Winners

Highlights:

Leisha Marie Aalona, former KapCC STEM Program student, researcher and peer mentor, recently accepted a position at the Hawaiian Electric Company (HECO). Leisha was hired by HECO in the Environmental Department under their Principal Environmental Scientist of air quality and noise. Leisha will continue her studies at the University of Hawaii at Manoa while being employed by HECO.

Current STEM Program students **Eric Caldwell** and **Matthew Rappeline** participated in the National Community College Aerospace Scholars (NCAS) Program from May 1st to May 3rd. Eric and Matthew were two of only a few students who were chosen from a pool of applicants from across the country to take part in the culminating three-day program at National Aeronautics and Space Administration's (NASA) Jet Propulsion Laboratory in Pasadena, California. For more information about NCAS, please visit http://www.nasa.gov/offices/education/programs/descriptions/National_Community_College_Aerospace_Scholars.html.

STEM Student Awards

Vy Thuy Luu, who has been a STEM student since January 2010, has been rewarded for her hard work with numerous awards and distinctions in her short time here at KapCC. Through the Phi Theta Kappa Honor Society (www.ptk.org) alone, Vy has been awarded the 2012 New Century Scholar, the 2012 Guistwhite Scholar and the 2011 Coca-Cola Leaders of Promise awards. Awards and scholarships she has earned through the University of Hawaii System include the 2011 Mildred Towle Scholarship for International Students, 2011 President's Volunteer Service Award and the University of Hawaii Achievement Award in both the spring of 2010 and the summer of 2011. Most recently, Vy was awarded the 2012 Jack Kent Cooke Foundation Undergraduate Transfer Scholarship (www.jkcf.org), which "honors excellence by supporting outstanding community college students with financial need as they transfer to and complete their bachelors' degrees at the nation's top four-year colleges and universities." Vy was one of fewer than 50 students from across the nation that was chosen for this prestigious award. Congratulations Vy!