Preparing students for the future through applied learning

Every student at the University of Hawai‘i at Hilo is offered the opportunity to apply their textbook knowledge to the real world through research, internships, creative endeavors, student employment and more. Through this type of scholarly work, students enhance their classroom learning and get a big boost toward advanced degrees, future employment, and leadership roles in their professions and their communities.

I would like to share with you three of our student research programs and a few extraordinary students doing important research and inquiry of great benefit to the people of our state and the island environment. These accomplished students—and many others in these and other programs, too many to name here in this column—are already contributing in positive ways to the problems facing our island state.

Students of Hawai‘i Advanced Research Program (SHARP)

SHARP is a relatively new program, largely supporting under-represented students, particularly Native Hawaiians and Pacific Islanders, who would like to do research in preparation for doctoral studies. The students are mentored by

Joshua Green to provide keynote address at Fall Commencement

Newly-elected Lieutenant Governor Joshua Green, M.D. delivers the keynote address at the 2018 University of Hawai‘i at Hilo Fall Commencement on Saturday, December 15 at 9 a.m. in Vulcan Gym. The public is reminded that doors open at 8:15 a.m. for general admission, with seating on a first-come, first-served basis. When seating reaches capacity, guests may view the ceremony via a live stream in University Classroom Building (UCB) Room 100.

Approximately 188 students have petitioned for degrees and/or certificates from the colleges of Arts and Sciences, Natural and Health Sciences, Agriculture, Forestry and Natural Resource Management, Business and Economics, Pharmacy, Ka Haka ‘Ula O Ke‘elikōlani College of Hawaiian Language and for various post-graduate credentials.

Green has been a Hawai‘i State Senator since 2008, serving as chair of the Health Committee, and currently chairs the Human Services Committee. Prior to that, he served in the State House of Representatives from 2004 to 2008.

In the legislature, Green has been a leading voice for strengthening health care. Green championed the initiative to create an insurance mandate for children with Autism Spectrum Disorder and the legislation known as “Luke’s Law,” which went into effect on January 1, 2016. He also led a successful effort to raise the legal age for obtaining tobacco products and electronic cigarettes from 18 to 21, making Hawai‘i the first state to do so. Other legislation he has helped pass includes new programs to reduce maternal mortality and stronger protections for victims of sexual assault. As Lieutenant Governor, he is expected to play a key role in addressing Hawai‘i’s homeless issue.

Green is also a family and Emergency Room physician on Hawai‘i
Island. He is currently an Emergency Room physician at Kohala Hospital, a position he has held since 2004. Green was named Hawai‘i Physician of the Year in 2009 by his peers.

Green received his B.A. from Swarthmore College, Swarthmore, PA, and his M.D. from Pennsylvania State College of Medicine, Hershey, PA.

English major Kai Anthony Gaitley will serve as student speaker. Originally from Castleford, West Yorkshire, England, Gaitley has a 3.8 grade point average and serves as a writing tutor with UH Hilo’s Kilohana: The Academic Success Center, a position he has held since fall 2016.

Gaitley’s list of awards and recognition includes 2015 Droste Award for English 100, 2016 Droste Award for English 200, and in 2018 edited and self-published (on Amazon) An Anthology for a Threatened Planet: The Tides are Changing…Ride the Wave, an e-book of short stories by UH Hilo students on climate change. He also received Dean’s List recognition for spring and fall 2016 and 2017, and spring 2018.

“I still cannot quite persuade myself that I have been given this honor,” Gaitley commented about his selection as student speaker. “The incredible English faculty all helped me to fine-tune the ability to convert incomplete thoughts into meaningful words. Whether through essays or class discussions, this is perhaps the best skill I have gained throughout my education here. Now when I write something that I want to say, I can do so with precision (and a little flare, too!).”

Gaitley plans to enroll in the Master of Education in Teaching program at UH Manoa and teach English on Hawai‘i Island.

Expert faculty researchers to develop interest and competence in biomedical and behavioral sciences research. The program is funded by the National Institutes of Health (NIH) Research Initiative for Scientific Enhancement (RISE) and is administered through the UH Hilo Department of Anthropology.

Six SHARP students showcased their research at the 2nd Annual SHARP Symposium held on campus in August. Five of the students are undergraduates and one is in a doctoral program at the Daniel K. Inouye College of Pharmacy. The students worked with faculty researchers to develop their topics and learn skills to conduct their research.

Undergraduates Duke Escobar (biology major) and Kieran-Tiaye Long (psychology) are investigating the anti-bacterial efficacy of native Hawaiian plant-based medicines. Dallas Freitas (chemistry) is researching key mechanisms of ion channel signaling in cancer drug resistance and the tumor microenvironment.

Jasmine Hicking (biology) is researching medicinal plants, specifically anti-cancer and anti-bacterial agents from microorganisms and herbal medicine. Skyla Lee (chemistry-bioscience) is doing research on synthesis and evaluation of antibacterial and anti-cancer agents in natural products. Doctoral student Nathan Sunada (pharmaceutical sciences) is investigating neuroblastoma and the mechanisms that promote cancer progression through a native Hawaiian perspective.

Keaholoa STEM Program

The goal of Keaholoa is to increase enrollment, support, and graduation rates of Native Hawaiians and other underrepresented minorities in science, technology, engineering and mathematics (STEM) disciplines. Over the years, Keaholoa has become a program where minority students can engage in scientifically rigorous research that is grounded in indigenous or native cultural practices and knowledge.

For example, anthropology student Rosa Motta has compiled water property data from nearshore marine environments using historical land use patterns and archaeological sites to determine the health of coastlines in terms of the ‘āina-kai (land-ocean) relationship. Physics major Gabriel Gutierrez mapped coral reef health using traditional Hawaiian canoes. Environmental science major Jowell Guerreiro is interested in restoring loko i’a (fishponds) and collected data on flow rates during specific moon phases.
Chancellor
Continued from page 3

Marine Option Program (MOP)

MOP is a UH Systemwide certificate program, offered on all UH campuses, providing educational opportunities for students from all disciplines who are interested in studying the ocean.

Earlier this year, three students from UH Hilo MOP came home with four awards from the statewide MOP Student Symposium held at Windward Community College. The annual event features oral and poster presentations by undergraduate MOP students from UH campuses around the state. Our students were outstanding representatives of UH Hilo, and brought home four major awards, including best research presentation, which has been won by UH Hilo MOP students in 24 of the past 29 years.

Julia Stewart won best research presentation for her research project on coral, an ambitious project using bioinformatics. Wheatley Crawley won best poster presentation for her project on conservation at Wai’opae, one of the last research projects at the teeming tidepools before the recent lava flow tragically covered the area. Michelle Nason won the John P. Craven Child of the Sea award for her work establishing a coral nursery on Hawai’i Island.

Budding scholars, future leaders

Many UH Hilo graduates have benefited from our various applied learning programs. When they leave us to move on to graduate school or professional positions, they are already well-skilled in doing sustainability, conservation, health, community-based research projects and more that make an impact.

As we prepare for the close of the semester and Fall Commencement, I’d like to congratulate the graduating class, wish each student great success, and thank everyone for your contributions to UH Hilo, our students, and our community.

Sending aloha to you and your families this holiday season!

Aloha,

Marcia Sakai

Hats off to...

Karla Hayashi, Director, Kilohana, was invited to be on the first State Literacy Plan Work Group for Hawai’i. The group will develop a state literacy plan that addresses all learners, infants to adults, and strategically target communities with a high percentage of at-risk students who historically have been identified as struggling readers.


Armando Garcia-Ortega, Associate Professor, Aquaculture, co-authored “Red drum Sciaenops ocellatus growth and expression of bile salt-dependent lipase in response to increasing dietary lipid supplementation,” Fish Physiology and Biochemistry 2018; 44:1319-1331.

Ka Lono Hanakahi is published by the Office of University Relations during the academic year for faculty and staff of the University of Hawai’i at Hilo. News and submissions are welcome with priority given to current faculty and staff members. Deadlines are on the fifteenth of each month for the following first of the month publication. Contact Alyson Kakugawa-Leong, Director Media Relations, (808) 932-7669 or alyson@hawaii.edu.
A new aeronautical sciences degree program at the University of Hawai‘i at Hilo was approved by the UH Board of Regents at their monthly meeting held Nov. 15, 2018, at Honolulu Community College. The provisional bachelor of science program has two concentrations, one in commercial professional pilot training, and another in commercial aerial information technology (which utilizes drones), where there is a high projected workforce need in the state.

“The commercial professional pilot training track places graduates on a solid footing to pursue a career as an airline pilot at a much more reasonable total educational cost than if they attended a mainland university with a similar program,” said Bruce Mathews, dean of the College of Agriculture, Forestry and Natural Resources Management where the new program is housed. “Due to the increasing demand for pilots resulting from a high proportion now entering retirement age coupled with rising air travel globally the prospects for rewarding career opportunities are high.”

He continued, “Furthermore, the commercial aerial information technology track offers considerable career opportunities in the areas of unmanned aerial systems—[commonly called] UAS or drones—based agricultural and natural resource management field monitoring services, precision pest and weed control, search and rescue, security services, and expected growth into delivery and air transport services.”

Mathews credits Ken Hon, interim vice chancellor for academic affairs, for this program launch, “as he worked tirelessly for months to get it in a position for BOR approval.”

The program aligns with current professional programs at UH Hilo that prepare students for the workforce such as accounting, business, education, nursing, pharmacy, and counseling psychology, by providing a degree pathway to commercial aviation. The university has already established a certificate program in unmanned aircraft systems (drone technology), which was launched last year as a first step toward the aeronautical sciences program.

The new bachelor of science degree program will integrate aeronautical sciences with UH Hilo’s existing STEM programs in general education as well as in agriculture, conservation biology, natural hazards, marine and terrestrial resources, astronomy, and geographic information systems education and research. As with many of UH Hilo’s academic programs, the experiential training ground for students will be the unique geographical characteristics of the island.

The new degree program also aligns with UH Hilo’s focus on the application of science (agriculture, conservation biology, geography, geology, environmental sciences, marine science, and astronomy) using tools for information development including geographical information systems, data visualization, and data science.

The program will add to UH Hilo students’ toolkit for data collection, information creation, and information communication, and strengthen both undergraduate and graduate research across those fields.

(Originally published in UH Hilo Stories.)
Maunakea Visitor Information Station begins improvements; stargazing and operating hours impacted

The Maunakea Visitor Information Station (VIS) will adjust its closing time from 10 p.m. to 5 p.m. beginning Friday, December 7, for an infrastructure project to improve visitor safety and to better protect natural, historic and cultural resources. Construction is scheduled to begin in January 2019. The project is expected to take about six months.

Nighttime stargazing at the VIS will be suspended during this period, but the VIS will remain open seven days a week with the same opening time of 9 a.m. The VIS restrooms will remain open 24 hours a day, seven days a week.

VIS will continue to work with ‘Imiloa Astronomy Center, County of Hawai’i and other partners to bring both live and remote stargazing opportunities to other locations on the island. During the project, VIS will be collecting data on how the modified hours impact visitor experiences. This data will be used to develop new, Hawai’i Island-oriented programs. These may include free reservation-based weekly stargazing programs specifically for island residents and educational groups, and other opportunities for visitors.

The infrastructure project includes the construction of a new paved parking lot with 42 stalls, entry and exit lanes to the parking area, a new greenhouse for propagating native plants and the removal of an existing structure, known as the Upper Longhouse.

The improvements are necessary as the VIS has experienced a significant increase in visitors due, in large part, to Saddle Road improvements that have made Maunakea much more accessible. This has resulted in vehicles parking on the shoulder of Maunakea Access Road and visitors crossing the street in the dark. By better managing vehicular and pedestrian traffic, soil erosion in sensitive areas will be reduced, and fragile natural resources will be better protected.

Data science at UH Hilo expands to meet high demand

by Kelli Trifonovitch

A birdsong trills, the audio bar spikes on the computer’s monitor and a real-life data science lesson is taught at the University of Hawai’i at Hilo. Students in the computer lab are applying data science to recordings of an endangered Hawaiian bird and hope to create tools for conservation and other purposes.

“The data science program here at UH Hilo is project-based learning,” says Madori Rumpungworn, a UH Hilo physics student. “Not only are you learning a project on the spot, but you’re learning this new concept, you’re applying it right away and you’re helping, solving real-life problems that pertain to home.”

UH Hilo launched its data science program by offering a certificate in the fast growing field in fall 2018.

“We are filling a need that the state has,” says UH Hilo Data Science Program Director Roberto Pelayo. “There’s a lot of data out there. There’s a lot of complicated data, and there aren’t a lot of trained people currently that are able to analyze the data and make conclusions.”

Data science is a versatile field because almost every branch of science collects massive amounts of data, also known as “big data,” and has processes for analyzing all of this information.

“Data science is what you get when you bring together the power of stats and also all the algorithmic thinking from computer science. When you bring them together, a synergy is created that really allows you to solve extremely complicated problems,” Pelayo explains.

The data science certificate is open to all students, regardless of major or background.

UH Hilo marine science student Spencer Frawley said, “I think the potential [for data science] is huge and I think that we can actually tap into that potential and it can be something wonderful.”

Cissy Monroe, a UH Hilo environmental science student, added, “I think that’s something really powerful and something we need to get better at, like using data to drive our decision-making processes in pretty much every field is something that is really important.”

UH Hilo plans to seek approval for a bachelor’s degree in data science in 2020, when IBM predicts there will be more than 2.7 million job openings in the United States.

(Kelli Trifonovitch is Director of Communications and Outreach, UH Office of Communications.)
The University of Hawai‘i at Hilo is helping to address Hawai‘i’s mental health needs

Bryan Kim

The University of Hawai‘i at Hilo is aiding in the effort to meet the growing mental health needs of Hawai‘i’s communities by offering a clinical mental health counselor training program through its Master of Arts Program in Counseling Psychology.

The program is the only one of its kind in the University of Hawai‘i System and is designed to provide multicultural, student-centered training in mental health counseling. The program is now being offered statewide via the UH System’s Hawai‘i Interactive Video Service (HITS), which allows students who live on the neighbor islands or in distant locations on Hawai‘i Island to take classes via video-conferencing. The program is currently recruiting applicants for its next cohort. The priority deadline is January 1, 2019.

“Our students are trained to become knowledgeable, skillful, and ethical professional counselors who are eligible to become Licensed Mental Health Counselors in Hawai‘i,” noted Dr. Bryan Kim, director, MA Program in Counseling Psychology.

“The program is based on a scientist-practitioner model, which means that our students are taught to provide counseling services that have been rigorously evaluated for their effectiveness. Providing evidence-based mental health services is a national priority and has recently received a lot of media attention.”

According to Kim, major depressive disorder is one of the most prevalent psychological disorders in the country. “The National Institute of Mental Health reports that 16.2 million adults in the United States, or 6.7% of the population, had at least one major depressive episode,” Kim said. “Roughly 8.5% of women and 4.8% of men suffer from MDD at any given time.

“In the past several years, our country has become more familiar with these types of disorders as the media puts more spotlights on mental health issues,” Kim added. “A recent report on Hawaii News Now stated that Hawai‘i ranks at the bottom of states with access to care among mentally ill adults. Sixty-eight percent of Hawai‘i’s adults with a mental illness did not receive any mental health treatment compared to 56% nationally. A similar figure was reported for Hawai‘i’s youths.”

For more information, visit http://counseling.uhh.hawaii.edu/ or contact Kim at bryankim@hawaii.edu or 932-7090.

UH Hilo presents annual Zappa performance Dec. 5 & 6

The University of Hawai‘i at Hilo Jazz Orchestra’s Frank Zappa tribute returns for its sixth annual performance with Zappa 6: Holiday In Berlin at the UH Hilo Performing Arts Center December 5 & 6 at 7:30 p.m.

Featuring more than 20 student performers under the instruction of musical director Trever Veilleux, the Jazz Orchestra will bring to life a selection of music from the late American composer’s catalog.

“Working diligently to recreate the music while also adding its own flair, the Jazz Orchestra’s upcoming Holiday in Berlin show plans to include works from albums such as Burnt Weeny Sandwich, Sleep Dirt, and Chunga’s Revenge, among others,” Veilleux said.

“The music takes a journey through hard rock, elegant jazz, delightfully bizarre neo-classical tangents, driving progressive adventures, and soulful rhythm and blues, all culminating in a sound that can only be described as ‘Zappa,’” he added.

In early 2018, the Orchestra was invited to perform as part of the 2019 Zappanale festival, a three-day celebration of all things Zappa, in Bad Doberan, Germany. With hopes of showcasing the efforts of UH Hilo’s young musicians to a wider audience, the Orchestra’s upcoming performance in December will be a fundraising event to help the students take their show on the road.

Tickets are open seating and priced at $12 General, $10 Discount, $5 Students w/ valid ID & Children 17 & under. Advance ticket purchase is recommended. For more information, or to order tickets, contact the UH Hilo Performing Arts Center Box Office at 932-7490 or artscenter.uhh.hawaii.edu.

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UH Hilo Briefs

December

5 UH Hilo Holiday Celebration and Dessert Contest, 10-11:30 a.m., Rose and Raymond Tseng Terrace

5, 6 Zappa 6: Holiday in Berlin, 7:30 p.m., PAC, Admission

6 Last Day of Instruction

Last Day to Completely Withdraw from All Classes with a “W”

10-14 Final Examinations

14 Fall Semester Ends

15 UH Hilo Fall Commencement, 9 a.m., Vulcan Gym

17 Final Grades Due in MyUH at Noon

Celebrate the holidays at UH Hilo’s Holiday Celebration and Dessert Contest Dec. 5

The UH Hilo ‘ohana is invited to the UH Hilo Holiday Celebration and Dessert Contest Wednesday, December 5, 10-11:30 a.m., Rose and Raymond Tseng Terrace. Join the festivities by entering the dessert contest, donning a favorite ugly sweater or holiday attire, and capturing fun times with colleagues at the photo booth.

For those interested in participating in the Dessert Contest, entries will be judged on the following:

- Taste
- Texture
- Overall appearance
- Creativity/originality

Contestants should drop off desserts to Rose and Raymond Tseng Terrace from 9-9:30 a.m. on December 5 for judging. A minimum of 24 pieces of each entry should be submitted. Prizes will be awarded.