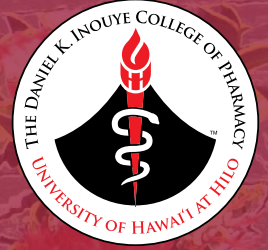


One who mixes ingredients, drugs or medications: a pharmacist

Kāwili Lā'au



The Daniel K. Inouye College of Pharmacy at the University of Hawai'i at Hilo

Fall 2013 • Volume 6, Issue 1



Students Gain National Recognition



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INSIDE:

- Class of 2017 recites oath at White Coat Ceremony
- Fifth annual health fair pulls in community
- Diversity symposium engages campuswide audience

Dean's Message



This issue of *Kawili La`au* is about progress and celebration. Yes, indeed, our progress remains stellar and there are many achievements to celebrate. Our community outreach is growing exponentially on all four islands, research is flourishing with renewed federal funding, and collaborations allow us to show that we care about the world in which we live.

Broadly speaking, the mission of the DKICP is to improve the health of the residents throughout the entire State of Hawaii and the Pacific Region. It is not just about the numbers of students from every island who are on our rosters, though Hawai'i residents from every neighbor island are well represented. It is about their accomplishments, the faculty who serve as their mentors, and the overall impact of our College as a whole.

We do not simply make grandiose statements without backup. The proof of our impact can be seen readily through the stories presented here. We prove how we have established a permanent presence on every major island in our state through working side-by-side with health care professionals.

Big Island of Hawai'i: our home base, many residents now know the white coats mean student pharmacists. From our annual health fair to the White Coat Ceremony for the Class of 2017, and with the addition of the piano concert that benefits Student Medical Services, we demonstrate our collaborative spirit.

Maui: the first Pharmacy Residents got their start with faculty on Maui, and by now, scores of students have touched families there as they compile experiential credit.

Oahu: with faculty serving on the Hawai'i State Board of Pharmacy, our voice is heard loud and clear. PGY2 residents are able to build their careers through our program there, and health fairs and experiential training help to make our students visible.

Kauai: DKICP students, residents and faculty have become an integral part of the Kauai community, with faculty serving on the Mayor's advisory committee for drug prevention, and organizing multiple health fairs working with Wilcox Medical Center.

Through all these activities, it is obvious we recognize our obligation to give our students the best conceivable education. We will continue focusing on our mission and the reality of our vision even under the very real threat of an adverse accreditation action due to suboptimal physical facilities. The Accreditation Council for Pharmacy Education (ACPE) found us to be compliant with 29 out of 30 rigorous standards. We were found to be noncompliant on Standard 29, Physical Facilities. It is a serious mistake to believe that is good enough. Our fate is in the hands of the State Legislature. This is so important that we are planning a Special Issue of *Kawili La`au* devoted to the issue of improving physical facilities. Look for it in your mailboxes early in the New Year.

My sincere thank you to all who've supported us over the years.

A handwritten signature in black ink, appearing to read 'John M. Pezzuto'. The signature is stylized and cursive.

John M. Pezzuto
Professor and Dean



Kāwili Lā'au

Fall, 2013 Volume 6, Issue 1

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Kāwili Lā'au is the magazine for the only College of Pharmacy in the Pacific region, the University of Hawai'i at Hilo



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On the cover: DKICP student pharmacists Davis Hanai (2015) and Chi Ngo (2015) presented a "Tiffany Shooting Star" to Dean John Pezzuto as Assistant Professor Katherine Anderson looks on. The students were part of a team that won top honors from the American Association of College of Pharmacy (AACCP) for their project called the Pacific Islander Mobile Screening Clinic (PIMSC). AACCP presented the award, which included \$15,000 to the College, at the 2013 annual meeting in July.

DKICP holds fifth health fair in new location

The Daniel K. Inouye College of Pharmacy held the fifth annual Health Fair on Saturday, October 12 from 10 a.m. to 3 p.m. for the first time this year at the Prince Kuhio Plaza.

Students and faculty conducted live demos, entertainment, education booths, free giveaways and keiki poster contest. There also was a “brown-bag” station in the health screening area, where people were encouraged to bring their non-refrigerated medications for review.

Other community organizations that conducted activities included Alzheimer’s Association, Bay Clinic, Civil Defense, Hawaii Senior Medicare Patrol, HMSA, Hawaii Island HIV/AIDS Foundation and R. Weinstein Pharmaceuticals and Medical Supplies.

“National American Pharmacists Month is celebrated annually during October, so we invited the community to help us recognize the value of our profession by coming to the mall and meeting our students,” said Forrest Batz, assistant professor in the Department of Pharmacy Practice who was one of the faculty members helping the students that day.



Suzanne Youngren, PhD student in Pharmaceutical Sciences, conducts a science experiment for youths.



Anissa Marzuki (Class of 2016) makes patients feel at ease while taking A1C tests.



HMSA representative Lilia Arguerro hands 5-year-old Jenea Gomez a cup that she won at the booth while cousin Noah Everly stands nearby.



(from left) Elecia Fa`aiuso, a pre-pharmacy from American Samoa who is one of the students in the STEP program, Rhea Castro (Class of 2017), Kimberly Victorine (Class of 2016) and Heather Allard (Class of 2017) presented their professional poster describing DKICP to visitors.



Jonathan Muna (Class of 2017) discusses poison control with pre-pharmacy students Kara Paulachak and Jordan Nanau.



Dr. Forrest Batz (left) and Pavlin Dimitrov (Class of 2015) discuss health options with a client in the testing room.



Remy Guirguis (Class of 2015) (center) introduces Hegumen Father Anastasi Saint Antony, Coptic Orthodox Christian Priest/Monk from Saint Antony Coptic Orthodox Monastery in Barstow, California to Mrs. Mimi Pezzuto.



William Hanson (right) and Director Darryl Oliveira of the Civil Defense Agency explain proper tsunami preparation to pharmacy students Micah Kim Han, Chi Ngo and Eric Tsuji, who visited the booth with Tracey Niimi, DKICP student support specialist.



Student pharmacists from the Class of 2017 recited the oath of the pharmacist. (Photo by Robbyn Peck)

Class of 2017 joins other DKICP classes to take oath of pharmacist

Student pharmacists of the class of 2017 recited the “Oath of a Pharmacist” in front of their peers, professors, community and families at the Daniel K. Inouye College of Pharmacy White Coat Ceremony, October 13 at 3 p.m. in the UH Hilo Performing Arts Center.

The Class of 2017 is the College’s seventh class of students and the first to take the oath under the name of the late senator from Hawai‘i, Daniel K. Inouye. The ceremony is a rite of passage into clinical practice for students entering their first year in the professional program to affirm their commitment to professionalism, respect, integrity and compassion.

In addition to remarks by UH Hilo Chancellor Don Straney and College of Pharmacy Dean John M. Pezzuto, the students heard remarks from community leaders, including Senator Daniel K. Inouye’s former



Mike Hoskins, RPh,
Mina Pharmacy, IPPE
Pharmacist of the Year 2013

Chief-of-Staff Pat DeLeon and Hawai‘i County Mayor William “Billy” Kenoi.

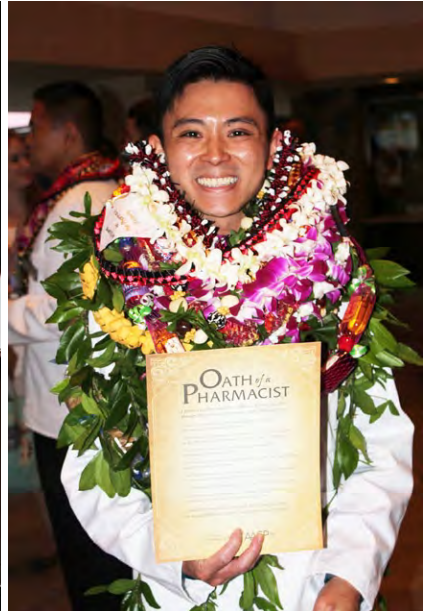
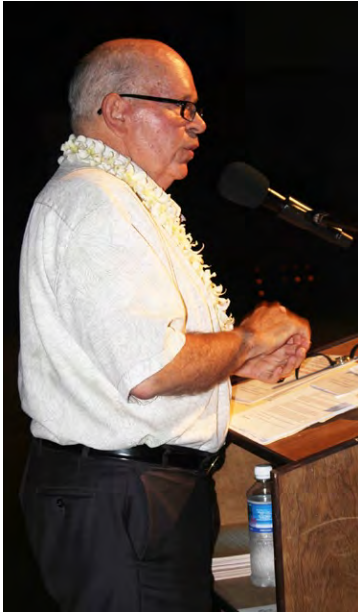
The first-year students also heard from Lucinda Maine, executive vice president and CEO, American Association of Colleges of Pharmacy (AACP), and Mike Hoskins, RPh, Mina Pharmacy, who is the 2013 preceptor of the year. Four pharmacy residents from Oahu and Kauai were in attendance, and also were recognized this year.

The event was sponsored by Walgreens. Bill Hose, Walgreens marketing vice president, made a presentation.

For the first time at a White Coat Ceremony, world-renowned pianist Anthony Maroudas performed “Polonaise in A-flat major, Op. 53,” by Frédéric Chopin as a part of the ceremony.



UH Hilo Chancellor Don Straney was next in line to shake hands with students after Mayor William “Billy” Kenoi. (Photo by Robbyn Peck)



(top left) Patrick H. DeLeon.

(top center) Walgreens's Vice President of Marketing Bill Hose joined Nancy Huang, Walgreens District Pharmacy Supervisor for Hawaii and Dean John Pezzuto after the ceremony.

(bottom right) Lucinda Maine, executive vice president and CEO, American Association of Colleges of Pharmacy (AAPC), congratulated students after they received their white coats. (Photo by Robbyn Peck).

(bottom center) For the first time, world renowned pianist Anthony Maroudas performed at a White Coat Ceremony. (Photo by Robbyn Peck).

(bottom left) Faye Honohono, Hawai'i State Representative, (middle left) Dr. Supakit Wongwiwatthananukit presents a white coat to Tamer Guirguis (Class of 2017).

Pharmacy presents piano concert to aid student health center

Research shows listening to music has health benefits, and the Daniel K. Inouye College of Pharmacy (DKICP) hoped music also will benefit UH Hilo's Student Health Services at a piano concert on Oct. 13 at 1 p.m. at the Performing Arts Center.

The concert, which raised more than \$2,000 for the clinic, featured classical compositions performed by top young pianists ranging from ages 7-20 from Hilo who study with pianist Anthony Maroudas.

Maroudas was born and raised in South Africa, and studied with Lamar Crowson, pianist in the Melos Ensemble of London. An active soloist, chamber musician and collaborator, Maroudas has performed in South Africa, London, Greece and the United States. He is now based in Hilo where he has his teaching studio.

Performers were:

- Nicolas Winters, 18, a student at UH-Hilo, recently graduated from Waiakea High School, who played Rachmaninoff Prelude and the Chopin Scherzo in C-sharp minor.
- Mayuko Yoshida, 15, attends Hilo High and played two Intermezzi by Brahms, the first movement of Beethoven's 27th Sonata in E minor, and Debussy's Prelude "The Hills of Anacapri."
- Ryan Witthans, 15, attends Kamehameha Schools, and played the final movement of Prokofiev's second piano Sonata, plus a work by Shostakovich.
- Bryn Witthans, 15, attends Kamehameha Schools, and performed a Fugue by Johann Sebastian Bach plus a work by Kabalevsky.
- Marleena Sheffield, 20, attends UH Community College, and performed the final two movements of Beethoven's Sonata in F minor, Op. 2, No. 1.
- Willa Wiggins, 16, from Hakalau, performed J.S. Bach's Prelude and Fugue in F minor from Bach's Well-Tempered Klavier Book 2, as well as Hector Villa Lobos' "O Polichinelo."
- Abby Atkinson, 15, attends Hilo High, and performed an Invention by J.S. Bach and a Sonata by Domenico Scarlatti.
- Edinn Kitagawa, 7, attends Waiakea Elementary School, and played a Sonatina by the Bohemian composer Anton Beszwarowsky and an Invention by J.S. Bach.



Abby in the wings: Fifteen-year-old Abby Atkinson, whose Mom is Dr. Sue Jarvi, waits in the wings before her performance.



Pianists take a bow: Anthony Maroudas takes a bow with his students at the end of their performance.

(Photo at right)
Edinn at piano: Seven-year-old Edinn Kitagawa charmed the audience while instructor Anthony Maroudas helped him by turning pages.



(Photo below)
Piano Concert Benefit participants. (from left) Piano teacher Anthony Maroudas, Marleena Sheffield, Willa Wiggins, Bryn Witthans, Ryan Witthans, Dean John Pezzuto, Edinn Kitagawa, Nicholas Winters, DKICP Faculty Mimi Pezzuto, Abby Atkinson, Mayuko Yoshida and from Student Medical Services, Nurse Practitioner Heather Hiraka.



Pharmacy faculty teams with Student Medical Services to help students

Students at UH Hilo can soon leave Student Medical Services with a prescription filled by a pharmacist for the first time thanks to a collaborative effort from Student Medical Services (a unit in Student Health & Wellness Programs) and faculty from the Daniel K. Inouye College of Pharmacy (DKICP).

Mimi Pezzuto, an instructor at DKICP, has volunteered her time to work with Heather Hirata at Student Medical Services, in order to give the students access to better health care. Pezzuto applied to the Hawai'i Board of Pharmacy for the clinic pharmacy to

get state licensure, and was appointed Pharmacist in Charge in March. An official agreement is projected to take effect Oct. 2 that will allow pharmacy students to take part in patient care.

"This is a grassroots movement, but the goal is to operate as a fully functioning pharmacy," said Hirata, a board-certified nurse practitioner who has supervised students from nursing programs at UH Hilo and Manoa. "Pharmacy students will be able to work alongside nursing students. We're all in the same field so there are opportunities for everyone to learn something new."

Pharmacy students have been able to contribute to the clinic in the past by labeling and stocking the medicine cabinets. Now, with faculty supervision, they will be able to have direct contact with patients from the beginning of their care.

"I get to roll up my sleeves and get back in the trenches to do what I was trained to do, which is spend time with patients," said Pezzuto, who teaches a class on Health Care Systems and is a licensed pharmacist. "Because we can take the time to have one-on-one conversations before filling a prescription, I can find out so much more about the other medications they might be taking and have an in depth discussion about their drug therapy, without interruption or pressure to perform other tasks."

Pezzuto has had a chance to see the clinic in action while setting up the pharmacy with Hirata. She was there when a patient came in to the clinic in the midst of an asthma attack and they were able to administer medication during her attack.

Another student came in complaining of severe migraines. After a discussion with her doctor, it was determined her headaches may not be migraines after all, and alternate medication regimens are being examined.

"Those are the kinds of opportunities pharmacists should have but often don't because of demands on their time," Pezzuto said. "It's not often a pharmacist will have access to a patient's chart. But this is the whole idea of being a clinical pharmacist."

With the aid of new faculty member James Hall, an instructor in the Department of Pharmacy Practic, Pezzuto aims to set up hours at least two days a week talking to patients and helping to determine what they might need. Students are already signing up to come and give vaccinations along with faculty supervision.



(left to right) Sulma Gandhi, Heather Hirata and Mimi Pezzuto show the State Board of Pharmacy license that was awarded to Student Medical Services in March.



Heather Hirata and Mimi Pezzuto work together on helping patients.

Hirata, who is a UH Hilo graduate and is working on her Doctorate in Nursing Practice, said she is grateful for the help from Pharmacy. She is the only full-time administrator at the clinic. She works with other part-time nurses, a half-time office assistant, as well as one M.D. for half day once a month.

The not-for-profit clinic is open primarily to students, but the family planning clinic is open to the general public. It functions in four small rooms on the third floor of the campus center. Thanks to federal funding for family planning, patients have a choice

whether to use insurance or not, and there's a sliding scale for medications.

"I hope to bring students here eventually so they can learn the finer details of filling a prescription, from talking to the patient to filing for insurance if they have it," Pezzuto said. "We also want to give them a chance to practice immunization skills, which will help them when they finish school."

Sulma Gandhi, director for student health and wellness programs, said the collaboration is exciting and a unique opportunity for integrated care

"The health of our student body ties into student success because it significantly impacts areas such as attendance, involvement, completion and retention as well as helping them to achieve their goals."

- Sulma Gandhi

intertwined with student development at UH Hilo".

"The health of our student body ties into student success because it significantly impacts areas such as attendance, involvement, completion and retention as well as helping them to achieve their goals," Gandhi said. "But many times our budgetary concerns take precedence over what we would like to offer."

Pezzuto coordinated a fundraiser concert featuring local students studying under a world-renowned pianist on Oct. 13, with proceeds to benefit expanded student services with the Student Medical Services. She said working at the Student Medical Services gives DKICP another chance to be a part of the University and the greater community.

"We help our students plan several health fairs throughout the year on every major island in the state, and that helps remind us of our purpose, which is to help the community in which we live," she said. "I'm really excited to find opportunities on campus where we can do the same thing."



Mimi Pezzuto and James Hall coordinate the new pharmacy.

DKICP welcomes Class of 2017, new PhD students

Incoming students gathered on the UH Hilo campus on August 19 to participate in a weeklong orientation.

The Office of Student Services, with the help of the Student Ambassadors, registered the new student pharmacists who were fitted for their white coats and treated to donuts and coffee donated by Safeway. The 80 PharmD students and two PhD students then filled the Longs Pavilion Lecture Hall, where Dean John Pezzuto welcomed them to the DKICP `ohana. Associate Dean Edward Fisher gave an overview of the college and introduced faculty and key personnel from the departments of pharmaceutical sciences and pharmacy practice.

Later that day, the students and their families were treated to a welcome reception at the Hilo Yacht Club, sponsored by CVS Caremark. Dean Pezzuto introduced District Supervisor, Dennis Niimi, RPh and Pharmacy Manager Jamie Kon, PharmD from Longs Drugs/CVS, who spoke to the group about the importance of community and welcomed them to Hilo.

Throughout the week, students participated in sessions about the student handbook, professionalism, time management, student involvement opportunities and other topics that aimed to support a smooth transition from an undergraduate to a professional level while getting to

know their classmates, faculty and the UH Hilo community.

Other events included New Student Convocation in UH Hilo's Performing Arts Center, featuring faculty and administrators who welcomed the students to the community of learners at UH Hilo.

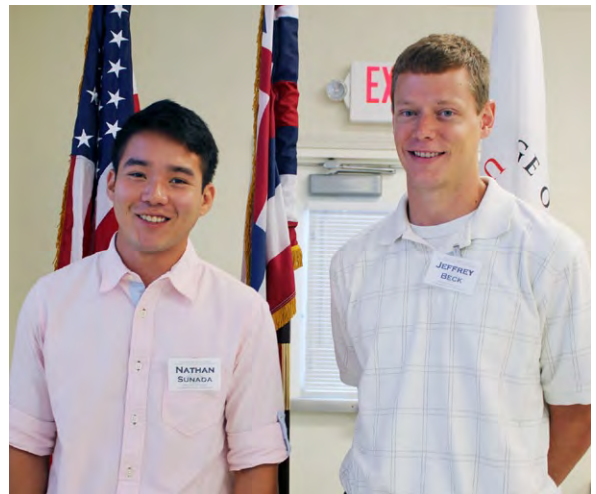
The Class of 2017 is the seventh incoming class of pharmacy students at UH Hilo, the only College of Pharmacy in Hawai'i and the Pacific region.



Third-year student pharmacist Elyse Kanda, helps lead in the first-year students on the way to new student convocation event while Professor Linda Connelly (far right) and Pre-Pharmacy advisor Susannah Welch (to the left) cheer them on. Kanda, a former Pre-Pharmacy student, has helped with new student orientation on the main campus for six years.

Dean John Pezzuto spoke to new students at the annual Convocation event at the Performing Arts Theater.





On the garden isle: KAUAI



Roy Goo

With the establishment of a permanent presence on Kauai, The Daniel K. Inouye College of Pharmacy (DKICP) has taken another major step in fulfilling its broad mission of improving health care throughout the entire State of Hawai'i. Together with strategic placements on Oahu and Maui, DKICP students, residents and faculty have now become an integral part of the Kauai community.

Based at Wilcox Memorial Hospital, Assistant Professor Roy Goo serves as a member of the Mayor's advisory committee for drug prevention. He helps to advise the committee on emerging substance abuse problems.

"We talk particularly about prescription drug abuse and synthetic drug abuse," Goo says. "I also help to formulate strategies to address this issue through public education and additional training for substance abuse counselors."

Last summer, student pharmacists from the DKICP who are completing their experimental rotations at Wilcox Memorial Hospital in Lihue took on several initiatives that put them in direct contact with the community.

In May, Dr. Linda Connelly and Susannah Welch represented the Pre-Pharmacy Program when they came to Kaua'i and, along with Kaua'i high school alumni Clesson Lee and other third- and fourth-year pharmacy students, they made presentations for local high schools to encourage students to pursue careers in health care. Kristi Ann Nishek later implemented a similar program at her alma mater Waimea high school. Along with fellow classmates Andrea Bauer, Jeremy Daube and LaTasha Riddick, Kristi spoke to the high school students about the dangers of prescription drug use and its growing prevalence in Hawai'i.

On June 12-13, third-year student pharmacists Ryan Fukumitsu, Clesson Lee, Tracy Ng and fourth-year student Lara Berger put together a presentation that was delivered to more than 150 registered nurses at the Wilcox Memorial Hospital Nursing Competency Fair. They outlined the new pharmacy-managed heparin drip policy as well as provided a brief overview of the monitoring parameters and bleed management strategy, also developed by students, for newer anticoagulants such as Pradaxa®, Xarelto® and Eliquis®.

On June 20, third-year students Tracy Ng, Kristi Ann Nishek, Ryan Fukumitsu, and Clesson Lee developed and

implemented a medication management educational session at the Waimea Community Center. The students gave a brief presentation about medication management to more than 30 elderly community members, then performed screening, disease state, dietary, lifestyle and medication related information along with medication reconciliation.

"This event was in collaboration with Catholic Charities of Kauai and was so well received that the students have been invited to put on a similar event for Kekaha," Dr. Goo said.

This fall, the three fourth-year students worked side by side with Dr. Goo and two residents, Drs. Melissa Yoneda and Shanelle Shimabuka, along with fellow DKICP graduate Dr. Michael Taylor, who is currently the lead clinical specialist for the Pharm2Pharm program on Kauai, at Kauai County's Seventh Annual Health and Wellness Fair held at the Lihue Civic Center on Sept. 20.

"Out of 66 booths, the DKICP booth was in the top 25 most visited booths," Dr. Goo said. "We provided blood glucose testing, blood pressure screening as well as education relating to dietary and lifestyle interventions."

All these activities have gained considerable attention on the Garden Island. Local TV news interviewed Dr. Shimabuka at the health fair, and Kauai County Mayor Bernard Carvalho visited and spoke at the booth.

"The health fair is all about helping people live healthy and productive lives," Mayor Carvalho said. "With help from these young professionals, we feel like we are even more capable of achieving that goal. It's great to see how these student pharmacists and their active instructors have become a part of the community."

The contribution that the students are making to health care on Kaua'i continues with new protocols being developed constantly. This fall students have submitted several posters to the ASHP Midyear Conference including case studies on several interesting infectious disease cases including Kaua'i's first documented *legionella* infection and a complicated skin and soft tissue infection secondary to "skin popping" which refers to the illegal intradermal injection of opioids. Other students will be presenting on novel enoxaparin prophylactic dosing strategies and the role of pharmacy students on an interdisciplinary palliative care teams.

"The community of Kaua'i, and especially the staff at Wilcox Memorial Hospital, has a unique spirit that really encourages collaboration and development, which puts the priority on improving care for Kauai's residents. This spirit provides a perfect environment for our students, allowing them to get involved and make advancements in health care. I believe that it is Wilcox Memorial Hospital's commitment to patient care and education combined with student's desire to advance the practice of pharmacy that has allowed the program to make such a large impact," Dr. Goo said.

The partnership established between the DKICP and Wilcox Memorial Hospital was largely due to the support of Kent Kikuchi, Director of Ancillary Services. According to Kikuchi, who has rallied for the DKICP since the beginning and as a member of the Dean's Advisory Committee: "The environment on Kaua'i is a perfect example of how an academic institution (like DKICP) can collaborate with a rural community hospital to provide an excellent learning opportunity for future health care professionals. Wilcox Memorial Hospital is committed to providing the best pharmacy practical experience through general and clinical rotations. DKICP provides onsite faculty support that is led by Assistant Professor, Dr. Roy Goo, and Pharm2Pharm consulting pharmacist, Dr. Michael Taylor. This year DKICP and Wilcox Memorial Hospital partnered to start the first rural community hospital residency program that includes residents, Dr. Melissa Yoneda and Dr. Shanele Shimabuka. The residents and pharmacy students participate in clinical programs like antimicrobial stewardship, surgical care improvement projects (SCIP), and provide pharmacy education for the community. They also participate on several multidisciplinary committees to improve the medication use process that includes standardization of protocols and order sets, perform medication use evaluations, formulary review, and design and implement best practice pathways. The partnership with DKICP has optimized the medication use process for the patients at Wilcox Memorial Hospital that ultimately benefits the residents of Kaua'i.



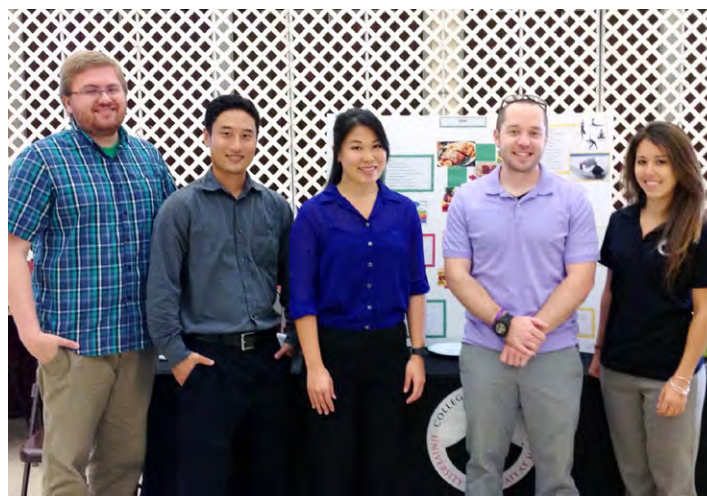
PGY1 resident Dr. Shanele Shimabuka spoke to Kauai Mayor Bernard Carvalho at the Health Fair.



(right to left) Clesson Lee (Class of 2015), Lara Berger, Denise Kobashikawa and Keri Oyadomari (Class of 2014) spoke to a high school class when they were on rotation in Kauai.



Back row (left to right): Tracy Ng, Kristi Ann Nishek, Ryan Fukumitsu, Haruko Kamishita, Clesson Lee, Toshie Oshiro (all from Class of 2015). Front Row (left to right): Nobue Watanabe, Janet Reis, Tsuneyo Ikeda (grandmother of Dr. Torrey Ikeda (Class of 2013))



From Left to Right: Dr. Michael Taylor (Class of 2013), clinical specialist at Wilcox Memorial Hospital, John Fujita, Stacie Takahashi, Jack Goldsberry (all from Class of 2014) and Dr. Melissa Yoneda (Class of 2013 and current PGY-1 Pharmacy Resident).

Residents make their mark on Kauai

By Roy Goo, assistant professor, Department of Pharmacy Practice

Drs. Melissa Yoneda and Shanele Shimabuku became residents beginning July 1 at Wilcox Memorial Hospital (WMH), which serves as the primary acute care facility for the island of Kauai. In their first three months as residents they have already made huge contributions to not only WMH but to the entire Hawai'i Pacific Health System.

As a fourth-year student, Melissa helped to establish the state of Hawai'i's first formalized multidisciplinary antimicrobial stewardship program and is currently looking at the long-term impact that this program has had on total antimicrobial utilization, mortality and 30-day readmission rates. She also will be working to implement similar programs at several of the HPH facilities on Oahu.

Shanele has developed a new Atrial fibrillation and Heart Failure service that will provide medication and disease-state education to patients admitted with this diagnosis as well as ensuring compliance with standards of therapy as set forth by current American College of Cardiology/ American Heart Association (ACC/ AHA) and CHEST guidelines. Shanele will also be measuring the impact that this program has on patient satisfaction and medical literacy as well as the effect on 30-day readmission rates and core measures such as the documentation of patient's CHADS2 score and discharge on appropriate medication therapy.

In addition to these year-long residency projects, Melissa and Shanele have helped to draft a new HPH wide sepsis order set which will help guide physicians to the most appropriate and cost-efficient empiric antimicrobial regimen based on suspected site of infection. They are also currently working on a new insulin protocol for patients admitted to the critical care ward. This new protocol will reflect recent changes to inpatient blood sugar goals and will be implemented at all four HPH hospitals.



Drs. Shanele Shimabuku, Roy Goo and Melissa Yoneda

Both residents also are working to establish a novel intravenous comfort-care opioid-titration protocol that will help to eliminate vague titrate to comfort orders and provide physiologically appropriate dose adjustments to ensure adequate symptom control while decreasing the incidence of adverse events. They have updated WMH's intravenous medication guidelines and have also written a new intravenous haloperidol protocol that will allow clinicians to give haloperidol for terminal restlessness without the need for painful intramuscular injections or the burden of continuous cardiac monitoring.

Along with the development of these new protocols the residents are an integral part of two new multidisciplinary teams, critical care and the supportive care, providing valuable pharmacotherapy insight and improving the overall quality of care for the patients at WMH.

On the Valley Isle: MAUI

Most topics Dr. Anita Ciarleglio (“Dr. C”) talks about to her integrated therapeutics students are serious health threats: neurological, psychiatric, endocrinological, gynaecological and obstetric disorders. And yet her eyes light up, she is positive.

Dr. C teaches PHPP 515 to second-year student pharmacists primarily via polycom from Maui, where she is based. An associate professor in the Department of Pharmacy Practice, she often comes to the UH Hilo campus for in-person lectures on statistics or topics where she feels students may need more help.

She also monitors students who come to Maui for their experiential training “rotations,” usually four, sometimes 10 students at a time. It’s a popular destination, not only because of the beautiful island, but because of Dr. C’s guidance.

Sean Pfundstein, Class of 2014, went to Maui for a summer hospital rotation in between his second and third year as a student pharmacist. He said he enjoyed his time with her so much that he set up his first two Advanced Pharmacy Practices Experiences (APPE) rotations, conducted in the fourth year, on Maui as well.

“Dr. C is very pleasant to be around and extremely knowledgeable, but her best aspect as a teacher is how she can do something in a clinical setting and explain it to students at the same time, without having to stop or shift gears,” Pfundstein said. “It makes learning from her a really positive experience. And it’s always really obvious that her students are a very high priority for her.”

Jimmy Stevens, Class of 2014, agreed.

“Dr. C is very approachable and asked thought-provoking questions,” Stevens said. “She helped keep us up to date by educating us on current hospital protocols.”

Also a fourth-year student, Jed Sana said the acute medicine rotation at the Maui Memorial Medical Center with Dr. C was perhaps his favorite block of APPE training. Because of her positive outlook on life, he said he hopes to inspire pharmacy students to do their best and realize their capabilities as much as she does if he ever has a chance to be a preceptor.

“She had four fourth-year students, and she was able to create an open environment where we could feed off each other and ask and answer questions without the fear of being judged,” Sana said. “I certainly wish I had more time to discuss disease states and the ‘finesse of therapeutics’ with Dr. C. Her life experiences are immense, her passion for knowledge is contagious, and it is easy to see that she truly enjoys teaching.”



It’s not only the students who appreciate Dr. Ciarleglio for her work on Maui. Last year, she began working with Karen Pellegrin, DKICP director of strategic planning and continuing education, on a project called Pharm2Pharm, which uses a model of care that is designed to improve quality and reduce costs among

elderly and others at risk in Hawaiï’s rural counties. Dr. Ciarleglio is leading the hospital component of the project on Maui.

“Anita has been a critical leader in operationalizing, launching, and teaching the Pharm2Pharm model,” said Dr. Pellegrin, who leads the \$14.3 million federally funded project. “As the first county to launch, Maui has been our trailblazer site, with incredibly strong healthcare leaders – Les Krenk, Sheena Jolson, Wes Lo, Les Chun, and, of course, Anita.”

Dr. Pellegrin said Dr. Ciarleglio’s contribution to the Pharm2Pharm project has been invaluable in areas such as refining standard operating procedures, training pharmacists and enrolling the first patients in the service. They are both active speakers disseminating the model both regionally and nationally, and presented at the 2013 Arkansas Pharmacist Association annual convention as well as the 2013 Annual Meeting of the American Association of Pharmaceutical Scientists. Earlier this year, Drs. Pellegrin and Ciarleglio were interviewed by Howard Dicus on Hawaii News Now, a Honolulu TV news show.

But students and patients are her first priority. She has instructed hundreds of students each semester through statewide distance-learning programs, and is active in the pharmacy technology programs for the education of pharmacy technicians. One of the original faculty members who was present the first year students were admitted to UH Hilo in 2007, Dr. Ciarleglio helped design the curriculum.

“Time after time, Anita has stepped up and shown us the vast potential of this College,” said DKICP Dean John M. Pezzuto. “First as the major author of our opening curriculum, next in pioneering one of our first clinical sites not located on the Big Island, next in gaining accreditation for our residency training program, and now in spearheading the Pharm2Pharm program on Maui. She epitomizes the esprit de corps of the DKICP.”

On the Gathering Place: OAHU

One of many hats for Dr. Carolyn Ma: Hawai'i State Board of Pharmacy



Dr. Carolyn Ma has been in the pharmacy profession for almost 30 years. She says with confidence there has never been a catastrophe in Hawai'i similar to the meningitis outbreak from a compounding lab in a Massachusetts pharmacy last year. But there's always a chance. That's part of what

the State Board of Pharmacy prevents.

Dr. Ma, who has a PharmD and is a licensed pharmacist, has been a Director on the Hawai'i State Board of Pharmacy since Governor Neil Abercrombie appointed her two years ago. The board is the state agency responsible for licensure and regulations of pharmacists and pharmacies in Hawai'i.

One of the topics often discussed at the monthly board meetings has been pharmacy compounding, the practice of custom-mixing medicines, Dr. Ma says. The Pew Charitable Trust released figures in September showing more than 20 pharmacy compounding errors associated with 1,084 adverse events, including 87 deaths, since 2001.

"Many state boards are working to make compounding laws more stringent," says Dr. Ma, who is associate professor and chair of the Department of Pharmacy Practice for the Daniel K. Inouye College of Pharmacy.

Meetings of the board typically last between two and four hours and consist of multiple topics important to pharmacists. Other board appointees are public members Jill Oliveira Gray, PhD and Lydia M.K.B. Kumasaka, MS, APRN, and registered pharmacists Todd Inafuku from Oahu, Mary Jo Keefe from Maui, Garrett A. Lau from Kauai and Kerri Okamura from the Big Island of Hawaii. Okamura also serves as a member of the DKICP Dean's advisor committee.

Dr. Ma says "I enjoy the expertise of the State Board and the interesting discussions we have on the variety of questions that are posed. Our purpose is centered around public safety, and we all come from different backgrounds in pharmacy.

Besides ruling on licensing issues, the State Board of Pharmacy reviews what goes in front of the State legislature, but it does not create laws, Dr. Ma says.

"We are not there to interpret the law, we're not lawyers and we have a deputy attorney general present to advise us when we start to step into areas that are not within

our jurisdiction. We try to look at a law in relation to the situation being posed, and whether or not the law addresses the issue," she says. "There's always a lot of discussion. If the question keeps coming up, we can say 'maybe somebody needs to make a law.'"

They usually receive all the bills from the legislature around February and March, and though it takes a lot of time, she finds it interesting to see the legislative process unfold.

"You realize how much you learn when you delve into the law at this level," she says. "Now I can see how important the license is and how it epitomizes the integrity of the profession from seemingly small things such as verification of continuing education credits to major events like illegal drug diversions."

She believes serving on the Board makes her a better teacher because she learns more every month that she can pass on to her students.

"Having to work within the structure of this Board makes it more clear how to explain to the students that it's important to better understand the profession they've chosen," she says. "One of the adjustments all health care professionals make is that your work and personal life aren't separate entities anymore. I try to demonstrate to the students they have to be very clear on their choices in life that relate to upholding the values of this profession."

Looking towards the future, the Board has been discussing certification for pharmacy technicians that will ultimately result in greater patient safety. In addition, Dr. Ma says, 25 percent of the facilities in the state require certification, so this decision may have an impact on competition for technician jobs.

"But there aren't enough technician training programs in the state. Honolulu is the only place offering a program that certifies pharmacy technicians," she says. "It's a perfect opportunity for our College to make a difference, and we are looking into ways of helping."

Her term ends in 2015, at which time she can be reappointed to serve a second term. Though it's hard work and time consuming, Dr. Ma says the service she provides is very valuable and she will seriously consider a second term.

"I'm surprised at how much I enjoy it. It makes me proud to be a part of the profession of pharmacy."

Pharmacy agreement to aid China, U.S. collaborations

Pharmacy students and faculty in China and the U.S. will have more opportunities to work together, thanks to a new agreement signed July 26 at the Daniel K. Inouye College of Pharmacy (DKICP) at the University of Hawai'i at Hilo.

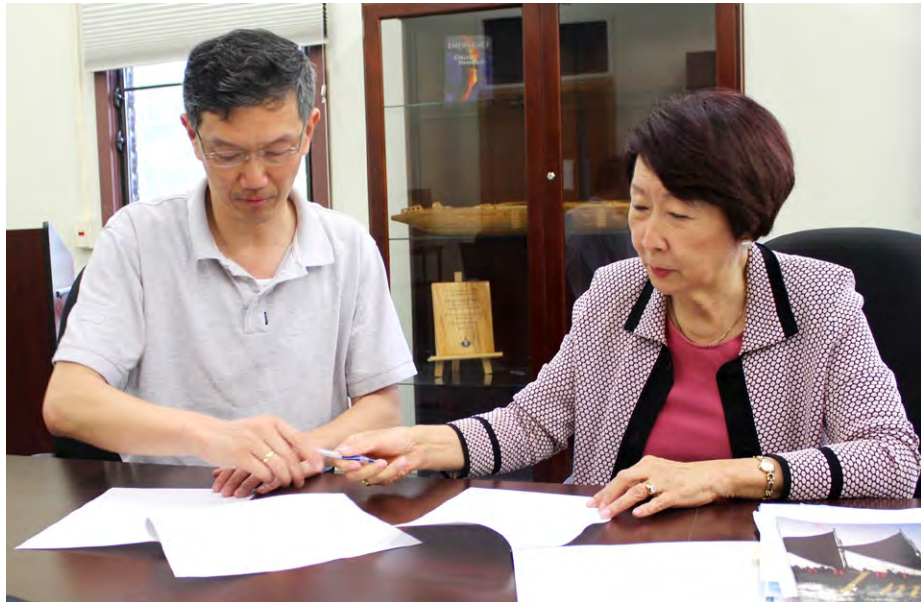
Officials met at one of DKICP's administrative locations on Rainbow Drive to sign a memorandum of understanding (MOU) intended to encourage the exchange of scholarly pursuits. Lei Fu, associate dean at Shanghai Jiao Tong University's (SJTU) School of Pharmacy, met with several DKICP faculty members, including Rose Tseng, professor and director of international programs.

"We are uniquely positioned to influence the future of pharmacy in China because there is no comparable degree program for pharmacists there," said Tseng, who is UH Hilo chancellor emerita and also serves as international advisor to Chancellor Donald Straney, who met Fu in Hilo. "At the same time, their science programs are very strong, giving our researchers even more opportunities to develop projects that will improve health care world wide."

The collaboration began through a network of industrial connections with DKICP faculty, Tseng said. "The university has a wonderful reputation, and I knew of the quality of Dr. Fu's education, who received his Ph.D. from Stanford, so I thought this was a good opportunity."

With 41,000 students, SJTU is about twice the size of the University of Hawai'i's Manoa campus. The School of Pharmacy, which opened in 2000, occupies about 160,000 square feet of building space on the campus in Shanghai. The School of Pharmacy, which was called "a rising star" in pharmacology and toxicology programs by *ScienceWatch*, has 70 students enrolled each year in its master's and Ph.D. programs, according to Fu, who has been a principal investigator with SJTU since 2006.

"We look forward to the potential exchange of students and faculty because of the close proximity of our universities, but also because of the many common interests we share, including natural products," Fu said. "We are hoping to codevelop a PharmD program, as well as create favorable circumstances for postdoctoral associates and visiting scholars."



Lei Fu (left), associate dean at Shanghai Jiao Tong University's (SJTU) School of Pharmacy, signed a document with Chancellor Emerita Rose Tseng, professor in pharmaceutical sciences.

"We are uniquely positioned to influence the future of pharmacy in China because there is no comparable degree program for pharmacists there,"

-Rose Tseng

Researchers from the Chinese University collaborate with many international institutions, including facilitating exchanges with scholars in Germany, France and Switzerland. In the U.S., SJTU has MOU's at several universities, including the University of Pittsburgh and the University of the Pacific.

"Because we are the only school of pharmacy in the Pacific area, it's critical to reach out as the first line of communication in order to give students in this region a level of training never before available," said DKICP Dean John M. Pezzuto, "This has the potential to spin off into a variety of directions, and we are excited and prepared to meet the challenge."

UH Hilo currently has another MOU with China's Zhejiang University. Spearheaded by Tseng in 2008, the MOU was expanded for another three years last fall.

MSCP program at DKICP graduates six; Tripler renews contract

Six clinical psychologists have earned their Masters in Clinical Psychopharmacology (MSCP) through the Daniel K. Inouye College of Pharmacy (DKICP).

The graduates are Matthew Todd Bell, HaNa Kim, Quyen Nguyen, Amy Park, Lavina Sanders and Paul White.

Typically offered by schools of psychology, DKICP is only college of pharmacy to offer the degree, which gives clinical psychologists in the military as well as in Guam and in two states the authority to write prescriptions. But prescriptive authority is only one of the advantages of earning the degree, according to Ed Fisher, associate dean of Academic Affairs and director of the MSCP program.

"The power of the degree is that it gives clinical psychologists a background in drugs so that when they talk to the patient's primary care physician, they can make recommendations without actually prescribing," said Fisher, who helped start the program in 2010 with a three-year contract with Tripler Army Medical Center on O'ahu. The contract was just renewed for one year with an option for another year.

The degree provides postdoctoral training so that clinical psychologists are prepared to safely and effectively use psychotropic medication as one component of their clinical practice, Fisher said.

Many students are part of the active military and may be deployed during program enrollment, so every effort is made to enable these students to complete their MSCP training according to their military or employment timelines, said MSCP Program Coordinator Judi Steinman. One graduate who recently received prescribing credentials from the Department of Defense was Major Matthew Todd Bell (see corresponding story).

"There were a lot of hurdles that he had to go through," Steinman said. "We are very proud of his perseverance."

Another graduate whose education was disrupted due to a deployment was Amy Park, from Olympia Washington, who graduated in August. She completed her degree despite being deployed after December 2012 to help children in Connecticut when 20 children and six adults were killed in Sandy Hook.



Dr. Ed Fisher tapes video chats with MSCP students from his office on DKICP campus at UH Hilo.

"She is a child psychologist and was part of a special unit that helps children deal with trauma," said Steinman, who has a PhD in psychobiology and teaches some of the classes along with Danita (Henley) Narciso, Class of 2011 DKICP PharmD graduate.

"I love the flexibility and the opportunity to work with students that have their doctorate in clinical psychology," said Narciso, who lives on Kauai and teaches asthma/COPD, antibiotics, and SOAP noting. "They provide a perspective to the material that we offer that is new and interesting to me."

The curriculum also includes courses taught by two part-time instructors who are nurses: Alice Davis, coordinator of UH Hilo's Doctorate in Nursing Program (DNP) and Allen Novak, a nurse practitioner who practices in Hilo.

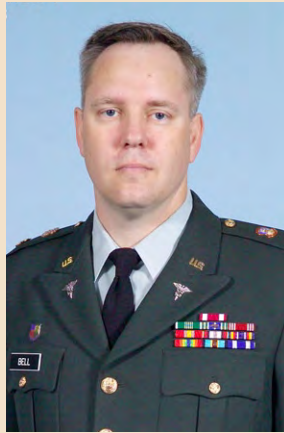
Much of the coursework, which requires six semesters to complete, is offered via distance education through lectures posted on the Internet and meetings between instructors and students are recorded and provided to students for review. But because of feedback from the students, all instructors each travel to O'ahu several times a year to conduct workshops directly with the students.

"We have modified the program a lot since the beginning because it became clear pretty early that we need to have face time with the students," Steinman said. "We have crafted live workshops, live video chats as well as an orientation, and are trying to integrate more live sessions. The feedback now has been very positive."

Looking towards the future, Fisher said he hopes to create a certificate program that would give opportunities to learn about drugs to more professionals who might not have time to go through an entire master's degree program.

"The goal is to provide more in-depth knowledge about these types of drugs to people who work with them the most," Fisher said.

My perspective on obtaining prescriptive authority



M. Todd Bell, Psy.D.
Clinical Health
Psychologist
Fort Benning, GA
MSCP, 2012

Just over a year ago, I completed the Masters of Science in Clinical Psychopharmacology program (MSCP) at the University Of Hawaii Hilo College Of Pharmacy.

When I began this two year program, I had no idea how rigorous or comprehensive the training would be, but looking back now, I realize it was, without exception, the most strenuous (and mentally exhausting) professional training in which I have participated. It's possible that this fact might simply be a serial position (recency) effect and, with time, my pharmacology training at UH will blend into a hazy blur along with the rest of my educational experiences – leaving me with that vague sense of fatigue and numbness so familiar to many healthcare professionals. However at present, I still find myself frequently referring back to the lessons, lectures, and notes from the program and feel that material has been both relevant and extremely useful in my daily practice.

The manner in which the psychopharmacology training from the MSCP at UH Hilo has been valuable to me as a clinician is familiar to other Clinical Psychologists who have undergone similar training. It has deepened my understanding of my patients by having a greater appreciation for their biological functioning, which has led to a more 'balanced' biopsychosocial perspective. Obviously, the training significantly increased my knowledge of psychotropic medications, but it also provided enough broad focus in general pharmacology to afford me a degree of competence and comfort in discussing medication as well as to feel confident in incorporating pharmacological treatment strategies into a patient's comprehensive plan of care. What was not so obvious to me at the time I participated in the MSCP was that

I would go on to feel a greater sense of companionship with other healthcare professionals as we share cases and collaborate more frequently. This new sense of familiarity is contrasted with the 'silo' effect of more traditional mental health services which I had been accustomed to and is mostly isolated from the rest of a patient's healthcare. One potential adverse effect for this shift in professional identity and role has to do with the fact that prescribing psychologists are still rare enough that other professionals – both within the sphere of mental health and beyond – often do not have a frame of reference for interacting and communicating with them. For example, I often have to ask my Psychiatrist, Psychologist, and Social Worker colleagues about how a patient's lab or imaging results are affecting our treatment plan while also reminding my primary care colleagues why I am concerned about the anti-hypertensive or pain medication they are prescribing our patient. However in spite of these occasional frustrations, having a foundation of knowledge in psychopharmacology has enriched my collaboration with other healthcare providers and provided a greater sense of satisfaction in treating patients.

Perhaps because prescriptive authority for psychologists is still uncommon, the path to obtaining such authority remains somewhat burdensome. Similar to licensure as a Clinical Psychologist, successfully completing academic requirements is only a waypoint toward the final destination. I discovered that in order to actually utilize my pharmacology training from the MSCP, I would have to overcome several additional (administrative) challenges, the first of which was the Psychopharmacology Exam for Psychologists (PEP). This exam was a beast of a test and all professionals who have taken similar examinations can empathize with the pressure of confronting such a steep obstacle. Owing to many weeks of study time and a generous amount of tutoring from the MSCP staff, I passed the PEP and could begin to submit credentials for prescribing at my local healthcare facility. The Department of Defense is one of a few institutions which recognize the benefits of prescribing psychologists; as such, each Service has developed their own policies governing the credentialing of these prescribers. In the case of the Army, the policy letter governing prescribing psychologists has created a woeful amount of additional requirements and bureaucratic steps to ensure that the credentialing process will be a long one. In my case, assembling the correct paperwork,

continued on page 20

My perspective - continued from page 19

submitting a prescribing list to the local Pharmacy & Therapeutics committee (twice), submitting paperwork to the credentialing committee, explaining what a prescribing psychologist is and does (a multitude of times), and applying for a DEA number (twice) took about six months.

What I anticipated while going through this process was that I would experience long delays, foot-dragging, and unnecessary complications due to professional biases, guild issues, and just plain prejudice that have often been associated with the prescribing psychologist debate. Instead, what I discovered was fair and professional consideration at nearly every step of the credentialing process. Where there was (frequent) delay, it was almost always due to the convoluted language of Army policy or the lack of familiarity due to the relative rarity of prescribing privileges associated with psychologists.

As for practice following credentialing, I have discovered increased kinship and camaraderie with other healthcare providers. I enjoy sharing cases with other professionals and have been excited at the prospect of having additional tools to incorporate into my practice. I have found that I have not altered my usual scope of practice much in that I still provide assessment and psychotherapy for patients rather than seeing patients 'only' for medication. In particular I've found the collaboration with Nurse Practitioners and the consultation with fellow Psychologists very rewarding. I have also been fortunate to have access to colleagues in Psychiatry to consult with and refer to should the need arise.

Looking back on my education in the MSCP, I am completely satisfied with the quality of training and feel that it really did prepare me for prescribing medication in a safe and effective manner.

Diversity Symposium brings together group with varied backgrounds



Dr. David Sing, executive director of Na Pua No`eau Center for gifted and talented Native Hawaiian children, spoke at the Diversity Symposium on the DKICP campus

The first Diversity Symposium at the Daniel K. Inouye College of Pharmacy (DKICP) attracted 55 attendees of all ages, race and genders to hear about and discuss issues of equality and discrimination on May 17.

The 8-hour session included topics surrounding a wide range of challenges faced in a university setting as well as in the community, particularly with regard to health care. Dana Koomoa-Lange, assistant professor in the Department of Pharmaceutical Sciences, coordinated the symposium with the community in mind.

"It was important to have speakers from inside the university as well as from the community because one of the goals was to get everyone to know each other a little better, and to build more community partnerships that will benefit our pharmacy students," said Dr. Koomoa-Lange, who has worked with several Native Hawaiian programs in pharmacy and on campus.

She said she was really happy several PharmD and pre-pharm students took the time to come even though the semester was over and many students had left town. Participants also included many faculty, administrators, post-docs and graduate students. Supporters from the community who attended included Nancy Huang, District Pharmacy Supervisor from Walgreens, whose diversity initiative funded the event along with DKICP and the University of Hawai`i at Hilo Diversity Committee.

DKICP Dean John Pezzuto welcomed the group to the modular pharmacy classroom on campus. "When I moved to Hawai`i, I discovered for the first time in my life I have joined a minority group, and everyone in this room can say that," he said. "But even though things are a little different here, I have found they are not that different from my experiences at Illinois or Purdue or any other place in the country. Irrespective of where you are, certain tenets of human dignity and respect apply."

The first speaker was Jabar Bennett, from Brown University whose job titles include associate dean of the Graduate School, associate dean of diversity, director of the office of diversity and multicultural affairs, all in the Division of Biology and Medicine. He gave an overview of diversity data in the scientific workforce and talked about challenges in achieving diversity.

“The first thing we have to acknowledge is that 21st century discrimination actually truly exists,” Dr. Bennett said. “The leadership challenge is not necessarily directed to the administrators, but to everybody. Your challenge is to recognize and make visible the invisible forms of discrimination.”



Other speakers and their topics were:

Dr. David Sing, executive director of Na Pua No`eau Center for gifted and talented Native Hawaiian children, University of Hawai`i at Hilo, showed how a program called Ke Ola Mau is helping pre-pharmacy students in “A Health Career Pathways Program.”

Dr. Matthew (Matt) Platz, vice chancellor for academic affairs, University of Hawai`i at Hilo, spoke about workplace prejudice in “Invisible Biases.”

Gregory Maskarinec, associate professor and director of research at the John A. Burns School of Medicine, University of Hawai`i talked about programs for medical faculty in “Approaches to reducing cultural barriers to health care for Native Hawaiians and Micronesians in Hawai`i.”

Edna “Auntie Edna” Baldado, BSN, RN, East Hawai`i Community Health Educator, related personal experiences growing up and working in health care in Hawaii in “Diabetes treatment and care in Hawai`i.”

“Auntie Edna was unique because she was able to relate specific milestones in the growth of a Native Hawaiian health care system on the Big Island by sharing her personal experiences, which were extremely moving,” Dr. Koomoa-Lange said. “She is much beloved in the community, and was honored at the Family Health Fair last spring for her work on diabetes. She’s currently working with some of our students, who are lucky to have the benefit of her guidance.”

Ms. Baldado shared her upbringing growing up poor on the Big Island, raised by a mother who was 100 percent Hawaiian and a German father. She said her family had no

car, no electricity, no indoor plumbing and no shoes, yet she didn’t know they were poor until she left home.

“We learned values of taking care of people,” said Ms. Baldado, who worked the night shift at ICU in Hilo Medical Center for more than 28 years. She talked about how Native Hawaiians suffered discrimination in getting health care initially because the system didn’t think they cared about their health because many were noncompliant.

“We discovered we didn’t have noncompliant people, we had people who didn’t understand,” she said. “When we could explain so they could understand, they would be compliant.”

Dr. Koomoa-Lange said it was this personal touch that made Ms. Baldado one of her favorite speakers. The responses from the participants echoed that sentiment, she said.

At the end of the day, participants took part in role-playing workshops led by Drs. Ben Chavez and Peyton Wong, which Dr. Koomoa-Lange said gave them more time to become acquainted. In a poll taken, most responders said they had a better understanding of Native and Pacific Islander cultures and the need for diversity in health care. She said they indicated they saw potential benefits in this type of program.

“Diversity really is such an expansive subject but I believe we were able to provide a good overview,” she said. “I’m getting feedback from people about helping next year, where we would probably be able to focus on a key topic and limit it to a half day so more people could come.”

Post-docs display expertise at 3rd annual research symposium

The third annual Department of Pharmaceutical Sciences Post-Doctoral Research Symposium was held August 15 on campus at the Daniel K. Inouye College of Pharmacy (DKICP).

All of the talks were based on work that has been done in research labs at DKICP in the past year. The idea of the symposium is to give the post-docs an opportunity to experience presenting to a large audience in order to prepare them for presentations at national and international meetings, said Dr. Linda Connelly, assistant professor in the Department of Pharmaceutical Sciences who organized the symposium with Dr. Dana-Lynn Koomoa-Lange for the third year.

The PhD students were asked to examine each of the presentations and provide a written summary. "This allows them to gain insight into the aspects to include in a short research presentation suitable for a scientific meeting," Dr. Koomoa-Lange said.

The keynote speaker was Dr. Richard B. van Breemen, Professor, University of Illinois at Chicago (center in photo). He spoke on "Safety and Efficacy of Botanical Dietary Supplements."

This year's symposium featured presentations from 7 post-doctoral researchers. Based on presentation style, awards were given to the following:

- First Place: Dr. Benjamin Clark, from Dr. Bob Borris' lab, for his presentation on "Chemotaxonomy of *Metrosideros polymorpha* Through Chemometric Analysis;"
- Second Place: Dr. Michael Weichhaus, who works in Dr. Linda Connelly's lab, for his talk on "Pro-metastatic action of osteoprotegerin: do proteases play a role?";
- Third Place: Dr. Ingo Lange, from Dr. Dana-Lynn Koomoa-Lange's lab, who spoke about "Physiological role of transient receptor potential channel TRPM2."

Also presenting were: Drs. Andrea Bandino (Dr. Dana-Lynn Koomoa-Lange's lab.), Hao Lin (Dr. Dianqing Sun's lab), Tawanun Sripisut (Dr. Leng Chee Chang's lab) and Rakesh Tekade (Dr. Mahavir Chuogule's lab).



Postdoctoral symposium participants and topics:

Andrea Bandino, "Calcium signaling promotes EMT in chemo-resistance Neuroblastoma cells."

Ingo Lange, "Physiological role of transient receptor potential channel TRPM2."

Hao Lin, "Total Synthesis and Antibacterial Evaluation of Anziaic Acid and Analogues as Topoisomerase Inhibitors"

Michael Weichhaus, "Pro-metastatic action of osteoprotegerin: do proteases play a role?"

Tawanun Sripisut, "Cytotoxicity Polyprenylated Benzophenone Derivatives from *Garcinia xanthochymus*"

Rakesh Tekade, "A Novel Strategy to Formulate Nano-sized Hybrid Nanocarrier for Anticancer Drugs: Taguchi orthogonal Array Based Design"

Benjamin Clark, "Chemotaxonomy of *Metrosideros polymorpha* Through Chemometric Analysis"

A Day in the Life of a Postdoc at DKICP



By Benjamin Clark

I have been working as a postdoctoral researcher at the Daniel K. Inouye College of Pharmacy for the past three years, working at the Waiakea Research Station, under the supervision of Prof. Robert Borris, associate dean of research. The position of a postdoc is an interesting one, the awkward pupal stage in-between the lowly caterpillar-like grad student and glorious faculty butterfly. A postdoctoral position focuses heavily on research, and enables young scientists to apply and capitalize on their accumulated knowledge from prior studies, boost their research experience and publication record, while at the same time picking up teaching, management, and leadership skills necessary for future career development.

My research focuses on the chemotaxonomy and metabolomic study of native Hawaiian plants and marine organisms, using naturally-occurring chemical constituents to help classify them in a variety of ways. My primary research project studies the 'Ohi'a tree, monitoring the change in metabolites with variety, location, and season, and ultimately aims to find chemical markers that can be used for taxonomic purposes or to monitor environment stresses. I am also participating in a wide range of collaborative projects with researchers at UH Hilo, UH Manoa, and the USDA, using chemical tools to classify ornamental anthurium plants, differentiate lineages of the edible seaweed *limu kohu*, and to characterize healthy and diseased coral tissue.

On a day to day basis, I split my time between the laboratory, where I isolate and identify the chemical components, and the office, where I use statistical

techniques to analyze the data. Isolating individual components involves the use of various chromatographic strategies in order to separate the compounds based on their weight, polarity, and charge. Once pure natural products are obtained, the next step is to determine their identity, employing spectroscopic techniques such as nuclear magnetic resonance and mass spectrometry. For known compounds such an identification can be straightforward, comparing experimental data with those obtained in the literature, but for unknown components it can be a week- or even month-long process of puzzle-solving, putting together pieces of spectroscopic information from multiple sources to eventually arrive at a complete chemical structure. This is one of my favourite aspects of the position, both challenging and intellectually stimulating, though often very frustrating as well!

More recently, I have been moving in more mathematical directions. The development of modern analytical techniques such as liquid chromatography-mass spectrometry (LC-MS) allows the simultaneous quantification of hundreds or thousands of chemical components in a single sample. The second arm of my research focuses on the statistical analysis of this data, using Hierarchical Cluster Analysis and Principal Component Analysis to differentiate samples based on their chemical constituents, and to visualize this in an easy to understand way. This is another part of the research that I am really enjoying – learning new techniques is one of the most rewarding parts of being a postdoc, though my brain sometimes struggles to recall information from my undergraduate statistical studies, [redacted] years ago. Once the research is done, I am also primarily responsible for writing the work up in publishable form, in conjunction with my supervisor and collaborators.

In addition to my research, I have also participated in teaching undergraduate and postgraduate courses, and I supervise Pharm. D. students in laboratory research. While I am enjoying my time as a postdoctoral researcher, ultimately, I would like to move on to more permanent position, whether that be as a junior academic, government researcher, or morally-bankrupt yet filthy-rich pawn of industry.

Collaboration between local K-12 schools, College of Pharmacy benefits budding engineers

Sustainable energy teaching materials are being delivered in October to educators in the Hilo-Waiakea Complex to promote STEM (science, technology, engineering and math) learning experiences in classrooms at all grade levels thanks to a contribution from a federally funded program in the Daniel K. Inouye College of Pharmacy (DKICP).

Equipment valued at about \$7,500, including photovoltaic (solar) panels, GPS devices and scientific probeware is being distributed to the teachers who have attended the most recent in a series of workshops at the UH Hilo campus over the last three years. The workshops are part of a series offered under a National Science Foundation Engineering Research Center (NSF-ERC) outreach grant to K-12 teachers in the complex area, led by Ken Morris, professor and chair, UHH Department of Pharmaceutical Sciences. This grant also pays expenses and provides stipends to the teachers who attend the workshops.

"This collaboration between the Hawai'i Department of Education and DKICP shows America's educational system at its best, working together on a common goal to expose students to their career choices at the right time in their educational path," Morris said. "We're pleased to help support these STEM teachers who are responsible for inspiring their students to pursue needed and rewarding careers. Students should be able to set their sights high and educators need the tools to help make those dreams come true. They can take part in projects that help meet the expanding needs of Hawai'i and can literally change the world we live in."

At the latest engineering workshops in May, two separate programs offered different levels of training for elementary (K-5) teachers and secondary (6-12) teachers. Over the course of the three-day training, teachers practiced implementing lesson plans designed to engage students in the scientific inquiry process and in developmentally appropriate engineering design projects aligned to learning standards for the targeted grade levels.

Elementary school teachers created solar water heaters, wind turbines, and a model house using both batteries and solar panels as sources of energy. Secondary teachers explored ways to use GPS devices and probeware to measure temperature, salinity, CO² levels and other properties of soil and water. At all levels, technology and mathematics were integrated into meaningful hands-on



Teachers Brittany Kodama from E.B. DeSilva Elementary and Erika Kaneo from Waiakeawaena Elementary schools test out their solar house circuitry. (Photo provided by Hilo-Waiakea Complex)

learning experiences with real-life applications.

Eric Hagiwara, a math teacher at Waiakea High School, said, "As a result of attending the workshop, I have been able to utilize an engineering-based lesson plans and the students have responded well. The comment I most often hear from the students is 'Now I know how this math can be used in real life.' This clearly indicates that the application is an important aspect of teaching math. I will be using this lesson plan as often as possible."

An important aspect of STEM teaching and learning in DOE schools is the development of community partnerships to boost student engagement and learning opportunities. In this case, the DKICP has also provided valuable support to teachers. Morris hopes to continue to develop teachers' expertise through additional workshops funded by NSF (National Science Foundation) grants.

Plans are underway for future teacher workshops in which approximately \$5,000 worth of robotics and science kits will be provided to participants. The DoE-ERC team will conduct follow-up assessments along with DKICP Ph.D. student Micah Glasgow, who is partially funded through the project.

DKICP joins national trend to provide residencies

Residency training is designed to provide recent graduates with accelerated growth beyond entry-level professional competence. Originally developed as internships to train pharmacists in developing skills for hospital pharmacy management, programs rapidly developed in the 1970's with standards outlining general and clinical residencies as separate programs. By the early 90's the two types of programs were combined and replaced with the term "post graduate residency" in pharmaceutical PGY1).

One year of residency informally equates to approximately three years of practice experience. A resident's year focuses on intensive patient-centered care with advancement of clinical judgment, experience in pharmacy operations, clinical research, and project management and leadership skills.

Although the application and match process begins about six months before graduation, many successful applicants begin working for their residency application by demonstrating ongoing leadership, excellent experiential and didactic aptitude and exemplary community service. The number of residency programs is rising, but so is the number of applicants, making it highly competitive.

2013 PGY1 positions=2495; Applicants=3,933 (36% unmatched) PGY2 positions=3,71; Applicants=547

2012 PGY1 positions=2,268; Applicants=3,706 (39% unmatched) PGY2 positions=326; Applicants=498

2011 PGY1 positions=2,027; Applicants=3,277 (38% unmatched) PGY2 positions=294; Applicants=397

Graduates from DKICP have consistently placed approximately 10 percent of their graduating class into an accredited residency program, which represents an excellent rate for a newly formed college. There have been 25 PharmDs from DKICP who have done PGY1 residencies, and two who have done PGY2. Locations have included prestigious institutions such as Scripps Mercy in San Diego, Veterans Administration in Arizona, Washington, Nevada and Oregon, The Queens Medical Center in Honolulu, St. Vincent Hospital in Indianapolis, IN, and St. Luke's - Roosevelt Hospital in New York.

Two of our current residents on Kauai at Wilcox Hospital are DKICP graduates.

Kauai



Shanelle S. Shimabuku is a PGY1 pharmacy resident with the Daniel K. Inouye College of Pharmacy (DKICP) and Hawaii Pacific Health (HPH) residency program. She is currently working at Wilcox Memorial Hospital (WMH) on Kauai under the direction of Dr. Roy Goo, assistant professor, Department of Pharmacy Practice.

She will also have clinical rotations at Straub Clinic and Hospital and Pali Momi Medical Center on Oahu in the near future.

Dr. Shimabuku is currently working on a heart failure and atrial fibrillation education inservice for patients admitted to Wilcox Memorial Hospital. The inservice will help to ensure that patients receive optimal care and understand their diseases in hopes of preventing hospital readmissions.

In addition, she is currently working with the antibiotic stewardship team at Wilcox Memorial Hospital to ensure the appropriate use of antibiotics. Concurrently, she is working with other members of HPH to standardize protocols amongst their hospitals.

As a student at the DKICP, Dr. Shimabuku helped to establish the Pacific Islander Mobile Screening Clinic with the guidance of faculty advisor Dr. Katherine Anderson. The clinic provides health screening and education to patients of Pacific Islander descent that live in remote regions of the Big Island.

Dr. Shimabuku earned a BS in biology from the University of Washington in Seattle, Washington and her PharmD and BA in pharmacy studies from the DKICP in May 2013. Currently, she is practicing as a licensed pharmacist in the state of Hawaii. After she completes her residency, Dr. Shimabuku hopes to continue to work in Hawaii where she will be able to impact the Hawaii community.

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Melissa K. Yoneda is originally from Hilo, Hawai'i and is a PGY1 resident of the Daniel K. Inouye College of Pharmacy (DKICP) and Hawai'i Pacific Health (HPH) residency program. She is currently at Wilcox Memorial Hospital (WMH) on Kaua'i, under the direction of Dr. Roy Goo, where she is completing her inpatient pharmacy training, acute medicine, and infectious disease rotations. After her rotations are completed at WMH, she will finish up her PGY1 residency experience at Straub Hospital and Pali Momi Medical Center on Oahu.



As a 4th year pharmacy student, Dr. Yoneda helped establish one of Hawai'i's first antimicrobial stewardship programs (ASP) at WMH. The purpose of the ASP is to evaluate the appropriateness of the use of antimicrobial agents, and minimize microbial resistance, and health care costs, and improve patient outcomes. Now as a resident, her year long project is evaluating patient centered outcomes to determine the impact of the ASP at WMH and community.

Through out here residency experience, Dr. Yoneda is working with other health care providers at WMH and the HPH system to standardize protocols to meet current guideline recommendations, and ultimately improve patient care. In addition to these various projects, she also participates in community educational opportunities on the island of Kaua'i, and works with pharmacy students from the DKICP.

Dr. Yoneda completed her pharmacy pre-requisites at the University of Hawai'i at Hilo and Western Oregon University before earning her PharmD and BA in pharmacy studies from the Daniel K. Inouye College of Pharmacy in May 2013. She is currently practicing as a licensed pharmacist in the state of Hawai'i.

Oahu



Michelle Zacchetti is a PGY2 resident in Critical Care at the Queen's Medical Center in Honolulu under the direction of Dr. Sheri Tokumar, assistant professor, Department of Pharmacy Practice based on Oahu.

She completed her PGY1 residency at the University of Virginia Health System, with experiences in cardiac intensive care, infectious diseases, practice management, neuro intensive care unit, ambulatory care, drug information, solid organ transplant, and the surgery trauma burn intensive care unit.

She completed internships at multiple locations including Hiram Davis Medical Center in Petersburg, Va., McGuire Veterans Administration Medical Center, Richmond, Va., Virginia Commonwealth University Health System in Richmond, Va., and Walgreens Clinic Pharmacy at Chippenham-Johnston Willis Hospital in Chesterfield, VA.

Dr. Zacchetti received her bachelor's degree in biology and pre-medicine at Simmons College in Boston and PharmD degree at Virginia Commonwealth University, Medical College of Virginia in Richmond, VA in 2012. She holds pharmacist licenses in Hawaii and Virginia.



Dalia Bowling is a PGY2 resident in Psychiatric Pharmacy, primarily at Hawai'i State Hospital (HSH) in Honolulu under the direction of Dr. Mark Mierzwa, Director of Pharmacy at HSH and Dr. Carolyn Ma, associate professor and department chair, Department of Pharmacy Practice at UH Hilo based on Oahu. She also

serves as a preceptor to fourth-year student pharmacists at HSH.

The American Society of Health-System Pharmacists (ASHP) Residency Accreditation Services approved her for PGY1 Pharmacy Residency Exemption, which allowed her to apply directly to PGY2 residencies. She has been an outpatient pharmacist for Kaiser Permanente at the Windward clinics in Oahu, Hawai'i from 2002-2012.

As a PGY2 resident, she practices psychiatric clinical pharmacy, conducts research, and teaches weekly patient group classes. In addition, she rotates once a week at the Waimanalo Community Health Center, alternating between their Mental Health clinic and the Ambulatory Care clinic. She also is a consultant for the Hawaii State Mental Health Division.

She completed internships at Kaiser Permanente Hawai'i, Hospital and Ambulatory Clinics with experience performing patient assessments, conducting drug therapy reviews, developing pharmaceutical care plan, providing patient education and counseling and promoting public health.

Dr. Bowling received her licentiate in pharmaceutical sciences from the University of Lisbon in Portugal and a bachelor's of pharmaceutical sciences awarded by the National Association of Boards of Pharmacy in 1991. She earned her PharmD degree from the University of Florida in Gainesville, Florida in 2012. She holds pharmacist licenses in Hawai'i and Arizona

Students can keep studying... even when using the restroom

A third-year student pharmacist has come up with a way her peers won't waste a moment when they could be studying instead. Even when using the restrooms at the Daniel K. Inouye College of Pharmacy (DKICP).

"While using the restroom, I formed a solid new idea," Lindsey Takara said with tongue planted firmly in cheek. "Instead of wasting time in the restroom, there should be a way to utilize this time and continue to learn."

With the help of Dr. Forrest Batz from the Department of Pharmacy Practice, she created a product called Stall Drugs to test the effectiveness of restroom stall literature for learning and retaining drug information.

Stall Drugs places a poster that shows the top 200 prescription drugs on the inside of lavatory stall doors. She began putting up drug information posters on September 9 in 20 bathroom stalls in four restrooms at DKICP's modular campus.

Each stall has a poster that contains useful information, such as, brand/generic names, indication, dosage forms, counseling tips and comics, about a commonly prescribed drug that's chosen according to a predetermined theme of the week. There is a unique drug in each stall throughout the DKICP campus. At the beginning of each week, she creates a new set of posters to replace the previous ones.

"This tool was created and developed to help my fellow classmates," Takara said. "I hope it encourages retention of material and learning at all times."

First-, second- and third-year students were asked to fill out a survey during the first two weeks of school, and at the end of the semester, she plans to send out another survey to get feedback. She is hoping to compile all of this data to improve the project and present a poster about student satisfaction with this new educational tool.

"So far many of my classmates have said that they look forward to the new set of drugs every week," she said. "They also said that instead of always using their favorite stall, now they try to mix it up and go to different stalls, so that they can read more drug information posters."



"So far many of my classmates have said that they look forward to the new set of drugs every week. They also said that instead of always using their favorite stall, now they try to mix it up and go to different stalls, so that they can read more drug information posters."

-Lindsey Takara

The professors seem to like the posters, too.

"It sounds odd if you're not a pharmacy student, but it's really brilliant because it keeps the students focused on the top 200 and keeps them current with new drugs," said Ken Morris, professor and chair, Department of Pharmaceutical Sciences.

Dr. Forrest Batz, assistant professor, Department of Pharmacy Practice, said he thought it was a novel activity with a practical goal. "Stall drugs provides our students with an opportunity to learn while getting down to business," Dr. Batz said.

DKICP students extend community service efforts to the island of O'ahu

By: Kelly Ishizuka, Student Pharmacist, Class of 2015; Ericson Ganotisi, Student Pharmacist, Class of 2015; Alysia Osugi, Student Pharmacist, Class of 2015; Tracey Niimi, Student Support Specialist

The A Life of Health & Awareness (A.L.O.H.A.) Project, a newly established student organization at the Daniel K. Inouye College of Pharmacy with an IRB-approved research protocol, extended its community outreach efforts and provided diet and lifestyle consultations and health screenings this past summer on the island of O'ahu.

The A.L.O.H.A. Project is a student-led community outreach organization comprised of 80 students that promotes health awareness and well-being. The project offers patients with chronic diseases such as diabetes, high blood pressure, and high cholesterol the opportunity to consult with student pharmacists under the supervision of Hawai'i licensed pharmacists and other healthcare professionals about their current health conditions and medications. Within the Hilo community, the A.L.O.H.A. Project has provided over 20 health screening and lifestyle consultation events at eight different locations.

DKICP students were given the opportunity to collaborate with medical students from the John A. Burns School of Medicine (JABSOM) through the Hawai'i Homeless Outreach & Medical Education (H.O.M.E.) Project at their Waianae, Kapolei, and Downtown Honolulu locations. The mission of the H.O.M.E. Project is "to improve the quality and access to health care for Hawaii's homeless, while increasing student and physician awareness and understanding of the homeless and their healthcare needs". Jae You, a fourth-year medical student added, "Since we are on different islands, it is rare to have the opportunity to collaborate with Student Pharmacists in a community outreach setting. This was a great way to network with future healthcare professional colleagues." Working with the medical students and Dr. Jill Omori, Director of the H.O.M.E. Project, has not only allowed pharmacy students to gain a better understanding of the physician's scope of practice, but also get a glimpse of a different community in need.



Front Row: Sheena Cabrerros, Wei Lin, Kelly Ishizuka, Huiyuan Hu, Kristina Lo
Back Row: Miri Yi, Davis Hanai, Alysia Osugi, Tony Huynh, Isaac Lau, Cheuk Kong Ho, Edwina Leung, Li Tang

In addition to working with the H.O.M.E. Project, pharmacy students also collaborated with the Mina Pharmacy in Wahiawa. Li Tang, a Clinical Dietitian, offered her services and expertise in nutrition at this event. Over 10 DKICP students participated and 30 community members were screened at this event. Tang stated, "I am impressed with A.L.O.H.A. Project's dedication by going beyond their local Hilo community to offer their excellent services." These collaborative efforts emphasize the importance of working with other healthcare professionals to provide the best patient care. Team collaboration and effective communication are essential to ensure patient safety, especially in this day and age where health care delivery involves multiple health care practitioners.

In an effort to continue expanding the A.L.O.H.A. Project, students are in the process of extending services to the islands of Maui and Lana'i. The Project hopes to spread health awareness through interdisciplinary collaborations to communities not only in Hilo, but throughout the entire state of Hawai'i.



Kelly Ishizuka, Jae You, Ethan Routt



Isaac Lau & Sheena Cabrerros

"I am impressed with A.L.O.H.A. Project's dedication by going beyond their local Hilo community to offer their excellent services."

-Li Tang, Clinical Dietitian

Phi Lambda Sigma Pharmacy Leadership Society: A New Organization at the Daniel K. Inouye College of Pharmacy (DKICP)

By LaTasha Riddick, Class of 2015 and Madison Karr, Class of 2015

What began as a conversation between two students during the fall 2012 semester flourished into a group of 10 student pharmacists forming a new chapter of a national pharmacy leadership society, Phi Lambda Sigma (PLS). The mission of PLS is to support pharmacy leadership commitment by recognizing leaders and fostering leadership development by enhancing the talent, skill, and effectiveness of leaders.

The students met all local and national requirements to start a new organization and on Saturday, September 14, the Delta Lambda Chapter of PLS became the 107th national chapter to be chartered. The ceremony was officiated by Dr. Lauren Willis, a PGY2 Resident at MD Anderson Cancer

Center in Texas and the PLS National Webmaster. The student charter members were joined by their friends and loved ones as they each recited an oath for the commitment of pharmacy leadership. Dr. Edward Fisher, associate dean for academic affairs at the DKICP and PLS member, also attended this special occasion and gave encouraging remarks to the newly inducted members.

This new organization brings tremendous value to the DKICP; demonstrated through the members' involvement with the student body weeks before becoming an official organization. They provided a "Professional Attire Fashion

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Show" for the first year pharmacy students during orientation week to highlight appropriate attire on IPPE rotations. Members also participated in a "Dress for Success Fashion Show" for the third year students in the Marketing and Management course to demonstrate acceptable interview attire. Additionally, the organization facilitated a mandatory RISO (Registered Independent Student Organization) Training Seminar for all DKICP student organization presidents and has recently implemented a "Student Leader(s) of the Month" program at DKICP. Future events the group is working on include a business etiquette dinner and a treasurer's training workshop.

Membership selection for PLS is based on pharmacy leadership and advancement of the profession. These 10 students have demonstrated exceptional leadership and commitment to pharmacy within the community and the school. Eligibility requires completion of the first year of pharmacy school and demonstrated leadership at the DKICP and/or in the surrounding community that promotes the profession of pharmacy. Applications for membership will be available on Monday, November 25, 2013 for acceptance in the next school year.

In addition to student membership in PLS, the organization also inducts faculty and staff. The members of the Delta Lambda chapter are as follows:

- LaTasha Riddick, Chartering President
- Madison Karr, Chartering Vice President
- KristiAnne Nishek, Chartering Secretary
- Akio Yanagisawa, Chartering Treasurer
- Le Du, Charter Member
- Ericson Ganotisi, Charter Member
- Bryan Huynh, Charter Member
- Alysia Osugi, Charter Member
- Natalie Savona, Charter Member
- Lindsey Takara, Charter Member
- Dr. Christina Mnatzaganian, Chartering Faculty Advisor
- Dr. Lara Gomez, Chartering Faculty/ Administration Member
- Mr. Tracey Niimi, Chartering Staff Member



Fall 2013 Faculty Briefs

André Bachmann,

associate professor,
Department of
Pharmaceutical
Sciences, was invited
to present the latest
advances of two



multi-center pediatric neuroblastoma trials with DFMO, at the Penn State Hershey Children's Hospital in Hershey, PA. He is also the senior and corresponding author of a new study from his lab to be published in the *Journal of Molecular Biology* entitled "Novel Interaction of Ornithine Decarboxylase with Sepiapterin Reductase Regulates Neuroblastoma Cell Proliferation" (in press), with co-authors Ingo Lange, Dirk Geerts, David Feith, Gabor Mocz, and Jan Koster, which presents molecular and structural insights into the regulation of ODC by SPR, a key enzyme of nitric oxid (NO) production.



Mahavir Chougule,

assistant professor,
Department of
Pharmaceutical
Sciences, has
published "Preparation
and characterization

of a selenium-loaded nanoliposomal formulation" with co-authors Youngren SR, Mulik R, Jun B, Hoffmann PR, Morris KR in 2013, *AAPS PharmSciTech*, 2013 Jun 26. [Epub ahead of print] (In press). Dr. Chuogule's group also presented two posters at the 40th Annual Meeting & Exposition of the Controlled Release Society, in Honolulu, July 21-24. In addition, Dr. Chuogule received \$2,200 travel award from UH Hilo for attendance at the 2013 American Association of Pharmaceutical Scientists (AAPS) Annual Meeting in San Antonio Nov. 10-14.

Ed Fisher,

associate dean of
academic affairs
and director of the
Master's in Clinical
Psychopharmacology
(MSCP) program and
Program Coordinator Judi Steinman
presented material on MSCP to the
American Psychological Association's
(APA) annual meeting in Honolulu July
31-August 4.



Russell Molyneux,

affiliate faculty,
was honored
with a Lifetime
Achievement Award
for his research on
pyrrolizidine alkaloid

hepatotoxicity, pine needle abortion in cattle and locoweed toxicity at the International Society of Poisonous Plants 9th Symposium (ISOPP-9), held in Hohhot, Inner Mongolia in July. He presented a plenary lecture entitled: "The Role of Chemistry in Poisonous Plant Research: Current Status and Future Prospects". He has also co-authored "*Alkaloid profiles of Dermatophyllum arizonicum, Dermatophyllum gypsophilum, Dermatophyllum secundiflorum, Styphnolobium affine, and Styphnolobium japonicum previously classified as Sophora species*" for publication in *Biochemical Systematics and Ecology*.

John M. Pezzuto,

professor and dean,
has published
1) "Resveratrol
analogs: promising
chemopreventive
agents" with



co-authors Ogas, T., Kondratyuk, T.P. in *Ann. N. Y. Acad. Sci.*, July; 2) "Chemopreventive and Antioxidant Activity of 6-Substituted Imidazo[2,1-*b*]thiazoles" with co-authors Andreani, A., Leoni, A., Locatelli, A., Morigi, R., Rambaldi, M., Cervellati, R., Cervellati, R., Greco, E., Kondratyuk, T.P., Park, E.-J., Huang, K., van Breemen, R.B. in *Eur. J. Med Chem*, August; 3) "Resveratrol derivatives: a patent review (2009-2012) with co-authors Kondratyuk, T.P., Ogas, Expert Opinion on Therapeutics, 2013, Sep 16. [Epub ahead of print]; 4) "Vermelhotin, an Anti-inflammatory Agent, Suppresses Nitric Oxide Production in RAW 264.7 Cells via p38 Inhibition" with co-authors Pansanit, A., Park, E.-J., Kondratyuk, T., Lirdprapamomgkol, K., Kittakoop, P. in *J. Nat Product*, 2013, Sept 9, Epub ahead of print; and 5) "Antioxidant marine products in cancer chemoprevention," with co-author Park EJ, in *Antioxid Redox Signal*. 2013 July.



Mimi Pezzuto,

instructor,
Department of
Pharmaceutical
Sciences, was an
invited speaker at
the Lyman Museum

and Mission House in Hilo Oct. 28. The title of her talk was "The Hilo Drug Company: A Window on Turn-of-the-Century Hilo." She discussed DKICP's historical collection and displayed 11 enormous prescription logs from the now-defunct Hilo Drug Company, spanning the years 1894 to 1945. The books comprise a continuous record of how medicine was practiced in Hawai'i around the turn of the century, and were donated to the College by a descendant of one of the pharmacy's owners.

Fall 2013 Faculty Briefs

Dianqing Sun,

assistant professor,
Department of
Pharmaceutical
Sciences, gave
an invited
talk entitled



"Natural products-inspired novel antibacterial agents" in the Department of Chemistry and Biochemistry at the University of Texas at Arlington in May 2013. Dr. Sun also presented an invited talk at the Drug Discovery & Therapy World Congress in Boston in June 2013; he also served as Chairman for the Hot Topics in Medicinal Chemistry Session at this conference. In addition, Dr. Sun published 1). "Prospects for flavonoid and related phytochemicals as nature-inspired treatments for *Clostridium difficile* infection" in *Journal of Applied Microbiology* with coauthors X. Wu, Md. Z. Alam, L. Feng, L.S. Tsutsumi, and J.G. Hurdle. 2). "Progress in the discovery of treatments for *C. difficile* infection: a clinical and medicinal chemistry review" in *Current Topics in Medicinal Chemistry* with coauthors L.S. Tsutsumi, Y.B. Owusu, and J.G. Hurdle. 3). "Recent synthetic developments and applications of the Ullmann reaction. A review" in *Organic Preparations and Procedures International (OPPI)* with coauthor H. Lin. 4). "Macrocyclic drugs and synthetic methodologies toward macrocycles" in *Molecules* with with coauthor X. Yu.



Faculty Seminar Series: Dr. Robert Nichols (left), professor, Department of Cell & Molecular Biology at the John A. Burns School of Medicine, and Dr. Daniela Guendisch, assistant professor in the Department of Pharmaceutical Sciences, have been collaborating on projects at both the Manoa and Hilo campuses. Dr. Nichols presented his research seminar entitled, "A Potent Beta Amyloid Fragment: Synaptic Regulator and Potential Neuroprotective Agent" at the DKICP modular complex on Oct. 16.

Supakit Wongwiwatthanukit,



associate professor of pharmacy practice has two publications entitled "Prevalence of vitamin D deficiency and association of serum vitamin D level with anthropometric and metabolic factors in metabolic syndrome patients" published in *Asian Biomed.* and "Effect of vitamin D2 supplementation on insulin sensitivity and metabolic parameters in metabolic syndrome patients" published in *J Endocrinol Invest.* Coauthors were Phetkrajaysang N, Sansanayudh N, and Krittiyanunt S. One research poster presentation entitled "Prevalence of diabetes and hypertension among Marshallese identified in pharmacist-led health screenings in Hawaii" presented at the 2013 American Pharmacists Association (APhA) Annual Meeting and Exposition in Los Angeles. Coauthors were Txakeeyang A, Wendel A, Oki N, Hanai D, Shimabuku S, Owusu Y, and Anderson K.



Anthony Wright,
associate professor,
Department of
Pharmaceutical
Sciences, has
published "Aspects
of the Chemistry

and Biological Activity of Betel Nut Grown in Hawaii" with co-authors K. Hagiwara, N. K. Tabandera, R. Molyneux, R. Penner, M. Faouzi, P. R. Wright, and "Marine Sponges from Hilo Hawaii and the Au'Au Channel Maui: Description, Identification, Biological Activity and Structure" with co-authors K. Hagiwara, J. E. Garcia Hernández, N. de Voogd, D. Kelman, N. K. Tabandera, M. K. Harper Ireland, both in Abstracts, *Planta Medica.* Dr. Wright also presented two posters at the 54th Annual Meeting of the American Society of Pharmacognosy, Saint Louis, Missouri, July 13 – 17, and presented a paper entitled "Marine Sponges from HiloHawaii and the Au'Au Channel Maui: Description, Identification, Biological Activity and Structure" with co-authors K. Hagiwara, J. E. Garcia Hernández, N. de Voogd, D. Kelman, N. K. Tabandera, M. K. Harper Ireland.

Chancellor welcomes new DKICP faculty, staff



New faculty and staff at DKICP were introduced on campus at UH Hilo at the Chancellor's annual Fall Welcome event on August 29. They were (left to right): Victoria Rupp, assistant specialist, Department of Pharmacy Practice; Eun-Jung (Amy) Park, associate specialist (biological research specialist); James Hall, instructor, Department of Pharmacy Practice; Kendra Demaris, junior specialist, Department of Pharmacy Practice; Kris Aoki, office assistant, Department of Pharmaceutical Sciences; and Linnea Aguiar, office assistant, Department of Pharmacy Practice.



Dr. Cherie Chu (center) celebrated completion of her PGY2 Critical Care Residency with Assistant Professor Sheri Tokumaru (left) and Department Chair Carolyn Ma in Honolulu. Dr. Chu, a member of the inaugural Class of 2011 at UH Hilo's College of Pharmacy, became an assistant professor at DKICP in October.

Rotation Report:

Summer Internship in Health-Systems Pharmacy: The Johns Hopkins Pharmacy Internship Program



By LaTasha R. Riddick, Class of 2015

Every year, student pharmacists seek internship opportunities to gain more patient interaction, learn the medication dispensing process, acquire knowledge and skills in other aspects of pharmacy operations,

and to fulfill state requirements for licensure. While several types of programs exist nationwide, internships in health-systems pharmacy are not as prevalent. During my search for intern experiences that would provide training in a hospital setting, I found the Johns Hopkins Pharmacy Internship Program in Baltimore, Maryland. This summer program hires approximately 20 student pharmacists and provides structured activities and projects focused on health-systems pharmacy.

During this past summer, I completed a 10-week internship at the Johns Hopkins Hospital (JHH) main campus and worked with the associate director of Pharmacy Informatics and Central Pharmacy. Each intern was paired with a preceptor in a different area of pharmacy at one of their locations: the main, East Baltimore campus, the Bayview Medical Center, the Johns Hopkins Home Care Group headquarters, or the Howard County outpatient pharmacy. Through the course of my internship, I gained specific skills in leadership and administration. I attended weekly meetings with my preceptor where I saw first-hand the extensive decision-making process of improving pharmacy practice. I scheduled and attended meetings with pharmacy staff to review and revise job descriptions and collaborated on projects with the entire pharmacy staff; working with everyone from technicians to pharmacy practice managers. My final summer project and presentation was the creation of a business proposal for the

Department of Pharmacy to implement sterility testing of batched medications according to standards from the U.S. Pharmacopeial Convention (USP).

In addition to working closely with our preceptors, the student interns participated in group and individual presentations, journal clubs, pharmacist discussions, the resident on-call program, community service projects, and had shadowing experiences with clinical pharmacy specialists. The program coordinators also arranged a networking event at the American Society of Health-System Pharmacists (ASHP) headquarters where we interacted with ASHP staff and student interns from other programs.

The JHH summer pharmacy internship exposed me to pharmacy services in a large health system. I have developed more confidence in presenting pharmacy information and research and gained insights into pharmacy practice and operations that may benefit our student organizations and the institutions we partner with for IPPE and APPE rotations. I am honored that I was chosen to represent DKICP and highlight my education and experiences in this program.

Student pharmacists interested in the JHH internship should see <http://www.hopkinsmedicine.org/pharmacy/internship/> for more information.



Alumni Report: Graduate Shows Common Scents

By Zoe Dante
Class of 2011

It is difficult to convey the spectrum of experiences in a literary column, but I shall begin with what I know. My name is Zoe. It's a Greek name and it means life. Quite the pair, me and the name.

I have never been a conventional creature, or a habitual one for that matter. Routines were at best an annoyance and at worst an imprisonment. My thirst to learn was primed and set, always seeking unpredictability and wonderment.

Having changed majors six times, I questioned the idea of stability. Pharmacy appeared to be a stable option, though much to my dismay, it uncovered a pool of the unexpected, which I dove into, head first.

I tried my hand in a field I assumed to be "normal." Starting pharmacy school carrying my second child should have negated normalcy by default. During the second year of pharmacy school, I fell victim to domestic violence and abruptly became a single, working mother of two attending pharmacy school. A good cry and therapy may have given the best prognosis, but there was no time and no room to look back.

I graduated with the inaugural class, becoming the first in my family to receive a doctorate. To say "it was an achievement" would be the understatement of the century. My classmates searched for pharmacy jobs in Hawaii. Having learned and experienced all I had during pharmacy school, I knew I was destined for something boundless, so I took my time. I held two jobs to make ends meet. I taught Pharmacy Law, Anatomy & Physiology, and Alternative Medicine at a local college and worked at a restaurant part time. In my "spare time" (the hours after I put the children to sleep), I studied for my board exams and prepared lesson materials.

Dawns of the tomorrows approached before I could part from the yesterdays. I inevitably grew exhausted, bartering my physical capacity for mothering, teaching, studying, bill paying and working. Migraines became unbearable. I was given a bottle of lavender essential oil to help with the migraines. It was just a small bottle of wonderfully aromatic oil extracted from plants. Thanks to that one year I majored in Plant Biotechnology, I knew how to make this.



I grew my own lavender. I kept my work space (my kitchen counter) as sterile as possible, dusted off my white coat and experimented away. Like a child who stumbled upon a box of matches, I feared the possible outcomes but was wickedly enamored by them as well. After several trials, I distilled my own lavender essential oil. I didn't stop there. I kept experimenting with other plants. I made soaps, lotions, body scrubs, bath salts, bath oils, cosmetics, and more. I made teas and coconut oil.

I gave my products as gifts to family and friends. They loved them! When asked how I did it, I told them it was just common sense. Behold, I began my own aromatherapy and apothecary business: Common Scents.

For a split second, I questioned if the business would be good enough and whether or not people would like it, but for that split second only. I couldn't waste time with those questions. The worst that could happen is people wouldn't like it. I've suffered worse. This wasn't the time to look back and think what I had to lose. I forfeited that opportunity when I decided to turn the simple gift of an essential oil bottle into a curiosity rant which became a horse carriage accelerating downhill with no driver after the horses were spooked by snakes.

I hadn't the time to pay my dues selling products at farmer's markets. I merited no reputation as a business. I was an "aromatherapy nobody," at first.

-Continued on page 36

One day, I strolled into a small shop whose windows caught my eye. Rich colors danced harmoniously on mannequins, light fixtures, bags and stationary, galore. I paid my compliments to the cashier who informed me that the store is locally owned by a woman and her three daughters who also worked in the store. I admired and respected that trait. It was perfect.

I presented Common Scents to the owner and provided product samples with hopes to display my products in their lovely shop. Within a week, they put in an order for all of my products. Common Scents received its very first check

from Global Village. I copied it and filed it with my Doctor of Pharmacy diploma, custody decree and the label I peeled off my very first bottle of lavender essential oil. Global Village is still the only company I distribute to though I customize products for those who have other conditions.

Times have been at the very least convoluted and terse, but I can finally take the first breaths after settled ashes, which has been the most life giving. Thus is life, and after all, "Zoe" means "life." While it may seem Greek to you, it's just "Common Scents" to me.

2013 Career Fair

By Tracey Niimi

Company representatives and recruiters from CVS, Walgreens, Walmart, Fred Meyer, Kmart, Hilo Medical Center and Target were available on UH Hilo's campus as well as on Oahu Oct. 25 -26 for the annual Career Fair and Interview Day. The events were sponsored by the UH Alumni Association College of Pharmacy Chapter and the DKICP Office of Student Services.

At the Career Fair, first-second and third year- students eagerly visited each companies booth to learn more about what each had to offer them, and to also get tips on things they can start doing now to better prepare themselves for the job market. A few fourth-year students also took advantage of the interviews in Hilo during the Career Fair.

The next day, Interview Day took place at Kapiolani Community College in Honolulu at their beautiful dining facility with breathtaking views of the Pacific. All together including the interviews that took place in Hilo, more than 130 interviews were conducted with 47 fourth-year students.



Company representatives from seven pharmacies in Hawai'i and the mainland came to DKICP's modular campus to interview student pharmacists.



The Career Fair, which took place in Hilo, gave students a chance to practice one-on-one interview skills as well as visit with the pharmacy representatives to learn about future careers with their companies.



Interview Day in Honolulu was targeted to fourth-year students and gave many of them their first chance to interview for real job openings. (Photo by Tracey Niimi)

Rho Chi members gather for photo shoot



Allan Higa (above right) (Class of 2016), who happens to also be a professional photographer, takes a photo of Trina Tran, (Class of 2015) while Kristina Lo (Class of 2015) assists. They were collecting head shots of fellow Rho Chi members October 25 behind DKICP's modular classrooms.



Waiting for photos are (left to right) Brianne Blakesley, Traci Kusaka, Trina Tran, Akio Yanagisawa and Lindsey Takara (all from the Class of 2015)

DKICP continues biomedical research in joint project with UH Manoa



*John M. Pezzuto
Dean, DKICP*

Researchers at the Daniel K. Inouye College of Pharmacy (DKICP) will receive more than \$800,000 a year for five years in federal funding that will help strengthen a collaborative research program with UH Manoa.

The IDeA Networks for Biomedical Research Excellence (INBRE) program in Hawai'i, which has been supported for more than 10 years by the National Institutes of Health (NIH), has recently received an additional \$18.4 million over five years of support. The renewal allows the collaboration to continue expanding and improving biomedical research in Hawai'i.

John M. Pezzuto, dean of DKICP, leads the UH Hilo effort, and works with UH Manoa Principal Investigator Robert Nichols, professor of Cell and Molecular Biology and Program Coordinator David Easa, both at the John A. Burns College of Medicine (JABSOM).

"This is important because it's a competitive renewal, which means the grant wasn't automatically extended. We had to compete with top research facilities throughout the country," Pezzuto said. "And because one of the focuses is on fostering biomedical careers among students, we can pay it forward for years to come."

In addition to core functions and support for undergraduate research projects, the UH Hilo component of the grant will support studies being conducted in DKICP laboratories.

"The hope is that work conducted under the auspices of INBRE will be leveraged into larger projects supported by extramural funding agencies," Pezzuto said.

The grant also supports researchers and student enrichment programs at Chaminade University, Honolulu and Hawaii Pacific University, Kaneohe. It also funds projects and programs at outreach institutions Kapiolani Community College, Honolulu, Leeward Community College, Pearl City, UH Maui College, Kahului, and Windward Community College, Kaneohe.

"This is important because it's a competitive renewal, which means the grant wasn't automatically extended. We had to compete with top research facilities throughout the country, and because one of the focuses is on fostering biomedical careers among students, we can pay it forward for years to come."

-John Pezzuto, Dean, DKICP

The Daniel K. Inouye College of Pharmacy names Spring 2013 Dean's List

The following students from The Daniel K. Inouye College of Pharmacy at the University of Hawai'i at Hilo have been named to the Dean's List for the 2013 spring semester. The Class of 2013 was performing clinical rotations and therefore this designation does not apply.

Class of 2014:

Miho Aoki, Maurina Bartlett, Katherine Bass, Jeffrey Christley, Jizan-Anne Evangelista, John Fujita, Jack Goldsberry, Jaymie Kanda, Mariko Katagiri, Daniel Kim, Kyle Kumashiro, Andy-Long Le, Dana Lee, Yan Feng Lin, Janine Masri, Janelle Matsukawa, Tracy Nakama, Steven Nishimoto, Naoto Oki, John Opoku-Ansah, Andrew Reinhart, Behnam Rostami, Joanne Sablan, Jed Sana, Caroline Sousa, Koon Ting, Hana Tran, Christopher Tsue, Dayna Michelle Wong

Class of 2015:

Brianne Blakesley, Andrea Brauer, Richard Cleave, Chao Cox, Jeremy Daube, Jozelle Gabriel, Davis Hanai, Daniel Hasegawa, Kelly Ishizuka, Brian John, Madison Karr, Tiffany Kahn, Traci Kusaka, Daniel Leong, Jennie Lim, Wei Lin, Kristina Lo, Chelsea Murobayashi, Tracy Ng, Eric Ngo, Darian Oshiro, Alysia Osugi, Jessica Parker, Jarred Prudencio, Garrett Rhodes, LaTasha Riddick, Lindsey Takara, Trina Tran, Antonio Verduzco, Jill Anne Villarosa, Jillian Wewers, Nichole Wilson, Akio Yanagisawa, Nicole Young

Class of 2016:

Amy Anderson, Allen Bagalso, Kyle Cabison, David Choe, Chau Dang, Yen Dao Barnes, Walter Domingo, Rachel Ebbett, Bryce Fukunaga, Jerilyn Gudoy, Alexander Guimaraes, Samantha Hanabaga, Andrew Hayashi, Allan Higa, Okezie Irondi, Leilani Isozaki, Blake Johnson, Camilla Kim, Micah Kim Han, Nancy Le, Quynh Le, Thao Le, Uoc Le, Albert Lee, Katherine Lee, Tina Liu, Shanon Makanui, Anissa Marzuki, Aryn Meguro, Joseph Nguyen, Sarah Osellame, Joson Perreira, Yolette Quach, Daryl Sakado, Eric Sanders, Huong-Thy Ta, Andy Takahata, Mireya Talavera, Christopher Thai, Carlo Tiano, Eric Tsuji, Brandon Tuzon, Kimberly Victorine, Kevin Wang

