

One who mixes ingredients, drugs or medications: a pharmacist



Kāwili Lā'au

Spring 2012 • Volume 4, Issue 3



INSIDE

- CoP is host to hundreds of natural products scientists and researchers at 50th annual PSNA conference
- Research at CoP garners technology agreement
- CoP achieves national ranking in fifth year

Dean's Message



In this issue, we report the 50th Anniversary Meeting of the Phytochemical Society of North America that was held in Waikoloa last December. The College of Pharmacy was honored to serve as the local host. No quote is more apropos than the one generally attributed to Isaac Newton: "If I have seen further it is by standing on the shoulders of Giants." No scientific discovery is the result of one laboratory, and the statement attributed to Newton aptly describes the caliber of researchers who attended this meeting. The names may not mean much to people outside of the natural products field, but they are truly giants in the field. The research and discovery presented and discussed at this meeting have the potential of improving treatments of disastrous illnesses.

But more than the impressive list of attendees and speakers, we should be proud of our own faculty, postdoctoral associates and students. Their contributions, through thorough and professional presentations of their research, showed this international group of scientists that, in a mere five years, UH Hilo College of Pharmacy is a force to be reckoned with that can affect health throughout the world. I hope that the stories and photos in this issue reflect the magnitude of this impressive event, another milestone in our existence.

The May 12 commencement of our second class of PharmD's also represents a milestone in our development, one that we will document in a future edition of *Kawili La'au*. The Class of 2012 are the first to graduate since we have become fully accredited. It is my sincere wish that they continue to stay connected and active in the evolution of the college they were so instrumental in forming.

Yet another milestone in our development is making the list of pharmacy schools ranked by experts in the field in *U.S. News and World Reports* for the first time. Considering all of the new schools opened since 2000, we were ranked among the top five. This is concrete evidence of our progress, and gives me renewed confidence in our trajectory to reach the top 25.

That goal, of course, is dependent on providing a permanent building from which to work, study and learn. I will be sharing more news about the potential of constructing this facility in the near future, but I would like to send my deepest gratitude to all who have supported us on this odyssey. We will succeed.

A handwritten signature in black ink, appearing to read 'John M. Pezzuto'.

John M. Pezzuto
Professor and Dean



Kāwili Lā'au

Spring, 2012 Volume 4, Issue 3

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**Published by the
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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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Contents

Phytochemical Society of North America discovers aloha at 50th annual meeting on Kohala Coast	2
CoP presents research during PSNA meeting	6
Research at CoP: Bachmann labs focus on new medicines for pediatric cancer	8
Retail lab adds to first-year student experiences	10
CoP attracts noted engineer on sabbatical	12
Beacon funding helps community projects	14
UH Hilo College of Pharmacy earns spot in U.S. News & World Report rankings	16
College of Pharmacy Extended 'Ohana: Meet Kathy Borris	17
CoP equipment comes to the aid of First Responder Training	18
College of Pharmacy names Dean's List for Fall 2011	24
Regular Features	
Faculty Briefs	19
Preceptor Spotlight	20
Student Activities	21
Alumna Update	24
Rotation Report	IB

ON THE COVER –

Dean John Pezzuto (right to left) and Judith Fox-Goldstein, Director of UH Hilo Conference Center joined Hawaii County Mayor William "Billy" Kenoi at the PSNA conference as he presented a lei to Her Royal Highness Dr. Chulabhorn Mahidol, princess of Thailand, who spoke at the conference.

Phytochemical Society of North America discovers aloha at 50th annual meeting on Kohala Coast



Participants gathered at the Fairmont Orchid Hotel on the Kohala Coast for a group photo at the 50th Annual Meeting of the Phytochemical Society of North America.

More than 500 researchers, scientists, faculty and students came to the Island of Hawaii in December to attend the 50th Annual Meeting of the Phytochemical Society of North America, hosted by UH Hilo College of Pharmacy (CoP) Dean John Pezzuto.

The program included 13 general symposia exploring the use of natural products in a multitude of topics, including metabolism, agriculture, drug discovery and cancer chemoprevention. Two separate evenings of poster sessions featured research from several UH Hilo CoP labs.

"We attracted scholars from at least 18 countries and 32 states, some of whom have never visited the Big Island and were able to see firsthand why we are called a living laboratory,"

Dean John Pezzuto said. "Their research will change global health care, and the importance of their contributions cannot be overstated. But my sincere hope is that they left knowing about the aloha in Hawai'i as well."

The meeting was organized by the UH Hilo Conference Center. Mayor William "Billy" Kenoi was an honored guest who welcomed the group in the first plenary session.

Dean Pezzuto, who is credited for the discovery of anticancer activity of resveratrol in red grapes and grape products such as red wine, was one of the featured speakers. His work also was presented in nine poster sessions.

Also speaking at the plenary session included Her Royal Highness Chulabhorn Mahidol, princess of Thailand and president of Chulabhorn

Graduate Institute, who has a doctorate in science from Mahidol University in Thailand. During a private audience with the princess and her staff beforehand with Thai TV cameras present, Dean Pezzuto delivered a gift from UH Hilo of a handmade koa bowl.

Other prestigious speakers included Professor Mansukh C. Wani, co-discoverer of Taxol and camptothecin, two anti-cancer drugs considered standard in the treatment to fight ovarian, breast, lung and colon cancers. Dr. Wani gave a personal history of the history of the discovery and development of taxol as an anticancer agent, which benefitted millions of people all over the world.

"In the development of taxol, and first camptothecin, there were so many obstacles in its development that taxol



Mansukh C. Wani

almost went back to the forest from where it came on numerous occasions. What my story will tell you is that persistence and patience

pays off," he told the group.

Research on recognizable products such as blueberries, ginseng, ginger, tomatoes and teas was presented, along with less common substances blue Anigozanthos root culture and liverworts. Other research delved into studying biosynthesis and bioactive compounds.

"It's an honor to associate

with these dedicated researchers, who work long days and nights all in the name of science," Pezzuto said. "Much of the work presented here has one goal, and that is help people and their families avoid the disastrous domino effect of diseases such as cancer and diabetes."

The Phytochemical Society of North America has a mission to encourage and stimulate research in the chemistry and biochemistry of plant constituents, their effects upon plant and animal physiology and pathology, and their industrial importance and utilization.



Dean John Pezzuto presented a gift of a handmade koa bowl from UH Hilo to Her Royal Highness Chulabhorn Mahidol, princess of Thailand and president of Chulabhorn Graduate Institute.

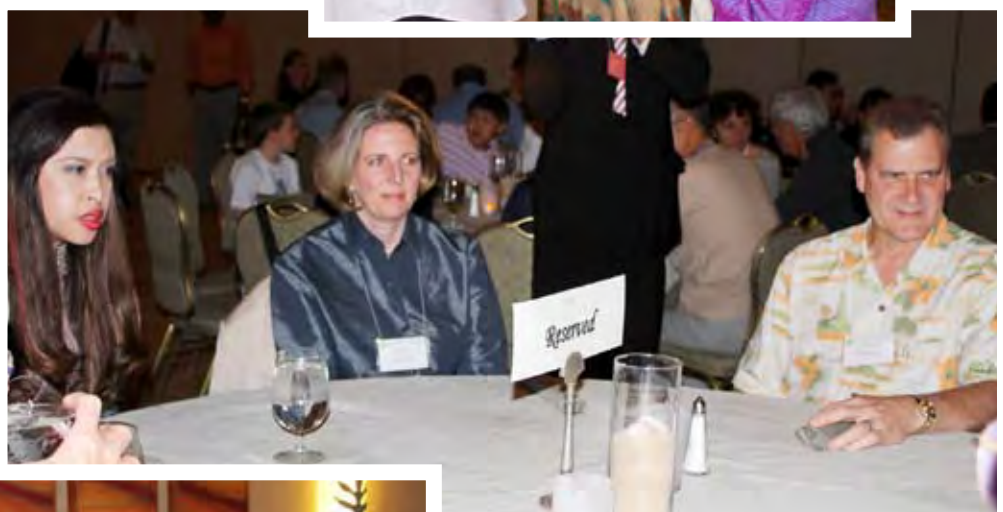
Chemoprevention sessions attract distinguished researchers from prestigious institutions



Participants in the concurrent sessions on chemoprevention included: Top row (left to right): A.-N. Tony Kong, Ernest Mario School of Pharmacy, Rutgers University; Karen Liby, Department of Medicine, Dartmouth Medical School; Clarissa Gerhaeuser, Deutsches Krebsforschungszentrum (DKFZ) - German Cancer Research Center; Nanjoo Suh, (Co-organizer), Ernest Mario School of Pharmacy, Rutgers University; Kathryn A. Gold, Department of Thoracic/Head and Neck Medical Oncology, M. D. Anderson Cancer Center, The University of Texas; Nancy H. Colburn, Center for Cancer Research, National Cancer Institute-Frederick; Alben T. Dinkova-Kostova, Division of Cancer Research, Medical Research Institute, University of Dundee, United Kingdom; Scott M. Lippman, Anderson Cancer Center, Department of Thoracic/Head and Neck Medical Oncology, University of Texas.

Bottom row (left to right): Allan H. Conney, Susan Lehman Cullman Laboratory for Cancer Research, Department of Chemical Biology, Ernest Mario School of Pharmacy, Rutgers University; Michael B. Sporn, MD, Dept. of Pharmacology, Dartmouth Medical School; Young-Joon SURH, Tumor Microenvironment Research Center, College of Pharmacy, Seoul National University; Gary Stoner, Department of Medicine, Medical College of Wisconsin; Chung S. Yang, Department of Chemical Biology and Director, Center for Cancer Prevention Research, Ernest Mario School of Pharmacy, Rutgers University; John M. Pezzuto, (Co-organizer), College of Pharmacy, University of Hawaii at Hilo; Thomas W Kensler, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins School of Medicine, and University of Pittsburgh; Jed W. Fahey, Dept of Pharmacology & Molecular Sciences, Johns Hopkins University School of Medicine. NOT SHOWN: Hasan Mukhtar, Department of Dermatology, University of Wisconsin

PSNA Conference 2012



(top to bottom)

Dignitaries included Hawai'i Mayor William "Billy" Kenoi (center) and Her Royal Highness Chulabhorn Mahidol, princess of Thailand.

Dr. André Bachmann discusses the conference with Dr. Leng Chee Chang, both from UH Hilo.

Dr. Eun Jung "Amy" Park spoke to one of the breakout groups.

Her Royal Highness Chulabhorn Mahidol (left) had dinner with Mrs. Mimi Pezzuto and Dean John Pezzuto.



The conference gave participants opportunities to exchange ideas over meals and at buffets during the poster sessions.



CoP presents research during PSNA meeting

Julie Adrian, DVM, assistant professor, Department of Pharmacy Practice, presented a poster session on "Analysis of Guava as a Forage - Organic Constituents" with coauthors Norman Q. Arancon, PhD; Bruce Mathews, PhD; James R. Carpenter, PhD. Dr. Adrian also received the PSNA US National Science Foundation Sponsored Travel Award, which was recognized at the banquet with a certificate.

CoP Associate Dean for Research Robert Borris' group presented 3 posters:

- 1) "Pigment Analysis of Spathes in Anthurium Species." Benjamin R. Clark, Jon. Y. Suzuki, Barbara J. Bliss, and Robert P. Borris Project supported in part by the NSF Hawaii EPSCoR Program under National Science Foundation award EPS-0903833.
- 2) "Quantitative Analysis of Curcumin and Related Compounds in Curcuma Longa by HPLC and LC-MS." Kwang Jin Lee, Kathie Pomeroy, Swapan Pramanick, Robert P. Borris. Program under National Science Foundation award EPS-0903833
- 3) "Phytochemical Study of the Native Hawaiian Plant, *Metrosideros Polymorpha*." Swapan Pramanick, Benjamin R. Clark, Norman Q. Arancon and Robert P. Borris. Program under National Science Foundation award EPS-0903833.

Daniela Gundisch, assistant professor, Department of Pharmaceutical Sciences, and her group presented a poster entitled "Development of potential CNS therapeutics derived from the alkaloid cytosine" along with her group, former post-doctoral associate Christoph Eibl, current post-doctoral associate Isabelle Tomassoli and Matthias Wolf, who was in her lab on a research rotation and is now back in Germany.

Dianqing Sun, assistant professor, Department of Pharmaceutical Sciences, presented three poster sessions::

- 1) "Inhibitory effect of a callophycin A derivative on iNOS expression in lipopolysaccharide-stimulated RAW 264.7 cells." With Dean Pezzuto's lab coauthors E.-J. Park, and T. P. Kondratyuk and L. Shen.
- 2) "Syntheses of Novel Macrocyclic Engelhardione Analogs as Potential Antituberculosis Agents." With co-author L. Shen.
- 3) D. Sun, J. G. Hurdle, R. E. Lee, L. Shen, T. P. Kondratyuk, R. E. Lee, M. Cushman, J. M. Pezzuto, Antimicrobial Evaluation of a Focused Naringenin and Resveratrol Chemical Library.

Ghee Tan, assistant professor, Department of Pharmaceutical Sciences, presented a poster session on "The cytotoxic constituents of *Stemphylium solani*, a fungal endophyte of *Morinda citrifolia* L. (noni)" with co-authors Crispin D. Sesaaazi, Anthony D. Wright, Sisay Girmay, Chad Higa, Fred M. Sebisubi, Jasper Ogwal-Okeng and Brian Perry.

Anthony Wright, associate professor, Department of Pharmaceutical Sciences, gave an oral presentation entitled: "Correlation between tea leaf age and chemical content and shade levels" with co-authors Ran Song, Dovi Kelman, and Kimberley Johns.

Dovi Kelman, postdoctoral associate, gave an oral presentation entitled: "Antioxidant activity of Hawaiian Macro-algae" with co-authors Ellen Kromkowski Posner, Karla J. McDermid, and Anthony D. Wright. Also, Dr. Kelman received the PSNA Postdoctoral Travel Award to attend the meeting.

The Wright research group presented the following posters:

"Antioxidant activity of Hawaiian lichens", with co-authors Dovi Kelman, Kimberley Johns, Patrick R. Wright, Nicole K. Tabandera, and Kehau A. Hagiwara. Kehau Hagiwara won a student travel award to present the poster. They also presented "The antioxidative and antimicrobial roles of associated fungi of the lichen *Usnea australis* from Hawaii" with co-authors Dovi Kelman, and Jonathan D. Awaya.

Dean Pezzuto's research group presented the following poster sessions:

- 1) "Resveratrol derivative (E)-4-(3,5-Dimethoxystryl)Aniline is a novel inhibitor of cancer cell invasions." Authors: Tamara P. Kondratyuk, Eun-Jung Park, Tyler Hirokawa, Ethyn Leong, Mark Cushman and John M. Pezzuto
- 2) "Suppression of 12-O-Tetradecanolyphorbol-13-Acetate-induced ornithine decarboxylase activity by resveratrol derivatives." Authors: Suaib Luqman, Tamara P. Kondratyuk, Mark Cushman, John M. Pezzuto
- 3) "Inhibitory effect of a callophycin A derivative on iNOS expression in lipopolysaccharide-stimulated RAW 264.7 cells." Authors: Eun-Jung Park, Li Shen, Dianqing Sun, Tamara P. Kondratyuk, and John M. Pezzuto
- 4) "Suppression of cyclooxygenase-2 and inducible nitric oxide synthase expression by 4-[(2'-O-acetyl- α -l-rhamnosyloxy)benzyl]isothiocyanate in LPS-stimulated RAW 264.7 cells." Authors: Eun-Jung Park, Sarot Cheenpracha, Leng Chee Chang, Tamara P. Kondratyuk and John M. Pezzuto.

- 5) "Inhibition of lipopolysaccharide-induced cyclooxygenase-2 and inducible nitric oxide synthase by epimuquibilin A in RAW 264.7 cells." Authors: Eun-Jung Park, Sarot Cheenpracha, Leng Chee Chang, Tamara P. Kondratyuk and John M. Pezzuto.
- 6) "Antimicrobial evaluation of a focused naringenin and resveratrol chemical library." Authors: Dianqing Sun, Julian G Hurdle, Robin E Lee, Li Shen, Tamara P Kondratyuk, Richard E Lee, Mark Cushman, John M Pezzuto.
- 7) "Thiazole and thiadiazole derivatives of resveratrol as inducers of quinone reductase 1." Authors: Laura Marler, Abdelrahman S. Mayhoub, Mark Cushman, and John Pezzuto.

Dr. Eun-Jung Park, post-doctoral associate, gave an oral presentation to PSNA conference participants on the potential cancer chemopreventive activities of AM6-36, with the title "Induction of RXR transcriptional activity and

apoptosis in HL-60 human leukemia cells by natural product-based 3-amino-6-(3-aminopropyl)-5,6-dihydro-5,11-dioxo-11H-indeno[1,2-C]isoquinoline dihydrochloride."

Supakit Wongwiwatthanakit, associate professor, Department of Pharmacy Practice, and Leng Chee Chang, assistant professor, Department of Pharmaceutical Sciences, presented the following poster sessions at the PSNA conference:

- 1) "Biologically active constituents from flower of Vernonia cinerea." Presented by postdoctoral associate Dr. Ui Joung Youn with co-authors Dean Pezzuto and his group.
- 2) "Evaluation of Smoking Cessation Agents from Natural Products." Presented by Leng Chee Chang. Co-authors Dr. Anthony Otsuka, Instructor, Department of Pharmaceutical Sciences and Dr. David Montgomerie, Instructor, Department of Biology.



(left to right)

Dr. Leng Chee Chang explains her research to UH Hilo CoP PhD student Talysa Ogas Hoover.

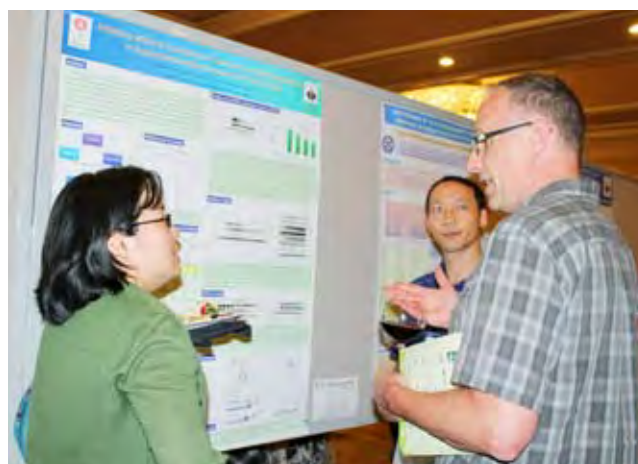
Dr. Daniela Gundisch talks about her research with participant at one of the poster sessions.



(left to right)

Dr. Julie Ann Luiz Adrian prepares to explain her research at a poster session.

Dr. Eun-Jung "Amy" Park (left) and Dr. Dianqing Sun (center) discuss research with a participant.



Poster Session and Oral Session Abstracts from the 50th Annual Meeting of the Phytochemical Society of North America are now online and can be viewed for FREE. To access the abstracts please go to the Pharmaceutical Biology website at <http://informahealthcare.com/toc/phb/current>. Pharmaceutical Biology is published by Informa Healthcare and is indexed on MedLine.

Bachmann labs focus on new medicines for pediatric cancer

By André Bachmann

Dr. André Bachmann, Department Chair and Associate Professor of Pharmaceutical Sciences at UH Hilo College of Pharmacy, has focused much of the past 10 years on biological studies of neuroblastoma (NB), a pediatric cancer of the nervous system. In more recent years, his work also involved the translational application of his research towards the clinic, and in 2010 the first Phase I clinical trial with relapsed and refractory NB patients commenced in four Children's hospitals in the US. His efforts to move the drug DFMO (Eflornithine) from bench to bedside were recognized in 2010 with the Inaugural Weinman Innovator Award for Translational Research.

Neuroblastoma, or NB, which occurs primarily in infants and young children, is a cancer that develops in the tissues of the sympathetic nervous system and is the most common tumor in children less than 1 year of age. Each year there are approximately 650 new cases in the United States, of which 40% to 50% have high-risk disease. Patients that relapse after initial treatment stand a very dismal chance for survival. Our goal is to develop new medicines that target the relapsed patient population and those that are resistant to conventional treatment.

NB has received national attention, in great parts due to the hard work of private NB and pediatric cancer

organizations and their parent advocates. In the 2012 Department of Defense (DOD) bill, \$50 million were provided for the DOD Peer Reviewed Medical Research Program. Thanks to the great lobbying efforts by one parent (Gavin Lindberg), NB has been listed for the 4th year as a disease eligible to compete for funding under this program (one of only 22 diseases), clearly demonstrating the importance of this childhood disease.

A new trend that is now becoming increasingly popular (both in academia and the pharmaceutical industry) is the "repurposing or repositioning" of well-established or old drugs. If we can find a new purpose for an old drug, or a drug currently in use for another disease, it saves both time and money, because these medicines have already gone through comprehensive testing and clinical trials in humans in order to receive market approval.

In 2002, I applied this train of thought when I decided to

repurpose DFMO for NB, a drug successfully used today by the World Health Organization (WHO) to treat West African Sleeping Sickness (trypanosomiasis). Spurred by our basic research findings, I began collaboration with a pediatric oncologist (Dr. Giselle Sholler, M.D.), now at the Helen DeVos Children's Hospital in Grand Rapids, Michigan. Within less than two years, Dr. Sholler opened the first clinical study with DFMO/etoposide in relapsed/refractory NB. I have been very fortunate to serve as a co-investigator on this clinical study that is headed by Dr. Sholler. As our phase I study is nearing the end, we have already prepared a phase II trial to further study this repurposed drug DFMO.

While the repurposing of old drugs is undoubtedly a promising endeavor, there continues to be an urgent need for the discovery and development of entirely new drug molecules with specific biologic targets. Moreover, more targeted drug delivery via the development of novel nanocarrier systems is also needed to improve the directed delivery of drugs to tumor sites without affecting adjacent healthy tissues that leads to unwanted side-effects.

My laboratory works on both aspects. In one project, we identified



a new class of proteasome inhibitor molecules that has shown great promise in the treatment of multiple myeloma and other cancer types including NB.

The second project is carried out in collaboration with pharmaceutical sciences faculty member Dr. Mahavir Chougule, who devised novel nanocarrier systems that carry our drugs directly to the NB tumors.

Both projects were protected

early on through patents that were executed by the UH Office of Technology Transfer and Economic Development (OTTED). Based on the merits of these inventions, local start-up company Pono Pharma (<http://www.ponocorp.com/ponopharma/>) was founded with the goal to further develop these novel technologies into viable drug therapeutics.

All these exciting research developments including multi-center

clinical trials and pharmaceutical entrepreneurship are testament to the commitment and progressive development of the College of Pharmacy that is well on its way to becoming a top-rated U.S. College by providing excellent education to PharmD students as well as cutting-edge research opportunities to our PharmD and PhD students from Hilo, Honolulu, and from around the world.

CoP technology receives patent agreement

(From UH System Reports)

Three technologies developed by the University of Hawai'i are now owned by Honolulu-based Pono Corporation under an agreement that will allow UH to realize the value of the technologies sooner than it would with a traditional licensing deal due to long drug development timelines.

Under the terms of a technology commercialization agreement signed by the university's Office of Technology Transfer and Economic Development with Pono, the university receives equity stake in the company and is now a shareholder in Pono in exchange for an assignment of the technologies.

"We are evolving our technology transfer process to speed commercialization of early-stage technologies developed at the University of Hawai'i," said UH President M.R.C. Greenwood. "The agreement with Pono will allow the university to participate side-by-side with other Pono shareholders and founders as technology developed at the University of Hawai'i is commercialized."

The agreement gives Pono ownership of three UH-developed technologies, including a proteasome inhibitor drug, humanized cobra venom factor, and a hybrid nanocarrier drug delivery system.

"Pono is honored to have the opportunity to build on the work done at the University of Hawai'i by

moving forward with the commercialization of these technologies," said Kaleo Taft, Pono's chief technology officer.

Pono will work to develop the technologies under the agreement with a focus on moving them through the regulatory approval process.

"We are looking forward to this promising opportunity to work with the company towards the clinical development of our novel anti-cancer drugs," said André S. Bachmann, associate professor and chairman of the Department of Pharmaceutical Sciences at the UH Hilo College of Pharmacy.

Bachmann is one of the inventors of the proteasome inhibitor discovery and a co-inventor of the nanocarrier drug delivery system with Mahavir Chougule, assistant professor at the UH Hilo College of Pharmacy.

The proteasome inhibitors discovered by Bachmann and his collaborators are a new class of compounds potentially useful for anti-cancer and other therapeutic uses. The proprietary nanocarrier system developed by Bachmann and Chougule aims to provide improved cancer treatment through targeted, tumor-specific delivery of chemotherapeutic drugs.



André Bachmann



Mahavir Chougule

Retail lab adds to first-year student experiences

By Lara Gomez, PharmD, Director of Clinical Education, Department of Pharmacy Practice

Beginning this summer semester 2012, first-year students will participate in a four-week summer retail rotation as part of their Introductory Pharmacy Practice Experiences (IPPE). The students have been participating in an orientation session this semester.

In the past, students were exposed to retail pharmacy by spending approximately two mornings a week for six weeks during either the fall or spring semester of their first year. This rotation allowed students to observe the daily operations of community pharmacy, but limited their actual hands-on experiences.

We want to ensure our students have the full retail experience before they graduate, so we created and implemented the first-year summer retail rotation, which lasts four weeks and provide 160 IPPE hours. The students will not only observe, but also actually gain hands on experience and be part of the daily operations at the pharmacies, which is truly invaluable.



Order entry: First year student pharmacists Franklin Liu and Jennie Lim prepare drugs in CoP's retail lab, while Lynn Nguyen (in the background) works on something else. (Photo by Justin Arias, Student Pharmacist, Class of 2012)

With the placement of this rotation in the summer, most first-year students will have their Hawai'i intern license, allowing them to participate in many experiences for which they could not do without an intern license.

To prepare the first-year students, the Experiential Office needed to create an orientation for them to provide some basic background knowledge of pharmacy practice

in the community setting. Dr. Leslie Rodriguez, Clinical Education Coordinator, who joined the COP in October and Jennifer Aguiar, Assistant Clinical Education Coordinator, took the lead in developing the orientation.

The orientation, which spanned over four weeks, included a three-hour lecture on Tuesdays devoted to various topics including pharmacy law followed by a two-hour "simulation hands-on lab" held in the pharmacy practice lab on either a Wednesday or Thursday.

Aided by CoP faculty members Mrs. Mimi Pezzuto, Dr. Forrest Batz and Mrs. Pat Juszczak, the team developed the structure and content of the orientation material. This effort helped to reinforce skills learned in other courses taken the first-year.

During the hands-on lab, students participated in simulated activities

“ We covered a wide variety of retail pharmacy concepts in a short amount of time. I feel the hands-on time was key to the retention of the skills. ”

– Dr. Leslie Rodriguez



such as receiving a prescription dropped off by a patient, order entry, filling a prescription, and selling a prescription to a patient. Students also learned to take verbal prescriptions over the phone from a physician, transfer prescriptions with another pharmacy, as well as assist a patient who called in a prescription refill, focusing on developing professional communication skills.

Examples of activities included role-play exercises by Class of 2012 students Justin Arias and Kelsey Atebara, who are on academic rotation and Wendy Yamasaki-Herring, who is on a hospital elective rotation. The fourth-year students and I acted as the physician and provided feedback to the first-year students on how they did with their physician calls.

Another activity involved the utilization of drug information resources pertinent to community pharmacy, including the Orange Book for generic substitution and various information sources, to support the development of professional judgment and drug information skills. Students were given an OTC drug information patient question and returned the next day in lab to discuss how they would answer the patient question and what resources they used.

Faculty and staff were a huge help as they acted out the parts of patients; without them, simulating the patient

interaction would not have been possible. Thank you to Dr. Ed Fisher, Mrs. Mimi Pezzuto, Dr. Peyton Wong, Ms. Amy Knehans, Dr. Paula Zeszotarski, Ms. Ana Barrenechea, Ms. Kristy Nakamura, Ms. Cara Suefuji, Mr. Daryl Masanda, Ms. Char Cockette, Ms. Liz Heffernan and Mr. Robert Moore.

"We covered a wide variety of retail pharmacy concepts in a short amount of time. I feel the hands-on time was key to the retention of the skills. Our volunteer patients made the learning experiences informational, fun and memorable. Mrs. Pezzuto challenged the students by trying to pass off a forged narcotic prescription, creating a distraction with comical

conversation with Dr. Fisher, who was also a volunteer patient at the time, all while shoplifting our OTC cough syrups," Dr. Rodriguez said.

First-year students will begin this newly formatted retail rotation this summer, and are scheduled in either the first or second session, starting May 21 or July 18, respectively. By having this rotation occur during the summer months, students can be placed at pharmacies throughout the state of Hawaii, enabling CoP to expand our resources, involve many more preceptors and offer a wider variety of retail pharmacy practice sites in the experiential education of our students.

"We would like to thank all the community pharmacies that have opened their doors to help our students in this first-time endeavor," Ms. Aguiar said. "This experience has been an invaluable addition to their education."



Patient Pickup: Josen Ho and Eric Ngo, first-year student pharmacists, practice role play experiential training in the retail lab at CoP. (Photo by P4 Justin Arias, Student Pharmacist, Class of 2012)

CoP attracts noted engineer on sabbatical

Dr. Rajesh Davé from the New Jersey Institute of Technology became the first professor to choose to spend a large portion of his sabbatical year of research at UH Hilo College of Pharmacy.

An engineer in the truest sense of the word, Professor Raj Davé is a builder. He has built award-winning research on enhancing bioavailability of drugs and pharmaceutical engineering, and has built an internationally acclaimed reputation as an expert in engineering particulates.

"Most engineers fail to build from the opportunities they have," said Dr. Davé, who has been on the faculty at New Jersey Institute of Technology (NJIT) since 1985 and is Distinguished Professor in the Department of Chemical, Biological and Pharmaceutical Engineering. He is also the Site-Leader, Thrust Leader and a Test-bed Leader, National Science Foundation Engineering Research Center on Structured Organic Particulate Systems (NSF ERC-SOPS), a Rutgers (lead), Purdue, NJIT and UPRM partnership. In

addition, he is the founding Director of New Jersey Center for Engineered Particulates, an R&D Excellence Center engaged in research for applications such as pharmaceutical, food, electronic and energetic materials. "I like to build things that matter."

Since last July, he has been building on international collaborations through work during his sabbatical year away from the New Jersey Institute of Technology (NJIT). With an eye towards identifying places "that matter," Dr. Davé chose five locations to expand different areas of his research interests.

"My goals for this sabbatical were to strengthen research capabilities, expand collaborations and recharge and catch up on writing papers," Dr. Davé said. "One place couldn't meet all those objectives."

Dr. Davé looked for new collaborations at the School of Pharmacy of the University of Wisconsin-Madison, as well as the Indian Institute of Technology in Bombay and the University of New South Wales in Sydney, Australia. He chose two other universities to strengthen existing collaborations: Osaka Prefecture University in Japan, and the University of Hawaii at Hilo College of Pharmacy (UH Hilo CoP).

"The other schools had been established longer, but I had visited UH Hilo a few times, and was impressed with the rate of growth at CoP, including making it into the national rankings for pharmacy schools," Dr. Davé said. "I like to look at the big picture, and I believe Dean John Pezzuto to be a man of vision who also looks at the big picture."

He began his quest using Rutgers University in New Jersey as a base. When it's all over by the end of June, he will have spent two weeks working in Wisconsin, two weeks in India, five weeks in Australia, a month in Japan and more than two months in Hawaii.



Dr. Ken Morris (right to left) and Dr. Raj Davé work with CoP PhD student Micah Glasgow on x-ray diffraction in Dr. Morris' lab on UH Hilo campus.

His collaborator at UH Hilo is Professor Ken Morris in the Department of Pharmaceutical Sciences. They had previously worked together for many years on a project with the National Science Foundation Engineering Research Center on Structured Organic Particulate Systems (NSF-ERC-SOPS) when Dr. Morris was on faculty at Purdue University. Upon moving to UH Hilo, Dr. Morris again collaborated with Dr. Davé to make UH Hilo an ERC outreach partner.

"Involvement with the NSF-ERC-SOPS is absolutely critical to helping our students understand the value of pharmaceutical research and be a part of an interdisciplinary national effort to improve the way pharmaceuticals are manufactured," Dr. Morris said. "I'm grateful to Raj Davé for his perpetual energy and consummate expertise as well as his belief and support."

Bringing Dr. Morris back into an active role with the ERC was key to Dr. Davé's plan to come to Hilo. "I consider Ken Morris not only as a good friend but to be someone from whom I can learn new things," Dr. Davé said. "Through him, I have been introduced to bright young faculty at UH Hilo such as Mazen Hamad in chemistry and Mahavir Chougule in pharmacy. I'm looking forward to forming many more positive working relationships in the future."

In addition to research collaboration, Dr. Davé will help mentor CoP PhD student, Micah Glasgow, who is partially funded by a

scholarship from the NSF-ERC-SOPS. Glasgow is one of the first students who started a PhD in Pharmaceutical Sciences at UH Hilo in the fall of 2011. He originally began his undergraduate education in chemical engineering at the University of Missouri, but he completed his bachelor's degree in biology with a cell and molecular track at UH Hilo.

"Micah may be the only native Hawaiian working at any ERC site in



“ Sabbaticals are investments, like sowing seeds,” Professor Davé said. “It’s not over when it’s over. It takes years to realize the full benefit of a sabbatical. ”

– Dr. Rajesh Davé

the entire country, which is a valuable distinction considering the personal experiences he can bring to the table,” Dr. Davé said. “He will help us to expand the ERC footprint in Hilo and in general help to give other PhD students exposure to engineering.”

Through this association, Glasgow will have opportunities to meet other PhD students throughout the country and attend industrial advisory board meetings in several locations on the mainland U.S.

Glasgow said he was inspired at the professional development workshop Dr. Davé held at CoP, where he explained how to be a more effective person and to focus on the big picture.

“The ERC support has allowed me to combine the knowledge of pharmaceutical science with the mechanisms of engineering, and I’m ready to take it on and see where it can go,” Glasgow said. “It’s an exciting new path and I would like to say ‘mahalo’ to all of ERC for this unique opportunity.”

In addition to his work sustaining the NSF-ERC-SOPS while on sabbatical, Dr. Davé hopes to contribute to the new engineering initiative at UH Hilo, and wants to explore the possibility of a new multi-university research center where NJIT has a prominent role. This, he recognized, will take time.

“Sabbaticals are investments, like sowing seeds,” he said. “It’s not over when it’s over. It takes years to realize the full benefit of a sabbatical.”

Beacon funding helps community projects

[Parts of the following were supplied by the Coalition for a Tobacco-Free Hawai'i in East Hawai'i and the Hawai'i Island Beacon Community]

The Hawai'i Island Beacon Community (HIBC) selected community-based projects for its Healthy Eating and Active Living (HEAL) Program, including four projects in UH Hilo's College of Pharmacy.

HEAL aims to effect positive changes in eating, physical activity and tobacco use habits of the public. Supported by approximately \$300,000 of HIBC's federal funding, the HEAL Projects will run through February 2013 and directly reach more than 15,000 Hawai'i Island residents in all regions, of all ages, from diverse ethnic groups, including those most at risk.

The \$16 million Beacon Community grant was awarded to a consortium led by the College of Pharmacy (CoP) in 2010. Hawai'i County was one of 15 communities across the nation chosen to serve as pilot communities to develop wide-scale use of electronic medical records through this program. CoP Director of Strategic Planning and Continuing Education, and Director of the Center for Rural Health Sciences Karen Pellegrin served as principal investigator of the grant that was awarded through President Obama's "Beacon Communities" program.

"Hawaii Island Beacon Community is the only Beacon in the nation to put significant funds towards local community-based wellness programs outside of the healthcare system," Pellegrin said. "The healthcare system is hard-wired to treat disease; it is not designed to prevent disease. Wellness and disease originate, not in the healthcare system, but in homes, schools, churches, businesses, and neighborhoods. So this is where dollars should be spent for prevention."

The HEAL Program began with a mandatory health literacy training day on March 15, 2012 for the leaders from all HEAL Projects. Throughout the year, updates and testimonials will be posted at hibeacon.org.

The CoP HEAL Projects are:

Environmental Tobacco Smoke: UH Hilo CoP PharmD students will be working with the Coalition for a Tobacco-Free Hawaii in East Hawai'i (TFEH). TFEH plans to implement the What About Tobacco (WAT) Youth Prevention Project in targeted East Hawaii elementary schools to educate fourth-grade students about tobacco use. The overall goal is to educate 1,200 fourth graders in 15 elementary schools in communities where tobacco use is highest among adults either in targeted populations or socio-economic status.

The larger objective is to increase children's knowledge

regarding tobacco uses that are predisposed to smoking addiction and to increase their decision to choose not to start smoking.

The WAT Youth Prevention Project will train fourth graders in: the harmful effects of tobacco use on the body; how to avoid smoking initiation; understand tobacco addiction; how to speak to a family member about their tobacco use and how it affects them.

The WAT Youth Prevention project will be funded from March 2012-February 2013.

Marshallese Mobile Screening Clinic (MMSC): UH Hilo College of Pharmacy at the University of Hawai'i at Hilo will provide health screenings, health education and access to affordable health care for Marshallese families, adults and youth.

"The Marshallese Mobile Screening Clinic is a student pharmacist led initiative that focuses on reaching out to underserved, Pacific Islander populations on the Big Island. With the help of interpreters, we hope to provide free diabetes, blood pressure, and cholesterol screenings along with healthy eating and exercise education. In the process, we also hope to overcome cultural and language barriers, so we are able to educate our peers on how to effectively treat these culturally sensitive populations. We are excited to provide this service to our community and hope that it will empower them to engage in healthier lifestyles," said Shanelle Shimabuku, Student Pharmacist, Class of 2013.

Volunteer Counseling and Health Screenings:

National Community Pharmacists Association (NCPA) Student Chapter at the College of Pharmacy at the University of Hawai'i at Hilo Free counseling on diet/lifestyle changes and health screenings provided by student pharmacists for community members to better manage chronic diseases such as diabetes, hypertension and hyperlipidemia.

Miloli'i Health Fair: The members of the Gamma Theta Chapter of the Phi Delta Chi Fraternaty will host a health fair in Miloli'i, in the district of South Kona. Through established health partners the fair will provide an opportunity for residents to implement long term plans around healthy eating, physical activity, and smoking cessation.

Other projects funded by Beacon include:

- Big Island Babes Junior Roller Derby Paradise Roller Girls Introduction to roller derby with safety equipment provided
- Building a Garden and Doing Physical Activities to Improve Healthy Eating and Physical Fitness Hawai'i County Economic Opportunity Council (HCEOC) Six-week summer program for students in grades 3-6 and their families
- Eat-Think-Grow: Nutritional Education for School Garden Teachers on Hawai'i Island The Kohala Center, Inc. Workshops and courses for teachers, education events and food festivals

- Get Fit Hawai'i 2012 Five Mountains Hawai'i Ten-Week, team-based Take It Off Hawai'i program modified for teens.
- Hana Ka Lima Social Sciences Department at the University of Hawai'i at Hilo Seminars, classes, workshops, tours and fitness activities for at-risk and low-income teens from the the Hilo High School Lanakila Learning Center.
- Healthy Families/Healthy Children Neighborhood Place of Puna Education, home visits and hands-on projects to prevent child abuse/neglect and encourage healthy eating.
- The HHDC Healthy Abundance Project Hilo-Hamakua Development Corporation (HHDC) Community education to facilitate local food production
- Huli Ka Lima Ilalo Kū I Ka Pono After-school gardening program for students and their families
- Ka 'Ohana Mahi'ai Maku'u Farmers Association Workshops to increase fresh fruit and vegetable

consumption by families in the Maku'u Homestead area of Puna.

- Keeping Keiki Kicking Kaho'omiki Program to increase the physical activity of elementary school students
- Mahi A'Ai Cultivate Health and Wellness Project Mahi A'Ai, LLC Ten-week, hands-on course to teach at-risk teens how to grow and cook healthy food while incorporating more exercise into their lives.
- Mothers on the Move (MOM) Family Support Hawai'i Program to promote appropriate physical activity for low-income pregnant and new mothers and their young children.
- Sowing Seeds Na'alehu Elementary School Hands-on projects, gardening and other activities to teach elementary school students the skills and judgment to make healthier eating choices

North Hawai'i Community Hospital Receives \$680,000 Contract



(Provided by Hawai'i Island Beacon Community)

Hilo, Hawai'i (January 11, 2012)—Hawai'i Island Beacon Community (HIBC) has awarded a \$680,000 contract to North Hawai'i Community Hospital (NHCH) to implement a Health Information Exchange (HIE) system throughout the North Hawai'i region, impacting more than 32,000 patients and marking the first step toward an island-wide HIE. Implementation has begun and will continue through 2012.

NHCH's existing vendor partner Wellogic® has already laid the technical foundation for the HIE, connecting information systems from NHCH; affiliated physician groups; two statewide labs; all pharmacies, radiology and imaging centers in the region; a national database of dispensed prescriptions; and a Federally Qualified Health Center (FQHC).

"We are pleased to support the groundbreaking initiatives of NHCH to help providers in the North Hawai'i region adopt and benefit from the latest technology in health care," said Susan B. Hunt, M.H.A., project director and CEO of HIBC. "NHCH has pioneered the use of Electronic Health Records (EHR) by North Hawai'i providers and helped to achieve a nearly 95 percent adoption rate—one of the highest for any community nationwide. The region is more than ready to take the next step, and both patients and providers

will benefit from the streamlined operations that a secure HIE system makes possible."

"It's an exciting breakthrough for health care in North Hawai'i," said William Park, M.D., chief medical officer and general surgeon at NHCH, who has championed the region's HIE since the project's inception. "Our partnership with Wellogic® has been very successful, and we have built up to a smooth launch. Through access to comprehensive, up-to-date patient information for providers and, eventually, patients themselves, care will be more efficient, more easily coordinated and more holistic." Wellogic® staff will be conducting training for all North Hawai'i providers. In addition, HIBC staff, in partnership with staff from the Hawai'i Pacific Regional Extension Center (REC), will continue ongoing support related to the adoption and use of EHR.

In addition to supporting and assisting with EHR and HIE implementation, HIBC is working to effect clinical transformation, particularly in terms of greater coordination of and access to care for patients who are most at-risk for chronic diseases, and conducting outreach by awarding \$300,000 to the community in the form of Healthy Eating and Active Living (HEAL) Grants.

UH Hilo College of Pharmacy earns spot in U.S. News & World Report rankings

The University of Hawaii at Hilo College of Pharmacy (UHH CoP) has earned national ranking as one of the top five new schools of pharmacy in the U.S. News & World Report according to a rankings released Monday, March 13.

In its first year of eligibility since admitting the inaugural class in 2007, the College ranked 74 out of 135 schools of pharmacy in the United States. Of the 42 new pharmacy programs established in or after 2000, only three programs ranked higher.

"These rankings are based on expert opinions about program excellence, so to garner attention at all at this stage of our development is good recognition of our progress," said Dean John M. Pezzuto. "But our goal is to achieve ranking in the top-ranked 25, and we are confident in our ability to achieve this goal once we are housed in our permanent College of Pharmacy facility."

Each year, U.S. News and World Report ranks professional school programs in business, education, engineering, law, and medicine, though the magazine does not rank all programs every year. Pharmacy schools were last ranked in 2009.

The data come from surveys of administrators at more than 1,200 programs and nearly 15,000 academics and

professionals, conducted during the fall of 2011 and early 2012. As has been the case for many years, the University of California-- San Francisco was ranked the number one pharmacy school in the nation.

"This is the first time a UH Hilo graduate program has been identified in the U.S. News & World Report, so we are indeed proud and optimistic that we will be able to continue an upward trend," Dean Pezzuto said. "This is tangible proof that students graduate from our program with a top-notch education in a unique environment."

The only fully accredited school of pharmacy in the Pacific region, UH Hilo CoP also offers a PhD in pharmaceutical sciences, a Bachelor of Arts in Pharmacy Studies (BAPS), a Masters in Clinical Psychopharmacology (MSCP) for members of the armed forces, and a residency program in community pharmacy. For more information on the college, please visit <http://pharmacy.uhh.hawaii.edu/>.



Dean Pezzuto meets the press

Dean John Pezzuto spoke to Big Island Press Club members at their annual dinner March 3, held at Hilo Yacht Club. He told the group about some of the research being done at CoP, and spoke about the bill pending in the legislature to provide \$33 million for the first phase of permanent facilities. Dean Pezzuto also gave a rundown of how the college went from zero to 100 in five years.

College of Pharmacy Extended 'Ohana: Meet Kathy Borris

Work is painful for a lot of people who dread going into the office. Not so for Kathy Borris. She says she has “the best job in the world.”

As a sixth grade teacher at St. Joseph Elementary School in Hilo, Mrs. Borris says she likes what she does because she can spend all her time with children and fuel their excitement. Married to CoP Associate Dean for Research Dr. Robert “Bob” Borris, she moved to Hilo five years ago from New Jersey.

“Moving to Hilo was difficult at first,” she admits. “We were established in New Jersey, lived in the same place for 23 years, I had my two children there. But I told myself moving to Hawaii was fabulous, and discovered it really is.”

When they moved to Hilo in 2007, their daughter Anna, now in law school at the University of Washington, had just started college at the University of Hawaii at Manoa. Son Christian was starting 8th grade at St. Joseph Elementary School, and this year is graduating from St. Joseph High School.

With a bachelor’s degree in elementary education from the University of Illinois, graduate work at Northwestern and Rutgers, and with more than 15 years teaching experience, it seemed a logical fit when Mrs. Borris started teaching math and science part time at St. Joseph Elementary School four years ago. She moved on to a full-time position there two years ago as the primary teacher in sixth grade teaching math, science, language arts and religion.

One of 19 schools in the state, St. Joseph School is part of the “Schools of the Future” program. The teaching philosophy, funded by a grant from the Hawai’i Association of Independent Schools, promotes solving open-



St. Joseph Elementary School Teacher Mrs. Kathy Borris helps sixth grader Nagahiro Ohashi with social studies research using the Internet.

ended problems and the use of technology in the learning experience. Mrs. Borris is the elementary chair of the Schools of the Future committee, and says she tries to use technology as much as possible.

“I always find new ways to use technology, and sometimes my students show me a thing I don’t know, which is great,” Mrs. Borris says.

A member of the Keaukaha canoe club, paddling has given her a new outlet for physical fitness and an experience in Hawaiian culture. She says paddling is a chance to be part of a team and release the tensions of teaching.

She enjoys education that expands outside of the traditional learning environment. At the end of March, she accompanied her class to a two-day overnight excursion to Kilauea Military Camp in Volcano National

Park, where they were surrounded by science lessons mixed with guided hikes and nature.

Her students seem to have captured her enthusiasm. Eleven-year-old Elisabeth Pezzuto says sixth grade has been a turning point in her educational life.

“Mrs. Borris is teaching us topics we never knew about before,” Miss Pezzuto says. “I really liked learning about Greek and Roman history. We had a festival and everyone took part by representing a different topic in the Ancient Roman and Greek times. It was really fun.”

Eleven-year-old Gracie Rogers becomes animated and her eyes sparkle when she talks about school.

“Every day I learn 70 things, sometimes more,” Miss Rogers says. “Mrs. Borris has a way about her that makes learning fun.”



Mrs. Kathy Borris and her sixth grade class at St. Joseph Elementary School.

CoP equipment comes to the aid of First Responder Training

Hawaii Fire Department held a “First Responder Refresher Training” at the College of Pharmacy on March 29 with one of the patient simulators used by PharmD students. Director of Clinical Education Lara Gomez helped organize the event for CoP, along with Fire Medical Specialist Chris Honda of the Hawaii Fire Department’s EMS Bureau. CoP Patient Simulation Specialist Robert Moore maintained the simulators.



Welcome to CoP

Dean Pezzuto (center) welcomed Cara Suefuji (left), academic support specialist in the Office of Student Services and Peyton Wong, associate specialist in the Department of Pharmacy Practice Jan. 31 at a Chancellor’s Spring Gathering. The event recognized new faculty and staff at UH Hilo campus center.



Spring 2012 Faculty Briefs

Leng Chee Chang, assistant professor, Department of Pharmaceutical Sciences, was invited to Mae Fah Luang University in Chiang Rai, Thailand to supervise a PhD student. The trip, which took place from Jan. 28 Feb. 3, was funded by the Royal Golden Jubilee PhD grant. While there, she introduced students and faculty to the PhD program in pharmaceutical sciences in the College of Pharmacy at UH Hilo.



André Bachmann, associate Professor and Chair, Department of Pharmaceutical Sciences, College of Pharmacy, was a co-author on a paper that was published in International Journal of Cancer entitled "PEA15 impairs cell migration and correlates with clinical features predicting good prognosis in neuroblastoma." Dr. Bachmann was an invited speaker on the clinical use of DFMO in relapsed neuroblastoma at the Memorial Sloan Kettering Cancer Center in New York City on February 9, and he started an elective course in "Cancer Prevention" for which 102 students signed up, which he said was a record for an elective course.



Ben Chavez, assistant professor, Department of Pharmacy Practice, published two articles in the journal Currents in Pharmacy Teaching and Learning, a quarterly publication of high-quality, peer-reviewed articles relevant to all areas of pharmacy education. The titles are "The use of short downloadable

lectures to supplement didactic lectures" and "Popular gameshows as educational tools in the pharmacy classroom." He also was an invited speaker for a webinar for American Association of College of Pharmacy titled "Gaming in Education."



Mahavir Chougule, assistant professor, Department of Pharmaceutical Sciences, was a recipient of the 2012 The American Association for Cancer Research (AACR) Minority-Serving Institution Faculty Scholar in Cancer Research award. The award is given to full-time faculty members of Minority-

Serving Institutions, including Native Hawaiian-Serving Institutions, as defined by the US Department of Education. The purposes of this award program are to increase the scientific knowledge base of faculty members at Minority-Serving Institutions, and to encourage them and their students to pursue careers in cancer research. AACR honored Dr. Chougule at the AACR 103rd Annual Meeting in Chicago.

Dr. Chougule also co-wrote an article published in PLoS ONE, an international, peer-reviewed high impact factor journal in the field of pharmaceutical sciences, entitled "Enhanced anticancer activity of Gemcitabine in combination with Noscapine via antiangiogenic and apoptotic pathway against Non-Small Cell Lung Cancer."

Deborah Juarez, assistant professor, Department of Pharmacy Practice, published: 1) "The Relationship of Hospital Quality and Cost Per Case in Hawaii" in Inquiry (in press, Spring 2012 issue). Co-authors were Ashby J, Sibley P, Berthiaume J, and Chung R; 2) "Prevalence of Comorbid Conditions with Aging Among Patients with Diabetes and Cardiovascular Disease" in Hawaii Med J (October 2011). Co-authors were Davis J and Chung RS; 3) "Prevalence of Coronary Heart Disease and Its Risk Factors Related to Age in Asian, Pacific Islanders, and Caucasians in Hawaii" in Journal of Healthcare for the Poor and Underserved (in press). Co-authors were Davis JW, Brady SK, and Chung RS. She was also appointed by Governor Abercrombie to the State Health Planning Council.



Eugene A. Konorev, assistant professor, Department of Pharmaceutical Sciences, co-wrote an article published in PLoS ONE, an international, peer-reviewed high impact factor journal in the field of pharmaceutical sciences, entitled "Stretch-Induced Hypertrophy Activates NFKB-Mediated VEGF Secretion in Adult Cardiomyocytes."

Russell Molyneux, affiliate faculty and associate editor, Journal of Agricultural and Food Chemistry, co-wrote an article published in Food Additives and Contaminants entitled "Pyrrolizidine alkaloid toxicity in livestock: a paradigm for human poisoning?" as well as another article entitled "Pyrrolizidine alkaloids in food: a spectrum of potential health consequences." Other



– continued on next page

papers he co-authored include: 1) "Loss of *msnA*, a putative stress regulatory gene, in *Aspergillus parasiticus* and *Aspergillus flavus* increased production of conidia, aflatoxins and kojic acid" in *Toxins*; 2) "Detection of high levels of pyrrolizidine-N-oxides in the endangered plant *Cryptantha crassipes* (Terlingua Creek Cat's-eye) using HPLC-ESI-MS" in *Phytochemical Analysis*; and 3) "Quantitation of Sensory-Active and Bioactive Constituents of Food: A Journal of Agricultural and Food Chemistry Perspective" in the *Journal of Agricultural and Food Chemistry*.



Dianqing Sun, assistant professor, Department of Pharmaceutical Sciences, presented research entitled "Discovery and Design of 2-Phenylindole-based Nitric Oxide Synthesis Inhibitors as Potential Antiinflammatory and Chemopreventive Agents" at the 243rd American Chemical Society National Meeting held March 25-29,

2012 in San Diego. The other coauthors are X. Yu E.-J. Park, T. P. Kondratyuk, and J. M. Pezzuto.

Dr. Sun also presented a poster entitled "Synthesis and Antibacterial Evaluation of Novel Macrocyclic Engelhardione Analogs" at Gordon Research Conference on New Antibacterial Discovery & Development held April 15-20, 2012, in Lucca, Italy.

Anthony Wright, associate professor, Department of Pharmaceutical Sciences, co-wrote an article published in *Marine Drugs*, a journal on the research, development and production of drugs from the sea, including marine natural product chemistry published online quarterly, entitled "A New Diketopiperazine, Cyclo-(4-S-hydroxy-R-proline-R-isoleucine), from an Australian Specimen of the Sponge *Stelletta* sp." He also co-wrote a paper that is in press at *The Journal of Marine Science: Research and Development* entitled "Correlation Between Natural Products Production and Pressure from Local Environmental Stressors."



Postdoc Briefs

Dovi Kelman, postdoctoral associate, published the following two papers: "Correlation between leaf age, shade levels, and characteristic beneficial natural constituents of tea (*Camellia sinensis*) grown in Hawaii" with co-authors R. Song, K. Johns and A.D. Wright in *Food Chemistry*; and "Antioxidant activity of Hawaiian marine algae" with co-authors E. Kromkowski Posner, K.J. McDermid Smith, N.K. Tabandera, P.R. Wright and A.D. Wright in *Marine Drugs*.

Buddhini Samarasinghe, postdoctoral associate, presented a poster of his research on "Heat-shock and Autophagy in cancer: Novel role for DGK ι " AACR (American Association of Cancer Research) Annual Meeting in Chicago. Co-authors are Christina Wales and Dr. Aaron Jacobs.

Preceptor Spotlight:



Sheryl Itamura, PharmD, BCPS, Kaiser Permanente Moanalua Medical Center Inpatient Pharmacy

Sheryl Itamura, Supervisor of Sterile IV Compounding Services at Kaiser Permanente Moanalua

Medical Center Inpatient Pharmacy, began her role as a preceptor to UH Hilo CoP pharmacy students enrolled in Advanced Pharmacy Practice Experience (APPE) in 2010. Kaiser Permanente recently awarded her their Preceptor of the Year Award for 2011.

In the words of Wes Sumida, PharmD, BCPS, Director of Pharmaceutical Services, "Sheryl has established herself as a leader of the IV room and USP 797 SME. Sheryl's students benefitted not only from her specialty knowledge about sterile compounding, but also her ability to role model what a new leader should be."

"What I appreciate about Sheryl is her ongoing commitment to continuously improve herself as a pharmacist, leader, and preceptor," says Jeani Jow, PharmD, Manager of Pharmacy HR, Learning & Development, Preceptor, Residency & Intern Programs for Kaiser.

Sheryl states that the best part of being a preceptor is being able to see the students develop over the six weeks. "Being a preceptor was something new to me, but ever since I started doing it, I have learned so much about myself. I have also learned that each student is very different and that you have to adjust to each one's learning styles. At Kaiser we are so fortunate to have a nutrition support team and I think having the students participate in this during their rotation has been a valuable learning experience for them. Total parenteral nutrition, or TPN, and nutrition support is something that takes practice beyond learning in the classroom. I think giving the students hands on experience in monitoring and ordering of TPN gives them a greater understanding of this area of pharmacy."

APPE students who have been given the opportunity to work with Sheryl have noted: "I appreciated that Sheryl included me in her daily TPN rounds and in her daily activities. She would always give me opportunities to learn which is all I could ask for" and "She was very knowledgeable, and facilitated the expansion of my pharmacy-related knowledge through teaching and enforcing self-directed learning."

CoP is grateful for Dr. Itamura's dedication to the education of our pharmacy students.

STUDENT ACTIVITIES :

Student Pharmacists Celebrate Blood Donor Month

Supplied by Jack Fernandez

Student pharmacists from the University of Hawaii College of Pharmacy held a community blood drive on January 23 at the UH Hilo campus. The day-long blood drive saw a solid-booked day of 200 appointments, with 144 participants successfully donating blood. Approximately 17 percent of these participants were first-time donors.

Hawaii County Mayor William “Billy” Kenoi helped set the stage for this year’s drive by proclaiming January 2012 as Blood Donor Month. “Each January, Blood Bank of Hawaii joins other blood donation centers across the nation in celebrating National Blood Donor Month to encourage healthy citizens to make a donation,” said Kenoi in his public proclamation.

“We are very grateful for the outpouring of support from our Mayor’s office, community members, as well as my fellow student pharmacists in helping to replenish the state’s blood supplies,” said Jack Fernandez, coordinator for this year’s blood drive, and himself a committed blood donor. “When we have such a high first-time-donor rate, this is an inspiring reflection of our team’s education and recruitment efforts. Every pint of blood brings us ever closer to meeting the needs of Hawaii’s patients.”

This year marks the third annual blood drive sponsored by the College of Pharmacy. According to the Blood Bank of Hawaii, up to 60 percent of people in Hawaii will need blood sometime in their lives, but only two percent donate. Members of the American Pharmacists Association (APhA) and National Community Pharmacists Association (NCPA) student chapters donated food and funds for the event.



From left: Third-year student pharmacists who participated in the 2012 Blood Drive are (left to right) Flora Kim, Margaret Kang, Jack Fernandez and Christine Lucas.



Stephanie Ogle, a P2 student pharmacist, displays how much fun making soap can be.

Student pharmacists participate in Ocean Day

The National Community Pharmacists Association (NCPA) Hilo Chapter and the College of Pharmacy participated in the community’s annual Ocean Day Malama Kanaloa Festival in Keaukaha in Hilo on Feb. 22. Open to the public, this free event attracted thousands of people even in the rain.

“It’s our first year here,” says Nicole Tabandera, NCPA President and booth coordinator. “We didn’t expect to have 2100-plus customers. Of course we ran out of supplies.”

The chapter offered both kids and adults the chance to learn about compounding by making either slime or Spirulina soap bars in the shape of seashells and sea animals in representation of the festival.

“The festival had a great turnout,” says Ericson Ganotisi, a first-year student pharmacist participant. “It’s by far the biggest event NCPA has been a part of as well as the college itself.”

When asked if NCPA would conduct another compounding for kids event for next year’s festival, Nicole laughed and said, “Not by ourselves. Definitely not by ourselves.”

CoP team makes an impression on community at Relay for Life 2012

By Steven Nishimoto
Student Pharmacist, Class of 2014

I wanted to thank everyone for your hard work at making Relay for Life a success. With all of your efforts, our CoP team raised over \$3500. As an added bonus, we were the top contributing team among UH Hilo. Overall, the whole UH Hilo system raised over \$29,000.

The CoP booth also won first place for the Mission Activities Booth. CoP focused on Nutrition, emphasizing that healthy eating and exercise will go a long way in cancer prevention.

I wanted to personally thank third-year student pharmacist Christine Lucas for being co-captain and taking a large part of this program. We wouldn't have raised as much money without her efforts. I also wanted to thank those who took their time to relay and make monetary donations.

Our contribution to Relay for Life will aid the American Cancer Society (ACS) fight back by building volunteer programs, funding research, promoting education and awareness, and other services; our hard efforts will help ACS save lives. As ACS puts it, "we aren't just fighting one type of cancer – we're fighting for every birthday threatened by every cancer in every community."



I personally took on Relay for Life because my family and friends have been affected by cancer and experienced the devastating consequences this group of diseases caused. It really touches me to know that other people care about this deeply. I hope this will become a tradition and the CoP team will continue to be dedicated to this important cause in the years to come. Thank you for your support.

Mahalo

CoP students want to add a special thank you to Nora from Two Ladies Kitchen for donating mochi to NCPA to sell in efforts to help raise funds for Relay for Life. Also, the UH Hilo Students Association (UHHSA) gave NCPA funds to purchase the mochi. All of the proceeds raised were donated to Relay for Life on behalf of the CoP team from NCPA

UH Hilo students help educate legislators on 2012 opening day



UH Hilo students who visited the state legislature on opening day were:
Back row: Lyssa Waren-Dale, Rachel Nazara, Melequini Gaisoa, Marvin Mathew, Keahi Tajon. Front row: Anqi Liu, Robyn Taniguchi, Kanoë Elvenia, Senator Josh Green, Kuulei Bezilla and Mike Sado.

Several UH Hilo students traveled to Oahu for the state legislature's opening day Jan. 18 to advocate funding the College of Pharmacy's (CoP) permanent building and to talk about other concerns on campus.

The legislature is considering a bill for an act for capital improvements, H.B. 2818, included funding for the first phase of the permanent building for the College of Pharmacy.

The group included students from the University of Hawaii at Hilo Student Association (UHHSA) along with leaders from chartered student organizations Student Activity Council, Break Thru Adventures and the Campus Center Fee Board.

"The students worked very hard to network and arrange appointments with state senate and house members, and I wanted to thank them for their efforts and support of CoP," said student pharmacist Anqi Liu, Class of 2013, who is a graduate senator with the UH Hilo Student Association (UHHSA).

Students met with state representatives including Jerry Chang, Clift Tsuji and senators including Josh Green, chair of the senate health committee.

"Many CoP students have since taken part in letting the legislature know how important the new building is, including Reece Uyeno from the class of 2013, who is the current senator for UHHSA," Ms. Liu said. "He wasn't able to make it to the that trip but did go on a separate occasion recently to also advocate for funding."

National Community Pharmacists Association teams with Mina Pharmacy for educational event

By Keshia K. Mahi-Leopoldino, NCPA HI Chapter Vice President, UHH College of Pharmacy, Student Pharmacist, Class of 2014

The National Community Pharmacists Association (NCPA) Hilo Chapter hosted its first event for community pharmacies on the Big Island. Co-sponsoring with Mina Pharmacy, the event attracted more than 50 pharmacists, pharmacy technicians, employees and even student pharmacists from 15 different pharmacies across the island.

"For the pharmacists from Kona who couldn't make it in person, we had our webmaster Chris Ayson stream the presentation live so that they also could participate," said Keshia Mahi-Leopoldino, coordinator of the event and NCPA vice president.

Mr. Keith Kamita, Deputy Director for the Department of Public Safety and Former Chief of the NED, gave a thorough and exciting presentation on Controlled Substances. The presentation involved a review on State

and Federal Law and updates on changes with the law and new controlled substances. He stressed the importance of following the law and calling the NED if anything about a patient is suspicious.

"We'd rather have you call us no matter what your questions are versus having the NED come to your front door," he stated, eliciting laughter from the audience.

Kerri Okamura, Director of Pharmacy at KTA and an attendee says, "If you ever want to draw a crowd, he's a good person to have."

Although this presentation wasn't an actual CE event and the attendees didn't receive any credit, the success of it was bigger than expected.

"We're very proud of how it turned out and look forward to hosting more events with NCPA in the future," says Mike Hoskins, Pharmacy Manager at Mina Pharmacy.



Keith Kamita, (center) Deputy Director for the Department of Public Safety, met with student Pharmacists Ericson Ganotisi (left to right), Anqi Lu, Keshia Mahi-Leopoldino and Nicole Tabandera.

Students conduct wellness screenings at 2012 Hilo Heart Walk Health Fair



U H Hilo CoP's Hawaii Student Society of Health-System Pharmacists (HSSHP) collaborated with Hilo Medical Center (HMC) to hold blood glucose screening for the community at the 2012 Hilo Heart Walk. Student volunteers from the first-, second- and third-year in pharmacy actively participated in patient education on diabetes and glucose testing for the public.

The American Pharmacists Association (APhA) and Academy of Managed Care (AMCP) collaborated in a health fair booth at the Hilo Heart Walk health fair. The volunteers from APhA offered blood pressure screening and stroke risk assessment to the public. AMCP displayed a heart health education poster ranged from smoking cessation, obesity, exercise, diet, lifestyle and sunscreen protection and answered questions from the community.

Student Pharmacists Jack Goldsberry, Trina Tran, Faculty Supervising Pharmacist Dr. Yaw Owusu, Yan Lin, Margaret Kang, Stephanie Sumner, and Stephanie Gregorio came out despite the rain for the Hilo Heart Walk.

College of Pharmacy names Dean's List for Fall 2011

The following University of Hawai'i at Hilo College of Pharmacy students have achieved a GPA of at least 3.5 and have been named to the Dean's List for the 2011 fall semester. The class of 2012 is performing clinical rotations and therefore this designation does not apply.

Class of 2013:

Kurt Adkins, Christopher Ayson, Gina Chan, Phuongquynh Doan, William Engen, Jackwayne Fernandez, Ryan Gaspar, Nargis Hassan, Byoung Hak Jun, Christopher Kamei, Margaret Kang, Flora Kim, Alison Kobayashi, Marcus Kouma, Diem Le, Elizabeth Lee, James Lee, Victor Lin, Cheryl Lopez, Shih-Chia Lu, Daniel Lupas, Brynn Macumber, Tina Marrie Mcdonald, Tasha Medeiros, Mathew Mullahy, Ahmad Musheinish, Jason Okazaki, Chanel Opunui, Steven Osgood, Kaylene Peric, Mylan Phan, Tyler Prescott, Rosa Quan, Matthew Sasaki, Nicole Schauer, Prabu Segaran, Jordan Shibata, Takeshi Shikuma, Shanele Shimabuku, Michael Tsuji, Reece Uyeno, Irving Veilleux, William Walker, Melissa Yoneda, Modaniet Young, May Yu.

Class of 2014:

Miho Aoki, Maurina Bartlett, Joanne Daproza, Jizan-Anne Evangelista, John Fujita, Jack Goldsberry, Brianne Gustilo, Jaymie Kanda, Mariko Katagiri, Daniel Kim, Kyle Kumashiro, Romelynne Lamosao, Andy-Long Le, Yan Feng Lin, Janine Masri, Janelle Matsukawa, Tiffany Mizo, Tracy Nakama, Kenneth Navarrete, Steven Nishimoto, Naoto Oki, John Opoku-Ansah, Keri Oyadomari, Thao Phan, Behnam Rostami, Jed Sana, Caroline Sousa, Koon Ting, Hana Tran, Ann Txakeeyang, Dayna Michelle Wong, James Yi.

Class of 2015:

Brianne Blakesley, Jasmine Michelle Bradfish, Andrea Brauer, Chao Cox, Jeremy Daube, Le Du, Jozelle Gabriel, Ericson Ganotisi, Davis Hanai, Daniel Hasegawa, Ryan Himes, Bryan Huynh, Kelly Ishizuka, Brian John, Madison Karr, Tiffany Khan, Traci Kusaka, Daniel Leong, Jennie Lim, Wei Lin, Kristina Lo, Tracy Ng, Eric Ngo, Kristi Anne Nishek, Darian Oshiro, Alysia Osugi, Jin Bae

Pak, Jessica Parker, Jarred Prudencio, Latasha Riddick, Natalie Savona, Lindsey Takara, Trina Tran, Antonio Verduzco, Jill Anne Villarosa, Jillian Wewers, Nichole Wilson, Edward Wong, Allison Yamashita, Akio Yanagisawa, Nicole Young.



ALUMNA Update: Dr. Jill Gelviro

Class of 2011 alum Rovigel "Jill" Gelviro was selected to be the Aide-de-Camp to Rear Admiral (RADM) Scott F. Giberson during the 2012 Indian Health Service Southwestern Regional Pharmacy meeting in Scottsdale, Arizona. An Aide-de-Camp is a confidential assistant to a high-ranking officer. RADM Giberson currently holds the positions of U.S. Assistant Surgeon General and Chief Pharmacy Officer for the U.S. Public Health Service Commissioned Corps and Director of the Commissioned Corps Personnel. Dr. Gelviro is a commissioned officer in the U.S. Public Health Service and is near completion of a PGY-1 Pharmacy Residency at Phoenix Indian Medical Center, Phoenix, Arizona. She is also a prior enlisted Air Force Veteran who served in Texas, Mississippi, Guam, Bahrain, Saudi Arabia and Iraq. She said, "It was an honor to have been selected as RADM Giberson's Aide-de-Camp during his visit to Arizona. The time spent with the Admiral was an inspiring and motivating experience. I hope he can one day visit UH Hilo CoP. He would be an inspiration to all."

Kawili La'au readers want to hear from all alumni. Please e-mail morrismm@hawaii.edu with your stories.

Rotation Report: Anthony Thai



Anthony Thai, Class of 2012
Walgreen Specialty Pharmacy
in San Francisco

After half a year of doing rotations away from home, I finally returned to San Francisco in January to complete my sixth block. My rotation was at a Walgreens Specialty Pharmacy with Dr. Jeffrey Wong. I wanted to share what I learned and the experience that I had since I know that a few P3s will be rotating there this following year. Before I go on, I would like to thank Nancy Huang, the Walgreens District Pharmacy Supervisor in Hawaii, for recommending Dr. Wong's rotation. Previously, I had worked as a pharmacy technician for Walgreens and also intern with them over the summers, so Nancy thought it would be beneficial if I did a rotation at a specialty clinic.

The pharmacy I worked at specialized in diabetes and vaccines. The actual pharmacy was located within the California Pacific Medical

Center (CPMC), which meant that it also received a lot of discharge medications. I learned a great deal from Dr. Wong during my time here. To list a few things: I learned how to use insulin pens, nebulizers, glucometers, MDI, DPI etc. And that is just the tip of the iceberg of what I learned. I appreciate the time that Dr. Wong spent showing me these devices and then providing me the opportunity to counsel patients on how to use them.

In addition, almost on a daily basis, Dr. Wong and I would have discussions on topics such as vaccines, OTC products, law, HIV meds, OCs, and diabetes. All this was done after hours in the pharmacy. I was impressed by the commitment and dedication that Dr. Wong made to make sure that a) the rotation was going to be tailored to my interests and b) we are going to cover topics that I am not too familiar with to help prepare me for the NAPLEX. As some of us fourth-year pharmacy students may already know, and many of you third-year pharmacy students will too, it makes a big difference if you have a preceptor who is willing to teach and is interested in your learning.

Furthermore, I reinforced my skills regarding vaccinations and I after the first couple of days, I was vaccinating anybody that came through the door. There were a variety of vaccines that I administered from influenza, pneumococcal, Hep B, Hep A, Tdap, varicella etc. It definitely helped build my confidence in providing vaccinations in the future.

The unique thing about this site is that the staff is familiar with

pharmacy students rotating through the store. They receive many students from nearby pharmacy schools such as UCSF, Tuoro, UOP, and other out-of-state schools. The staff was very helpful to me and made sure to keep an eye out for any patients started on new medications so that I would have the chance to counsel them before they leave. From the technicians to the pharmacists everybody gave me their input on ways to improve.

The most important thing I took away from this learning experience is that it strengthened my belief that retail pharmacists play a vital role in a patient's health. There are many opportunities for pharmacists to counsel patients on proper use of drugs, whether it has to do with inhaler technique, timing of dose etc. Also I can start to see a change in retail pharmacy meshing the world of dispensing pharmacy and clinical pharmacy. A specialty pharmacy provides patients with another resource for education on their disease state and medications.

Lastly, I would like to say that Dr. Wong is really a great preceptor. He was an ideal model on how and what a pharmacist should be. Not only did he take the time to teach his students but he is also very easy going and approachable. He cares about making the rotation a learning experience for the student and definitely caters to their interests. I was glad to have had the opportunity to meet Dr. Wong and this would be an excellent site for future rotations.