Bringing you research news from the University of Hawai'i Cancer Center

UH CANCER CENTER

RENEWS

NCI DESIGNATION



"For Hawai'i, this means that our families and friends have access to cutting-edge cancer treatments and the highest quality of cancer care."

STORY ON PAGE FOUR



DIRECTOR'S MESSAGE



National Cancer Institute Designation Renewed

am extremely pleased that the National Cancer Institute (NCI) has recognized the unique contributions of the University of Hawai'i Cancer Center, and rewarded the efforts of the incredible faculty by continuing the NCI designation. There are over 1,000 cancer centers in the United States but only 70, representing the top 4 percent of cancer centers in the country, receive this recognition by the NCI.

As the only NCI-designated center in the State of Hawai'i, the UH Cancer Center provides unique opportunities for research and patient care. The designation facilitates the recruitment of top quality faculty whose grants enhance the research portfolio of the University and provide a substantial stimulus for the local economy. The designation benefits Hawai'i cancer patients through research programs, clinical trials, cancer prevention and community outreach focused on the specific cancer needs of our State. NCI designation is awarded based on the quality and depth of cancer research and the ability to provide an infrastructure to conduct life-saving clinical trials, educate a next generation of physicians and scientists, and engage the community in ways to reduce the burden of cancer.

The UH Cancer Center focuses specifically on the ethnic diversity of Hawai'i in order to understand and eliminate disparities in cancer outcomes across different racial and ethnic groups. As the only cancer research center in the region, our mission extends beyond Hawai'i and across the Pacific, with research affiliations in Guam, American Sāmoa and Micronesia. The NCI designation will enable the Cancer Center to continue its efforts to serve the people of Hawai'i and the Pacific with cutting-edge basic cancer research, epidemiology studies into the causes of cancer, the development new approaches to cancer prevention and control, and expansion of our efforts to provide access to novel cancer treatments.

Randell & Holombe, MD, MBA

Randall F. Holcombe, MD, MBA
Director



Laurence Kolonel, MD, PhD

World-renowned scholar honored with UH Cancer Center emeritus professorship

Laurence Kolonel, MD, PhD, was honored with an emeritus professorship at the UH Cancer Center in 2018. He has also held an emeritus professorship in the Office of Public Health Studies since 2013.

Kolonel served for 30 years as director of the cancer epidemiology program at the Cancer Center. He is a world-renowned scholar in the fields of epidemiology and prostate cancer, and has published more than 500 articles in peer-reviewed scientific journals.

Kolonel was honored with an R-37 MERIT award from the National Institutes of Health for his research on diet and cancer. In 2013, he received the prestigious American Cancer Society Award for Research Excellence in Cancer Epidemiology and Prevention from the American Association for Cancer Research. He is also the co-founder of the Multiethnic Cohort Study, which follows more than 215,000 participants in Hawaiʻi and California.

New researcher joins UH Cancer Center faculty

The UH Cancer Center's Cancer Biology Program welcomed Muller Fabbri, MD, PhD, as an associate researcher in June. "I was drawn to Hawai'i because of its ethnic diversity and the abundance of natural products that fuels my research interests," said Fabbri.

Fabbri's research focuses on trying to understand the relationship between cancer cells and the cells that surround them. These other cells include immune cells, cells that form blood vessel walls, and fibroblast cells that form collagen in the tumor environment. Recently it has been found that the tumor microenvironment contributes to the growth of cancer cells.

In 2012, Fabbri discovered that cancer cells secrete microRNAs inside of exosomes. He showed that exosomes can shuttle microRNAs from cancer cells to surrounding immune cells that carry a protein called TLR8. As a consequence of the interaction, a specific subtype of immune cells stops fighting the growth of cancer cells

and starts secreting other proteins and other microRNAs that promote cancer cell growth, dissemination and resistance to therapy.

Fabbri's research goal is to develop strategies to interrupt this communication between cancer cells and the tumor microenvironment in order to inhibit cancer growth and the development of resistance to treatment.

Muller Fabbri, MD, PhD



The UH Cancer Center and The Queen's Medical Center sponsored the 2018 Hepatobiliary and Pancreatic Cancer Conference held at the UH Cancer Cancer in April. The conference had experts within the field present an in-depth look at treating and understanding hepatopancreaticobiliary (HPB) cancers, which includes liver, pancreas, gall bladder, ampullary and bile duct cancers.

HPB and pancreatic cancers are frequently detected in advanced stages and the five-year survival rate is often less than 20 percent. Because Hawai'i has a disproportionate number of hepatobiliary and pancreatic cancers, active research is underway to investigate underlying causes.

The conference highlighted local HPB research and provided an exchange of ideas with national and international experts. Hawai'i-based researchers and clinicians heard talks on current research and up-to-date treatments.

UH CANCER CENTER

RENEWS

NCI DESIGNATION

he University of Hawai'i Cancer Center successfully competed for renewal of its National Cancer Institute (NCI) designation, and has been awarded a \$6 million Cancer Center Support Grant to fund research at the Cancer Center.

"I am extremely pleased that the National Cancer Institute has recognized the unique contributions of the University of Hawai'i Cancer Center, and rewarded the efforts of the incredible faculty and staff by continuing the NCI designation," said Randall Holcombe, MD, MBA, UH Cancer Center director. "For Hawai'i, this means that our families and friends have access to cutting-edge cancer treatments and the highest quality of cancer care."

"The people of Hawai'i are the greatest beneficiaries of NCI designation, which brings research directed toward the cancer problems specific for our diverse ethnic population and access to the most up-to-date approaches for cancer prevention and treatment. The University of Hawai'i Cancer Center is a great resource for the State of Hawai'i. Its discoveries will help improve patient outcomes for people faced with a cancer diagnosis not just in our state, but across the nation," said Governor David Y. Ige.

The new Cancer Center Support Grant from the NCI began on July 1, 2018. Of more than 1,000 cancer centers across the country, the UH Cancer Center is one of only 70 NCI-designated Cancer Centers in the nation.

The UH Cancer Center was established by the University of Hawai'i at Mānoa in 1981 and achieved NCI designation and funding in 1996, an honor it has held continuously since that time. NCI-designated Cancer Centers must go through rigorous and competitive renewal of their status every three to five years.

The designation provides opportunities for the UH Cancer Center to continue its mission to reduce the burden of cancer through research, education, patient care and community outreach with an emphasis on the unique ethnic, cultural and environmental characteristics of Hawai'i and the Pacific.

"The UH Cancer Center keeps treatment in reach for many people in our state. It is also the only institution in the country researching cancer health disparities in the Native Hawaiian and Asian American communities," said Senator Brian Schatz, a member of the Senate Appropriations Committee. "With this designation, our state will have the resources we need to research, help patients, and fight for a cure."

"The UH Cancer Center continues to serve as a national leader in research, prevention, and education efforts, especially on how cancer affects Asian American, Native Hawaiian, and Pacific Islander populations. As one of only 70 National Cancer Institute-designated cancer centers in the country, the renewal of the NCI designation will enable researchers to continue their important work







that will benefit cancer patients in Hawai'i and across the country," said Senator Mazie K. Hirono.

The designation has helped Cancer Center researchers make seminal advances into the understanding of the molecular basis for cancer, the identification of disparities in cancer incidence and mortality within our diverse population, engagement of the community in cancer prevention initiatives and coordination of clinical trials for cancer patients through the UH Cancer Center clinical trials network that includes the Hawai'i Cancer Consortium.

"The University of Hawai'i Cancer Center is a life-changing resource for the people of Hawai'i and the Pacific, conducting cutting edge research that is furthering our knowledge and understanding of cancer in our region, and improving patient care, treatment, education, and community outreach. The renewal of the Cancer Center's NCI designation provides recognition of the Center's exceptional advances that will continue to serve the people of Hawai'i," said U.S. Representative Tulsi Gabbard.

In the last five years, more than 1,600 people have participated in UH Cancer Center-sponsored clinical research studies, ranging from studies on how diet and the environment may influence the development of cancer to novel treatment interventions for patients with advanced cancer.

"The University of Hawai'i is delighted to have the National Cancer Institute renew our designation as an NCI Cancer Center. This provides well-deserved external validation and national recognition of the important work we are doing and our path forward," said UH President and UH Mānoa Interim Chancellor David Lassner, PhD. "Over the past two years, the Cancer Center has excelled in particular in novel discovery and in translating these discoveries into advances that will help cancer patients and those at risk for this debilitating disease, and we are the only Center with the will and capacity to focus on Hawai'i and the Pacific. Kudos to our new Cancer Center

Director Dr. Randall Holcombe, and to all of the Center's faculty and staff who pulled together as a team to make this recognition possible."

The designation helps Cancer Center members bring in around \$40 million per year in grants from the National Institutes of Health (NIH) and other agencies to support research activities. This funding provides nearly \$90 million in economic impact for the Island of Oʻahu every year.

According to the NCI many cancer centers are located in communities with special needs and specific populations. As a result, these centers not only disseminate evidence-based findings into communities that can benefit from these findings, but the centers can also, through the experience of working with those patients, help inform national research and treatment priorities.

"The UH Cancer Center is an invaluable asset to the people of Hawai'i. The research and work being done to improve diagnoses and treatments for Native Hawaiians and Asian Americans is leading-edge innovation that will benefit patients around the world. The NCI designation ensures that the UH Cancer Center will continue to be able to fulfill its mission to reduce the burden of cancer through research, education and patient care. I am committed to supporting the UH Cancer Center's efforts and look forward to its continued community investment," said U.S. Congresswoman Colleen Hanabusa.

"During the grant review process, the NCI noted that the community outreach and engagement by the UH Cancer Center was exceptional, with profound impact on the populations in Hawai'i and across the Pacific," said Dr. Holcombe.

The grant award is supported by the National Institutes of Health under award number P30CA071789.

Third Annual HERO Appreciation Event

The third annual HERO Appreciation Event in April honored individuals diagnosed with cancer who have contributed to furthering progress in clinical research at the UH Cancer Center and beyond through their participation in cancer clinical trials.

The keynote speaker was Diane Taylor, PhD, a retired malaria researcher at the John A. Burns School of Medicine. She shared her personal challenges of being an active researcher at the time of her cancer diagnosis, and how she faced the dilemma of having to decide whether or not to participate in a cancer clinical trial. Taylor also expressed her appreciation for her husband who provided support throughout her cancer and clinical trial journey.







Top photo: Clinical trial participants honored at event. Bottom left: left to right: Q&A panelists Dr. Jessica Rhee, Dr. Randall Holcombe, Diane Taylor and Dr. Jonathan Cho. Bottom right: Master of Ceremony Billy V.

Hawai'i Tumor Registry Awarded \$1.8M

The UH Cancer Center's Hawai'i Tumor Registry (HTR) was awarded \$1.8 million from the National Cancer Institute (NCI) to continue in the Surveillance, Epidemiology and End Results (SEER) Program. The HTR has provided incidence and survival data on all cases of cancer in Hawai'i since 1973. The award includes a potential of additional nine years of funding for a total award of more than \$21 million.

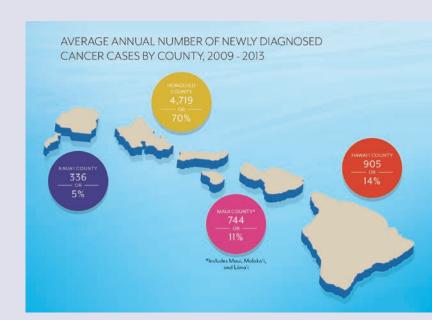
"The UH Cancer Center's Hawai'i Tumor Registry plays a vital role in cancer research and cancer control activities in Hawai'i and nationally. The registry is particularly notable for its contribution to addressing the burden of cancer in Asian and Pacific Island ethnic groups that are not well-represented in the U.S.," said Brenda Hernandez, PhD, MPH, HTR principal investigator.

As one of only 16 newly funded NCI-SEER regions nationwide, the HTR collects detailed information on the more than 7,000 new cases of cancer diagnosed in Hawai'i residents annually, as well as follow-up and survival data. Since its inception as a SEER registry in 1973, the Hawai'i Tumor Registry's surveillance has covered approximately 200,000 Hawai'i cancer cases.

"For nearly 50 years, the Hawai'i Tumor Registry has provided valuable insight that informs cancer prevention and research efforts, especially in Asian American and Pacific Islander populations. This federal funding will allow the Cancer Center to continue this important work toward developing new treatments, and eventually, a cure," said U.S. Senator Mazie K. Hirono.

"The first step to beating cancer is to understand the disease, and that's exactly what the Hawai'i Tumor Registry allows us to do," said U.S. Senator Brian Schatz, a member of the Senate Appropriations Committee. "With this funding, our state will have the resources we need to collect data—including information about how cancer affects minorities—to help researchers, doctors, and others fight for a cure."

This project has been funded in whole or in part with Federal funds from the National Cancer Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN261201800011I.



MAJOR DONOR STORIES



In honor of a beloved sister

Philanthropic support comes from a variety of sources including corporations and grants. However, a significant portion of donations to the UH Cancer Center comes from individuals with a connection to cancer.

The Azuma family, including brothers Dennet, Eric, Kenneth and Edwin provided a hui gift to honor their late sister, Velina, who died from cancer. Velina was the primary caregiver for their parents and a fighter throughout her own battle with cancer. "We really wanted to do something for her. She did all these things for us," said Dennet.

The Azuma family wanted their cancer research support to stay in Hawai'i. "We found out the University of Hawai'i Cancer Center is unique for people in Hawai'i because of our ethnic population, it's more close to home."

A young boy honors his maternal grandmother

Peyton Espiritu, a sixth grade graduate from Nimitz Elementary donated \$545 to the UH Cancer Center. "My grandma was diagnosed with breast cancer, so I wanted to help people with cancer," said Peyton.

Peyton raised the funds through a school project. His class assignment was to conceive of and conduct a project that would impact the community. Peyton decided to create and sell bracelets to support cancer research.



"I was proud of him and excited, especially because it's my mom who was diagnosed, and just the fact that he thought of a way to try and help out," said Peyton's mother.

The UH Cancer Center is fortunate to have broad community support that allows it to conduct novel research that might otherwise not be possible. Mahalo to the Azuma and Espiritu families for their contributions to cancer research. If interested in making a gift or learning more about philanthropic opportunities, please contact Todd Cullison at 808-356-5757 or email at todd.cullison@uhfoundation.org.

FOUR SEASONS RESORT HUALĀLAI DONATION





The Four Seasons Resort Hualālai gifted the UH Cancer Center with nearly \$20,000 from its 21st annual Run for Hope to support cancer research. UH Cancer Center volunteers helped throughout the September 2017 event, which included the Taste of Hawai'i Island dinner, golf tournament and 5k run/walk and 10k run.

Left: Volunteers left to right: Joseph Bracalento, Brooke Bennett, Mark Willingham, Crissy Kawamoto, Tony Lam, and Todd Kawamoto. Right: Volunteers assemble runners' packets for the Run.

MICHELE CARBONE RECOGNIZED WITH ENDOWED CHAIR

The University of Hawai'i has awarded the William and Ellen Melohn Chair in Cancer Biology to Michele Carbone, MD, PhD, in recognition of his research in cancer genetics. The endowed chair was created with a generous gift from the Melohn family to the University of Hawai'i Cancer Center.

Carbone and colleagues recently published findings about the BAP1 cancer gene in Nature that describe the BAP1 Cancer Syndrome. In this syndrome, mutations in the BAP1 gene result in a disorder that predisposes individuals to environmental carcinogens such as asbestos and can lead to the development of mesothelioma, melanoma and other cancers.

"We are aiming to conduct a Phase I clinical trial in mesothelioma patients with BAP1 mutations. We are really excited. It would be a dream to go full circle from discovering a new disease to hopefully finding a cure for it," said Carbone. "With the current constraints in federal research funding, it is critical that the private sector steps in to help. New cures for cancer are made because the Federal Government, industry and private citizens join forces to accelerate the progress of medical research."



Left to right: Bill Melohn, Michele Carbone, MD, PhD, and Trudi Melohn.

UH Cancer Center Director Randall Holcombe, MD, MBA, said, "Philanthropic gifts from generous donors like the Melohn family provide critical funds for cancer research and support the Cancer Center's effort to reduce the burden of cancer for the people of Hawai'i.

UH CANCER CENTER SCIENTISTS RECOGNIZED INTERNATIONALLY FOR MESOTHELIOMA RESEARCH

Two UH Cancer Center researchers were awarded for their outstanding mesothelioma research by the International Mesothelioma Interest Group (iMig), an independent international group of scientists and clinicians working to understand, cure and prevent mesothelioma.

iMig WAGNER MEDAL 2018

Michele Carbone, MD, PhD, for "discovering the role and mechanisms of genetics in the pathogenesis of mesothelioma".

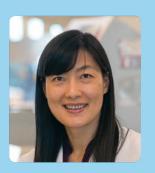
iMig presents the Wagner Medal every two years to an individual who has

made major original contributions to the understanding of mesothelioma, either in basic or applied research. The Wagner Medal is the highest honor presented by the International Mesothelioma Interest Group to a leader in the field.



Haining Yang, MD, PhD, for "discovering the mechanisms of asbestos carcinogenesis".

The iMig Research Award is awarded every two years to recognize the potential significance and impact on the field of novel mesothelioma research.



3D SCANNERS GIVE NEW INSIGHT TO BODY SHAPE AND HEALTH

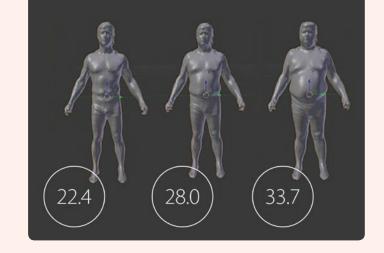
The UH Cancer Center is studying how body shape information can improve health by using 3D optical scanners and advanced statistical modeling.

"Human body shape is an intuitive marker of health.

Emerging 3D optical scanners are safe, inexpensive and accessible. We envision that monitoring body shape when exercising, or changing your diet gives you more useful feedback than change in weight on a scale, and will help people be more successful with their lifestyle changes, live healthier and live longer," said John Shepherd, PhD, principal investigator of the study and epidemiology researcher at the UH Cancer Center.

Shepherd, his team and collaborators lead the Shape Up! Study funded by the National Institutes of Health (NIH). The study aims to develop tools and techniques to derive clinical health information from 3D body scanners.

Researchers will take full-body optical 3D scans at high spatial resolution of 720 adults and 720 kids. The participants will have other measures that are related to health and well-being including,



- dual-energy X-ray absorptiometry (DXA) scans for body composition,
- blood test for metabolic markers,
- strength assessments and
- questions regarding their lifestyle and eating habits.

"With this data, we can do some amazing things including modeling body shape changes due to loss or gain of muscle and fat. The findings from these studies will empower researchers, clinicians and even consumers to measure and monitor their body shape and health," said Shepherd.

GRADUATE STUDENT WINS MULTIPLE AWARDS FOR SEPSIS RESEARCH

atalija Glibetic, a Molecular Biosciences and Bioengineering graduate student, has won multiple awards for sepsis research conducted in the lab of Michelle L. Matter, PhD, from UH Cancer Center's Cancer Biology Program.

"I am incredibly grateful for all the support and attention my work has received. Sepsis is the leading cause of death in U.S. hospitals and accounts for 8.5 percent of cancer patient deaths each year, yet there are no sepsis-specific therapies. Native Hawaiians are particularly susceptible to cancer-associated sepsis, so it is crucial

to develop these therapies for Hawai'i," said Glibetic. "Presenting at these symposiums, I was hoping to bring more attention to sepsis and the exciting work we are doing in Dr. Matter's lab at the UH Cancer Center. Hopefully, with my contribution we will be a step closer to stopping sepsis."

Natalija Glibetic

1ST PLACE BEST POSTER - GRADUATE DIVISION

2018 JABSOM Biomedical & Health Disparities Symposium

Poster: R-Ras: a key regulator of sepsis-mediated vascular permeability.

30-YEAR ANNIVERSARY OVERALL BEST MASTER'S POSTER

2018 CTAHR's Student Research Symposium Poster: R-Ras: a key regulator of sepsis-mediated vascular permeability.

1ST PLACE MASTER'S 3-MINUTE ELEVATOR PITCH

2018 CTAHR's 3-Minute Elevator
Pitch Competition
Going with the flow to stop sepsis

RUNNER-UP 3 MINUTE THESIS AWARD

2018 Graduate Division 3-Minute Thesis (3MT) Competition
Going with the flow to stop sepsis

SUMMER INTERNS CONDUCT INNOVATIVE CANCER RESEARCH

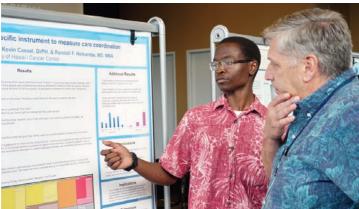
Twenty-three high school and undergraduate students conducted cancer research at the University of Hawai'i Cancer Center over the summer with support from both federal grant funds and generous philanthropic contributions from community groups.

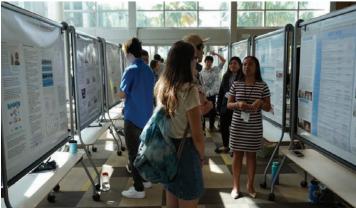
This year's internship program at the UH Cancer Center is supported by generous contributions from the Friends of the UH Cancer Center, the McInery Foundation, the Harold K.L. Castle Foundation, the Meiji Yasuda Endowment, Dennet and Karen Azuma, the EACH Foundation along with some federal funding through the National Cancer Institute Cancer Center Support Grant.

"Community engagement is very important as part of our UH Cancer Center mission. Through this internship program we are able to reach out to young students across the island and help them get exposed to new research advances and innovative biomedical research," said Randall Holcombe, MD, MBA, UH Cancer Center director.

"The Friends of the UH Cancer Center is honored to support this great local summer internship program where students receive valuable cancer research experience. We believe these eager students are Hawai'i's future bright scientists," said Adelia Dung, Friends of the UH Cancer Center president.









2018 SUMMER INTERN PHOTOS

Top left: An intern talks about her research project at poster session.

Top right: Intern Victor Kilomzo explains his poster to Director Dr. Randall Holcombe.

Bottom left: Interns share their research with guests at poster session.

Bottom right: 2019 summer interns.

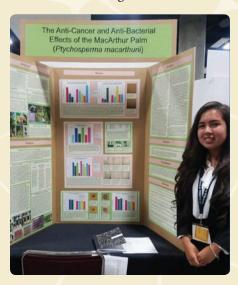
WINNERS OF SCIENCE FAIR SENIOR DIVISION

The 61st Hawai'i State Science & Engineering Fair took place March 28-30th at the Hawai'i Convention Center. Through a generous donation from the Friends of the UH Cancer Center, three students in the senior division were presented a special UH Cancer Center award. The winners were selected based on an original idea, presentation skills and creative poster design.

FIRST PLACE (\$300 AWARD)

NALANI MILLER

Kamehameha School, Kapalama 11th grade



"The Anticancer and Anti- Bacterial Properties of the MacArthur Palm (Ptycosperma macarthurii)"

Inspired by a tree growing in her own backyard Miller decided to test the seeds of the tree for anticancer properties. She baked the seeds at a low temperature then extracted the contents, which she tested on cervical and myeloma cancer cells and discovered that the extract inhibited growth on both cell lines.

SECOND PLACE (\$200 AWARD)

TERRIC ABELLA

Kamehameha School, Kapalama 12th grade



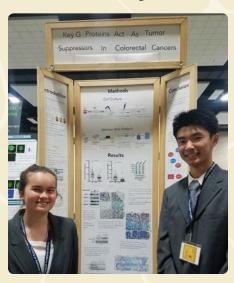
"Synergistic Relationship of Withaferin A and Cisplastin in the Treatment of Triple-Negative Breast Cancer"

Abella participated in an internship at the University of Pittsburg Cancer Institute. During his seven-week internship he conducted research testing Withaferin A and Cisplatin extracts on breast cancer cells. Withaferin A is a natural product extracted from a plant used in traditional Indian ayurvedic medicine that has demonstrated anti-angiogenesis and anti-tumor activity. Cisplatin is a well-known anticancer chemotherapy drug that has been used to treat many different types of cancers. Abella's research showed that these extracts inhibited triple-negative breast cancer cell survival.

THIRD PLACE (\$100 AWARD)

MARY WINNICKI & RYAN PARK

Punahou School 10th and 11th grades



"Key G Proteins Act as tumor Suppressors in Colorectal Cancer"

This team looked at the G proteins associated with poor prognosis and survival of colon cancer. They found that two of the G proteins ($G\alpha1$ and $G\alpha3$) acted as tumor suppressors on cancer cells. They plan to see how the G proteins are associated with metastasis.



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Randall F. Holcombe, MD, MBA, Director University of Hawai'i Cancer Center

Adelia Dung, President Friends of the University of Hawai'i Cancer Center

Sharon Shigemasa, RN, MS — Editor Events and Information Coordinator University of Hawai'i Cancer Center



An Equal Opportunity/Affirmative Action Institution



"Emerging Research on Bacteria in Humans (Microbiome) and Cancer"

Presented by the University of Hawai'i Cancer Center at the 8th Annual

Quest for a Cure: Progress in Cancer Research



Saturday, November 17, 2018

9:00 a.m. - 12:00 p.m.

University of Hawai'i Cancer Center 701 Ilalo Street A FREE PUBLIC EDUCATION EVENT