

# Kūpono

University of Hawai'i Foundation News  
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## Physics whisperer

UH Hilo's Dr. Philippe Binder is making science easier to learn – in students' own languages | **Page 3**

PHOTO BY KIRSTEN AOYAGI

# UHF raises \$100 million in FY21

Thanks to generous donors like you, the UH Foundation exceeded its fundraising goal of \$80 million last year by 25 percent, raising more than \$100 million.

“This incredible fundraising success underscores the commitment of our community, corporations and foundations to the university and to growing this pillar of Hawai‘i’s economy amid challenging times caused by the pandemic,” says Rich Wacker, UH Foundation board of trustees chair.

The 24,514 gifts in fiscal year 2021 (July 1, 2020 to June 30, 2021) will impact students statewide. They will help freshmen start their college careers at our

community colleges, allow future doctors to continue their studies and fund graduate students’ research, as well as the work of faculty at UH’s 10 campuses.

During a year when the world’s attention was focused on health care, donors stepped up to support UH’s health care programs with scholarships and innovation in medical education.

Building educational opportunity and economic stability for Hawai‘i families was also a priority for donors. They funded activities that increase academic readiness and provided scholarships and support for historically under-represented students.

Beyond the classrooms, donors supported programs that enrich our communities, including an upgrade to the Clarence T.C. Ching Complex at UH Mānoa – the new home field for Warrior football – and UH Hilo’s Vulcan Challenge campaign.

“The resilience demonstrated by our students, faculty and staff over the past year and a half has been amazing, and this generous support from donors underscores the community’s appreciation of and the critical importance of UH and their recognition of our effectiveness as one of the nation’s great public higher education systems,” says David

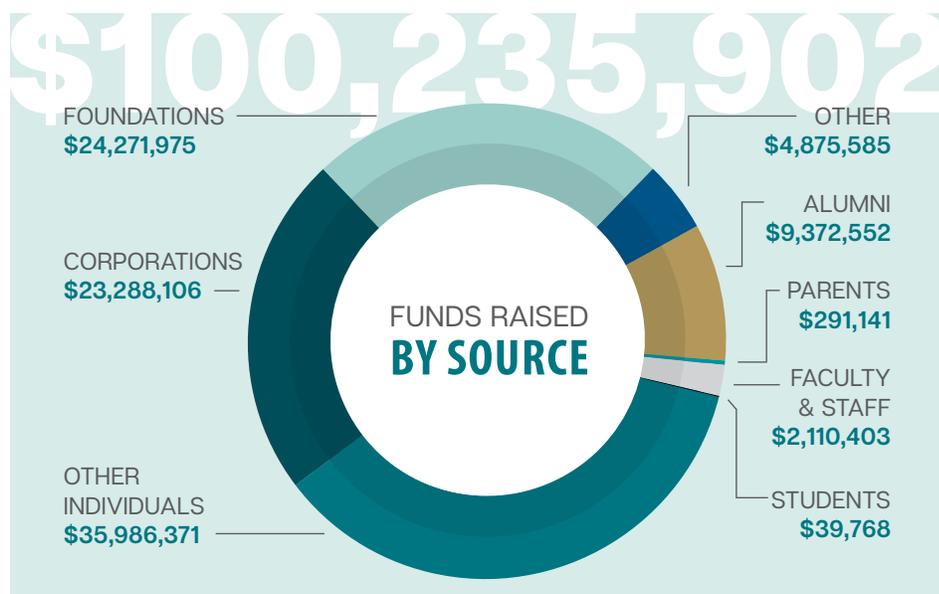
DONORS:  
**19,141**

GIFTS:  
**24,514**

STUDENT AID:  
**\$32.3M**

Lassner, UH president. “Through their gifts our faculty and students have resources to address the challenges and opportunities facing Hawai‘i and the world, as we build a more thriving, healthy and sustainable future for our islands.”

“The generosity of our alumni and donors during such a challenging year is inspiring,” says Tim Dolan, UH vice president of advancement and UH Foundation CEO. “Mahalo to all the donors, alumni, faculty, staff and students who supported our university in so many ways this past year and are working to strengthen Hawai‘i as we emerge from the COVID-19 pandemic.” ❄️



# UH Hilo professor bridges language gap for sciences

Philippe Binder knows that when physics students can learn and use introductory scientific terms and concepts in their native tongue, they are more likely to understand the subject.

A faithful translation of physics terms into indigenous or less-common languages is a tricky enterprise. A first step is the identification of a core vocabulary in the subject.

Binder, a physics professor in UH Hilo's College of Natural and Health Sciences, has been thinking about creating a way to help students learn basic physics terms since a student asked years ago why physics wasn't taught in Hawaiian at UH Hilo.

He began to lay the groundwork two years ago for his Science Lexicon Project. With help from linguistics and data science students, Binder started with basic mechanics, using a digital version of a standard physics textbook and software that counted the words and ranked them.

The study was published this year by the European Journal of Physics.



*Dr. Philippe Binder and his dog, Peppers, on the UH Hilo campus. On the cover, they demonstrate Newton's third law. The Hawaiian term "pa'a manehu kū'ē" means "action-reaction pair." Photos by Kirsten Aoyagi.*

He plans to do similar work for other disciplines, including astronomy, environmental science, ecology and climate science.

Binder's work to translate these terms just received a huge boost with a three-year grant from the (LinkedIn co-founder) Reid Hoffman Foundation, which will allow him to spend more time on the Science Lexicon and hire several student research assistants.

"The grant allows me a lot of freedom to do things that I otherwise couldn't do," Binder said.

His goal is to make learning basic physics

easier for undergraduates so they have a strong base before moving on to upper-level courses that are usually taught in English or a few other widely spoken languages.

Understanding the terms in their own languages will help build a stronger foundation for physics majors, but also students in other majors, such as engineering, who must take physics classes.

"Especially at the introductory level, having the language you speak well available to you is a lot of help," he said.

Binder saw this in his students when he taught

in his native Colombia and also in South Africa, where he took his most recent sabbatical.

While Binder has found that some physics words have been coined in sign languages, Hawaiian, Haitian Kreyòl, Maori and the Nguni languages of South Africa, his work has inspired language developers to take a more systematic approach to vocabulary building for physics.

"The idea now is to make what we're doing available to as many places as possible so they can build up a physics vocabulary," he said. "The initial goal is to publish papers that get disseminated widely in the teaching community so people have these sets of words."

The eventual goal is to have "a complete catalog of the physics language of instruction in as many countries as we can."

Binder said the lexicon will also help open a dialogue on physics with Indigenous peoples to learn about traditional practices that may have involved physics principles, such as Native Hawaiians' knowledge of navigation and wayfinding. 🌿

# Man with a plan

[ New endowed chair honors visionary engineer Alfred Yee ]

A pair of anonymous \$1 million gifts from the same donor to the UH Mānoa College of Engineering establishes the college's first endowed chair in honor of world-renowned Hawai'i engineer Alfred A. Yee.

Yee helped design some of Honolulu's most complex structures, from Alfred Preis's floating Arizona Memorial to Vladimir Ossipoff's Diamond Head Apartments, the first precast, prestressed concrete tower in the country.

Housed in the Department of Civil and Environmental Engineering, the Dr. Alfred A. Yee Chair of Sustainability and Resilience will provide ongoing funding to recruit and retain outstanding faculty experts, fueling competitive research, engineering-sector resilience solutions and teaching in these critical areas.

"This is an amazing opportunity for the college and our faculty to continue to step up as a state and international leader in sustainability and resilience in response to climate change and its impacts like sea level rise," said Brennon Morioka, College of Engineering dean. "We are forever grateful for this financial support."

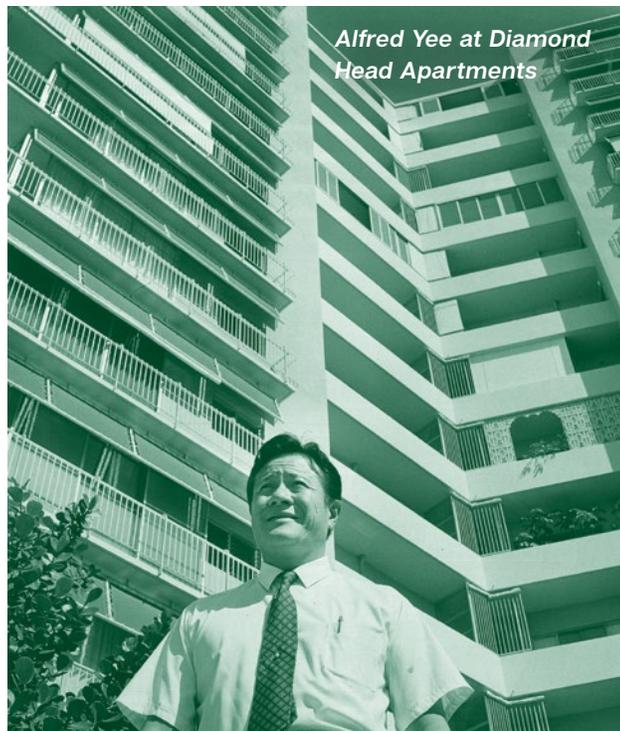
Alfred Alphonse Yee (1925-2017) was one of the most influential and innovative structural engineers in Hawai'i's history. He was president of Applied Technology Corporation in Honolulu and director of Precast Design Consultants Pte. Ltd. in Singapore. During his stellar career he gained a following as a prolific innovator, hold-

ing more than a dozen patents, and served as an adjunct professor in the UH Mānoa Civil and Environmental Engineering department.

Ian Robertson, a UH structural engineering professor, remembers, "He told stories of developing prestressed concrete barges when steel supplies were low, and how some of these barges are still in operation today.

"His ongoing passion was to use this technology again to support ocean thermal energy conversion stations to provide renewable energy for Pacific Island nations."

In recognition of his work in concrete technology and proven unique concepts for both land and sea structures, particularly in the field of precast design and construction, the Rose-

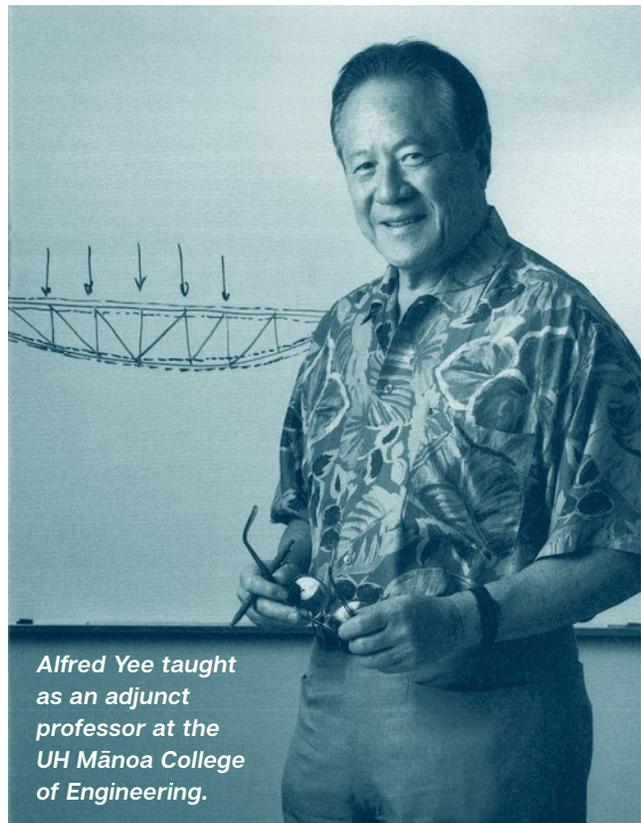


Hulman Institute of Technology conferred upon him an Honorary Doctor of Engineering degree in 1976. That same year, Dr. Yee was made a member of the prestigious National Academy of Engineering.

Yee's work is currently cataloged and on display at the UH School of Architecture's Haigo & Irene Shen Architecture Gallery. His pioneering civil engineering breakthroughs continue to be applied worldwide.

Robertson said, "Creative minds abound, but very few of them have good enough ideas, or enough motivation and stamina to see them through to implementation. Al Yee was one of the few who could take an idea through development, testing and code adoption, and into practice.

"He was an inspiration to me and many others in Hawai'i and around the world. Hawai'i was incredibly lucky to have one of these true innovators active in our community." ❄



*Alfred Yee taught as an adjunct professor at the UH Mānoa College of Engineering.*



Fran Friend Alexander  
and Kirk Alexander  
visited Rangiroa in 2018.



Scholarship  
helps women  
oceanography  
students who  
love the Pacific

# For love of the ocean

One woman's love for the Pacific Ocean will one day mean opportunities for women studying oceanography at UH Mānoa.

Fran Friend Alexander's love for the ocean has taken her all over the Pacific, including Hawai'i, where she and her husband vacationed for more than 20 years.

It's a connection that runs so deep that she and her husband have endowed a scholarship for women students pursuing graduate degrees in oceanography at the School of Ocean and Earth Science and Technology.

The FranZina Friend Alexander & Kirk Alexander Love the Pacific Ocean Scholarship is for graduate students who are active members of Women in SOEST, are passionate about the Pacific Ocean, and want to study it and its inhabitants.

"We're just really in love with the ocean, but the Pacific is our heart, and I want to save it because it's in trouble," she says. "I want all future generations to be able to experience healthy ocean aquaspheres where fish and coral reefs thrive."

When she decided to establish a legacy, Fran

chose the University of Hawai'i's oceanography program after speaking with Dr. Margaret McManus, the oceanography department chair at SOEST. "I want to encourage women into the sciences and into the ocean," Fran says.

McManus says graduate students in oceanography typically receive financial aid through federal grants or contracts secured by their faculty advisers or from teaching assistantships. Of the 60 graduate students enrolled in the current school year, only 10 have teaching assistantships; the rest are dependent

on their advisers' grants. There are only a handful of scholarships.

"The limiting factor that we're seeing in admitting students is the funding," she says. "We often have many more qualified people than we can admit because we want them to be funded."

## A life on the ocean

Fran's career didn't take her to the ocean. She and her husband, Kirk Alexander, live on the other side of the Pacific, in Seattle, where she owned a computer software store in the 1980s before getting into the trade show business.

When she met her husband, he was an active sailor, racing as many as six nights per week. He is now retired from Boeing Commercial Airplanes, but recently returned to work on a short-term contract. For years they owned a 36-foot sailboat, sailing the Pacific Northwest and Northwest British Columbia, Canada.



Their annual trips to Hawai‘i started after a friend from Houston moved to Honolulu. The couple would stop on O‘ahu to visit her friend, Jeannie, before heading to their timeshare on Kaua‘i, or Jeannie would come to Kaua‘i.

They are hoping to travel next to the Caribbean, then, next year to visit a number of islands in the South Pacific, snorkeling where the coral reefs are vibrant and alive. They plan to then spend six weeks touring Australia’s coastal regions.

“The snorkeling there is unbelievable,” she says, adding that she hopes her gift will also support the study of how climate change affects the ocean.

It will – McManus says the oceanography faculty has a major research component that focuses on climate change.

Fran fears damage to the reefs and ocean will only be worse after she’s gone.

“By then we’ll not only have passed the point of no return but everything is going to be different,” she says. “We’re going to



need lots of scientists to cope with this, and that’s a driving factor for my gift. Also, if we’re going to fix the world, we need women to do it.”

Meanwhile, Fran has been busy with another project related to the ocean – organizing, identifying and cataloging a large collection of seashells amassed over decades by herself, her mother and her in-laws. Once she’s done, she plans to give the collection to Dr. Doug Luther, a UH Mānoa oceanography professor, who will keep them safe in his collection.

McManus says it’s been rewarding to help Fran achieve her dream.

“She’s just wonderful – I just feel so grateful that we met and that we are able to do something to help her vision and that so many students will benefit from her gift,” she says. “I just feel deep, deep gratitude for her. And I know our students will, too.” ❄️

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If you'd like to learn about including UH Foundation in your will, trust or other gift plan to benefit UH, please contact us at **808-376-7874**, [giftplanning@uhfoundation.org](mailto:giftplanning@uhfoundation.org) or [uhflegacygift.org](http://uhflegacygift.org).



*Kirk Alexander snorkels in Bora Bora.*



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## CORPORATE CORNER

# FICOH scholarship focuses on climate change studies

The Institute for Sustainability and Resilience at UH Mānoa received a boost from First Insurance Company of Hawai'i this year in the form of a scholarship for undergraduate students studying climate change.

The institute was founded in 2018 with the goal of providing instruction, research and community outreach programs that relate to environmental sustainability and community resilience.

The First Insurance Scholarship in Climate Change will benefit two students each year. The recipients for the 2021-22 school year are Alejandro Silva, who is working toward a BA in sustainability through interdisciplinary studies; and Serene Danielle Smalley, who is working toward her bachelor's in sustainability with an emphasis on watershed resources management.

They are among 25 students majoring in sustainability, said Makena Coffman, Institute for Sustainability and Resilience director, who expects enrollment in the program to increase. The institute's first student is set to graduate this year, she said.

Coffman said sustainability studies prepare students for a range of future studies and occupations.

"First, it's a good foundation for a number of graduate programs," she said. "Also, there are increasing needs



*Alejandro Silva and Serene Smalley are inaugural recipients of the First Insurance Scholarship in Climate Change.*

for professionals who have the perspective of human-environmental interactions."

Coffman noted that more companies are hiring sustainability coordinators, people who can understand the broader impacts that climate change and sustainability can have on business, community and the environment.

FICOH is a longtime supporter of UH, and as an insurance company, it is deeply invested in sustainability and climate change. Former CEO Jeff Shonka once said, "If you care about how much you pay for insurance, then you should care about climate change."