

UNIVERSITY OF HAWAI‘I SYSTEM ANNUAL REPORT



REPORT TO THE 2020 LEGISLATURE

Annual Report on Technology Transfer Activities

HRS 304A-121

November 2019

**REPORT TO THE LEGISLATURE ON TECHNOLOGY TRANSFER ACTIVITIES
PURSUANT TO §304A-121, HAWAII REVISED STATUTES**

Technology Transfer Activities of the University of Hawai'i through October 2019.

The University of Hawai'i is the primary public institution in the state conducting basic, academic, or sponsored research. Where appropriate to its mission and to the larger strategic initiatives of the State, UH commercializes inventions and discoveries produced by its faculty and staff by obtaining patents or other forms of protection for the intellectual property, licensing the intellectual property to commercial business, and providing administrative support to faculty who wish to start up their own companies to commercialize the discoveries, with UH retaining an equity interest in the private enterprise.

The pursuit of commercialization is designed to strengthen local economies by getting new ideas, inventions, and processes developed in a university to the private sector as effectively as possible. This technology transfer and commercialization effort occurs throughout the nation at other universities.

Many states have general conflict of interest laws that could potentially hinder timely and efficient commercialization. These laws, for example, may forbid equity participation in startup companies by state institutions, limit direct involvement by faculty in new business ventures, or may broadly and strictly prohibit use of public property--such as university equipment, facilities or support personnel--for private business purposes. In order to remain competitive for research funding and to strengthen their local economy, several other states have enacted specific exemptions to their ethics laws, or have created some form of "safe harbor" from specific sections of their respective ethics code, or have established parallel, but exempt institutions for their university researchers or research activities.

Act 38, HRS §84-10, provides this purpose for UH-sponsored technology transfer activities. Significantly, Act 38 does not exempt technology transfer activities from all ethical oversight; it shifts the responsibility from the State Ethics Commission to UH. The University of Hawai'i continues its work developing and implementing its own set of policies, procedures and guidelines to apply to technology transfer activities it sponsors, drawing from its existing compliance infrastructure, the State Ethics Code, and relevant federal conflict of interest and organizational conflict regulations.

Because of its importance to the success of University of Hawai'i's current and future commercialization efforts to help diversify and bolster the state's economy, UH and its supporters from the local business and innovation community will be working convince the Legislature to remove the sunset provision of Act 38, HRS §84-10, slated for June 20, 2022 in the upcoming session.

Progress on Development and Implementation of Regulatory and Compliance Framework

The University of Hawai'i drafted a Regents Policy and an Executive Policy to fulfill the responsibilities conferred to it by Act 38, titled, *Ethical Guidelines in the Conduct of Technology Transfer Activities*. These draft policies are being vetted through the normal internal consultation process, including review by faculty committees and collective bargaining unions for UH employees.

The University of Hawai'i also prepared a handbook, titled, *Addressing Ethical Conflicts Arising During Technology Transfer Activities*, that is meant to serve as a guide for its employees to assure that technology transfer activities are conducted ethically and in a manner that promotes public purposes and supports UH's core missions. The handbook identifies the six specific areas of the Ethics Code subject to Act 38 and explains how these six areas should be adapted and applied by UH to address conflicts and explains how these adaptations should be applied in conjunction with other policies and regulations. There are plans on reviewing and updating the handbook periodically to address any changes that may arise.

The University of Hawai'i developed and is implementing a protocol to review technology transfer activities that may be subject to Act 38, including development of a management plan as appropriate. It has also developed a webpage that addresses ethics and technology transfer activities, a form to request review of technology transfer activities that may be subject to Act 38, and resources and responses to frequently asked questions.

Technology Transfer and Commercialization Activities at the University of Hawai'i

Through the Office of the Vice President for Research and Innovation and the Office of Innovation and Commercialization (OIC)/Office of Technology Transfer (OTT), UH supported and engaged in the following activities as part of its technology transfer program:

Startup Companies

Startups that participated in UH's accelerator in Spring 2019:

- Adnoviv LLC: an intelligent "occupancy sensing" technology company using human presence detection for optimal energy savings currently being field tested
- Maticy: a telehealth platform
- RendezView: a collaboration and remote working platform
- Swipewrap: gift wrap for digital gifting

New Initiatives

UH formed a Hawai'i limited liability corporation named UH Ventures, LLC. UH Ventures supports UH affiliated startups with the provision of programming, resources and funding. UH Ventures is also capable of holding equity interests and other appropriate funding models in the startups it funds. This corporate form is also useful as it insulates the UH from risks inherent in startup ventures and permits for management of potential conflicts of interest.

- UH Ventures entered into a joint effort with the Hawai'i Strategic Development Corporation and the Natural Energy Laboratory of Hawai'i Authority to establish an EDA-funded aquaculture accelerator program on Hawai'i Island. The objectives of this joint effort are to assist proof-of-concept development, provide commercialization services, lab, testing and office space to startup companies working in aquaculture. The first cohort for the aquaculture accelerator launched in fall of 2019 with UH licensee, Kuenhle Agrosystems, participating.
- Disaster Risk Reduction, LLC was formed in order to commercialize the Pacific Disaster Center Global's many computer based tools that track, monitor and assess various types of disaster events. UH is working on protecting the intellectual property arising from these tools.
- UH Ventures launched the UH Ventures Accelerator in the Fall of 2019. The accelerator is being run by the Pacific Asian Center for Entrepreneurship (PACE) in the Shidler College of Business at UH Mānoa and is open to UH faculty, staff, students and alumni from all 10 campuses across the UH System. Applications are being accepted for the first cohort which will kick-off in Spring 2020.
- UH Mānoa joined a western regional technology transfer accelerator hub that provides resources to help build an entrepreneurial culture at member institutions and support, educate and encourage researchers to commercialize their research in the biomedical area. The goal of the National Institutes of Health (NIH) funded program is to bridge the gap between NIH-funded research and improved healthcare solutions.
- The UH launched its Innovation Impact Challenge program with Hawaiian Electric Company in Fall 2019. Through this University + Industry collaboration, UH hopes to inspire cross-disciplinary innovation to develop novel ideas that will further the State of Hawai'i's energy goals and have potential broader impacts and applications to utilities across the country. This program has turned the accelerator model on its head -- by focusing on finding solutions to identified challenges and building a business around those solutions.

Ongoing OIC/OTT activities

- In 2019, OTT received 58 invention disclosures, filed 23 U.S. non-provisional patent applications, received three U.S. patents, and executed five new license agreements. The inventions were generated by different units at UH: College of Engineering, John A. Burns School of Medicine, UH Cancer Center, College of Social Sciences, College of Natural Sciences, College of Tropical Agriculture and Human Resources, School of Ocean and Earth Sciences and Technology, and the Daniel K. Inouye College of Pharmacy.
- OIC/OTT continues its educational outreach on UH's technology transfer program to faculty, researchers and students through visits to UH Hilo, UH West O'ahu, Kapi'olani Community College, Leeward Community College, Leeward Community College's Wai'anae Moku education center, Windward Community College, Pacific Center for Advanced Technology Training at Honolulu Community College and Kaua'i Community College.
- OIC/OTT hosted seminars for the UH, Honolulu and Hilo business communities addressing the commercial potential of discoveries in the fields of agriculture and medical research and covering patent and trademark law. The seminars were presented by attorneys with extensive experience and expertise in these fields.
- OIC/OTT continues its Lab Ambassadors program (connecting OTT directly with UH research laboratories using liaisons in the laboratories to assist in the commercialization process); Biological materials licensing program through its partnership with Kerafast; and its Hi-Touch marketing of UH technologies through a contract with IN-PART to market and facilitate introductions between UH and industry professionals.
- HI-END (Hawai'i Entrepreneurial Network Developers): an informal network of people and programs involved in entrepreneurship, innovation and tech investment meeting monthly to coordinate community events, share ideas, contacts and referrals and leverage resources to build and foster Hawai'i's entrepreneurship and innovation ecosystem. Various innovation and entrepreneurial spaces have hosted HI-END, including KCC's Culinary Institute, the Mānoa Innovation Center, Entrepreneurs Sandbox, American Savings Bank's new downtown campus, sPACE (PACE's co-working space for UH students) and HPU's eSports arena.
- Collaborative workspaces UH iLab, sPACE and the UH FabLab are available to UH students to exchange ideas, work on projects and create prototypes.
- PACE (Pacific Asian Center for Entrepreneurship) sponsors innovation and entrepreneurship competitions for students, as well as workshops and mentorships to encourage innovation and entrepreneur activities

- MIND Hawai'i (Medical Innovation and Design) held at the UH iLab brings students and faculty from various fields to develop solutions to medical challenges and is supported by UH faculty and the community
- Future Focus 2019: a collaboration with the Hawai'i business community spotlighting emerging technologies, resources and opportunities available in Hawai'i's growing innovation ecosystem. This year's conference focused on sustainability and resiliency with an emphasis on combating sea level rise.