



University of Hawai'i, Hilo and National Corn-to-Ethanol Research Center Partner to Form the ALAKA'I Project: Applied Life-Science Academy: Knowledge

by Megan Wieser

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NCERC at SIUE

Advancing Biorenewables Research



EDWARDSVILLE – Through funding provided by BioMADE, the University of Hawai'i at Hilo (UH Hilo) and the National Corn-to-Ethanol Research Center (NCERC) at Southern Illinois University Edwardsville (SIUE) have partnered to form “ALAKA’ I”, Applied Life-Science Academy: Knowledge Advancing Industry, a project that establishes a bioeconomy academy to accelerate climate change solutions by developing industry-relevant training for delivery in Hawaii and across the United States.

Launched in 2021, BioMADE is the most recently established Manufacturing Innovation Institute. BioMADE works with its members to secure America's future through biomanufacturing innovation, education, and collaboration. It is a member of Manufacturing USA®, a national network created to secure U.S. global leadership in advanced manufacturing through large-scale public-private collaboration on technology, supply chain, and education and workforce development.

The primary objective of the ALAKA'I is to provide unique training for high-impact professionals in the bioeconomy, including operators, technicians, scientists, managers, policy makers, regulators, investors, advocates, as well as students, by providing necessary multi-disciplinary understanding of the many factors behind making transformational change. UH Hilo leads the ALAKA'I project and will pilot flagship trainings in July 2022 and again in summer 2023. ALAKA'I curriculum will draw on traditional Hawaiian and Pacific Island cultural perspectives to provide insights and guiding principles for effective sustainability.

“The bioeconomy is critical to reducing greenhouse gas emissions, while maintaining and improving standards of living by replacing fossil fuels with renewable biomass for the materials and fuels we use daily,” said Dr. Bruce Mathews, dean of the UH Hilo College of Agriculture, Forestry, and Natural Resource Management. “In addition, the bioeconomy bolsters agricultural economies by bringing new value to agricultural waste streams, growing crops grown on marginal lands not used for food production, and value-added bio-products. It is crucial to enhancing economic development and better living standards for America's rural communities, and to creating new opportunities for students and the people of Hawai'i. The ALAKA'I will enhance career opportunities and accelerate bioeconomy solutions while providing guiding principles for a more sustainable future.”

The ALAKA'I leadership team includes industry professionals with decades of combined experience in the bioeconomy and higher education. The partnership will draw from the technical expertise of the research team at NCERC, which has a long-standing reputation for providing unparalleled workforce training programs for students pursuing careers in the bioeconomy, and James DeKloe, PhD, a consultant in Vacaville, Calif. with decades of experience in pioneering education programs and connecting graduates with careers in biomanufacturing. UH Hilo brings deep Hawaiian and Pacific Island perspectives on sustainability that influence the state's commitment to carbon neutrality and provide guidance to beneficially implement the anticipated \$4 trillion bioeconomy.

“Bioeconomy solutions are critical to address climate change, stop digging up more fossil fuels, and most importantly bring economic development to people who have been bypassed by prior technology-driven wealth creation,” DeKloe said. “Creating new

income opportunities for farmers and entrepreneurs strengthens rural and agricultural communities. Everyone should have a chance to participate in these career-enhancing opportunities.”

The course curriculum will also provide train-the-trainer components, which are critical for the program’s long-term success, broad beneficial impact, and for continued education for future generations. Following the first phase of the project, selected course materials will be disseminated nationally with the intention for use by educators from all levels, and for delivery in remote, rural locations.

“Since 2003, NCERC has trained the next generation of bioeconomy leaders by providing hands-on training for students pursuing careers in bioprocessing and fermentation,” said NCERC Executive Director John Caupert. “With the future expansion of the bioeconomy in mind, this program couldn’t have come at a better time. We’re thrilled to be part of the ALAKA’I project team and eager to leverage our diverse team of researchers’ expertise to form the ALAKA’I curriculum.”

About BioMADE

Launched in 2021, BioMADE is an independent, non-profit, public-private partnership established by the U.S. Department of Defense. BioMADE works with its members to harness the power of biology to help create and domestically source the manufactured goods that people use every day. By propelling new biotechnology products from the lab to the commercial market, BioMADE and its members will strengthen American competitiveness, create a more robust and resilient supply chain, and help the U.S. become more self-sufficient. BioMADE is also building a diverse and globally competitive STEM workforce to ensure the workforce is prepared and ready to fill new jobs. Learn more about BioMADE by visiting [BioMADE.org](https://www.biomade.org).

About University of Hawaiʻi at Hilo

The [University of Hawaiʻi at Hilo](https://www.uhilo.edu/) is a comprehensive, regional public liberal arts and science university. Its primary focus is to provide high-quality baccalaureate and limited postgraduate education, with scholarship and applied research an important component of faculty work and student engagement. UH Hilo actively recruits residents from Hawaiʻi Island, other islands across the State, mainland U.S., and internationally. Ten of the 14 world climate zones exist on the Island of Hawaiʻi, making it a living laboratory for the study of agriculture, volcanoes, astronomy, marine science, and bioenergy and sustainable bio-products. UH Hilo is ranked as the most ethnically diverse campus of any US national university.

About NCERC at SIUE

The NCERC at SIUE is a nationally recognized research center dedicated to the development and commercialization of biotechnologies. Their unique research laboratories house bench- to demonstration-scale bioreactors and pretreatment and downstream processing equipment, making it the perfect partner to companies in the biotechnology industry. Through their contractual research services, NCERC has played an instrumental role in commercializing more than 80 products that are now used in the commercial marketplace. In addition to its research and development services, NCERC leverages its experienced staff and unique facility to provide a variety of workforce training and education initiatives to train the next generation of bioeconomy professionals. For more information, contact Jackie Hayes at jhayes@ethanolresearch.com or visit www.EthanolResearch.com.