



SUMMER 2021 EDITION

UNIVERSITY OF HAWAII AT HILO
TROPICAL CONSERVATION BIOLOGY
& ENVIRONMENTAL SCIENCE



Summer Success!

TCBES Semesterly Newsletter



Students of the TCBES 2021 Cohort at the entry to the Hale o Lono fishpond in Hilo

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E Komo Mai

WELCOME BACK TCBES STUDENTS AND A BIG
WELCOME TO THE NEW 2021 COHORT. HAVE A
GREAT SEMESTER!

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TODAY!**

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UH Hilo's Chris Knudson
featured in latest *Proceeding of
the National Academy of Sciences*

NEW AND GRADUATING STUDENTS

Congratulations
graduating students!

Thathmini Kularatna

"Comparative growth of Elephant Ear Taro (*Alocasia macrorrhiza*) and Giant Swamp Taro (*Cyrtosperma merkusii*) in Hawai'i."

Advisor: Dr. Norman Arancon

Laura Knight

"Quantitative analysis of the mesophotic coral ecosystem benthos."

Advisor: Dr. Karla McDermid

New Students for Fall 2021

Kūpono Aguirre

Mikayla Barnwell

Walter Boger

Alejandro Barrientos Caamano

Lucy Chalgren

Cienna-Lei Daog

Nathalie de Rocquigny

Amy Durham

Matt Dye

David Girbino

Hannah Hartmann

Noah Hunt

Mio Kamioka

Dio Mikros

Avalon Paradea

Ben Poppas

Natasha Ripley

David Russell

Emma Stierhoff

Zach Taylor

TCBES Seminars

VISIT OUR WEBSITE TO VIEW
UPCOMING SEMINARS HERE

*Field Day at
Chock's Beach*

CBES 601 FALL 2021 COHORT



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UH HILO'S CHRIS KNUDSON FEATURED IN LATEST PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES:

Written by Alyson Kakugawa-Leong
June 29, 2021

An assistant professor of geography at the University of Hawai'i at Hilo is the co-author of a perspective in the Proceedings of the National Academy of Sciences that concerns coffee leaf rust (CLR), the most significant coffee plant disease in the world.

Dr. Chris Knudson's research, titled "Epidemics and the future of coffee production," also addresses how COVID-19 can lead to a worsening global CLR epidemic.

"CLR was found in Hawai'i for the first time last October," Knudson noted. "Until then, Hawai'i was the only major coffee-growing region without CLR."



Dr. Chris Knudson



Coffee plant infected with coffee leaf rust

"In this perspective, we draw on recent scientific research on the coffee leaf rust (CLR) epidemic that severely impacted several countries across Latin America and the Caribbean over the last decade to explore how the socio-economic impacts from COVID-19 could lead to the re-emergence of another rust epidemic. We describe how past CLR outbreaks have been linked to reduced crop care and investment in coffee farms – as evidenced in the years following the 2008 global financial crisis," he added.

"We conclude by arguing that COVID-19's socio-economic disruptions are likely to drive the coffee industry into another severe production crisis... [However,] by increasing investments in coffee institutions and paying smallholders more, we can create a fairer and healthier system that is more resilient to future social-ecological shocks."

The perspective is co-written by Kevon Rhiney (Rutgers University), Zack Guido (University of Arizona), Jacques Avelino (CIRAD, UMR PHIM, Turrialba, Costa Rica), Christopher M. Bacon (Santa Clara University), Grégoire Leclerc (CIRAD, UMR SENS, Montpellier, France), M. Catherine Aime (Purdue University), and Daniel P. Bebber (University of Exeter) and is available [here](#).

STUDENT & FACULTY

Highlights

TCBES Students Travel to Papahānaumokuākea

TCBES students: Kainalu Steward, Aloha Kapono, and Lauren Kapono, were part of a team of Native Hawaiian scientist that traveled to Papahānaumokuākea Marine National Monument to collect data on climate change impacts and rising sea levels. Get the full story [here](#).



Native Hawaiian Researchers at Papahānaumokuākea Marine National Monument

Environmental Scientists Show Link Between Rapid 'Ōhi'a Death Mortality Levels and Hoofed Mammals

Featuring: Ryan Perroy from TCBES and Geography

"A research team has discovered that patterns of 'Ōhi'a mortality show significant differences in areas with and without hoofed mammals, suggesting that ungulate exclusion is an effective management tool to lessen impacts of rapid 'Ōhi'a death. Read more [here](#)."



Tyler Gerken, UH Hilo alumnus

New Publication

UH Hilo Environmental Science alumnus, Tyler Gerken, along with Tracy Wiegner from TCBES and Marine Science, and others recently published an article in the journal *Antibiotics* on antibiotic resistant *Staphylococcus aureus* at coastal beaches and rivers on Hawai'i Island.

Endangered Bird Found on Mauna Kea

Featuring: Pat Hart from TCBES and Biology, and recent TCBES graduate, Bret Mossman

"An endangered native bird has been found on Mauna Kea for the first time in nearly 70 years.

University of Hawai'i at Hilo researchers announced Thursday that they located an 'ua'u — a seabird also called the Hawaiian petrel — at a nesting site on Mauna Kea in May, the first time one has been recorded on the Mauna since 1954."

Access the full story [here](#)



Camera trap footage of the 'Ua'u burrow on Mauna Kea

Students Work on Interface Improvement of Artificial Intelligence

"This summer, five students from the University of Hawai'i at Hilo worked with a computer scientist to investigate various research problems in human-in-the-loop artificial intelligence or AI. The class was led by [Travis Mandel](#), assistant professor of computer science, and was sponsored by the National Science Foundation. Students were paid a stipend to participate. Read more [here](#)."