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Sea salt aerosols, feminized sea turtles inspire ARCS Scholars of the Year

**ARCS Foundation awards $107,000 to Honolulu Scholars in 2023**

University of Hawai‘i at Manoa PhD students in atmospheric sciences and marine biology were named 2023 ARCS Scholars of the Year at the recent Achievement Rewards for College Scientists Award Banquet. **Katherine Ackerman** received the physical sciences honor for her studies of sea salt aerosols. **Josefa Muñoz** received the biological sciences honor for her investigation of feminization in Guam’s sea turtles.

Selected as the best presenters at this spring’s Honolulu ARCS Scholar Symposium, Scholars of the Year received $1,000 awards in addition to the $5,000 grants provided to all 21 Honolulu ARCS Scholars. ARCS Foundation advances science in America by providing unrestricted funding to outstanding U.S. students in STEM fields. The Honolulu chapter has provided over $2.7 million to more than 650 UH graduate students since 1974.

The awards were made within six UH Manoa academic units. The 2023 Honolulu ARCS Scholars are:

**COLLEGE OF ENGINEERING**

**Corrisa Heyes**, Bretzlaff Foundation ARCS Award, Mechanical Engineering. The lifetime Girl Scout studies what makes things stick at nanoscale force and micro material level.

**Matthew Nakamura**, Frederick M. Kresser ARCS Award, Mechanical Engineering. The Honolulu Waldorf School graduate designs low-cost sensor systems using readily available components.

**COLLEGE OF NATURAL SCIENCES**   
SCHOOL OF LIFE SCIENCES

**Valentina Alvarez**, Ellen M. Koenig ARCS Award in Zoology. The National Science Foundation Graduate Research Fellow uses genetic data to study waves of reptile invasions of the Hawaiian chain.

**Jordan Gossett**, Maybelle F. Roth ARCS Award in Conservation Biology (Zoology). The second time ARCS Scholar investigates the population genetics of planthoppers, which are the bottom of the food chain in Hawai‘i Island lava tubes, and the endosymbiont bacteria that live within their cells.

**Holden Jones**, Ellen M. Koenig ARCS Award in Botany. The second-time ARCS Scholar is wrapping up a Fulbright project with Ecuadorian herpetologists to study conservation of amphibians on cacao plantations and headed to Costa Rica assess reforestation there.

OTHER NAURAL SCIENCES DEPARTMENTS

**Shane Goettl**, Sarah Ann Martin ARCS Award in Chemistry. The astrochemist studies formation of certain hydrocarbons in extreme environments to understand the origins of our carbon-based world.

**Arturo Jaime**, Sarah Ann Martin ARCS Award in Mathematics. He works at the intersection of two branches of mathematics and was selected to participate in a month-long workshop at a mathematics institute in Bonn.

**Christopher Ketter**, H. Keith and Sue Ernst ARCS Award in Physics. His design and assembly of prototype hardware works to detect particles at the KECKB accelerator in Japan was published in *Nuclear Instruments and Methods in Physics Research Section A*.

**SCHOOL OF OCEAN AND EARTH SCIENCE AND TECHNOLOGY**

**Katherine Ackerman**, George and Mona Elmore ARCS Award in Atmospheric Sciences. Her studies of the effect of sea salt aerosols on clouds and climate earned poster and presentation awards from the American Meteorological Society and American Geophysical Union.

**Evan Kelly**, Toby Lee ARCS Award in Earth Sciences. A world traveler with eyes on space, he develops instrumentation for planetary exploration.

**Gabrielle Stedman**, George and Mona Elmore ARCS Award in Oceanography. She has already secured more than $51,000 for her research to describe microscopic animals living on the abyssal seafloor.

**INSTITUTE FOR ASTRONOMY**

**Alexa Anderson**, George and Mona Elmore ARCS Award. The Kalaheo High School graduate received Best Project Awards in her first two years at the Institute of Astronomy for her investigation into how exoplanets form.

**Connor Auge**, Helen Jones Farrar ARCS Award. His research into how supermassive black holes grow has generated six publications and garnered two successful observing proposals as principal investigator.

**Anna Payne**, Columbia Communications ARCS Award. Recipient of a four-year NASA fellowship and the American Astronomical Society Chamberliss Award for best graduate research, she studies the environment around actively feeding supermassive black holes.

**JOHN A. BURNS SCHOOL OF MEDICINE**

**Nina Allan**, Asteriadis ARCS Award (Cell and Molecular Biology). Recognized for the Best Graduate Proposal Talk at last year’s Tester Memorial Symposium, she studies Autism Spectrum Disorder with focus on epigenetics, the gut microbiome and how they affect the immune system.

**Lance Nunes**, Kai Bowden ARCS Award, (Developmental and Reproductive Biology). The Farrington High School graduate examines how aberrant expression of a lipid synthesis protein leads to motor dysfunction.

**Troy Odo**, Dr. Guy Moulton Yates ARCS Award (Tropical Medicine). The I‘olani School graduate develops methods to gauge the antibody responses to vaccines.

**COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES**

**Lauren Braley**, Dr. Jacqueline Maly ARCS Award (Tropical Plant Pathology). The Thai boxing practitioner has received a $29,000 competitive grant for her research into use of dried, ground papaya seeds as soil-safe treatment for plant viruses.

**Tyler Goodearly**, Joseph Parker ARCS Award (Nutrition–Animal Sciences). The home aquaria enthusiast is exploring hormone treatment to increase fertility in sea cucumbers, an important but declining source of food and potential medical compounds worldwide.

**INTERDISCIPLINARY AWARDS**

**Leon Tran**, ARCS Foundation Award in Marine Biology. Best student presenter at the Society for Integrative and Comparative Biology’s 2021 meeting, he examines metabolism as a key to understanding marine organisms’ vulnerability to changing ocean temperatures and oxygen levels.

**Josefa Muñoz**, Maybelle F. Roth ARCS Award in Conservation Biology (Marine Biology). The Ocean Foundation Boyd Lyon Scholar involves secondary and undergraduate students in her research on sea turtle populations in her native Guam, exploring the mating strategy response to rising temperatures.

**FOR MORE INFORMATION**

For more about each scholar, including links to brief videos in which they introduce their research, see <https://tinyurl.com/ARCShnl-Scholars> or [www.honolulu.arcsfoundation.org/scholars/current-scholars](https://honolulu.arcsfoundation.org/scholars/current-scholars)

View photos of the awards presentations at <https://honolulu.arcsfoundation.org/event-highlights>

Honolulu ARCS Scholar Awards are funded through a combination of endowed fund earnings and chapter fundraising. More information at <https://tinyurl.com/ARCSHNL-donate>

