TYLER GERKEN

CURRICULUM VITAE

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EDUCATION

University of Hawai‘i at Hilo – Hilo, HI it — May 2019

B.S. in Environmental Science, Minor in Biology, with Honors.
Senior Thesis: "*Soil Sources of Staphylococcus aureus and Fecal Indicator Bacteria Among Different Land Use Types in the Hilo Bay Watershed, Hawai‘i Island"*
Mentor: Dr. Tracy Wiegner

Boise State University – Boise, ID — August 2016 – May 2017
National Student Exchange
Coursework in Environmental & Occupational Health

RELEVANT EXPERIENCE

SOEST Scholar — August 2017 – May 2019
School of Ocean and Earth Science Technology (SOEST) –Hilo, HI

- Developed and carried out scientific research to include: collecting data, keeping accurate records, conducting literature and technical research, office work, (placing orders, budgeting, e-mailing, creating data sheets), writing grant proposals, analyzing data, preparing reports, collaborating with professionals, and disseminating data found
- Collected soil samples, field data, soil parameters (pH, temperature, % organic matter, % moisture, particle-size distributions) and processed soil samples in the lab using microbial culturing techniques
- Constructed choropleth maps depicting bacterial concentrations among land-use types in the Hilo Bay watershed

National Science Foundation Research Experience for Undergraduates Intern — May – August 2017

Pacific Internship Programs for Exploring Science – Hilo, HI

- Collected environmental samples (water, sand, soil, algae), water quality parameters (turbidity, pH, temperature, dissolved oxygen %) and processed samples using microbial culturing techniques from East and West Hawai‘i beaches, and native dominated forest soils
- Entered data into Excel and Minitab and analyzed it graphically and statistically for a written project report and final presentation
- Project: *"Determining Staphylococcus aureus, Methicillin-Resistant S. aureus (MRSA), and Fecal Indicator Bacteria Concentrations in Soils of the Pu‘u Maka‘ala Natural Area Reserve, Hawai‘i Island"*

VOLUNTEER EXPERIENCE

Field Assistant

- University of Hawai‘i at Hilo, Marine Science Department & United States Geological Service – Hilo, HI — June 2018
    - Assisted with collecting water samples & water quality parameters on a research vessel within the Kīlauea fissure #8 lava ocean plume entering at Kapoho Kai, Big Island, Hawai‘i
    - Processed water samples on-site for chlorophyll *a*, nutrients, total dissolved phosphorus (TDP), and total dissolved nitrogen/dissolved organic carbon (TDN/DOC)
- Kaloko-Honokōhau National Historic Park—Kona, HI — May 2018
    - Assisted with restoration efforts at a Hawaiian fishpond by planting *‘ahu‘awa* (native sedge) and removed invasive plants in the surrounding area
- Hawai‘i Endangered Bird Conservation Program, San Diego Zoo Global—Volcano, HI — October 2017
    - Collected native plant berries: *‘ōhelo ai*, pūkiawe, and ‘ōlapa to help researchers determine their nutritional properties as part of the ‘Alalā project
- The Nature Conservancy; Ka Loko o Kīholo – Kona, HI — September 2017, October 2018
    - Assisted with restoration efforts aimed at removing invasive *kiawe* from overgrowing into the Hawaiian fishpond
- Idaho Fish & Game – Boise, ID — March 2017
    - Assisted with restoration efforts by outplanting sagebrush seedlings in the Boise foothills
- Mauna Kea Forest Restoration Project – Hilo, HI — May 2016, 2018
    - Assisted with outplanting endangered native Hawaiian plants on Mauna Kea to assist with restoration efforts of the endangered honeycreeper, the Palila.
- Department of Land and Natural Resources, Division of Wildlife and Forestry – Hilo, HI — June 2016
    - Assisted with outplanting native Hawaiian plants at Ka‘ūpulehu, a critically endangered dryland forest

Lab Assistant

- University of Hawai‘i at Hilo, Marine Science Department – Hilo, HI — June 2017 – May 2019
    - Collected water and sand samples, water quality parameters (pH, turbidity, temperature, DO %), and quantified samples for bacteria concentrations, including *Staphylococcus aureus,* Methicillin-Resistant *S. aureus* (MRSA), and Fecal Indicator Bacteria (*Enterococcus* spp., *Clostridium perfringens)* at various Hilo and Kona beaches, and resorts on Big Island, Hawai‘i

AWARDS

Dean's List:

- Fall 2015, Spring 2018

AWARDS

Grants:

- Islands of Opportunity Alliance-Louis Stokes Alliances for Minority Participation — June – July 2018
    - $2,246.00
    - Purchased lab supplies to further investigate how bacterial concentrations vary among different land use types: urban (university, low density, rural, industrial, invaded forest), agriculture (important agriculture lands, extensive agriculture lands)
- Pacific Internship Programs for Exploring Science Travel Grant. Association for the Sciences for Limnology and Oceanography. Victoria, Canada — June 2018

Fellowships:

- University of Washington, School of Public Health, Office of the Dean's Fellowship — 2019 – 2021

Scholarships:

- Asian & Pacific Islander American Scholarship Fund/Strada Education Network AANAPISI Scholarship — 2018
- KUPU Conservation Leadership Educational Award — 2017
- Idaho Environmental Health Association Scholarship — 2017
- Nā Hoʻokama a Pauahi — 2015 – 2019
- Hawaiʻi Community Foundation:
    - ʻImi Naʻauao — 2019 – 2020
    - THINK STEM Scholarship Fund — 2018 – 2019
    - Rosemary & Nellie Ebrie Scholarship Fund — 2017 – 2018
    - Hawaiʻi Pizza Hut Scholarship Fund — 2010 – 2012
    - Hon Chew Hee Scholarship Fund — 2010 – 2011
- University of Hawaiʻi Foundation:
    - Office of Hawaiian Affairs Hoʻonaʻauau Scholarship — 2018 – 2019
    - Office of Hawaiian Affairs STEM Scholarship — 2018
    - Edwin & Leilani Kam Scholarship Fund — 2016
- Ke Aliʻi Pauahi Foundation — 2010 – 2011

CONFERENCE/SYMPOSIUM PRESENTATIONS

1. **Gerken, T**, Economy, L, Wiegner, T. Soil Sources of *Staphylococcus aureus* and Fecal Indicator Bacteria Among Different Land Use Types — May 2019

in the Hilo Bay Watershed. Tropical Conservation Biology and Environmental Science Research Symposium. Hilo, HI. Presentation. ***Best 15-minute undergraduate presentation.***

June 2018

2. **Gerken, T**, Economy, L, Wiegner, T. Soil Sources of *Staphylococcus aureus*, Methicillin-Resistant *S. aureus* (MRSA), and Fecal Indicator Bacteria in a Hawaiian watershed. Association for the Sciences of Oceanography and Limnology, 2018 Summer Meeting. Victoria, Canada. Poster.

May 2018

3. **Gerken, T**, Economy, L, Wiegner, T. Soil Sources of *Staphylococcus aureus*, Methicillin-Resistant *S. aureus* (MRSA), and Fecal Indicator Bacteria in the Hilo Bay watershed. School of Ocean and Earth Science Technology Research Symposium. Honolulu, HI. Poster.

April 2018

4. **Gerken, T**, Economy, L, Wiegner, T. Soil Sources of *Staphylococcus aureus*, Methicillin-Resistant *S. aureus* (MRSA), and Fecal Indicator Bacteria in the Hilo Bay watershed. Tropical Conservation Biology and Environmental Science Research Symposium. Hilo, HI. Presentation.

REFERENCES

[Available upon request]