

Christian Jayme Castillo

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POSITION

Biocarbon Test Specialist at Hawaii Natural Energy Institute at University of Hawaii at Manoa

conducting research on biocarbon related topics, performing pressurized thermochemical reactions of biomass, and analyzing biochar products

EDUCATION

University of Hawaii at Manoa
Mechanical Engineering M.S.

August 2020 – May 2024

University of Hawaii at Manoa
Mechanical Engineering B.S.

August 2015 – May 2019

WORK EXPERIENCES

Biocarbon Test Specialist

April 2025 – Present

Hawaii Natural Energy Institute

- Research topics related to biocarbon production and develop manuscripts
- Conduct test reactions for pressurized thermochemical carbonization involving biomass
- Analyze thermal and chemical characteristics of biochar products using lab devices
- Manage lab equipment and chemicals

Karate Sensei

March 2017 – Present

Kick Start Karate

- Train students in martial arts for self-defense, tournaments, and public demonstrations
- Teach students behaviors of respect and honesty in daily life with a code of by-laws

Biochar Test Engineer

May 2024 – April 2025

Hawaii Natural Energy Institute

- Research topics related to biocarbon production and develop manuscripts
- Conduct test reactions for pressurized thermochemical carbonization involving biomass
- Analyze thermal and chemical characteristics of biochar products using lab devices
- Manage lab equipment and chemicals

Hawaii Natural Energy Institute Research Assistant at UH Manoa

August 2020 – May 2024

Hawaii Natural Energy Institute

- Research on topics and conduct experiments related to biocarbon conversion
- Write and co-author manuscripts

Pearl Harbor Naval Shipyard Intern

January 2019 – May 2019

Pearl Harbor Naval Shipyard

- Worked in the Combat Systems Division
- Obtained DOD security access
- Designed a supportive testing frame for the submarines using AutoCAD
- Performed research for related engineering projects
- Read and analyze schematics of the submarines
- Reported project progress and solutions to supervisor and shipyard commander

Math 134 Tutor/Learning Assistant*January 2016 – May 2019**UH Manoa Undergraduate Math Department*

- Assist pre-calculus instructor and offer tutoring sessions outside of class hours
- Create suitable learning environment and build student confidence in mathematics
- Promote discipline, conduct, and effective communication amongst students

Physics Tutor*July 2018**UH Manoa Department of Physics and Astronomy*

- Tutor summer school students in college level Physics courses
- Assist other tutors in other subjects within the study room

VOLUNTEER EXPERIENCES**Kick Start Karate Volunteer***September 2010 – Present*

- Volunteer for fundraiser events

Moanalua Community Church Helper*2007 – Present*

- Help prepare church program
- Volunteer as usher during services
- Setting up tables and stage equipment

PUBLICATIONS

- Castillo, K. A. A., Johnson, R. L., Castillo, C. J. A., Wang, L., Skreiberg, Ø., & Turn, S. Q. (2025). Experimental Optimization of Pellet Tensile Strength from Spruce Biochar Produced at Elevated Pressure. *Energy & Fuels*.
- Johnson, R. L., Castillo, K., Castillo, C., Bach, Q. V., Hihara, C., Wang, L., ... & Turn, S. Q. (2023). Biocarbon production via plasticized biochar: roles of feedstock, water content, catalysts, and reaction time. *Energy & Fuels*, 37(20), 15808-15821.
- Johnson, R. L., Castillo, K., Castillo, C., Wang, L., Skreiberg, Ø., & Turn, S. Q. (2023). Use of plasticized biochar intermediate for producing biocarbons with improved mechanical properties. *ACS Sustainable Chemistry & Engineering*, 11(15), 5845-5857.