

ALICIA CAUGHMAN

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Education

Georgia Institute of Technology | August 2016 - May 2020

- Bachelor of Science in Biology with Research Option Designation – GPA: 3.59/4.00
- Minor in Computational Data Analysis and Certificate in Environmental Science
- Faculty Honors – Spring 2019

Awards

Fast Track to Research Scholarship | Georgia Institute of Technology | Spring 2017

President's Undergraduate Research Award | Georgia Institute of Technology | Fall 2018

- Topic: *Coral Microbiome Changes during a Diel Cycle*

Beckman Scholars Program | Georgia Institute of Technology | 2019 - 2020

Research

Undergraduate Researcher | Georgia Institute of Technology | January 2017 - Present

PI: Dr. Frank Stewart, Postdoctoral Mentor: Dr. Zoe Pratte | January 2017 - Present

- Collecting water samples from the Georgia Aquarium and skin microbiome samples from numerous anemones and clownfish.
- Preparing and processing a variety of sample types for 16s sequencing on the Illumina Platform.
- Analyzing sequence data using several bioinformatics programs and programming languages.

PI: Dr. Mark Hay, Graduate Student Mentor: Deanna Beatty | May 2017 – August 2017

- Performing DNA extractions on coral and water samples to determine microbiome composition.
- Cleaning and maintenance of tanks and water quality assessment.

Publications

1. Pratte ZA, Patin NV, McWhirt ME, Caughman AM, Parris DJ, Stewart FJ. 2018. Association with a sea anemone alters the skin microbiome of clownfish. *Coral Reefs*. 37(4):1119–1125. doi:10.1007/s00338-018-01750-z.

Experience

Teaching Assistant | Georgia Institute of Technology | August 2018 – May 2019

- Responsible for two lab sections of BIOL 1510: Biological Principles during the Fall 2018 semester. Duties included running the lab section with a co-TA, laboratory preparation, and lab report grading.
- Responsible for running a weekly recitation for content review and grading for the lecture section of BIOL 1520: Introduction to Organismal Biology during the Spring 2019 semester.

Team Leader | Georgia Institute of Technology | August 2018 – December 2018

- Responsible for mentoring first year science and math majors in an introductory course in research ethics and scientific literacy.

Volunteer | Coral Restoration Foundation | June 2016 – June 2018

- Cleaning coral trees, out planting coral on reefs, and surveying mortality of previously planted coral.

Skills

Coursework: CITI RCR and IUCAC, Ecology, Evolution, Genetics, Climate Change, Biogeography, Microbiology, Bioinformatics, General and Organic Chemistry, Object Oriented Programming, Differential, Integral, and Multivariable Calculus, Machine Learning for Data Analysis

Lab Skills: DNA/RNA Extraction, PCR, droplet digital (dd) PCR, Gel Electrophoresis, DNA and cDNA Library Preparation, Qubit Fluorometer, Sequencing with Illumina, Spectrometry, Titrating, Pipetting, Spread Plating

Programming/Software: Python, Java, R, HTML, CSS, Microsoft Excel, QIIME2, PRIMER7, JMP

Communication: Technical Writing, Presentations, Microsoft Office

Other: NAUI Master SCUBA Diver, Nitrox Diver, DAN Pro Dive Emergency Management Provider