

EMILY G AGUIRRE

CURRICULUM VITAE

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EDUCATION

Ph.D. Biological Sciences (Marine Biology) | University of Southern California | 2017-2023

B.S. Microbiology | California State University Los Angeles | 2017

A.A.S. Chemical Technology | Los Angeles Trade Tech College | 2011



ACADEMIC PUBLICATIONS

Aguirre, EG, Fine, MJ & Kenkel, CD. (2023). Abundance of Oligoflexales bacteria is associated with algal symbiont density independent of thermal stress in *Aiptasia* anemones. *bioRxiv*.

Aguirre, EG, Carlson, HK & Kenkel, CD. (2023). Complete Genome Sequence of *Roseibium* sp. Strain Sym1, a Bacterial Associate of *Symbiodinium linucheae*, the Microalgal Symbiont of the Anemone, *Aiptasia*. *Microbiology Resource Announcements | American Society of Microbiology*.

Aguirre, EG, Million, WC, Bartels, E, Krediet, CJ & Kenkel, CD. (2022). Host-specific epibiomes of distinct *Acropora cervicornis* genotypes persist after field transplantation. *Coral Reefs*.

SCIENCE COMMUNICATION PUBLICATIONS

Aguirre EG. The epibiome of endangered corals reflects their genotype (2022). Layman science summary published on *Atlas of Science*. **Invited guest writer.**

Aguirre EG. The Mesoamerican reef is facing extinction (2020). Article published on *The Daily Chela*.

Aguirre EG. Early studies prove health benefits from manzanilla (2020). Article published on *The Daily Chela*.

Aguirre EG. Bacteria may help explain obesity and diabetes in Latin-American populations (2020). Article published on *The Daily Chela*.



AWARDS/HONORS

Student Research Rapid Grant Award

California Institute of Biodiversity | 2023

26th Summer Institute in Statistical Genetics Attendee Award

Summer Institute in Statistical Genetics | 2020

NSF Graduate Research Fellowship

National Science Foundation | 2017- 2022

NIH-MBRS/MARC Undergraduate Research Fellowship

National Institutes of Health | 2015 – 2017

University of California, San Diego STARS Program Scholar

Scripps Institution of Oceanography | 2016

Amgen Scholar

Amgen Foundation | 2015

NIH-MBRS/RISE Undergraduate Research Fellowship

National Institutes of Health | 2014 – 2015

American Chemical Society Scholarship

American Chemical Society | 2011-2013

NSF-REU Fellow

California State University, Los Angeles | 2011

BP Scholarship

BP | 2011



PRESENTATIONS

“Peeping into algal-bacterial relationships in the cnidarian holobiont”

(Oral Presentation, In-person) | **MAY 2023** | Yosemite Symbiosis Workshop (Sierra Nevada Research Institute, Wawona, Yosemite National Park, CA, USA)

“Ecological role of marine fungi in the invertebrate anemone, *Aiptasia*”

(Oral Presentation, Remote) | **FEBRUARY 2023** | CRASH Space- A Los Angeles Hackerspace (CRASH Space, Los Angeles, CA USA)

“Growth and Secondary Metabolite Production in *Symbiodinium-Roseibium* Cocultures”

(Poster) | **JULY 2022** | International Coral Reef Society Symposium (International Coral Reef Society, Bremen, Germany)

“Host-specific epibiomes of distinct *Acropora cervicornis* genotypes persists after field transplantation”

(Oral Presentation, Remote) | **JULY 2021** | International Coral Reef Society Symposium (International Coral Reef Society)

“Genotype and environment effects on the epibiome of the endangered staghorn coral, *Acropora cervicornis*”

(Oral Presentation, Remote) | **MARCH 2021** | Stem Bytes Seminar (USC Women in Science and Engineering, University of Southern California, Los Angeles CA USA)

“Host-specific microbial associates of the endangered coral, *A.cervicornis*”

(Poster) | **APRIL 2019** | Yosemite Symbiosis Workshop (Sierra Nevada Research Institute, Wawona, Yosemite National Park, CA, USA)



RESEARCH EXPERIENCE

Graduate Researcher/ PhD. Candidate | University of Southern California

PRINCIPAL INVESTIGATOR: CARLY D. KENKEL | 2018- CURRENT

I am interested in the functional role of bacteria in the cnidarian animal. My work will contribute to translational ecology efforts for coral reef conservation, explore novel

mechanisms of symbiotic associations and go beyond cnidarian studies by investigating bacterial vitamin production, applicable to other animals.



FIELD EXPERIENCE

Salton Sea- algal sampling

Salton City, CA | Spring and Fall 2018, Spring 2019

Hawai'i Ocean Time Series Cruise | Chief Scientist: Tara M. Clemente

R/V Kilo Moana | September 2018

San Pedro Ocean Time Series Sampling Cruise | Lead: Troy Gunderson

R/V Yellowfin | 2017- 2018



PROFESSIONAL EXPERIENCE

Laboratory Preparation / Assistant | University of Southern California | 2022

Prepared the reagents and materials necessary to conduct biochemistry experiments in the Biochemistry teaching laboratory.

Microbiology and Asbestos, Lab Technician | EMSL Analytical | 2015 – 2016

Sample preparation and phase contrast microscopy/polarized light microscopy/ transmission electron microscopy prep/analysis of microbiological and asbestos samples.



TEACHING EXPERIENCE

Teaching Assistant | University of Southern California | 2018 – 2019

BISC 120, General Biology Laboratory. Created and modified existing lesson plans and lab lectures.

SAT Instructor | Acceso Academy | 2018.

Rigorous SAT prep for high school students from low-income, underrepresented cluster of high schools in South Los Angeles, CA USA.

Science/Engineering Enrichment Instructor | Science, Theater, Arts and Recreation Education | 2016-2017

I used a hands-on, laboratory approach for teaching and discussing basic science and engineering concepts with primary school children.



SERVICE TO THE PROFESSION

Manuscript Review | *Frontiers in Marine Science, section Microbial Symbioses* Journal | 2022

Manuscript Review | *Coral Reefs* Journal | 2021

Application Manager, Organizing Committee | ComSciCon-LA 2021, Communicating Science for Graduate Students Workshop | JUNE 2020-2021

SERVICE TO THE UNIVERSITY

Author and Editor | Marine and Environmental Biology, *National Hispanic Heritage Month Newsletter* | 2021

DEI Reporting Committee | Marine and Environmental Biology | 2021

Academic Seminar Committee | Marine and Environmental Biology | 2018

MENTORING

Undergraduate mentor | University of Southern California | 2020-2022

Mentored work-study undergraduates on an anemone microbiome survey project.

Undergraduates learned the basics of designing a research project, DNA extractions, maintenance of cell cultures, animal husbandry and 16S amplicon data analysis.

Summer REU Mentor | University of Southern California, Wrigley Institute | 2020 Remotely provided bioinformatic guidance for an undergraduate student on a summer REU project with the goal of characterizing the microbiome of symbiotic cnidarians and their algal partners.

Young Researchers Program mentor | University of Southern California | 2019

Introduced a high school student to the research laboratory. Surveyed the microbiomes of anemones and their algal symbionts, *Symbiodinium*, via 16S amplicon sequencing.

Special topic- undergraduate mentor | University of Southern California | 2019

Worked with a visiting undergraduate from UC Berkeley. Jointly conducted DNA extractions and 16S amplicon sequencing of *Acropora* coral mucus samples.

Graduate-undergraduate mentoring, Latino Graduate Association | University of Southern California | 2018-2019

Provided guidance for two freshman undergraduates with undecided majors on how to navigate college, maintain a work/life balance and apply for summer research programs.

WORKSHOPS

***Eco-diversa Tropical Taller**

(Content creator in Spanish and English) | MAY 2022 - CURRENT | Conservation Genetics Workshop in Spanish- Bridging the conservation genetics knowledge gap in the Spanish speaking Global South (Latin-America) | Los Angeles, CA

***ComSciCon-LA 2021**

(Application Manager, Organizing Committee) | JUNE 2020 - APRIL 2021 | Communicating Science for Graduate Students | Los Angeles, CA

Content creator*Reclaiming STEM**

(Participant) | SEPTEMBER-OCTOBER 2020 | Science communication and science policy training for diverse scientists | Remote in California

26th Summer Institute in Statistical Genetics

(Participant) | JULY 2020 | Mixed Models in Quantitative Genetics module and Multivariate Analysis for Genetic Data module | University of Washington. Seattle, Washington

The Performing Art of Science Workshop

(Participant) | JANUARY 2020 | Science communication using improv tools | University of Southern California, Los Angeles CA

 COMMUNITY OUTREACH

Invited Speaker, “Summer Research Experiences and Opportunities” | LAVC Research & Internship Symposium | 2023

Invited Speaker, “My path to a Ph.D. program and exploring symbioses now- UPDATED” | PaCES program (Wrigley Marine Science Center/ Los Angeles Valley College/ Pierce College collaboration) | 2022

Author and Editor | Daily Chela | 2020

Created non-jargon summaries of recent, relevant scientific research articles for a Latin-American audience.

WiSTEM Mentor Research Consultant | GALA High School | 2019

Women in STEM partnership with the L.A. Mayor’s Office (Eric Garcetti). Pilot program to introduce students at an all-girls high school to scientific research through a 6-week, water quality project.

Speaker, “My path to a Ph.D. program and why research may be for you” | USC Viterbi STEM Educational Outreach programs (University of Southern California) | 2018

ASES Program, Food Safety and Basic Micro FUNDamentals for Kids 5-week Workshop | Gabriella Charter School | 2015

Introduced elementary school students to basic concepts of microbiology and food safety.

 LANGUAGES

English | Native fluency. Proficient in reading, speaking, and writing.

Spanish | Native fluency. Proficient in reading, speaking, and writing.