

AMELIA L. RITGER

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EDUCATION

University of California, Santa Barbara

2021 – present Ph.D., Ecology Evolution and Marine Biology
2018 – 2021 M.A., Ecology Evolution and Marine Biology
Advisor: Gretchen Hofmann

Dartmouth College

2011 – 2015 B.A., Biology; Anthropology modified with Environmental Studies
GPA: 3.66/4.0, *cum laude*

PROFESSIONAL EXPERIENCE

Research

2021 – 2023 Graduate Student Researcher

Santa Barbara Coastal LTER – UC Santa Barbara (Santa Barbara, CA)

2016 – 2018 Research Assistant

Dr. Daniel Kronauer – Rockefeller University (New York, NY)

2015 – 2016 James B. Reynolds Scholar

Caribbean Marine Biological Institute (Curacao, Dutch Antilles)

2014 Junior Research Scholar

Mentor: Jessica V. Trout-Haney
Dr. Kathryn L. Cottingham – Dartmouth College (Hanover, NH)

2014 CCMi Research Experience for Undergraduates (REU) Intern

Dr. Thomas K. Frazer – Central Caribbean Marine Institute (Little Cayman, British West Indies)

2014 Dartmouth Biology Foreign Study Program (FSP) student

Dr. Ryan Calsbeek, Dr. Matthew Ayres, and Dr. Celia Chen (Costa Rica and Little Cayman, BWI)

2013 Lab and Field Assistant

Dr. Seth D. Dobson – Caribbean Primate Research Center (Cayo Santiago, Puerto Rico)

2012 – 2013 Sophomore Science Scholar

Mentor: Samuel B. Fey
Dr. Kathryn L. Cottingham – Dartmouth College (Hanover, NH)

Mentorship

2023 **Sanjana Sujeet** (UC Santa Barbara): *Study on the effects of marine heatwaves on C. californica*
Faculty Research Assistance Program, UCSB (Santa Barbara, CA)

2022 **Ricardo Hernandez** (Georgia State University): *The Heat is on: Evaluating the intraspecific variation of Corynactis californica in response to marine heatwaves*
Ocean Global Change Biology REU, UCSB (Santa Barbara, CA).

2022 **Ryan Wang** (UC Santa Barbara): *Time series analysis of intertidal pH and temperature data*

2022 **Michelle Sun** (Basis Independent Silicon Valley): *Exploring Interactions between Corynactis californica and Lytechinus pictus in California Kelp Forests*

- Research Mentorship Program, UCSB (Santa Barbara, CA)
Current status: Undergraduate student (Northwestern University)
- 2022 **Cody Busch-Weiss** (Laguna Blanca School): *Developing an Open-source pH Sensor to Monitor Ocean Acidification*
 Research Mentorship Program, UCSB (Santa Barbara, CA)
- 2021 – 2022 **Zoe Fung** (UC Santa Barbara): *Investigating the influence of interacting environmental mosaics on an abundant intertidal snail*
 Faculty Research Assistance Program, UCSB (Santa Barbara, CA)
- 2021 – 2022 **Doris Lius** (UC Santa Barbara): *Leveraging Marine Science Datasets for Integrated and Interactive K-12 Learning*
- 2021 **Aanchal Garg** (UC Santa Barbara): *Investigating the influence of interacting environmental mosaics on an abundant intertidal snail*
- 2021 **Kayla Caplin** (Paul D Schreiber High School): *The Influence of the Strawberry Anemone (Corynactis californica) on Purple Urchin Foraging Behavior*
 Research Mentorship Program, UCSB (Santa Barbara, CA)
- 2020 – 2021 **Ellyse Anderson** (UC Santa Barbara): *Will you be my neighbor? Ecological interactions between a corallimorph and kelp forest critters on the benthos*
 EEMB Senior Honors Program, UCSB (Santa Barbara, CA)
 Faculty Research Assistance Program, UCSB (Santa Barbara, CA)
- 2020 **Carlyn Hamel** (Pacific Ridge High School): *The Effects of Corynactis californica on the Foraging Behavior of Purple Urchins at Various Starvation States*
 Research Mentorship Program, UCSB (Santa Barbara, CA)
Current status: Undergraduate student (University of California, Santa Barbara)
- 2019 **Xavius Boone** (UC Davis): *Urchin Starvation State May Amplify the Positive Interaction Between Corynactis californica and Macroalgae*
 Ocean Global Change Biology REU, UCSB (Santa Barbara, CA).
Current status: Ph.D. graduate student (San Diego State University)

Teaching

- 2022 **Graduate teaching assistant**
 ES 60: Applied Ecology (UC Santa Barbara)
- 2014 **Undergraduate teaching assistant**
 BIOL 27: Animal Behavior (Dartmouth College, Hanover, NH)

FELLOWSHIPS & AWARDS

- 2023 IEEE OCEANS 2023 Limerick Student Poster Competition – First Place
- 2023 Olympic Coast National Marine Sanctuary Special Recognition Award
- 2023 P.E.O. Scholars Award
- 2022 National Science Foundation Non-Academic Research Internships for Graduate Students:
Olympic National Park (National Park Service)
- 2022 National Science Foundation Non-Academic Research Internships for Graduate Students:
Olympic Coast National Marine Sanctuary (National Oceanic and Atmospheric Administration)
- 2021 UCSB Ecology, Evolution, and Marine Biology Storke Award
- 2018 National Science Foundation Graduate Research Fellowship Program

2015	James B. Reynolds Scholarship for Foreign Study
2014	Central Caribbean Marine Institute Research Experience for Undergraduates
2014	Dartmouth Undergraduate Research Grant
2012	Dartmouth Sophomore Science Scholarship

RESEARCH GRANTS

2023	UCSB Associated Students Coastal Fund Minor Grant (\$1,000)
2023	UCSB Graduate Students Association Travel Grant (\$500)
2023	UCSB Graduate Students Association Travel Grant (\$500)
2023	Benioff Scholars Program in Applied Environmental Science (\$6,000)
2021	Schmidt Family Foundation Research Accelerator Award (\$8,000)
2020	UCSB Associated Students Coastal Fund Major Grant (\$15,740)
2019	UCSB Graduate Students Association Travel Grant (\$200)
2015	James B. Reynolds Scholarship for Foreign Study (\$20,000)

PUBLICATIONS

Ritger, A.L., and Burnett, D.C. 2023. Developing Low-Cost, Simplified, and Open Source Durafet-based pH Instrument Electronics. OCEANS 2023 - Limerick, Limerick, Ireland. 1-7.

Kronauer, D., Hart, T., Frank, D., Lopes, L.E., Olivos-Cisneros, L., Lacy, K.D., *et al.* 2023. Sparse and stereotyped encoding implicates a core glomerulus for ant alarm behavior. *Cell* 186: 1-16.

Ingeman, K.E., Zhao, L.Z., Wolf, C., Williams, D.R., **Ritger, A.L.**, Ripple, W.J., *et al.* 2022. Glimmers of hope in large carnivore recoveries. *Scientific Reports* 12(1): 1-13.

Trout-Haney, J.V., **Ritger, A.L.**, Cottingham, K.L. 2021. Benthic cyanobacteria of the genus *Nostoc* are a source of microcystins in Greenlandic lakes and ponds. *Freshwater Biology* 66: 266-277.

Ritger, A.L., Fountain, T.C., and Pierotti, M.E.R. 2020. Evidence for selectivity in the invasive lionfish (*Pterois volitans/miles*). *Journal of Experimental Marine Biology and Ecology* 524: 151311.

Chandra, V., Fetter-Pruneda, I., Oxley, P.R., **Ritger, A.L.**, McKenzie, S.K., Libbrecht, R., Kronauer, D.J.C. 2018. Social regulation of insulin signaling and the evolution of eusociality in ants. *Science* 361(6400): 398-402.

Ritger, A.L., Curtis, A., and Chen, C.Y. 2018. Bioaccumulation of mercury and other metal contaminants in invasive lionfish (*Pterois volitans/miles*) from Curaçao. *Marine Pollution Bulletin* 131: 38-44.

PRODUCTS

Shiny app – Marine Biodiversity Observation Network (<https://ameliaritger.shinyapps.io/mbon-shiny-app/>)

Shiny app – Ocean Acidification Classroom Resource (<https://ameliaritger.shinyapps.io/intertidal-oa-module/>)

MEETING PRESENTATIONS

2023 *Bringing Marine Heatwaves into the Lab: How to engineer heating events in an experimental setting.* 104th Annual Meeting of the Western Society of Naturalists (Monterey, CA). Talk.

- 2023 *Developing Low-Cost, Simplified, and Open Source Durafet-based pH Instrument Electronics.* OCEANS 2023 (Limerick, Ireland). Poster.
- 2022 *A Decade of Data: pH and temperature trends in the Santa Barbara Coastal LTER* Long Term Ecological Research All Scientists' Meeting (Asilomar, CA). Poster.
- 2021 *Monitoring ocean acidification in California rocky intertidal habitats.* 102nd Annual Meeting of the Western Society of Naturalists (Virtual). Poster.
- 2019 *Intraspecific variation in a clonal corallimorph alters purple urchin foraging behavior.* 100th Annual Meeting of the Western Society of Naturalists (Ensenada, Mexico). Poster.
- 2017 *Patterns of Mercury bioaccumulation in invasive lionfish (Pterois volitans/miles) from Curacao.* 13th International Conference on Mercury as a Global Pollutant (Providence, RI). Talk.
- 2015 *Friend or foe? Prey fish perception of predatory lionfish.* Karen E. Wetterhahn Science Symposium (Hanover, NH). Poster.

PUBLIC EDUCATION & OUTREACH

- 2023 Scientific communicator, Olympic Peninsula Academy middle school class (Sequim, WA)
- 2019 – 2022 Judge, Santa Barbara County Science and Engineering Fair. UCSB (Santa Barbara, CA; virtual)
- 2020 Interview a Scientist, Sci-Section Radio Show (radio/streaming/online)
- 2020 Science communicator, Transitional Kindergarten class. Hollister Elementary School (Goleta, CA)
- 2019 Science communicator, World Oceans Day Festival. Santa Barbara Museum of Natural History Sea Center (Santa Barbara, CA)
- 2016 Oral presenter – *To Eat or Not to Eat? The diet of the Curacao lionfish and the woes of field research.* Caribbean Marine Biological Institute (Curacao, Dutch Antilles)
- 2014 Oral presenter – *Friend or foe? Prey fish perception of predatory lionfish.* Central Caribbean Marine Institute (Little Cayman Island, BWI)

PROFESSIONAL SERVICE

University and Departmental service

- 2019 – 2022 UCSB EEMB Graduate Student Symposium Committee
- 2019 – 2022 UCSB EEMB Diversity, Equity, Inclusion and Wellness Committee
- 2019 – 2022 UCSB EEMB Diversity, Equity, and Inclusion Working Group #2: Teaching & Curriculum
- 2022 UCSB EEMB Diversity, Equity, and Inclusion Working Group #3: Climate & Anti-Racist Policies
- 2020 – 2021 UCSB American Association of University Women (AAUW) Mentorship Program
- 2020 – 2021 UCSB Associated Students Bike Shop Building Committee

Reviewer for scientific publications

Ecology, Ethology

Reviewer for grant proposals

NOAA/MARFIN