

Alex Barth

Ph.D. Student, Biological Sciences & Ecology,
University of South Carolina

B.S. Marine Sciences,
California Polytechnic State University, 2019 *cum laude*

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PUBLICATIONS

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| <i>In Review</i> | Barth A.J. , Stone JP. Comparison of an <i>in-situ</i> imaging device and net-based method to study mesozooplankton communities in an oligotrophic system. <i>Frontiers in Marine Science</i> . Invited Submission. |
| 2020 | Barth A.J. , Walter RK, Robbins IR, Pasulka AL. Seasonal and interannual variability of phytoplankton abundance and community composition on the Central Coast of California. <i>Marine Ecology Progress Series</i> , 637: 29-43. doi: 10.334/meps13245 |

PRESENTATIONS & POSTERS

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| April 2022 | Barth A.J. Plankton control the world: How can we try to understand our global overlords? Presidential Fellows Research Seminar. Columbia, SC. Seminar Presentation. |
| March 2022 | Barth A.J. , Stone JP. Improving citizen science phytoplankton monitoring through a low-cost, open-source imaging device. Southeastern Estuarine Research Society Meeting Spring 2022, Jekyll Island, GA. Poster. |
| February 2022 | Pasulka AL, Walter RK, Barth A.J. , Gilbert J, Robbins IR. Phytoplankton phenological shifts as indicators of oceanographic change in Central California. Ocean Sciences Virtual Meeting 2022. |
| February 2022 | Barth A.J. Plankton! From the great blue to our local shores. EEOB Department Seminar, Columbia, SC. Seminar Presentation |
| December 2021 | Barth A.J. PlanktoScope Progress and Plans. 1 st PlanktoScope workshop. Virtual. Oral Presentation. |
| June 2021 | Barth A.J. , Stone JP. Quantifying Rhizaria abundance and ecology in the oligotrophic ocean. ASLO Virtual Meeting 2021. Oral Presentation |
| June 2021 | Stone JP, Barth A.J. In-situ quantification of zooplankton around the oxygen minimum zone in the Sargasso Sea. ASLO Virtual Meeting 2021. |
| January 2021 | Barth A.J. Ocean Monsters: Giant Protists and Their Role in Zooplankton Communities. EEOB Department Seminar, Columbia, SC. Seminar Presentation |
| February 2020 | Barth A.J. , Walter RK, Robbins IR, Pasulka AL. Seasonal and interannual variability of phytoplankton abundance and community composition on the Central Coast of California. Ocean Sciences Meeting 2020. San Diego, CA. Poster. |
| May 2019 | Barth A.J. Seasonal and interannual variability of phytoplankton abundance and community composition along the Central California Coast. CSM Research Conference. Cal Poly, San Luis Obispo, CA. Oral Presentation. |
| December 2017 | Barth A.J. An investigation of trophic cascade effects between the California sheephead (<i>Semicossyphus pulcher</i>), the Crowned sea urchin (<i>Centrostephanus coronatus</i>), and foundational macroalgae of rocky reef habitats in the upper sublittoral zone. CSU Marine Biology Symposium. USC Wrigley Institute, Catalina Island, CA. Undergraduate Thesis Presentation. |

RESEARCH ACTIVITIES

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| 2020-Current | PlanktonScope Community Science Program
<i>Graduate Research Assistant, PI: Dr. Joshua Stone</i>
Constructing and testing a low-cost, open-source plankton imaging system. Organizing a community science program to distribute this technology and establish a plankton monitoring program in the Southeast. |
| 2019-Current | Rhizaria community ecology in the Sargasso Sea
<i>Graduate Research Assistant, PIs: Dr. Joshua Stone, Dr. Leo Blanco-Bercial</i> |

Combining imaging (UVP), net, and molecular approaches to collect data on the protist super-group Rhizaria. Analyzing data to identify niche suitability and seasonality in oligotrophic regions.

- 2017-2019 **Phytoplankton variability on the California Central Coast**
Research Assistant & Sampling Technician, PIs: Dr. Alexis Pasulka and Dr. Ryan Walter
 Collected weekly samples of phytoplankton community as part of a harmful algal bloom monitoring network (IOOS, HABMAP). Organized and analyzed the ten-year dataset to identify canonical pattern and physical drivers of interannual variability.
- 2018-2019 **Common Garden reciprocal cross of *K. kelletii***
Student Research Assistant, PI: Dr. Crow White
 Designed, constructed, and managed a system of flow-through sea water aquaria for mating two populations of *Kelletia kelletii* to generate F1-offspring for genetic analysis. This project collected preliminary data for a later-funded NSF proposal.
- 2017 **Investigating a trophic cascade in the upper subtitle**
Senior Research Project, Advisor: Dr. Chris Lowe
 Conducted surface surveys and used underwater videography to observe algal, urchin, and predator communities. Analyzed data with univariate and multivariate approaches.
- 2017 **Research Assistant, University of Texas, Austin, TX**
Fishes of Texas, PI: Dr. Dean Hendrickson, Advisor: Adam Cohen
 Investigated species presence data using R and MaxEnt. Aided in general processing of specimens from field collection to chemical preservation to data curation. Developed species distribution models using MaxEnt in R.

TEACHING, OUTREACH, COMMUNITY INVOLVMENT

- 2020 **Ocean Sampling Techniques**
Guest Lecturer, Cal Poly, Department of Biological Sciences
 Led a paper discussion and presented on the topic of past and emerging plankton sampling techniques.
- 2019-Current **Ecology and Evolution Lab (301L), Introduction to Biology Lab (101L)**
Graduate Teaching Assistant, University of South Carolina, Department of Biological Sciences
- 2018-2019 **Diver Beneath the Surface**
Educational Outreach Diver, PIs: Dr. Crow White, Dr. Lynne Slivovsky
 Communicated with K-12 classrooms while conducting AAUS dives with full face masks and live audio/visual connections. Worked with interdisciplinary team to develop curricula for outreach events and educational programs.
- 2018, 2019 **Learn by Doing Lab, Cal Poly, San Luis Obispo, CA**
Group Instructor
 Developed and delivered lesson plan for 5-6th grade students for a hands-on instructional activity. Promoted interest in marine science and higher education to students from underrepresented groups.
- 2017-2018 **Volunteer Biology Tutor, Cal Poly, San Luis Obispo, CA**
Tri-Beta Biological Honors Society
 Offered tutoring sessions for undergraduates seeking help in ecology, evolution, statistics and programming.
- 2016 **Educational Intern, Cleveland, OH**
Greater Cleveland Aquarium
 Designed educational activities for elementary level students focused on learning about morphology and ecosystem structure. Lead educational tours of the aquarium and assistant in summer camp activities.

AWARDS & GRANTS

- 2022 **Elsie Taber Fellowship, UofSC, \$2980**
- 2021 **SPARC Graduate Research Grant, UofSC, \$4,979**
- 2021 **National Science Foundation GRFP, Honorable Mention**
- 2019 **Presidential Fellowship, UofSC, \$40,000**
- 2019 **National Science Foundation GRFP, Honorable Mention**

2019

Frost Student Research Award, Cal Poly, \$500

FIELD/OCEANOGRAPHIC EXPERIENCE & CERTIFICATIONS

2019	R/V Atlantic Explorer, BATS, July Cruise
2018	1st Aid, CPR, AED Certified
2018	Scientific Diver Certification, American Academy of Underwater Scientists (AAUS) . DSO: Jason Felton
2017	Small Boat Certificate, NASBLA , California

PROFESSIONAL DEVELOPMENT & LEADERSHIP

2021-2022	Service Chair , Graduate Association of Biological Sciences, Columbia, SC.
2021	Reviewer , Discover UofSC, Undergraduate Research Conference
2019-2021	Cohort Representative , Presidential Fellows Advisory Committee, Columbia, SC
2019	Workshop Attendee , Scripps Institute of Oceanography Taxonomy Workshop, San Diego, CA.
2019-Current	Member , Graduate Association of Biological Sciences, Columbia, SC
2016-2019	Member , Marine Science Club, Cal Poly, San Luis Obispo, CA