

Amy A. Briggs – National Museum of Natural History Fellow

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Education

Ph.D.	University of Georgia	Ecology	2022
M.S.	California State University, Northridge	Biology	2016
B.S.	Stanford University	Biological Sciences	2008

Research Experience

2015 – 2022, **PhD student**, University of Georgia, Athens, GA (Advisor: C.W. Osenberg)

- *Dissertation*: Algae affect coral reef microbial communities at multiple spatial scales, with consequences for coral-algal regime shifts

2018 – 2021, **Research Assistant**, University of Georgia (UGA), Athens, GA
(Supervisor: C.W. Osenberg)

- *Duties*: Develop open-access online tutorials on meta-analysis for research professionals in ecology and natural sciences
- Perform systematic review of methods used in ecological meta-analyses related to weighting and non-independence

2012 – 2016 **Master's Student**, California State University, Northridge (CSUN), CA
(Advisor: R.C. Carpenter)

- *Thesis*: The effects of temperature, light, and ocean acidification on the physiology and ecology of tropical crustose coralline algae

2010–2011, **Research Assistant**, National Center for Ecological Analysis and Synthesis, Santa Barbara, CA (Supervisors: J.K. Baum & S.M. Walsh)

- *Research*: Changes in coral reef benthic communities with fishing pressure and oceanographic productivity at Kiritimati Atoll

2009–2010, **Research Technician**, Stanford University, CA (Supervisors: F. Micheli, R. Dirzo, D.J. McCauley, H.S. Young)

- Effects of artisanal fisheries on coral reefs in the Northern Line Islands
- Effects of the introduced coconut palm on island food web dynamics, Northern Line Islands
- *Individual research*: Morphological and trophic responses of geckos to seabird nutrient inputs and changes in habitat structure associated with the introduced coconut palm

2008, **Research Intern**, Smithsonian Tropical Research Institute, Panama (Supervisor: L. D'Croz)

- Effects of nutrient enrichment on Caribbean and Pacific phytoplankton communities' productivity and size structure

2007–2008, **Research Assistant**, Stanford University, CA (Supervisors: R. Dirzo, H.S. Young)

- Coral reef community responses to the removal of large predatory fish (Palmyra and Tabuaeran Atolls)
- Effects of marine nutrient subsidies from seabirds on terrestrial communities, and the role of the introduced coconut palm in driving nutrient depletion at Palmyra Atoll
- *Individual research*: Effects of marine nutrient subsidies on the trophic ecology of geckos

2007, **Undergraduate Researcher**, Stanford@SEA program, Hopkins Marine Station, Monterey, CA, research cruise from Hawaii to Northern Line Islands (Supervisor: B.A. Block)

- *Individual research*: Toxic dinoflagellate densities along a gradient of human impact in the Northern Line Islands, and abundances of macroalgal hosts associated with their presence

2005, 2006, **Research Assistant**, ConocoPhillips, Bartlesville Technology Center, OK, Reservoir Mechanisms NMR/MRI lab (Supervisor: J.J. Howard)

- *Individual research*: Developing low-field nuclear magnetic resonance (NMR) as a tool for analyzing droplet size distributions in oil/water emulsions

Fellowships & Awards

2019-2021	ARCS Foundation Scholar award	\$24,000
2019	Beverly Hirsh Frank Graduate Fellowship (UGA)	\$2,000
2018	Odum School of Ecology Small Grant for graduate student research (UGA)	\$5,000
2017	Odum School of Ecology Small Grant for graduate student research (UGA)	\$1,500
2015-2017	Graduate Assistantship Fellowship (UGA)	tuition + stipend
2015	Travel funding for research training (CSUN)	\$500
2013	Graduate Fellowship for Outstanding Research Promise (CSUN)	\$5,000
2013	Graduate Equity Fellowship (CSUN)	\$1,000
2013	Graduate Thesis Support Grant (CSUN)	\$1,000
2010	NSF Graduate Research Fellowship Program Honorable Mention	

Publications

AA Briggs, AL Brown, CW Osenberg (2021) Local vs. site-level effects of algae on coral microbial communities. *Royal Society Open Science*. 8: 210035. doi: 10.1098/rsos.210035.

AA Briggs, CW Osenberg (2019) Spatial aggregation of aquatic habitats affects oviposition patterns in *Aedes* mosquitoes. *Oecologia*. 190(4): 835–845. doi:10.1007/s00442-019-04448-3.

AA Briggs, RC Carpenter (2019) Contrasting responses of photosynthesis and photochemical efficiency to ocean acidification under different light environments in a calcifying alga. *Scientific Reports*, 9(1): 3986. doi:10.1038/s41598-019-40620-8.

Goldberg, GE, TK Raab, P De Salle, **AA Briggs**, RB Dunbar, F Millero, R Woosley, HS Young, F Micheli, DJ McCauley (2019) Chemistry of the consumption and the excretion of the bumphead parrotfish (*Bolbometopon muricatum*), a coral reef mega-consumer. *Coral Reefs*. doi:10.1007/s00338-019-01781-0.

CL Wood, JK Baum, SM Walsh, R Trebilco, S Sandin, B Zgliczynski, **AA Briggs**, F Micheli (2015) Productivity and fishing pressure drive variability in fish parasite assemblages of the Line Islands, central equatorial Pacific. *Ecology*, 96(5): 1383-1398.

AA Briggs†, HS Young†, DJ McCauley, SA Hathaway, R Dirzo, RN Fisher (2012) Effects of spatial subsidies and habitat structure on the foraging ecology and size of geckos. *PLoS ONE* 7(8): e41364. † *authors contributed equally*

HS Young, T Raab, DJ McCauley, **AA Briggs**, R Dirzo (2010) The coconut palm, *Cocos nucifera*, impacts forest composition and soil characteristics on Palmyra Atoll, Central Pacific. *Journal of Vegetation Science*. 21: 1058-1068.

In review or in preparation

AA Briggs, SM McKinley, CW Osenberg. (*in prep.*) Microbes can affect the likelihood of regime shifts and alternative stable states in coral reefs. Intended journal: *American Naturalist*. (*manuscript available upon request.*)

C Song, SD Peacor, CW Osenberg, **AA Briggs**, JR Bence (*in revision*) Evaluating the precision gain from weighting in ecological meta-analyses.

AA Briggs, J Freeze*, CW Osenberg (*in prep.*) The effects of algal patch size and species composition on ciguatoxic dinoflagellate densities. Intended journal: *Harmful Algae*. **undergraduate mentee*

AA Briggs, EA Lenz, K Sakai, RC Carpenter (*in prep.*) Temperature modifies the response of a resistant population of calcifying algae to ocean acidification. Intended journal: *Journal of Experimental Marine Biology and Ecology*.

Professional Presentations

Invited talks

AA Briggs (2023) Starting small: How microbe-macrobe interactions can drive ecosystem change. Center for Population Biology, University of California, Davis.

Contributed talks

CW Osenberg, **AA Briggs**, C Song, SD Peacor, JR Bence (2022) Effect sizes in ecological meta-analyses: where we started, where we are, and where we still need to go. Ecological Society of America, Montréal, Canada.

C Song, SD Peacor, CW Osenberg, **AA Briggs**, JR Bence (2022) Evaluating the precision gain from weighting in ecological meta-analyses. Ecological Society of America, Montréal, Canada.

SD Peacor, C Song, EA Hamman, **AA Briggs**, CW Osenberg, JR Bence (2022) Ecological meta-analysis is frequently wrong: quantifying the large and pervasive problem of non-independence. Ecological Society of America, Montréal, Canada.

AA Briggs, AL Brown, CW Osenberg (2020) Local vs. site-level effects of algae on coral microbial communities. Western Society of Naturalists. online-meeting.

- AA Briggs**, CW Osenberg (2018) Ciguatoxic dinoflagellates and the effects of macroalgal biomass and species composition in a Pacific coral reef. Symbiofest. Athens, GA.
- AA Briggs**, CW Osenberg (2017) Ciguatoxic dinoflagellate densities and the effects of algal biomass and species composition in a Pacific coral reef. Indo-Pacific Fish Conference. Tahiti, French Polynesia.
- AA Briggs**, RC Carpenter (2017) The influence of light on the photosynthetic response of a crustose coralline alga to ocean acidification, and consequences for other physiological processes. Symbiofest. Athens, GA.
- AA Briggs**, RC Carpenter (2016) The influence of light on the photosynthetic response of a crustose coralline alga to ocean acidification, and consequences for other physiological processes. International Coral Reef Symposium. Honolulu, HI.
- AA Briggs**, RC Carpenter (2014) The influence of light and photosynthesis on the calcification response of a tropical crustose coralline alga to ocean acidification. Western Society of Naturalists, Tacoma, WA.
- AA Briggs**†, H Nelson†, C Wirth† (2014) The status of women in STEM fields and reasons for disparities. Women in Science, California State University, Northridge.
† *authors contributed equally*
- AA Briggs**, RC Carpenter (2014) The influence of light and photosynthesis on the calcification response of a crustose coralline alga to ocean acidification. Benthic Ecology Meeting. Jacksonville, FL.
- AA Briggs**, RC Carpenter (2013) The influence of photosynthesis on the response of crustose coralline algae to ocean acidification. Sesoko Station, Tropical Biosphere Research Center, Okinawa Japan.
- AA Briggs**†, C Wirth† (2013) The current status of women in STEM, reasons for disparities, and strategies for achieving equal representation. Women in Science, California State University, Northridge. † *authors contributed equally*
- AA Briggs**, HS Young, DJ McCauley, SA Hathaway, R Dirzo, RN Fisher (2012) Spatial subsidies and habitat structure: the effects of seabird guano on island geckos in the tropics. Western Society of Naturalists, Seaside, CA.
- AA Briggs**, HS Young, DJ McCauley, SA Hathaway, R Dirzo, RN Fisher (2012) Effects of spatial subsidies and habitat structure on the ecology of two locally dominant geckos. Ecological Society of America, Portland, OR.

Poster presentations

- AA Briggs**, RC Carpenter (2013) The influence of photosynthesis on the responses of crustose coralline algae to ocean acidification. Benthic Ecology Meeting, Savannah, GA.

Teaching

- Fall 2021 *Teaching Assistant*, Ecology 3500 Lab (for science majors), UGA (3 sections)
- Spring 2020 *Teaching Assistant*, Ecology 3500 Lab (for science majors), UGA (3 sections)
- Spring 2020 *Teaching Assistant*, Coral Reef Ecology Lab, UGA (1 section)
- Summer 2019 *Co-instructor*, ELME: Meta-analysis in Ecology (PhD-level course), Kellogg Biological Station, Michigan State University
- Spring 2019 *Instructor*, Ecology 8030: Meta-analysis in Ecology (PhD-level course), UGA
- Created online learning modules; led in-class discussions, lectures, and coding activities; helped students design & conduct group meta-analysis projects
- Fall 2017 *Teaching Assistant*, Ecology 3500 Lab (for science majors), UGA (3 sections)
- Spring 2015 *Biology Tutor*, CSUN
- Fall 2014 *Graduate Assistant*, Phycology (upper-division undergrad & grad-level course), CSUN (1 section)
- Fall 2012 - *Teaching Associate*, Introductory Biology 100 Lab (for non-majors), CSUN
Spring 2014 (2 - 4 sections)
- Fall 2012 - *Graduate Assistant*, Introductory Biology 100 Computer Lab (for non-majors), CSUN
Spring 2013 (1 section)

Science Outreach

- 2021 *Volunteer* at summer education program at Athens-Clarke County Library with EcoReach, UGA
- 2019 *Booth designer* for Lake Herrick EcoArts Festival; worked with SEEDS & EcoReach to create a booth educating visitors about lake food webs, services lakes provide to people, and threats to lake ecosystems
- 2018 *Workshop coordinator* for STEMzone science outreach event and science communication workshops, UGA
- 2017 *Assistant logistics coordinator* at STEMzone science outreach event, UGA
- 2017 *Volunteer* at Girls Scout Super Science Day, Stone Mountain, GA
- 2016 *Volunteer* at Girls Scout Science Day, State Botanical Garden, Athens, GA
- 2014 *Field science mentor* in NSF Research Experience for Teachers (RET) program, Gump Field Station, Moorea, French Polynesia
- 2013 *Guest speaker* for environmental science class at The Art Institute of California-Los Angeles, Los Angeles, CA
- 2013 *Guest speaker* in 7th and 8th grade marine biology class and after-school program, at Lawrence Middle School, in Chatsworth, CA
- 2011 *Volunteer teacher* for Kids Do Ecology (National Center for Ecological Analysis & Synthesis), in 5th grade classroom at Franklin Elementary, in Santa Barbara, CA
- 2009 *Guest science instructor* at Tabuaeran Atoll Secondary School

- 2009 *Liaison* with local government officials and *presenter* to 7 village councils on Tabuaeran Atoll to communicate goals and findings of research team's study of local fishing practices and their environmental impacts
- 2005-2006 *Volunteer teacher* for Science and Environmental Education (Stanford University), in 3rd grade classroom in East Palo Alto, CA

Professional Service

University/department service

- 2018-2019 *Graduate Student Organization Chair*, Odum School of Ecology, UGA
- Managed graduate student business & activities, led meetings, acted as a representative for graduate students at faculty meetings
- 2017-2019 *Advisor* to SEEDS: diversity and professional development club for undergraduates interested in ecology-related careers
- Helped club achieve national chapter status, organized professional development and science outreach events
- 2016-2021, *Committee member*, Graduate Student Symposium, Odum School of Ecology, UGA
- Served on program & merchandise committees
- 2016-2019 *Member*, Diversity Committee, Odum School of Ecology, UGA
- Established SEEDS undergraduate diversity and professional development club at UGA, helped organize diversity training & recruitment events
- 2014-2015 *Planning committee member*, Women in Science, CSUN
- Helped plan meetings and outreach activities, created and led a website design workshop
- 2013-2014 *President*, Women in Science (WiS), CSUN
- Led meetings; organized discussions, workshop content, and outreach activities; established WiS as a university-recognized club
- 2012-2013 *President*, Marine Biology Graduate Student Association, CSUN
- Led meetings, organized weekly paper discussions & presentation feedback sessions, maintained club status to receive university funding
- 2012-2013 *Co-founder, web-designer*, Women in Science, CSUN
<http://csunwis.weebly.com>
- 2004-2005 *Elected representative* in Stanford University student government

Mentoring & supervisory positions

- 2016-2021 *Supervisor & mentor* for 10 undergraduate research assistants, including 2 who received CURO Research Fellowships to conduct independent research, UGA
- 2016-2017 *Mentor* for an early-stage graduate student through UGA Women in Science program
- 2014-2015 *Mentor* at monthly undergraduate science career development workshops, Biology Department, CSUN
- 2013-2015 *Supervisor & mentor* for 5 undergraduate research assistants: 3 in the lab (CSUN), 2 REU students in the field (Moorea, French Polynesia)

- 2013 *Mentor* at drop-in mentoring event for undergraduates, hosted by Women in Science and Engineering, CSUN
- 2008 -2011 *Supervisor* for 14+ undergraduates in the lab (Stanford University) and field (Palmyra and Tabuaeran Atolls)

Peer review

- 2015-Present *Manuscript reviewer* for academic journals:
Ecology, Journal of the Marine Biological Association of the United Kingdom, PLoS ONE, Proc. Royal Society B

Membership in Professional Societies

- International Coral Reef Society
- International Society for the Study of Harmful Algae

Skills & Certifications

- CPR, AED, First Aid, & O₂ Delivery certifications
- AAUS scientific diving (SCUBA) certification
- PADI Advanced Open-water diving (SCUBA) certification