

CHRISTOPHER JOHN FREEMAN

Visiting Assistant Professor
Department of Biology, College of Charleston
Charleston, SC 29424
Telephone: (817)-707-5840
E-mail: freemancj@cofc.edu

EDUCATION

- 2012: **Ph.D. Biology:** University of Alabama at Birmingham, AL
2007: **M.S. Biology:** Georgia Southern University, Statesboro, GA
2004: **B.A. Biology:** Connecticut College, New London, CT

PROFESSIONAL EXPERIENCE (previous 10 years)

- 2019-present *Visiting Assistant Professor*, Department of Biology, College of Charleston, Charleston, SC
- 2019-present *Research Adjunct Faculty*, Graduate Program in Marine Biology, Grice Marine Laboratory, College of Charleston, Charleston, SC
- 2019-present *Research Scientist*, Hollings Marine Laboratory and College of Charleston, Charleston, SC
- 2018-2019 *Adjunct Faculty*, Department of Biology, College of Charleston, Charleston, SC
- 2017-present *Research Associate*, Smithsonian Institution
- 2015-2017 *Postdoctoral Fellow*, Marine Ecology Laboratory at Smithsonian Marine Station, Fort Pierce, FL with Dr. Valerie Paul
- 2013-2015 *Postdoctoral Fellow*, MarineGEO project at Smithsonian Marine Station, Fort Pierce, FL with Dr. Valerie Paul
- 2008-2012 *Research Assistant*, University of Alabama at Birmingham with Dr. Robert Thacker

TEACHING EXPERIENCE (previous 10 years)

- 2021 Summer *Saving Biodiversity in the Anthropocene*. Summer class. **Instructor**. Honors College Summer Institute, College of Charleston, Charleston, SC

2021-present	<i>Marine Biodiversity, Ecology, and Conservation Biology</i> . Full semester course. Lecturer . Department of Biology, College of Charleston, Charleston, SC
2020-present	<i>The Ecology of War</i> . Full semester course. Lecturer . Honors College, College of Charleston, Charleston, SC
2020	<i>General Ecology</i> . Full semester course. Lecturer . Department of Biology, College of Charleston, Charleston, SC
2019	<i>Understanding basal metazoan relationships: Sponges</i> . Field course and workshop. Organizer and Instructor . Smithsonian Tropical Research Institute, Bocas del Toro, Panama
2018-present	<i>Biodiversity, Ecology, and Conservation Biology</i> . Full semester course. Lecturer . Department of Biology, College of Charleston, Charleston, SC
2018-2019	<i>Introduction to Cell and Molecular Biology</i> . Full semester course. Lecturer . Department of Biology, College of Charleston, Charleston, SC
2018	<i>Conservation Biology</i> . Full semester course. Lecturer . Department of Biology, College of Charleston, Charleston, SC
2012	<i>Ecology</i> . Full semester course. Teaching Assistant . University of Alabama at Birmingham, Department of Biology, Birmingham, AL

RESEARCH MENTORSHIP

Primary Advisor Undergraduate

2021-present	Kate Davis, Biology Undergraduate Research Program at the College of Charleston. Macroinvertebrate community diversity in Caribbean sponges. <i>SSM summer research award recipient and participant in a year-long Bachelor's Essay through the Honors College</i>
2021-present	Josie Shostak, Biology Undergraduate Research Program at the College of Charleston. Surveying freshwater sponges in South Carolina. <i>SSM summer research award recipient</i>
2021	Marley Garrard, Biology Undergraduate Research Program at the College of Charleston. Identifying sponges from the islands of Hong Kong. <i>Semester-long Honors Immersed class through the Honors College</i>
2021 Summer	Jake Kuenzli, Biology Undergraduate Research Program at the College of Charleston. Examining the role of marine sponges in the production and consumption of DMSP. <i>Grice Marine Lab Research Experience for Undergraduate (REU) Program</i> . (Co-mentor)
2020-2021	Mylene Gonzales, Biology Undergraduate Research Program at the College of Charleston. Growing up in Charleston: Patterns of recruitment

and succession in coastal environments. *SSM summer research award recipient and participant in a year-long Bachelor's Essay through the Honors College*

- 2020-2021 Kylene Flynn, Biology Undergraduate Research Program at the College of Charleston. Life history strategies of Caribbean sponges. *Participant in a year-long Bachelor's Essay through the Honors College*
- 2019-2021 Abigail Stephens, Biology Undergraduate Research Program at the College of Charleston. Sponges and their evolutionary responses to life on Caribbean reefs. *SSM summer research award recipient*
- 2019-2021 Bailey Fallon, Biology Undergraduate Research Program at the College of Charleston. Microplastics in marine sponges and seawater from Panama. *SSM summer research award recipient; research published in 2021*
- 2019-2020 Samantha Czwalina, Biology Undergraduate Research Program at the College of Charleston. Microbial symbiont metabolism and the nutritional benefit to Caribbean sponges. *SURF summer research award recipient*
- 2015-2017 Malcolm Mossop, Biology Undergraduate Research Program at Indian River State College. Trophic diversity in suspension feeders of the Indian River Lagoon. Smithsonian Marine Station, Fort Pierce, FL
- 2014 Lynn Hoke, Research Experience for Pre-Service Teachers (REPT) Program at Indian River State College. Chlorophyll *a* values of dominant Caribbean sponges. Smithsonian Marine Station, Fort Pierce, FL

Primary Advisor Graduate

- 2021-present Hunt Jones, Graduate Program in Marine Biology at Grice Marine Lab. *Does microbiome diversity affect the cycling and retention of nutrients in Caribbean sponges?*
- 2019-present Alex Parry, Graduate Program in Marine Biology at Grice Marine Lab. *Assessing heterotrophic feeding in ecologically dominant Caribbean sponge species.*

Graduate Committee member

- 2021-present Taylor Williams, Masters of Marine Biology, Grice Marine Laboratory
- 2021-present Rebecca Lucia, Masters of Marine Biology, Grice Marine Laboratory
- 2021-present Conor Torris, Masters of Marine Biology, Grice Marine Laboratory
- 2021-present Courtney Saldana, Masters of Marine Biology, Grice Marine Laboratory
- 2020-present Michael Thienes, Masters of Marine Biology, Grice Marine Laboratory

PUBLICATIONS (* denotes student author)

36. 2021. Lunt, J., **C.J. Freeman**, D.S. Janiak, K. Bayliss, M. Stephens, E. Galimany, and V.J. Paul. Soft-sediment communities of the northern Indian River Lagoon, Florida USA. *Frontiers in Marine Science* 8:719049. <https://doi.org/10.3389/fmars.2021.719049>
35. 2021. Mohanty, I., S.G. Moore, J.S. Biggs, **C.J. Freeman**, D.A. Gaul, N. Garg, and V. Agarwal. Stereochemical assignment and absolute abundance of nonproteinogenic amino acid homoarginine in marine sponges. *ACS Omega* 6: 33200-33205. <https://doi.org/10.1021/acsomega.1c05685>
34. 2021. Galimany, E., J. Lunt, **C.J. Freeman**, I. Segura-Garcia, M. Mossop, A. Domingos, J. Houk, and V.J. Paul. Bivalve feeding on the brown tide *Aureoumbra lagunensis* in a shallow coastal environment. *Frontiers in Marine Science* 8:714816. <https://doi.org/10.3389/fmars.2021.714816>
33. 2021. Fallon, B.* and **C.J. Freeman**. Plastics in Porifera: The occurrence of potential microplastics in marine sponges and seawater from Bocas del Toro, Panama. *Peer J* 9:e11638. <https://doi.org/10.7717/peerj.11638>
32. 2021. **Freeman, C.J.**, C.G. Easson, C.L. Fiore, and R.W. Thacker. Sponge-microbe interactions on coral reefs: Multiple evolutionary solutions to a complex environment. *Frontiers in Marine Science* 8:705053. <https://doi.org/10.3389/fmars.2021.705053>
31. 2021. Mohanty, I., S. Tapadar, S. Moore, J. Biggs, **C.J. Freeman**, D. Gaul, N. Garg, and V. Agarwal. Presence of bromotyrosine alkaloids in marine sponges is independent of metabolomic and microbiome architectures. *mSystems* 6: 1-17. <https://doi.org/10.1128/mSystems.01387-20>
30. 2020. Janiak, D.S., **C.J. Freeman**, J. Seemann, J.E. Campbell, V.J. Paul, and J.E. Duffy. Spatial variation in the effects of predator exclusion on epifaunal community development in seagrass beds. *Marine Ecology Progress Series* 649:21-33. <https://doi.org/10.3354/meps13449>
29. 2020. Galimany, E., J. Lunt, **C.J. Freeman**, J. Houk, T. Sauvage, L. Santos, J. Lunt, M. Kolmakova, M. Mossop, A. Domingos, E.J. Philips, and V.J. Paul. Bivalve feeding responses to microalgal bloom species in the Indian River Lagoon: The potential for top-down control. *Estuaries and Coasts* 43: 1519-1532. <https://doi.org/10.1007/s12237-020-00746-9>

28. 2020. **Freeman, C.J.**, C.G. Easson, K.M. Matterson, R.W. Thacker, D.M. Baker, and V.J. Paul. Ecological diversification in Caribbean sponges: A new perspective on an ancient association. *ISME J* 14: 1571-1583. <https://doi.org/10.1038/s41396-020-0625-3>
27. 2019. Cantrell, T.P., **C.J. Freeman**, V.J. Paul, V. Agarwal, and N. Garg. Mass spectrometry-based integration and expansion of the chemical diversity harbored within a marine sponge. *Journal of the American Society for Mass Spectrometry* 30(8): 1373-1385. <https://doi.org/10.1007/s13361-019-02207-5>
26. 2019. Paul, V.J., **C.J. Freeman**, and V. Agarwal. Chemical ecology of marine sponges: New opportunities through “-Omics”. *Integrative and Comparative Biology* 59(4): 765-776. <https://doi.org/10.1093/icb/icz014>
25. 2018. Janiak, D.J., R.W. Osman, **C.J. Freeman**, and V.J. Paul. Artificial structures versus mangrove prop roots: A general comparison of epifaunal communities within the Indian River Lagoon, Florida, USA. *Marine Ecology Progress Series* 607: 85-98. <https://doi.org/10.3354/meps12783>
24. 2018. **Freeman, C.J.**, D. Janiak, R. Osman, M. Mossop, and V.J. Paul. Spatial and temporal shifts in the diet of the barnacle *Amphibalanus eburneus* within a subtropical estuary. *Peer J* 6:e5485. <https://doi.org/10.7717/peerj.5485>
23. 2018. Ohdera, A.H., M.J. Abrams, C.L. Ames, D.M. Baker, L.P. Suescún-Bolívar, A.G. Collins, **C.J. Freeman**, E. Gamero-Mora, T.L. Goulet, D.K. Hofmann, A. Jaimes-Becerra, P.F. Long, A.C. Marques, L.A. Miller, L.D. Mydlarz, A.C. Morandini, C.R. Newkirk, S.P. Putri, J.E. Samson, S.N. Stampar, B. Steinworth, M. Templeman, P.E. Thomé, M. Vlok, C.M. Woodley, J.C.Y. Wong, M.Q. Martindale, W.K. Fitt, and M. Medina. Upside-Down but headed in the right direction: Review of the highly versatile *Cassiopea xamachana* system. *Frontiers in Ecology and Evolution* 6:35. <https://doi.org/10.3389/fevo.2018.00035>
22. 2018. Baker, D.M., **C.J. Freeman**, C.Y. Wong, M.L. Fogel, and N. Knowlton. Climate change promotes parasitism in a coral symbiosis. *ISME J* 12: 921-930. <https://doi.org/10.1038/s41396-018-0046-8>
21. 2017. **Freeman, C.J.**, E.W. Stoner, C.G. Easson, K.O. Matterson, and D.M. Baker. Variation in $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values suggests a coupling of host and symbiont metabolism in the *Symbiodinium-Cassiopea* mutualism. *Marine Ecology Progress Series* 571: 245-251. <https://doi.org/10.3354/meps12138>
20. 2017. Galimany, E., J. Lunt, **C.J. Freeman**, S. Reed, I. Segura-Garcia, and V.J. Paul. Feeding behavior of oysters (*Crassostrea virginica*) and clams (*Mercenaria mercenaria*) in shallow estuaries. *Marine Ecology Progress Series* 567: 125-137. <https://doi.org/10.3354/meps12050>

19. 2017. Fiore, C.L., **C.J. Freeman**, and E.B. Kujawinski. Sponge exhalent seawater contains a unique chemical profile of dissolved organic matter. *Peer J* 5:e2870. <https://doi.org/10.7717/peerj.2870>
18. 2017. Galimany, E., **C.J. Freeman**, J. Lunt, A. Domingos, L. Walters, and P. Sack. Feeding competition between the native oyster *Crassostrea virginica* and the invasive mussel *Mytella charruana*. *Marine Ecology Progress Series* 564: 57-66. <https://doi.org/10.3354/meps11976>
17. 2016. **Freeman, C.J.** and C.G. Easson. Sponge distribution and the presence of photosymbionts in Moorea, French Polynesia. *Peer J* 4:e1816. <https://doi.org/10.7717/peerj.1816>
16. 2016. **Freeman, C.J.**, E.W. Stoner, C.G. Easson, K.O. Matterson, and D.M. Baker. Symbiont Carbon and Nitrogen assimilation in the *Cassiopea-Symbiodinium* mutualism. *Marine Ecology Progress Series* 544: 281-286. <https://doi.org/10.3354/meps11605>
15. 2015. Easson, C.G., K.O. Matterson, **C.J. Freeman**, S.K. Archer, and R.W. Thacker. Variation in species diversity and functional traits of sponge communities near human populations in Bocas del Toro, Panama. *Peer J* 3:e1385. <https://doi.org/10.7717/peerj.1385>
14. 2015. Baker, D.M., **C.J. Freeman**, N. Knowlton, R.W. Thacker, K. Kim, and M. Fogel. Productivity links morphology, symbiont specificity, and bleaching in the evolution of octocoral symbioses. *ISME J* 9: 2620-2629. <https://doi.org/10.1038/ismej.2015.71>
13. 2015. **Freeman, C.J.**, C.G. Easson, and D.M. Baker. Niche structure of marine sponges from temperate hard-bottom habitats within Gray's Reef National Marine Sanctuary. *Journal of the Marine Biological Association of the United Kingdom* 96: 559-565. <https://doi.org/10.1017/S0025315415000363>
12. 2015. **Freeman, C.J.**, D.M. Baker, C.G. Easson, and R.W. Thacker. Shifts in sponge-microbe mutualisms across an experimental irradiance gradient. *Marine Ecology Progress Series* 526: 41-53. <https://doi.org/10.3354/meps11249>
11. 2014. **Freeman, C.J.**, C.G. Easson, and D.M. Baker. Metabolic diversity and niche structure in sponges from the Miskito Cays, Honduras. *Peer J* 2:e695. <https://doi.org/10.7717/peerj.695>

10. 2013. **Freeman, C.J.**, R.W. Thacker, D.M. Baker, and M. Fogel. Quality or quantity: Is nutrient transfer driven more by symbiont identity and productivity than by symbiont abundance? *ISME J* 7: 1116-1125. <https://doi.org/10.1038/ismej.2013.7>
9. 2012. Gochfeld, D.J., C.G. Easson, **C.J. Freeman**, R.W. Thacker, and J.B. Olson. Disease and nutrient enrichment as potential stressors on the Caribbean sponge *Aplysina cauliformis* and its bacterial symbionts. *Marine Ecology Progress Series* 456: 101-111. <https://doi.org/10.3354/meps09716>
8. 2012. Thacker, R.W. and **C.J. Freeman**. Sponge-microbe symbioses: Recent advances and new directions. *Advances in Marine Biology* 62: 57-111. <https://doi.org/10.1016/B978-0-12-394283-8.00002-3>
7. 2011. **Freeman, C.J.** and R.W. Thacker. Complex interactions between marine sponges and their symbiotic microbial communities. *Limnology and Oceanography* 56 (5): 1577-1586. <https://doi.org/10.4319/lo.2011.56.5.1577>
6. 2011. **Freeman, C.J.** and D.F. Gleason. Does concentrating chemical defenses within specific regions of marine sponges result in enhanced protection from predators? *Hydrobiologia* 687: 289-297. <https://doi.org/10.1007/s10750-011-0792-3>
5. 2010. **Freeman, C.J.** and D.F. Gleason. Chemical defenses, nutritional quality, and structural components in three sponge species: *Ircinia felix*, *I. campana*, and *Aplysina fulva*. *Marine Biology* 157: 1083-1093. <https://doi.org/10.1007/s00227-010-1389-5>
4. 2010. Thacker, R.W., M.C. Diaz, N.J. de Voogd, R.W.M. van Soest, **C.J. Freeman**, A.S. Mobley, J. LaPietra, K. Cope, and S. McKenna. Preliminary assessment of sponge biodiversity on Saba Bank, Netherlands Antilles. *PLoS ONE* 5(5): e9622. <https://doi.org/10.1371/journal.pone.0009622>
3. 2009. Haas, H.L., **C.J. Freeman**, J.M. Logan, L. Deegan, and E.F. Gaines. Examining mummichog growth and movement: Are some individuals making intra-season migrations to optimize growth? *Journal of Experimental Marine Biology and Ecology* 369: 8-16. <https://doi.org/10.1016/j.jembe.2008.09.027>
2. 2008. Nuñez C.V., E.V.R. de Almeida, A.C. Granato, S.O. Marques, K.O. Santos, F.R. Pereira, M.L. Macedo, A.G. Ferreira, R.G.S. Berlinck, E. Hajdu, U.S. Pinheiro, G. Muricy, S. Peixinho, **C.J. Freeman**, and D.F. Gleason. Chemical variability within the marine sponge *Aplysina fulva*. *Biochemical Systematics and Ecology* 36: 283-296. <https://doi.org/10.1016/j.bse.2007.09.008>

1. 2007. **Freeman, C.J.**, D.F. Gleason, R. Ruzicka, R. van Soest, A.W. Harvey, and G. McFall. A biogeographic comparison of sponge fauna from Gray's Reef National Marine Sanctuary and other hard-bottom reefs of coastal Georgia. In *Porifera Research: Innovation, and Sustainability* (ed. E. Hajdu and G. Muricy). 319-325

MANUSCRIPTS

1. (In prep) **Freeman, C.J.**, D.S. Janiak, J. Houk, M. Mossop, and V.J. Paul. Exploring the links between biodiversity and ecosystem function in estuarine suspension feeder communities. In preparation for submission to *Ecology*

FUNDING and ACADEMIC AWARDS

External

- 2018: *Collaborative Research: Investigations into microbially mediated ecological diversification in sponges*. Biological Oceanography Program, Division of Ocean Sciences, **National Science Foundation**, \$802,535 (\$255,011 awarded to CJF)
- 2014: **Institute for Pacific Coral Reefs Grant**, Moorea, French Polynesia (\$6,200)
- 2013: **MarineGEO Postdoctoral Fellowship**, Smithsonian Marine Station, Fort Pierce, FL (\$110,000)
- 2012: **Best Student Presentation** and **Adrian M. Wenner Strong Inference Award**, Division of Invertebrate Zoology at the Society for Integrative and Comparative Biology, Charleston, SC
- 2010: **Smithsonian Tropical Research Institute (STRI) Short Term Fellowship** (\$2,400)
- 2009: **Sigma Xi Grants in Aid of Research Award** (\$1,000)
Lerner Gray Grants for Marine Research (\$1,500)
Sigma Xi Grants in Aid of Research Award (\$800)

Internal

- 2021: *Macroinvertebrate diversity and the "sponge loop" within Caribbean sponges*. **College of Charleston Faculty Research and Development Grant**, College of Charleston (\$4,784)
- 2019-2021: **School of Science and Mathematics Summer Undergraduate Research Award** (6 successful proposals), College of Charleston (\$30,000)
- 2019: **Summer Undergraduate Research with Faculty (SURF)** (1 successful proposal), College of Charleston (\$5650)
- 2012: **College of Arts and Sciences Deans Award**, University of Alabama at Birmingham

2011: **Outstanding Doctoral Student**, Department of Biology, University of Alabama at Birmingham

FIELD EXPERIENCE

1996-present >900 logged open water dives
2008-2017 Smithsonian Institution Scientific Diver
2007-present Nitrox certified, NAUI certified Rescue Diver and Advanced Open Water Diver
1996 PADI Open Water Diver
2004-present American Academy of Underwater Sciences (AAUS) Scientific Diver, certified in CPR, First Aid, and Oxygen Administration

Field Sites: Australia, Bahamas, Belize, Florida, Gray's Reef National Marine Sanctuary, Honduras, Hong Kong, Massachusetts, Moorea, Myanmar, Panama, South Carolina, and Taiwan

CURRENT RESEARCH COLLABORATIONS

College of Charleston

Acquisition of a diver-deployable lander system for shallow water benthic ecology and biogeochemistry research. Peter Lee (Hollings Marine Lab and College of Charleston), Heather Spalding (College of Charleston), and Heather Fullerton (College of Charleston). Submitted proposal to NSF Major Research Instrumentation Program

Production of DMSP and other VOCs by Caribbean sponges. Peter Lee (Hollings Marine Lab and College of Charleston) and Tracey Schock (National Institute of Standards and Technology)

Proteome of the sponge Amphimedon compressa. Michael Janech (College of Charleston)

External

Dissolved organic carbon and the "sponge loop" on Caribbean reefs. Cole Easson (Middle Tennessee State University), Cara Fiore (Appalachian State), and Alicia Reigel (Appalachian State)

Macroinvertebrate community composition in Caribbean sponges. Cole Easson (Middle Tennessee State University)

Sponge natural product chemistry. Vinayak Agarwal (Georgia Institute of Technology)

PRESENTATIONS (last 10 years shown)

- 2019 Fort Johnson Marine Science Seminar Series, College of Charleston, Charleston, SC
"Insights into coral reef symbioses using stable isotopes" (talk)
- 2018 Departmental Seminar, College of Charleston, Department of Biology, Charleston, SC
"New perspectives on an ancient association: microbial symbionts and coral reef sponges" (talk)
- 2017 Fort Johnson Marine Science Seminar Series, College of Charleston, Charleston, SC *"The more the merrier?: Biodiversity and ecosystem function in suspension feeder communities"* (talk)
- World Sponge Conference, Galway, Ireland *"Metabolic diversification across Caribbean sponges"* (talk)
- Indian River Lagoon Symposium, Harbor Branch Oceanographic, Fort Pierce, FL *"It takes a community: The role of epifaunal diversity in particle removal in the IRL"* (talk)
- 2016 American Water Resources Association Annual Conference, Orlando, FL *"General survey and grazing characteristics of infauna and epifauna in the northern Indian River Lagoon system"* (talk)
- International Coral Reef Symposium, Honolulu, HI *"Diversity in sponge holobiont functioning: The role of microbial abundance, host sponge identity, and geography"* (talk)
- Indian River Lagoon Symposium, Harbor Branch Oceanographic, Fort Pierce, FL *"Nom Nom on the POM: Filter feeders in the Indian River Lagoon and their role in particulate organic matter removal and algal bloom mitigation"* (talk)
- North Florida Marine Science Symposium, Cedar Key, FL *"The role of filter feeders in the Indian River Lagoon: Food web dynamics and their potential role in algal bloom mitigation"* (talk)
- 2015 Nova Southeastern University, Halmos College of Natural Sciences and Oceanography, Fort Lauderdale, FL *"Bloom or bust: The role of filter feeding organisms in harmful algal bloom mitigation in the Indian River Lagoon"* (invited talk)
- Coastal and Estuarine Research Federation, Portland OR, *"Epifaunal trophic structure within the Indian River Lagoon of central Florida"* (poster)
- Indian River Lagoon Symposium, Harbor Branch Oceanographic, Fort Pierce, FL *"Sources and fate of particulate organic matter within the Indian River Lagoon: Using stable isotopes to investigate the role of epifaunal communities in particulate removal"* (talk)
- Society for Integrative and Comparative Biology Conference, West Palm Beach, FL *"Metabolic diversity and niche structure of Caribbean sponges"* (talk)
- 2014 Benthic Ecology Meeting, Jacksonville, FL *"Symbiosis in paradise: Sponges of the Miskito Cays, Honduras"* (talk)

- CRIOBE Research Station, Moorea, French Polynesia *“Soaking it up: Caribbean marine sponges and their microbial symbionts”* (invited talk)
- Harbor Branch Oceanographic Institute, Fort Pierce, FL *“Soaking it up: The life of marine sponges and their microbial symbionts”* (invited lecture)
- 2013 Benthic Ecology Meeting, Savannah, GA *“Shifts in sponge-microbe symbioses across an experimental irradiance gradient”* (talk)
- National Museum of Marine Biology and Aquarium, Taiwan *“Symbiotic interactions between Caribbean marine sponges and their associated microbial communities”* (invited talk)
- Australian Institute of Marine Science seminar, Townsville, Australia *“Symbiotic interactions between Caribbean marine sponges and their associated microbial communities”* (invited talk)
- Swire Institute of Marine Science seminar at Hong Kong University, Hong Kong *“Interactions between marine sponges and their symbiotic microbial communities”* (invited talk)
- 2012 Society for Integrative and Comparative Biology Conference, Charleston, SC *“Determining the benefits of symbiosis: Tracing the products of symbiont nitrogen and carbon metabolism to host sponges using incubations with enriched stable isotopes”* (talk)

COMMUNITY OUTREACH and NEWS COVERAGE

- 2021 The College Today. *“Honors College Summer Institute offers CofC experience to High School Students”*
- 2019 ABC4 News and The College Today. *“CofC students do a deep dive into coral research”*
- 2018 Science at Your Library Series, Lihue Public Library, Kauai, HI *SpongeBob and friends: The complex lives of suspension feeding invertebrates”* (talk)
- 2016 USA Today. *“Smithsonian researcher: Put some more mussels into saving Florida Lagoon”*
- 2015 COSEE Florida Water as Habitat Science Café, Vero Beach, FL *“Nature’s filters: How little critters help the lagoon”* (talk; coauthors E. Galimany and J. Lunt)
- Ocean Science Lecture, Harbor Branch Oceanographic Fort Pierce, FL *“Studying the IRL: How little animals can help the health of the lagoon”* (invited talk; coauthors V. Paul and E. Galimany)
- Florida Today. *“Can clams or oysters save the lagoon”*

- 2014 Smithsonian Marine Ecosystems Exhibit, Marine Science in the Morning Series, Fort Pierce, FL “Soaking it up: The secret life of marine sponges and their microbial friends” (invited talk)

SERVICE

- 2021-present Thesis defense Chair for Graduate Program in Marine Biology at Grice Marine Laboratory
- 2021-present Chair of the Graduate Program in Marine Biology Admissions Committee for Grice Marine Laboratory
- 2020-present Member of the dive control board for nascent American Academy of Underwater Sciences (AAUS) Scientific SCUBA diving program at the College of Charleston
- 2020-present Member of the Graduate Program in Marine Biology Admissions Committee for Grice Marine Laboratory
- 2013-2015 Seminar Coordinator, Smithsonian Marine Station, Fort Pierce, FL
- 2009-present Ad hoc reviewer for National Science Foundation
- 2009-present Reviewer for *Marine Ecology Progress Series; Marine Biology; Limnology and Oceanography; Marine Drugs; Scientific Reports; Hydrobiologia; FEMS Microbiology Ecology; Ecology and Evolution; Invertebrate Biology; Journal of Experimental Marine Biology and Ecology; ISME J, and Oecologia*