Sophie J. McCoy, Ph.D.

University of North Carolina at Chapel Hill
Department of Biology
Wilson Hall 334, CB3280
Chapel Hill, NC 27599
sophie.mccoy@unc.edu; marecology.com

Professional Appointments

Department of Biology
University of North Carolina, Chapel Hill, NC

Assistant Chair & Director of Graduate Studies
2024 - present

Associate Professor
2024 - present

Assistant Professor
2022 - 2023

Environment, Ecology, and Energy Program
University of North Carolina, Chapel Hill, NC

Adjunct Faculty
2022 - present

Department of Biological Science
Florida State University, Tallahassee, FL

Assistant Professor
2016 - 2021

Coastal and Marine Laboratory
Florida State University, St. Teresa, FL

Affiliated Faculty
2016 - 2021

Marine Ecology and Biodiversity Group
Plymouth Marine Laboratory, Plymouth, England

Marie Curie Fellow
2014 - 2016

Education

Ph.D. Ecology & Evolution 2014
The University of Chicago, Chicago, IL

Sc.B. Chemistry (Honors) 2008
Brown University, Providence, RI

Awards, Honors, & Fellowships

Graduation Keynote Speaker, Divisional Academic Ceremony, Division of Biological Sciences and Pritzker School of Medicine 2025
The University of Chicago

HITS Case Fellowship 2022
High-throughput Discovery Science & Inquiry-based Case Studies for Today's Students (HITS)
National Science Foundation, Undergraduate Biology Education Research Coordination Network

Norma J. Lang Early Career Fellowship 2019 - 2022
Phycological Society of America

First Year Assistant Professor Award 2017
Florida State University

Postdoctoral and Early Career Researcher Exchange Fellowship 2016
Marine Alliance for Science and Technology, Scotland

Marie Curie International Incoming Fellowship (IIF) 2014 - 2016
EU FP7 Programme

Best Dissertation in the Biological Sciences 2014
The University of Chicago

Departmental Award, Ecology and Evolution 2014
The University of Chicago

Bold Award 2013
Phycological Society of America

Outstanding Student Paper Award, Ocean Sciences Section 2011
American Geophysical Union Meeting

Graduate Research Fellowship (GRFP) 2010 - 2014
National Science Foundation

National Defense Science & Engineering Graduate Fellowship (NDSEG) 2010 - 2013
US Department of Defense

Planetary Biology Internship (PBI) Award 2009
National Aeronautics and Space Administration

Karen T. Romer Undergraduate Research Assistantship 2007
Brown University

Publications

ORCID 0000-0003-1324-1578

(**lab members**, graduate student author, *undergraduate student author*)

Manuscripts in Review

1. **Cissell, EC** and **SJ McCoy**. Predation, community asynchrony, and metacommunity stability in cyanobacterial mats. In review at *American Naturalist.* Available on BioRxiv: https://doi.org/10.1101/2022.10.07.511315
2. **Cissell EC** and **SJ McCoy**. Niche plasticity and metabolic handoffs in coral reef benthic cyanobacterial mat communities. In review at *Molecular Ecology.*
3. **Ellsworth, SA, MS Marquez,** and **SJ McCoy**. Spatial resolution of microbial community members within cyanobacteria mats from temperate mud flats. In review at *Ecology and Evolution.*
4. **Manning, JC**, **SJ McCoy**, and S Benhamou. Spatial interactions between parrotfishes and implications for species coexistence. Under revision. Available on BioRxiv: https://doi.org/10.1101/2022.10.21.513248
5. **McCollum, SB**, H Steinmuller, **SJ McCoy** and JL Breithaupt. Impacts of elemental stoichiometry and tissue type on early- and late-phase mineralization potential of turtle grass (*Thalassia testudinum*). Under revision.
6. **McCollum, SB**, J Breithaupt, **EC Cissell**, M Huettel, SA Kranz, O Mason, D Okamoto, J Rose, M Vogel, and **SJ McCoy**. Drivers of seagrass meadow organic carbon storage at global and bioregional scales. Under revision.

Published Articles

44. **Manning, JC** and **SJ McCoy** (2024). Dear enemy effects in the stoplight parrotfish, *Sparisoma viride*. ***Ecology***, 105(10): e4407. https://doi.org/10.1002/ecy.4407

43. **Powell, ME** and **SJ McCoy** (2024). Divide and conquer: Spatial and temporal resource partitioning structures benthic cyanobacterial mats. ***Journal of Phycology***, 60(2): 254-272. https://doi.org/10.1111/jpy.13443

42. **Cissell, EC** and **SJ McCoy** (2024). Convergent photophysiology and prokaryotic assemblage structure in epilithic cyanobacterial tufts and algal turf communities. ***Journal of Phycology***, 60(2): 343-362. https://doi.org/10.1111/jpy.13424

41. **McCoy, SJ**, CM Pueschel, CE Cornwall, S Comeau, SA Kranz, N Spindel and MA Borowitzka (2023). Calcification in coralline algae: A synthesis. ***Phycologia*** 62(6): 648-666. https://doi.org/10.1080/00318884.2023.2285673

40. **Manning, JC** and **SJ McCoy** (2023). Preferential consumption of benthic cyanobacterial mats by Caribbean parrotfishes. ***Coral Reefs***, 42: 967-975. https://doi.org/10.1007/s00338-023-02404-5

39. **Cissell, EC** and **SJ McCoy** (2023). Top-heavy trophic structure within benthic viral dark matter. ***Environmental Microbiology***, 25(11): 2303-2320. https://doi.org/10.1111/1462-2920.16457

38. **Cissell, EC** and **SJ McCoy** (2023). Viral association with cyanobacterial mat community mortality. ***Ecology***, 104(9): e4131. http://doi.org/10.1002/ecy.4131

37. Page, HN, **SJ McCoy**, RGM Spencer, K Burnham, C Hewett, and M Johnson (2023). Effects of ocean acidification on growth and photophysiology of two tropical reef macroalgae. ***PLoS One,*** 18(11): e0286661. https://doi.org/10.1371/journal.pone.0286661.

36. Cornwall, CE, J Carlot, O Branson, TA Courtney, BP Harvey, C Perry, AJ Andersson, G Diaz-Pulido, M Johnson, E Kennedy, E Krieger, J Mallela, **SJ McCoy**, M Nugues, E Quinter, C Ross, E Ryan, V Saderne, and S Comeau (2023). Crustose coralline algae can contribute more than corals to coral reef carbonate production. ***Communications Earth & Environment***, 4: 105. https://doi.org/10.1038/s43247-023-00766-w

35. **Manning, JC** and **SJ McCoy** (2023). Territoriality drives patterns of fixed space use in Caribbean parrotfishes. ***Ecology and Evolution***, 13(2): e9833. https://doi.org/10.1002/ece3.9833

34. ***MacVicar, A***, ***SJ Stoppelmann***, ***TJ Broomes*** and **SJ McCoy** (2022). Gulf of Mexico rhodoliths are robust to sunscreen pollution. ***Marine Pollution Bulletin***, 181: 113864. doi.org/10.1016/j.marpolbul.2022.113864

33. **Cissell, EC**, C Eckrich and **SJ McCoy** (2022). Cyanobacterial mats as benthic reservoirs and vectors for coral black band disease pathogens. ***Ecological Applications***, 32(6): e2692. doi.org/10.1002/eap.2692

32. **Cissell, EC** and **SJ McCoy** (2022). Marine cyanobacteria in the Anthropocene: Are top-down paradigms robust to climate change? ***Climate Change Ecology***, 3: 100057. doi.org/10.1016/j.ecochg.2022.100057

31. **Manning, JC** and **SJ McCoy** (2022). Coprophagy in Caribbean parrotfishes. ***Ecology,*** 103(4): e3657. doi.org/10.1002/ecy.3657

30. Page, HN, K Bahr, T Cyronak, E Jewett, M Johnson and **SJ McCoy** (2022). Responses of benthic calcifying algae to ocean acidification differ between laboratory and field settings. ***ICES Journal of Marine Science***, fsab232. doi.org/10.1093/icesjms/fsab232

29. *Miranda, K*, B Weigel, **SJ McCoy**, and CA Pfister (2021). The ecosystem consequences of alternate primary producers. ***Ecology,*** 102(9): e03455. doi.org/10.1002/ecy.3455

28. Kolzenburg, R, F D'Amore, **SJ McCoy**, and F Ragazzola (2021). Physiological adaptations in marginal populations of *Corallina officinalis* to future climatic changes. ***Environmental and Experimental Botany***, 188: 104522. doi.org/10.1016/j.envexpbot.2021.104522

27. **Cissell, EC,** SA Kranz, and **SJ McCoy** (2021). Rhodolith holobionts are not sources of fixed nitrogen in a northeastern Gulf of Mexico patch reef. ***Bulletin of Marine Science***, 97(1): 131-142. doi.org/10.5343/bms.2020.0041

26. **Cissell, EC**, and **SJ McCoy** (2021). Shotgun metagenomic sequencing reveals the full taxonomic, trophic, and functional diversity of a coral reef benthic cyanobacterial mat from Bonaire, Caribbean Netherlands. ***Science of the Total Environment***, 755: 142719. doi.org/10.1016/j.scitotenv.2020.142719

25. Twist, BA, CE Cornwall, **SJ McCoy**, PW Gabrielson, PT Martone and WA Nelson (2020). The need to employ reliable and reproducible species identifications in coralline algal research. ***Marine Ecology Progress Series***, 654: 225-231. doi.org/10.3354/meps13506

24. **McCoy, SJ**, SA Krueger-Hadfield and N Mieszkowska (2020). Evolutionary phycology: Toward a macroalgal species conceptual framework. ***Journal of Phycology***, 56(6): 1404-1413. doi.org/10.1111/jpy.13059

23. Lester, SE, A Rassweiler, **SJ McCoy**, M Donovan, A Dubel, M Miller, S Miller, B Ruttenberg, J Samhouri and ME Hay (2020). Caribbean reefs of the Anthropocene: variance in ecosystem services and bright spots at coral depauperate reefs. ***Global Change Biology*****,** 26(9): 4785-99. doi.org/10.1111/gcb.15253

22. Cullen, CM, A Kawalpreet, S Beyhan, CE Cho, S Woloszynek, M Convertino, **SJ McCoy**, Y Zhang, M Anderson, D Alvarez-Ponce, E Smirnova, L Karstens, PC Dorrestein, H Li, AS Gupta, K Cheung, J Powers, Z Zhao and G Rosen (2020). Emerging priorities for microbiome research. ***Frontiers in Microbiology***, 11: 72. doi.org/10.3389/fmicb.2020.00136

21. **McCoy, SJ**, A Santillán-Sarmiento, MT Brown, S Widdicombe and GA Wheeler (2020). Photosynthetic responses of turf-forming red macroalgae to high-CO_2 conditions. ***Journal of Phycology,*** 56(1): 85-96. doi.org/10.1111/jpy.12922

20. **McCoy, SJ**, and S Widdicombe (2019). Thermal tolerance is independent of environmental history in an intertidal seaweed. ***Ecology and Evolution***, 9(23): 13402-13412. doi.org/10.1002/ece3.5796

19. **Cissell, EC**, **JC Manning** and **SJ McCoy** (2019). Consumption of proliferating cyanobacterial mats on Caribbean reefs. ***Scientific Reports*** 9: 12693. doi.org/10.1038/s41598-019-49126-9

18. Ravaglioli, C, F Bulleri, S Ruhl, **SJ McCoy**, H Findlay, S Widdicombe and AM Queirós (2019). Ocean acidification and hypoxia alter organic carbon fluxes in marine soft sediments. ***Global Change Biology***, 25(12): 4165-4178. doi.org/10.1111/gcb.14806

17. Kolzenburg, R, KR Nicastro, **SJ McCoy**, A Ford, GI Zardi and F Ragazzola (2019). Understanding the margin squeeze: Differentiation in fitness-related traits between central and trailing edge populations of *Corallina officinalis*. ***Ecology and Evolution***: 9: 5787–5801. doi.org/10.1002/ece3.5162

16. Queirós, AM, N Stephens, S Widdicombe, K Tait, **SJ McCoy**, J Ingels, S Ruhl, R Airs, A Beesley, G Carnovale, P Cazenave, S Dashfield, E Hua, M Jones, P Lindeque, CL McNeill, J Nunes, H Parry, C Pascoe, A Rees, C Widdicombe, T Smyth, A Atkinson, D Krause-Jensen and PJ Somerfield (2019). Connected macroalgal-sediment systems: blue carbon and foodwebs in the deep coastal ocean. ***Ecological Monographs***: 89(3): e01366. doi.org/10.1002/ecm.1366

    - *F1000 Recommended Article*

15. Yuan, X, **SJ McCoy**, Y Du, S Widdicombe and JM Hall-Spencer (2018). Physiological and behavioral plasticity of the sea cucumber *Holothuria forskali* (Echinodermata, Holothuroidea) to acidified seawater. ***Frontiers Physiology***, 9: 1339. doi.org/10.3389/fphys.2018.01339

14. **McCoy, SJ**, and NA Kamenos (2018). Coralline algal skeletal mineralogy affects grazer impacts. ***Global Change Biology***, 24(10): 4775-4783. doi.org/10.1111/gcb.14370

13. **McCoy, SJ**, NA Kamenos, P Chung, JT Wootton and CA Pfister (2018). A mineralogical record of ocean change: Decadal and centennial patterns in the California mussel. ***Global Change Biology***, 24(6): 2554-2562. doi.org/10.1111/gcb.14013

12. Pfister, CA, K Roy, JT Wootton, **SJ McCoy**, RT Paine, TS Suchanek and ES Sanford (2016). Historical baselines and the future of shell calcification for a foundation species in a changing ocean, ***Proceedings of the Royal Society, B***, 283: 20160392. doi.org/10.1098/rspb.2016.0392

11. **McCoy, SJ**, CA Pfister, G Olack and AS Colman (2016). Diurnal and tidal patterns of carbon uptake and calcification in geniculate intertidal coralline algae, ***Marine Ecology***, 37(3): 553-564. doi.org/10.1111/maec.12295

10. **McCoy, SJ**, S Allesina and CA Pfister (2016). Ocean acidification affects competition for space: projections of community structure using cellular automata, ***Proceedings of the Royal Society, B***, 283: 20152561. doi.org/10.1098/rspb.2015.2561

9. Nunes, J, **SJ McCoy**, HS Findlay, F Hopkins, V Kitidis, AM Queirós, L Rayner and S Widdicombe (2016). Two intertidal, non-calcifying macroalgae (*Palmaria palmata* and *Saccharina latissima*) show complex and variable responses to short-term CO_2 acidification, ***ICES Journal of Marine Science***, 73(3): 887-896. doi.org/10.1093/icesjms/fsv081

8. **McCoy, SJ**, and NA Kamenos (2015). Coralline algae (Rhodophyta) in a changing world: integrating ecological, physiological, and geochemical responses to global change, ***Journal of Phycology***, 51:6-24. doi.org/10.1111/jpy.12262

7. **McCoy, SJ**, and F Ragazzola (2014). Skeletal trade-offs in coralline algae in response to ocean acidification, ***Nature Climate Change***, 4: 719-723. doi.org/10.1038/nclimate2273
    - *Highlighted article in Nature Climate Change: News and Views*

6. **McCoy, SJ**, and CA Pfister (2014). Historical comparisons reveal altered competitive interactions in a guild of crustose coralline algae, ***Ecology Letters***, 17: 475-483. doi.org/10.1111/ele.12247

5. **McCoy, SJ** (2013). Morphology of the crustose coralline alga *Pseudolithophyllum muricatum* (Rhodophyta, Corallinaceae) responds to 30 years of ocean acidification in the northeast Pacific, ***Journal of Phycology***, 49(5): 830-837. doi.org/10.1111/jpy.12095

4. Garrard, SL, R Hunter, A Frommel, AC Lane, JC Phillips, R Cooper, R Dineshram, U Cardini, **SJ McCoy**, M Arnberg, BG Rodrigues Alves, S Annane, MR de Orte, A Kumar, G Aguirre-Martínez, RH Maneja, MD Basallote Sánchez, F Ape, A Torstensson and MM Bjoerk (2013). Ocean acidification: the next generation - a postgraduate perspective on research priorities, ***Marine Biology***, 160: 1789-1805. doi.org/10.1007/s00227-012-2033-3

3. Pfister, CA, **SJ McCoy**, JT Wootton, PA Martin, AS Colman and D Archer (2011). Rapid environmental change over the past decade revealed by isotopic analysis of the California mussel in the northeast Pacific, ***PLoS One***, 6(10): e25766. doi.org/10.1371/journal.pone.0025766

2. **McCoy, SJ**, LF Robinson, CA Pfister, JT Wootton and N Shimizu (2011). Exploring B/Ca as a pH-proxy in bivalves: relationships between *Mytilus californianus* B/Ca and environmental data from the northeast Pacific, ***Biogeosciences***, 8: 2567-2579. doi.org/10.5194/bg-8-2567-2011

1. Russell, JM, **SJ McCoy**, D Verschuren, I Bessems and Y Huang (2009). Human impacts, climate change, and aquatic ecosystem response during the past 2000 yr at Lake Wandakara, Uganda, ***Quaternary Research***, 72(3): 315-324. doi.org/10.1016/j.yqres.2009.06.008

Peer-reviewed Educational Research Publications

47. Lamb, T, AE Beatty, EP Driessen, R Youngblood, A Esco, S Cotner, C Creech, AG Drake, S Fagbodun, J Harshman, K Hobbs, AK Lane, E Larson, **SJ McCoy**, R Robnett, S Thompson, and CJ Ballen (2024). Equitable instructor assessment changes amid COVID-19 pandemic. ***Journal of College Science Teaching*** 53(2): 95-110. https://doi.org/10.1080/0047231X.2024.2316387

46. Pokorny, A, CJ Ballen, AG Drake, E Driessen, S Fagbodun, B Gibbens, J Henning, **SJ McCoy**, S Thompson, C Willis, and AK Lane (2023). "Out of my control": Science undergraduates report mental health concerns and inconsistent conditions when using remote proctoring software. ***International Journal for Educational Integrity***, 19: 22. https://doi.org/10.1007/s40979-023-00141-4

45. Robnett, R, CJ Ballen, S Fagbodun, AK Lane, **SJ McCoy**, L Robinson, E Weems, and S Cotner (2022). Are synchronous chats a silver lining of emergency remote instruction? Text-based chatting is disproportionately favored by women in an introductory biology course. ***PLoS One***, 17(10): e0273301. https://doi.org/10.1371/journal.pone.0273301

Reports

AMAP (2013) AMAP Assessment 2013: Arctic Ocean Acidification. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway. viii + 99 pp.

Research Support

NSF Biological Oceanography 01/23 - 12/27
PI: McCoy $1,470,930
CAREER: Species Interactions of Coral Reef Benthic Cyanobacterial Mats: Within-Mat Diversity Promotes Both Facilitation and Top-Down Control

Tatelbaum Research Fund 09/20 - 08/23
PI: McCoy $200,000
Links between Biology, Environmental Conditions and Water Chemistry

Florida License Plate Fund, Protect Our Reefs 05/21 - 05/22
PI: McCoy $29,845
Top-down Controls of Benthic Cyanobacterial Mats

HHMI Inclusive Excellence (IE3) 02/21 - 01/22
PIs: Underwood, Burgess, Dixon, McCoy, McNutt & Winn $30,000
Toward a Seamless and Inclusive Transition to FSU for Transfer Students in STEM

FACE Foundation, Thomas Jefferson Fund 09/20 - 09/23
PIs: McCoy & Le Gall $10,000
Exploring Ecophysiological Divergence Among Cryptic Macroalgae

Phycological Society of America, Norma J. Lang Early Career Fellowship 09/19 - 08/23
PI: McCoy $10,000
Determining Community-Level Interactions of Cryptic Macroalgae

NSF Research Coordination Network: Undergraduate Biology Education (UBE) 09/19 - 08/21
PI: Cotner (McCoy as Senior Personnel) $496,090
EDU-STEM: Equity and Diversity in Undergraduate STEM

Florida State University, Committee on Faculty Research Support Award 03/19 - 10/19
PI: McCoy $14,000
Comparison of Pre- and Post-Industrial Marine Environments in the Gulf of Mexico

EU FP7 Marie Curie International Incoming Fellowship (IIF) 04/14 - 08/16
PI: McCoy €221,606.40
REAFCC - Response of Ecosystem Assembly and Function to Climate Change: A multidisciplinary approach to understand community response to climate change in coastal rocky ecosystems

NSF Doctoral Dissertation Improvement Grant, DEB-1110412 05/11 - 05/13
PIs: Pfister & McCoy $14,968
Effects of Ocean Acidification on the Physiology and Species Interactions of Crustose Coralline Red Algae

Achievement Rewards for College Scientists (ARCS) Foundation 10/11 - 10/13
PI: McCoy $20,000
Effects of Ocean Acidification on Coralline Algal Ecology

Teaching

Certificate in University Teaching, The University of Chicago Center for Teaching & Learning, 2013

Courses Developed and Taught, University of North Carolina at Chapel Hill

Microbiology (Biol 422)
Fall 2024 (with Burch) & Fall 2023 (with Burch, Matthysse) - Advanced undergraduate course.
Microbiology Laboratory (Biol 422L)

Fall 2024 (with Burch) & Fall 2023 (with Burch, Matthysse) - Advanced undergraduate laboratory course.

Marine Ecology (Biol 462)
Fall 2022 - Advanced undergraduate course.

Environmental Microbiology (Biol 466)
Spring 2025 & Fall 2022 (as Biol 290) - Advanced undergraduate course.

Courses Developed and Taught, Florida State University

Experimental Biology Laboratory: Environmental and Ecological Physiology (Bio 3042L)
Fall 2016, 2017, Summer 2019, Spring 2020 - Advanced undergraduate lab course.

Ecophysiology (Bio 4933/5933)
Spring 2018, Fall 2019 - Advanced undergraduate lecture course co-listed for graduate enrollment.

Courses Developed, The University of Chicago

Topics in Aquatic Ecology: Macroalgal Phototrophs (Ecev 42700) with C. Stepien, C. Pfister
Fall 2012 Graduate directed reading group.

Approaches to Teaching in the Darwinian Sciences (Evol 49401) with N. Block, M. LaBarbera,
Fall 2011 Advanced graduate course on teaching pedagogy - *developed with the Center for Teaching and Learning and faculty in the Dept. Ecology & Evolution and the Committee on Evolutionary Biology*

Guest Lectures

Biogenic Calcites, University of California, Davis and Bodega Marine Lab, D. Gold, 2020
Marine Biology Honors Seminar, Florida State University, J. Wulff, 2016, 2018, 2019, 2020
Seminar in Biological Frontiers, Florida State University, T. Terebelski, 2017, 2019
Marine Ecology, Plymouth University, M. Brown, 2015
Teaching Assistant Training, University of Chicago, V. Prince, 2013
Tropical Ecology: Biodiversity and Human Impacts, University of Chicago. E. Larsen, 2013
Marine Ecology, University of Chicago, J.T. Wootton, 2011

Graduate Teaching Assistant, The University of Chicago, *2009-2014*

Population Ecology (Evol 42800) C. Pfister
Natural History of North American Deserts - Field School (Bios 13112) E. Larsen
Biodiversity (Bios 20198) M. LaBarbera
Tropical Ecology: Biodiversity and Human Impacts (Bios 13126) E. Larsen
Natural History of North American Deserts (Bios 13111) E. Larsen
Environmental Ecology (Bios 13107) T. Price
Approaches to Teaching in the Darwinian Sciences (Evol 49401) M. LaBarbera
Marine Ecology (Bios 23289) J.T. Wootton
Ecology and Evolution (Bios 20185) J. Coyne, G. Dwyer

Undergraduate Teaching Assistant, Brown University, *2006-2008*

Introductory Chemistry (Chem 10) J. Lusk, S. Russo-Rodriguez
Equilibrium, Rate, and Structure (Chem 33) J. Doll, C. Rose-Petruck, R. Stratt

Advising and Mentorship

Mentorship Trainings

Mentoring Partner, Mentorship Training Facilitator, CIMER, 2025

University of North Carolina at Chapel Hill, Women ADVANCE Leadership, 2023

- *Invited as alumna panelist October 2023*

University of North Carolina at Chapel Hill, TEAM ADVANCE, 2022

Florida State University, CIMER Entering Mentoring, 2021

Laboratory Technicians Mentored

University of North Carolina (2)	Ian Sapp (’23 - ’24) Kathryn Quinn (’22 - ‘24)

Postdoctoral Scholars Mentored

University of North Carolina (4)	Dr. Schyler Ellsworth (’24 - present) Dr. Rachael Best (UNC NIH SPIRE Fellow, ’24 - ’25) Dr. Ethan Cissell (’22 - ’23) Dr. Kerri Dobson (’22 - ’22)

Doctoral Students Advised

University of North Carolina (5)	Ian Sapp (Biology ’29) Leah Nelson (E3P ’28) Madelina Marquez (Biology ’27) Sarah Elizabeth Troy (Biology ’26; Co-advised with Charles Mitchell) Maya Powell (E3P ’25; Co-advised with Karl Castillo)
Florida State University (3)	Joshua Manning (’22) Ethan Cissell (’22) Abigail Engleman (’20; Co-advised with Sandra Brooke)

Doctoral Students Mentored as a Dissertation Committee Member

University of North Carolina (10) **indicates as Committee Chair*	Susana Cadavid Palacio (’29; Advisor: Senay Yitbarek) Alexandra Doolittle (’29; Advisor: Senay Yitbarek) Dalia Chen (’29; Advisor: Charles Mitchell) Steven Mayer (’27; Advisor: Christina Burch) Salome Jaramillo Gil* (’27; Advisor: John Bruno) Liang Acacia Zhao (’26; Advisor: Scott Gifford) Isabel Silva Romero* (’26; Advisor: John Bruno) Esteban Agudo (’25; Advisor: John Bruno) Claire Johnson (’24; Advisor: Lindsay Dubbs) Elizabeth Green (’25; Advisor: Charles Mitchell)
Florida State University (13)	Emily Fuqua (’26; Co-advised with Sandra Brooke - until Fall 2021) Randi Bowman (’25; Co-advised with Sandra Brooke - until Fall 2021) Nathan Spindel (’25; Advisor: Dan Okamoto) Penelope Ales (’25; Advisors: Nora Underwood & Brian Inouye) Aaron Ridall (’25; Advisor: Jeroen Ingels) Christian Fender (’25; Advisor: Mike Stukel - until Fall 2021) Rachael Best (’24; Advisor: Don Levitan) Gabrielle Fisher (’23; Advisor: Kay Jones - until Fall 2021) Benjamin Pluer (’23 ; Advisor: Joe Travis - until Fall 2021) Juan Reza (’23; Advisor: Hank Bass - until Fall 2021) Alexandra Hooks (’21 ; Advisor: Scott Burgess) Brendan Scherer (‘21; Advisor: Austin Mast) Margaret Vogel (‘20; Advisors: Tom Miller & Olivia Mason)

External Doctoral Dissertation Committee Member/Examiner

Multiple Institutions (5)	Clio Maridakis, Museum National d’Histoire Naturelle (’25, Advisors: Line Le Gall & Florence Rousseau Erik Krieger, Victoria University of Wellington (’22; Advisor: Chris Cornwall) Anna Kluibenschedl, University of Otago (’20; Advisor: Chris Cornwall & Chris Hepburn) David Bélanger, Memorial U. Newfoundland (’20; Advisor: Patrick Gagnon) Regina Kolzenburg, U. Portsmouth (’19; Advisor: Federica Ragazzola)

Visiting Doctoral Students Mentored

Plymouth Marine Laboratory (2)	Chiara Ravaglioli (University of Pisa, Italy) Visnu da Cunha Sarmento (Universidade Federal de Pernambuco, Brazil)

Masters Students Advised

Florida State University (2)	Sean McCollum ('23; co-advised with Joel Trexler) Brandon Witmer ('22 - advised until fall 2021)
Plymouth Marine Laboratory (2)	Elizabeth Elliot, M.Sc. Environmental Consultancy Programme, Plymouth University ('15; co-advised with Murray Brown) Kirsten Seal, M.Sc. Applied Marine Science Programme, Plymouth University ('15; co-advised with Murray Brown)

Masters Students Mentored as a Dissertation Committee Member

University of North Carolina (1) **indicates as Committee Chair*	Haley Capone* ('24; Advisor: John Bruno)
Florida State University (3)	Dani Davis ('23; Advisor: Tom Miller - until Fall 2021) Anthony Sogluizzo ('21; Advisor: Sandra Brooke) Katherine Kaiser ('18; Advisor: Janie Wulff)

Undergraduate Researchers Mentored *(* laboratory research, ° field research, ʰ honors research)*

University of North Carolina (11)	John Bramson* ('28) Julia Ellington* ('28) Anna Horton* ('27) Leah Coffey* ('25) Keith Liu* ('25) Ander Naugle*° ('25) Nabilah Zada*° ('25; SMART Intern) Rose Houck* ('24) Lauren Whitener* ('23) Isabelle Hartmond* ('23) Abigail Hatcher* ('22)
Florida State University (12)	Lena Kury* ('23) Alie MacVicar* ('22; Lehigh University) Joseph Portillo* ('20) Joh'Nyra Bryant* ('20) Shelby Graziani* ('20) Maxwell Gray* ('22) Jessica Henson* ('22) Braedon Koechle* ('21) Alexis Rosa* ('22) Isabelle Basden° ('19) Briana Clark° ('21; Texas A&M) Michelle Dziewit° ('21; Texas A&M)
FSU Directed Independent Study, Biological Science, Advisor (5)	Maria De Jesus* ('21) Troy Broomes* ('19) Sara Stoppelmann* ('19) Max Pearl* ('21) Penelope Ales*° ('17)
FSU Directed Independent Study, Environmental Science, Advisor (4)	TyLeah Tebbenkamp* ('20) Samina Fuller* ('21) Abigail Baker* ('21) Rebecca Morrow° ('17)

FSU Honors in the Major, Committee Member (6)	Chandler Wright (Marine Biology ’21; Levitan) Kristie Dick (Marine Biology ’20; Morton) Jane Wadhams (Geology ’20; Owens) Valencia Beckwith (Biology ’19; Fuentes) Isabelle Basden (Marine Biology ’19; Wulff) Yuliya Danyuk (Environmental Science ’17; Kranz)
Plymouth Marine Laboratory (1)	Faye Dixon*° (Lancaster University ’16)
The University of Chicago (7)	Lyda Harris° (’14) Samuel Betcher° (’12) Michaelyn Kanichy° (Stanford ’14) Peter Zaykoski° (’11) Rachel Belangers* (’11) Brendan Colson*° (’10) Allison Barner* (’09)

High School Researchers Mentored

University of North Carolina (8)	Lucy Safir* (NCSSM ’26) Leira Smith* (NCSSM ’26) Chloe Galea* (Jeannine Manuel School, ’26) Rhynn Alligood* (NCSSM ’25) Sam Kowalak* (NCSSM ’25) Srinitya Muraki* (NCSSM/Charlotte ’25) Savanna Sullivan* (NCSSM ’24) Luke Aiello* (NC School of Science and Math (NCSSM) ’24)
Florida State University, Young Scholars Program (6)	Mary Brady* (North Nicholas High School ’19) Caitlin Chen* (Oviedo High School ’19) Tran Le* (Apopka High School ’19) Racquelle Moxey* (Apopka High School ’19) Natalie Bailey* (Oviedo High School ’18) Carson Cole* (Space Coast High School ’18)
Plymouth Marine Laboratory (2)	Flora Christodoulou° (Eggbuckland ’15) Jacob Massey* (All Saints ’16)

Professional Leadership & Service

University of North Carolina at Chapel Hill

Director of Graduate Studies & Assistant Chair, Department of Biology	2024 - present
Executive Board, Chancellor’s Science Scholars Program	2024 - present
Faculty Advisory Committee, Office of Postdoctoral Affairs	2024 - present
Reviewer, Postdoctoral Awards for Research Excellence (PARE), Office of Postdoctoral Affairs	2024 - present
Chair’s Advisory Committee, Department of Biology (elected)	2023 - present
Organizer and Presenter, NSF Graduate Research Fellowship Program Workshops, The Graduate School	2022 - present
Faculty Search Committee Member, Department of Biology	2025 - 2026

Faculty Mentor Training Working Group, Graduate Student Experience (GSE) Initiative, The Graduate School	2024 - 2025
Search Committee Member, Program Coordinator, Chancellor's Science Scholars Program	2025
Dive Control Board, Scientific Diving Program	2023
Faculty Search Committee Member, Department of Biology	2022 - 2023
Search Committee Member, Accounting Manager, Department of Biology	2022
Faculty Mentor, Initiative for Maximizing Student Development, Biological and Biomedical Sciences Program	2022
Interviewer, Chancellor's Science Scholars Program	2022

Florida State University

Executive Committee, Department of Biological Science (elected)	2020 - 2021
Executive Committee, Biological Science Imaging Resource Center (BSIR)	2020 - 2021
Committee on Faculty Research Support, Grant Reviewer, FSU Council on Research and Creativity	2019 - 2021
IDEA Grant Committee, FSU Center for Undergraduate Research and Academic Engagement	2019 - 2021
Margaret Menzel Award Committee, Department of Biological Science	2018 - 2021
NSF GRFP Workshop for Graduate Students, Co-organizer and presenter (with 3 faculty)	2017 - 2021
Mote Committee, Department of Biological Science	2016 - 2021
Research Faculty Search Committee, FSU Coastal and Marine Laboratory	2017, 2018
Coastal and Marine Conservation Student Research Award Committee, FSU Coastal and Marine Laboratory	2016 - 2018
Faculty Advisor, Seminole Scuba Club	2017 - 2018
Elections Committee, Department of Biological Science (elected)	2016 - 2017

Service to Previous Institutions

The University of Chicago, Lawrence A. Kimpton Fellows Program, Alumni Mentor	2022
Phillips Academy Alumni Climate Group, co-founding member	2020 - 2022
Brown University Alumni Interviewer	2009 - 2019

Phycological Society of America

Chair, Student Grants Committee	2019 - 2023
Student Grants Committee	2016 - 2023
Norma J. Lang Early Career Fellowship Committee	2021 - 2022
Inaugural Member, Equity, Diversity, and Inclusion Committee	2020 - 2021

NOAA Gulf of Mexico Coastal Acidification Network (G-CAN)

Policy Working Group	2020 - 2021

Steering Committee	2016 - 2021

Grant Review

Panelist, Delta Stewardship Council and California Sea Grant, Delta Science Fellowship	2022
Panelist, NSF Postdoctoral Research Fellowships in Biology (PRFB)	2022
Panelist, NSF Integrative Organismal Systems	2020
Panelist, NSF Graduate Research Fellowship Program (GRFP)	2019, 2020
Panelist, National Defense Science and Engineering Graduate (NDSEG) Fellowship, American Society for Engineering Education	2015 - 2017, 2019

Reviewer: NSF (Biological Oceanography, Graduate Research Fellowship Program), American Philosophical Society (Lewis and Clark Fund), ASEE NDSEG Fellowship (Biosciences), MIT Sea Grant, NIH SPIRE, NOAA Domestic Coral Reef Conservation Grant Program, NOAA Ocean Acidification Program, Florida Aquaculture License Plate Fund, the National Geographic Society, and the Phycological Society of America.

Service to Academic Journals

Editorial Board Member, *Journal of Phycology* (Wiley)	2023 - 2026
Handling Editor, *Oecologia* (Springer)	2022 - 2024
Special Issue Editor: *Algae in the Anthropocene, Climate Change Ecology* (Elsevier)	2020 - 2021
External Report Reviewer, *Arctic Monitoring and Assessment Programme (AMAP) Assessment on Ocean Acidification in the Arctic*	2018

Reviewer: *Acta Botanica Brasilica, African Journal of Environmental Science and Technology, The Biological Bulletin, BMC Biology, Continental Shelf Research, Coral Reefs, Ecology, Ecology Letters, Frontiers in Marine Science, Geology, Global Change Biology, ICES Journal of Marine Science, Journal of Experimental Marine Biology and Ecology, Journal of Ecology, Journal of Phycology, Limnology and Oceanography, Marine and Freshwater Research, Marine Biology, Marine Ecology Progress Series, Marine Environmental Research, Nature Climate Change, Nature Ecology and Evolution, Oecologia, Palaeogeography, Palaeoclimatology, Palaeoecology (Palaeo3), PeerJ, PLoS One, Proceedings of the Royal Society, B, Royal Society of Chemistry Advances, Royal Society Open Science, Science,* and *Scientific Reports*.

Educational Outreach (Youth & Community)

North Carolina School of Science and Math, Females Excelling More in Mathematics, Engineering, and Science, Skype a Scientist, Asheville Science Museum, Ask a Scientist at Tallahassee's First Fridays, Oasis Center for Women and Girls, Bio for the Win Science Blog, Chicago's Shedd Aquarium, ARCS Foundation, the American Geophysical Union Climate Science Q&A Service, Nuffield Foundation Research Placements, UTC Plymouth Women in STEM, Chicago Museum of Science and Industry (Science Works: Cool Jobs, Hot Careers 2013), University of Chicago GeoUnion Undergraduate Club, Spark Chicago Career Mentor, Chicago's Shedd Aquarium (Shedd Explorers Summer Camp), Chicago Public Schools Perspectives Charter School, and the Boys' and Girls' Club of Greater Lawrence.

K-12 Curricular Materials

International Microbiology Literacy Initiative, *Section 9 Our Water: Microbial mats* (http://imili.org/our_water)

Meeting Organization

Session Organizer: 'Lang Symposium: Evolutionary ecology of cryptic species,' Joint Aquatic Sciences Meeting, Grand Rapids, MI	2022

Faculty Steering Committee: Southern Biogeochemistry Symposium at FSU	2018
Session Organizer: 'Scaling up individual processes to ecosystem levels in an era of global change,' Ocean Sciences Meeting, Honolulu, HI	2014

Talks and Seminars

Invited Research Seminars

2024 MIT Microbiome Symposium, Massachusetts Institute of Technology, Cambridge, MA
- *Keynote Speaker*

2023 Department of Biology, University of North Carolina, Chapel Hill, NC
Environment, Ecology, and Energy Program, University of North Carolina, Chapel Hill, NC

2022 Program in Ecology, Duke University, Durham, NC
Department of Botany, University of British Columbia, Vancouver, Canada
Institute of Marine Science, University of North Carolina Chapel Hill, Morehead City, NC
Mote Marine Laboratory, Sarasota, FL (virtual)
Department of Biological Sciences, University of California, San Diego, CA

2021 Illinois Institute of Technology, Chicago, IL (virtual)
Department of Biological Science, Florida State University, Tallahassee, FL (virtual)
Department of Biology, University of North Carolina, Chapel Hill, NC (virtual)
Bigelow Marine Laboratory, East Boothbay, ME (virtual)
Department of Evolution and Ecology, University of California, Davis, CA (virtual)

2020 Department of Earth and Planetary Sciences, University of California, Davis, CA (virtual)
NOAA/GCOOS Gulf of Mexico Coastal Acidification Network (GCAN) Webinar

2019 Biology Department Seminar, University of North Florida, Jacksonville, FL

2017 Biological Sciences Postdoctoral Association, Florida State University, Tallahassee, FL
Tri-Beta Biological Honor Society, Florida State University, Tallahassee, FL

2016 Coastal & Marine Laboratory, Florida State University, St. Teresa, FL
Department of Zoology, Oxford University, Oxford, England
Marine Alliance for Science & Technology Scotland, Webinar
Scottish Association for Marine Science, Oban, Scotland

2015 School of Marine Science & Engineering, Plymouth University, Plymouth, England
GEOMAR Helmholtz Centre for Ocean Research, Kiel, Germany
School of Geographical and Earth Sciences, Univ. Glasgow, Glasgow, Scotland
Department of Biological Science, Florida State University, Tallahassee, FL

2014 Department of Integrative Biology, The University of Texas at Austin, Austin, TX
Plymouth Marine Laboratory, Plymouth, England
School of Biology, Georgia Institute of Technology, Atlanta, GA
Climate Change Forum, The Field Museum, Chicago, IL
Department of Ecology & Evolutionary Biology, University of Michigan, Ann Arbor, MI

2013 John G. Shedd Aquarium, Chicago, IL

2009 Woods Hole Oceanographic Institution, Woods Hole, MA

Conference Presentations (*First Author only, # denotes Invited or Organized Speaker*)

2023 Benthic Ecology Meeting, Miami, FL

2022 # Ecological Society of America Annual Meeting, Montreal, Canada

Phycological Society of America Annual Meeting, Grand Rapids, MI - *Invited Symposium*

2020 Ocean Sciences Meeting, San Diego, CA

2019 Phycological Society of America Annual Meeting, Hollywood Beach, FL

2018 Southeastern Phycological Colloquy, Jacksonville, FL

American Fisheries Society Annual Meeting, Special Symposium: 'Bad Acid: Past and future risk of acidification to aquatic ecosystems that support fisheries and aquaculture,' Atlantic City, NJ

VI International Rhodolith Workshop, Roscoff, France

2016 # Gordon Research Conference, Classifying Biotic Responses to a Rapidly Changing Ocean: From Genes to Ecosystems, Waterville Valley, NH

Western Society of Naturalists, Monterey, CA

The IXth International Symposium on Inorganic Carbon Utilization by Aquatic Photosynthetic Organisms, Cambridge, England

2015 Aquatic Biodiversity and Ecosystems, Liverpool, England

Aquatic Sciences Meeting, Granada, Spain

2014 Ecological Society of America 99th Annual Meeting, Sacramento, CA

Early Career Scientist Symposium, University of Michigan, Ann Arbor, MI

Ocean Sciences Meeting, Honolulu, HI

2013 International Phycological Congress / Phycological Society of America, Orlando, FL

- *Harold C. Bold Award for Best Student Presentation*

2012 Third Symposium on the Ocean in a High-CO_2 World, Monterey, CA

Ecological Society of America 97th Annual Meeting, Portland, OR

2011 Fall Meeting of the American Geophysical Union, San Francisco, CA

- *Outstanding Student Paper Award, Ocean Sciences Section*

Workshop on Acidification in Aquatic Environments, Tromsø, Norway

2010 Ocean Sciences Meeting, Portland, OR

2009 Fall Meeting of the American Geophysical Union, San Francisco, CA

Public & Outreach Talks

2022 Blue Runs Deep, Industry Session: Climate Change, Phillips Academy, Andover, MA (virtual)

2021 Climate Cafe, Earth Day Speaker, Phillips Academy, Andover, MA (virtual)

2020 Asheville Museum of Science, Asheville, NC (virtual)

South Florida Divers, Inc. (SFDI), Ft. Lauderdale, FL (virtual)

Alumni Climate Cafe, Phillips Academy, Andover, MA (virtual)

2019 Thomasville University Science Cafe, Thomasville, GA

2018 Invited Panelist, Climate: Science and Society, Florida State University Library

Invited Panelist, Our Ocean Economy Forum, World Oceans Day, Florida State Capitol

2016 Lecturer, Lifelong Learning Institute, Florida State University

2013 Chicago Council on Science and Technology (C^2ST), Chicago, IL

News & Media

2020 Guest Blogger, The Ocean Conservancy

https://oceanconservancy.org/blog/2020/08/21/will-covid-19-affect-marine-science/

2019 Radio Interview, NPR (natural carbon sinks and storage)

https://news.wfsu.org/state-news/2019-06-04/fsu-researchers-shed-light-on-seaweeds-role-in-trapping-blue-carbon

2018 Radio Interview, NPR (ocean acidification)

https://news.fsu.edu/multimedia/radio/2018/01/11/fsu-researcher-ocean-acidification-means-major-changes-california-mussels/

2016 Ocean Acidification Research Featured in the New York Times