

Stephanie I. Anderson

RESEARCH ECOLOGIST

U.S. Environmental Protection Agency

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Education

Ph.D. Oceanography

GRADUATE SCHOOL OF OCEANOGRAPHY, UNIVERSITY OF RHODE ISLAND

Narragansett, RI

2015-2021

- Dissertation: Phytoplankton thermal responses as drivers of community composition and biogeography in a changing environment
- Advisor: Dr. Tatiana Rynearson

Single Subject Teaching Credential

LOYOLA MARYMOUNT UNIVERSITY

Los Angeles, CA

2012-2013

B.A. Molecular, Cellular, and Developmental Biology

UNIVERSITY OF COLORADO AT BOULDER | *magna cum laude*

Boulder, CO

2008-2012

- Thesis: Identifying Purification and Storage Techniques for the Human Papillomavirus Type 16 Major Capsid Protein L1
- Advisor: Dr. Robert Garcea, M.D.

Research Appointments

Research Ecologist

U.S. ENVIRONMENTAL PROTECTION AGENCY

Narragansett, RI

2023-Present

- Office of Water, Office of Wetlands, Oceans, and Watersheds
- Office of Research and Development, Atlantic Coastal Environmental Sciences Division

Simons Foundation Postdoctoral Fellow

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

2021-2023

- Advisor: Dr. Stephanie Dutkiewicz

Postdoctoral Associate

GRADUATE SCHOOL OF OCEANOGRAPHY, UNIVERSITY OF RHODE ISLAND

Narragansett, RI

06/2021 - 09/2021

- Advisor: Dr. Tatiana Rynearson

Graduate Research Assistant

GRADUATE SCHOOL OF OCEANOGRAPHY, UNIVERSITY OF RHODE ISLAND

Narragansett, RI

2015-2021

- Advisor: Dr. Tatiana Rynearson

Fellowships, Grants & Awards

2025	Research Council of Norway , (\$185,000), Recruitment of researchers to Norway	Bergen, Norway
2024	EPA Regional-ORD Applied Research , (\$99,000)	Narragansett, RI
2022	Ocean Carbon and Biogeochemistry Travel Award , (\$1,250)	Cambridge, MA
2021	Simons Foundation Postdoctoral Fellowship in Marine Microbial Ecology , (\$258,418)	Cambridge, MA
2019	Davis Family Endowed Scholarship for Fisheries Oceanography , (\$3,650)	Narragansett, RI
2019	Turner Designs Student Award , (\$500), Travel award	Narragansett, RI
2019	University of Rhode Island Alumni Award , (\$1,000), Travel award	Narragansett, RI
2018	Ann Durbin Memorial Award , (\$462), For excellence in biological oceanography	Narragansett, RI
2016	University of Rhode Island Alumni Award , (\$1,000), Travel award	Narragansett, RI
2013	Segal AmeriCorps Education Award , (\$11,000) Dedication to the Teach for America program	Los Angeles, CA
2013	Teacher of the Month , Manual Arts High School	Los Angeles, CA
2012	Departmental Honors , University of Colorado at Boulder	Boulder, CO
2010	National Society of Collegiate Scholars , National Honors Society	Boulder, CO

Publications

Manuscripts in review or in preparation:

Anderson S.I., McGinty N., Sterling A. and Hagy, J.D. Thermal Traits of Marine Harmful Algal Species Discerned from Bloom Events. (*in prep for Harmful Algae*).

Peer-reviewed publications:

9. Killam D., Bouma-Gregson K., Sutula M., Kudela R., Hagy J.D., **Anderson S.I.**, and Senn D. Revisiting chl-a thresholds for San Francisco Bay: insights from observations of phytoplankton molecular abundance. *Harmful Algae*. <https://doi.org/10.1016/j.hal.2026.103086>.
8. **Anderson S.I.**, Franzè G., Kling J.D., Wilburn P., Kremer C.T., Hutchins D.A., Litchman E., Menden-Deuer S., Ryneanson T.A. Nutrient Availability Modulates Impacts of Short-Term Shifts in Temperature and Grazing on Phytoplankton Composition and Size Structure. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.70322>.
7. **Anderson S.I.**, Fronda, C., Barton A.D., Clayton S., Ryneanson T.A., Dutkiewicz S. (2024), Phytoplankton thermal trait parameterization alters community structure and biogeochemical processes in a modeled ocean. *Global Change Biology*, 30, e17093. <https://doi.org/10.1111/gcb.17093>.
6. Kling J., Lee M.D., Webb E.A., Coelho J.T., Wilburn P., **Anderson S.I.**, Zhou Q., Wang C., Phan M.D., Kremer C.T., Litchman E., Ryneanson T.A., Hutchins D.A. (2023), Dual thermal ecotypes co-exist within a nearly genetically identical population of the unicellular marine cyanobacterium *Synechococcus*. *Proceedings of the National Academy of Sciences*. <https://doi.org/10.1073/pnas.2315701120>.
5. Franzè G., **Anderson S.I.**, Kling J.D., Kremer C.T., Hutchins D.A., Litchman E., Ryneanson T.A., Menden-Deuer S. (2022), Interactive effects of nutrients and temperature on herbivorous predation in a coastal plankton community. *Limnology and Oceanography* <https://doi.org/10.1002/lno.12289>.
4. Bishop I.W., **Anderson S.I.**, Collins S., Ryneanson T.A. (2022), Thermal trait variation may buffer Southern Ocean phytoplankton from anthropogenic warming. *Global Change Biology*, 00, 1– 13. <https://doi.org/10.1111/gcb.16329>.
3. **Anderson S.I.**, Franzè G., Kling J.D., Wilburn P., Kremer C.T., Hutchins D.A., Litchman E., Menden-Deuer S., Ryneanson T.A. (2022), The Interactive Effects of Temperature and Nutrients on a Spring Phytoplankton Community. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.12023>
2. **Anderson S.I.**, Barton A.D., Clayton S., Dutkiewicz S., Ryneanson T.A. (2021), Marine Phytoplankton Functional Types Exhibit Diverse Responses to Thermal Change. *Nature Communications*, 12, 6413. <https://doi.org/10.1038/s41467-021-26651-8>
1. **Anderson S.I.**, Ryneanson T.A.(2020), Variability Approaching the Thermal Limits Drives Diatom Community Dynamics. *Limnology and Oceanography*. doi: <https://doi.org/10.1002/lno.11430>

Book Chapters:

Anderson S.I., McDuffie K., Menezes S.(2020), Science Communication for Natural Resource Managers: Techniques and Examples in Marine Systems. *The Handbook of Natural Resources: Coastal and Marine Environments*, 5, 143-149.

Dissertations and Theses:

Anderson S.I. "Phytoplankton Thermal Responses as Drivers of Community Composition and Biogeography in a Changing Environment" (2021). *University of Rhode Island Dissertations*. Available at: https://digitalcommons.uri.edu/oa_diss/1256/

Anderson S.I. "Identifying Purification and Storage Techniques for the Human Papillomavirus Type 16 Major Capsid Protein L1" (2012). *Molecular, Cellular, and Developmental Biology Undergraduate Contributions*. Available at: https://scholar.colorado.edu/mcdb_ugrad/1

Invited Seminars

2026	University of Connecticut , Ecology Seminar Series	Storrs, CT
2025	University of Bergen , Visiting Researcher in Theoretical Ecology Group	Bergen, Norway
2025	ASLO Aquatic Sciences Meeting , Author Spotlight: Recent high-impact publications from ASLO	Charlotte, NC
2023	Harmful Algal Bloom Research Network , US Environmental Protection Agency	Remote
2022	University of Liverpool , Ocean Seminar	Remote

Selected Abstracts

Teevan-Kamhawi F., Wang H., Palter P., **Anderson S.I.**, Gibson S., Gear J., Kelly R.P., Pockalny R., Robinson R. The Potential for Estuarine Alkalinity Enhancement via Nearshore Crushed Limestone Application is Concealed by Natural Variability in the Marine Carbonate System. Ocean Sciences, Glasgow, Scotland. February 2026.

Anderson S.I., Franzè G., Kling J., Kremer C., Menden-Deuer S., Litchman E., Hutchins D., and Rynearson T.A. The interactive effects of temperature and nutrients on a spring phytoplankton community. ASLO Aquatic Sciences Meeting, Charlotte, NC. March 2025

Pelletier M., **Anderson S.I.**, Brown C., Hagy J.D., Kaldy J., Oczkowski A., Plaisted H. Exploring factors impacting long-term temperature trends in U.S. estuarine and coastal waters. NWQMC National Monitoring Conference, Green Bay, WI. March 2025.

Palter J., **Anderson S.I.**, Fontaine D., Gibson S., Gear J., Kelly R.P., Mucci N., Robinson R.R., Teevan-Kamhawi F., Wang H.. An Opportunistic Study of Ocean Alkalinity Enhancement, CDR, and Ecosystem Impacts Through Coastal Liming. American Geophysical Union, Washington DC. December 2024.

Anderson S.I., Hagy J.D., McGinty N.. Discerning the Thermal Traits of Marine Harmful Algal Species from Bloom Events. 12th U.S. Symposium on Harmful Algae, Portland, ME. October 2024.

Killam D., Sutula M., Kudela R., Hagy J. **Anderson S.I.**, Senn D. Relating Phytoplankton Molecular Abundances to Chlorophyll-a and mussel toxin in SF Bay. 12th U.S. Symposium on Harmful Algae, Portland, ME. October 2024.

Anderson S.I., Fronda C., Barton A.D., Clayton S., Dutkiewicz S., and Rynearson T.A.. Phytoplankton Thermal Trait Parameterization Alters Community Structure and Biogeochemical Processes in a Modeled Ocean. ASLO, Madison, WI. June 2024.

Anderson S.I., Barton A.D., Clayton S., Dutkiewicz S., and Rynearson T.A.. Marine Phytoplankton Functional Types Exhibit Diverse Responses to Thermal Change. Fifth Traits Meeting, Knoxville, TN. January 2022.

Anderson S.I., Franzè G., Kling J., Kremer C., Menden-Deuer S., Litchman E., Hutchins D., and Rynearson T.A.. Plankton Shuffle: Temperature-Nutrient Interplay Restructures Phytoplankton Community. ASLO, Virtual. June 2021.

Anderson S.I., Barton A.D., Clayton S., Dutkiewicz S., and Rynearson T.A.. Changing Rates and Shifting Ranges: Assessing the Phytoplankton Global Response to Ocean Warming. Ocean Sciences, San Diego, CA. February 2020.

Bishop I., **Anderson S.I.**, Collins S., and Rynearson T.A.. Intraspecific Variability in Thermal Tolerance Buffers Southern Ocean Diatoms from Biogeographic Range Contraction in a Warming Ocean. Ocean Sciences, San Diego, CA. February 2020.

Anderson S.I., Kling J., Kremer C., Franzè G., Hutchins D., Litchman E., Menden-Deuer S., and Rynearson T.A.. Winners and Losers in a Changing Tide: Temperature-Nutrient Impact on Phytoplankton Community Dynamics. ASLO, San Juan, Puerto Rico. February 2019.

Teaching Experience

Graduate Teaching Assistant

GRADUATE SCHOOL OF OCEANOGRAPHY, UNIVERSITY OF RHODE ISLAND

Narragansett, RI

2018-2019

- Teaching Assistant for graduate level Biological Oceanography
- Led field and laboratory section for classes of 20 students.

High School Chemistry Teacher

TEACH FOR AMERICA

Los Angeles, CA

2012-2014

- Joined highly selective national teacher corps and committed two years to teaching in under-resourced public schools.
- Developed and implemented science curriculum for 250 students that resulted in 68% of students passing statewide end-of-year assessment; a 20% increase from the previous year.

Undergraduate Biology Teaching Assistant

UNIVERSITY OF COLORADO AT BOULDER

Boulder, CO

2011-2012

- Facilitated student discussion during undergraduate lectures and led exam review sessions.

Calculus Learning Assistant

UNIVERSITY OF COLORADO AT BOULDER

Boulder, CO

2011

- Led recitation sessions each week and guided students through new course material.

Research Supervision

2025	Research Technician , Impacts of Ocean Alkalinity Enhancement (OAE) as a marine Carbon Dioxide Removal (mCDR) technique on algal communities.	Narragansett, RI
2025	Research Technician , Impacts of Ocean Alkalinity Enhancement (OAE) as a marine Carbon Dioxide Removal (mCDR) technique on algal stoichiometry.	Narragansett, RI
2019	Summer Undergraduate Research Fellow , Thesis: Short-term temperature variations alter community and population structure in the diatom genus <i>Skeletonema</i>	Narragansett, RI
2017-2018	Undergraduate Researcher , Phytoplankton temperature growth assessments	Narragansett, RI
2017	Summer Undergraduate Research Fellow , Thesis: Multi-environmental growth assessment plate: A new method of conducting temperature dependent growth experiments with phytoplankton	Narragansett, RI

Research Cruises

2018	AE1812 , R/V Atlantic Explorer (14 days); Chief Scientist: Dr. Tatiana Rynearson	Bermuda to Narragansett, RI
2017	Phosphorus Hydrocarbon And Transcriptomics (PHAT); AR16 , R/V Neil Armstrong (19 days); Chief Scientist: Dr. Benjamin Van Mooy	Woods Hole to Bermuda
2016-2017	Antarctic Diversity Among Plankton and their Transformations (ADAPT); NBP17-01 , R/V Nathaniel B. Palmer (29 days); Chief Scientist: Dr. Tatiana Rynearson	Southern Ocean Transect

Community Engagement

2024	Wickford Middle School , Led middle school students in month long ecology workshop	North Kingstown, RI
2023-2024	National HAB Committee , Elected to serve as Early Career Ex-officio Member	Falmouth, MA
2021	URI Teaching Assistant Training Workshop , Speaker on Teaching Assistant Panel	Narragansett, RI
2019-2020	Summer Undergraduate Research Fellowship in Oceanography (SURFO) , Presented Biological Oceanography Introductory Lecture	Narragansett, RI
2017-2019	Narragansett Bay Classroom , Led summer outdoor explorations for K-12 students	Narragansett, RI
2019	Hamilton Elementary , Engaged elementary students in ocean density lesson	North Kingston, RI
2019	Society for Women in Marine Science (SWMS) , Graduate school panel	Kingston, RI
2016-2019	METCALF Annual Science Immersion Workshop for Journalists , Assisted with lesson on reading scientific literature and engaging in scientific methods	Narragansett, RI
2018	Northwest Passage Project , Presented lesson on Arctic plankton to visiting high school students	Narragansett, RI
2018	Women in Marine Science , Exhibit Presenter at Mystic Aquarium	Mystic, CT
2018	4-H Teen Science Cafe , Presented oceanography career paths to middle school students	Exeter, RI
2018	Bay-Informed Discussion Series , Community presentation on the importance of marine microbes	Narragansett, RI
2017-2018	URI Graduate School of Oceanography Open House , Led interactive DNA extraction demonstrations for the public	Narragansett, RI
2016-2017	Bio-at-Noon Seminar Series Organizer , Organize seminar series that brings outside scientists for informal discussion at the Graduate School of Oceanography	Narragansett, RI
2016	Girls Reaching Remarkable Levels (GRRL) Tech , Led microscopy lab for high school girls	Kingston, RI
2016	Rhode Island Educators Cruise , Directed RI teachers in field research aboard the R/V Endeavor	Narragansett, RI

Skills and Certifications

Certifications:	Single Subject Teaching Credential
Computation:	R (fluent), Python and IPython Notebook (proficient), Matlab and C++ (basic)
Machine Learning:	Regression Analysis, Clustering, Time-Series Analysis, Classification, Species Distribution Modeling
Software:	MIT Biogeochemistry and Ecosystem Model (Darwin)
Laboratory Techniques:	Molecular: DNA extraction, PCR, Sanger sequencing, microsatellites Other: Aseptic cell culturing, Microscopy, Plankton taxonomy, CHN Analysis, Chlorophyll extraction, Flow Cytometry, Ship-board sampling and sample processing (preservation)
Referee:	<i>Limnology and Oceanography, PLOS One, Aquatic Microbial Ecology, Ecological Modeling, Global Change Biology, PNAS, Biogeosciences</i>
Proposal reviewer:	<i>National Science Foundation, National Oceanic and Atmospheric Association</i>