

Daniel R. Rogers, Ph.D.

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Education

Position	Institution	Focus	Dates
Postdoctoral Fellow	Woods Hole Oceanographic Institution (WHOI)	Coastal Biogeochemistry	2014-2015
Postdoctoral Fellow	Harvard University	Deep-sea Biogeochemistry	2010-2013
Ph.D.	MIT-WHOI Joint Program	Chemical Oceanography	2010
M.S.	University of Connecticut	Oceanography	2001
B.S.	University of Connecticut	Environmental/Marine Sciences	1998

Title of Doctoral Dissertation

Geomicrobiology of Nitrogen in a Coastal Aquifer: Isotopic and Molecular Methods to Examine Nitrification and Denitrification in Groundwater.

Advisor: Dr. Karen Casciotti (Stanford University)

Professional Positions

Position	Institution	Focus	Dates
Department Chair	Stonehill College	Chemistry and Biochemistry	2023-present
Associate Professor w/ tenure	Stonehill College	Analytical chemistry, biogeochemistry	2021-present
Visiting Scientist	WHOI	Biogeochemistry	2015-present
Assistant Professor	Stonehill College	Analytical chemistry, biogeochemistry	2015-2021
Visiting Scientist	Harvard University	Deep-sea biogeochemistry	2015-2018
Visiting Assistant Professor	Stonehill College	Analytical chemistry, biogeochemistry	2014-2015
Research Associate	Harvard University	Deep-sea biogeochemistry	2013-2014
Research Associate II	WHOI	Deep-sea biogeochemistry	2001-2004

Teaching

Course Title	Institution	Dates
Analytical Chemistry	Stonehill College	2015-present
Analytical Chemistry Laboratory	Stonehill College	2015-present (2 sect/yr)
Advanced Topics in Anal. Chem.	Stonehill College	2015, 2017, 2019, 2022, 2023
Advanced Chemistry Laboratory	Stonehill College	2015, 2016, 2018, 2019
Global Biogeochemistry	Stonehill College	2017, 2019, 2022, 2024
General Chemistry	Stonehill College	2014-2022 (2 sect/even yrs)
General Chem. II Lab	Stonehill College	2017-2020, 2024

Summer Undergraduate and High School Researchers Mentored

Student	Major	Funding	Date
Abielle Remick	Environmental Science	Friends of Bass River	2021
Kendall Hawkom	Biochemistry	Friends of Bass River	2021
Madison Hussey	Chemistry	NSF	2021
Emily Ledoux	Neurobiology	NSF	2021
Natalie Schafer	Environmental Science	NSF (canceled, COVID)	2020
Adam Ziegler	Environmental Science	NSF (canceled, COVID)	2020
Meghan Miracle	Chemistry	SURE (canceled, COVID)	2020
Samantha Lamar	Environmental Science	SURE (canceled, COVID)	2020
Natalie Schafer	Environmental Science	SURE	2019
Adam Ziegler	Environmental Science	NSF	2018
Anna Pinckney	Environmental Science	NOAA	2018
Claire Farnan	Environmental Science	NOAA	2018
Meghan Curran	Chemistry	SURE	2018
Peter Giannini	Chem. Engineering	NOAA	2018
Kyle Paquette	Chemistry	SURE	2018
Dan Stone	Env. Engineering	Sea Grant	2017
Parker Dunn	Chemistry	Sea Grant	2017
Kyle Paquette	Chemistry	SURE	2017
Emily Gibeault	Biochemistry	SURE	2017
Dan Stone	Env. Engineering	SURE	2016
Janelle Shea	Biology	SURE	2016
Rebecka Bence	Western Wash. Univ.	WHOI-SSF	2016
Alec Cobban	Dartmouth College	WHOI-SSF	2016
Claudia Mazur	Mt. Holyoke College	WHOI-SSF	2015
Amanda Pepe	Biologoy	SURE	2015
Sarah Lott	Falmouth Academy (High School)		2017-2019
Rebecca Cox	Falmouth Academy (High School)		2017-2018
Alec Cobban	Falmouth Academy (High School)		2015

NSF = National Science Foundation

NOAA = National Oceanic and Atmospheric Administration

SURE = Stonehill Undergraduate Research Experience

WHOI-SSF = Woods Hole Oceanographic Institution-Summer Student Fellow

Thesis Advising

Student	Major	Thesis Advisor	Reader	Date
Luke Baker	Biochemistry		R	2024
Rianne Cooney	Biochemistry		R	2024
Hannah Gennaro	Chemistry	T		2023
Maddison Hussey	Chemistry	T		2023
Brian Sharp	Biochemistry		R	2023
Jillian Callahan	Biology		R	2023

Mary Bussiere	Biochemistry		R	2022
Cassandra Calabro	Env. Sciences		R	2022
Adam Ziegler	Env. Science	T		2021
Kendall Hawkom	Biochemistry		R	2021
Ariana Rodrigues	Chemistry		R	2021
McKenzie Woerner	Chemistry		R	2021
Meghan Curran	Chemistry	T		2020
Adrianna Pacheco	Chemistry		R	2020
Kyle Paquette	Biochemistry	T		2019
Emily Gibeault	Biochemistry	T		2019
Claire Farnan	Env. Science	T		2019
Alana Murphy	Biochemistry		R	2019
Will Coreas	Chemistry		R	2019
Anna Pinckney	Env. Science		R	2019
Casey Crowe	Biochemistry	T		2018
Joshua Hubbel	Biochemistry	T		2018
Parker Dunn	Chemistry	T		2018
John Irving	Env. Science		R	2018
Olivia DiMaio	Biochemistry		R	2017
Steven Wheeler	Chemistry		R	2017
Alyssa Whitney	Chemistry		R	2017
Amanda Pepe	Biology	T		2016
Sarah Desmarias	Biochemistry		R	2016
John Hauck	Biochemistry		R	2016
Matthew Poto	Chemistry		R	2016
Leandra Macary	Chemistry		R	2016

Other curriculum, course or instructional innovations

2021: Founded Cape Cod Environmental Restoration Internship.

2020: Developed online labs for Analytical Chem. (CHM331)

Produced training videos for faculty transition to online learning

2019: Purchased three Gamry 1010E potentiostats for Advanced Lab (CHM442) and Analytical chemistry (CHM331).

Incorporated Cathodic Stripping Voltammetry lab (CHM331).

Incorporated Cyclic Voltammetry lab (CHM442).

2018: Developed Lab Practical for Advanced Lab (CHM442).

Developed Imposture vs Name Brand perfume analysis using GC lab (CHM442).

Developed lab demonstrations for General Chemistry.

Cathode ray/magnetic field demo, 2017 (atomic structure).

Biological oxygen demand demo 2017 (kinetics and pond study).

Redesigned pond study sampling (including the addition of oxygen demand and nutrient assays) to gather a long-term data set.

Designed and 3D-printed flux chambers for measuring oxygen and dinitrogen flux in the field with SURE student Peter Giannini.

Designed and built sediment pole corer.

Designed and built anchored sediment traps with SURE student Kyle Paquette.

2017: Developed a 1-credit MATLAB course to teach chemical modeling.

Designed Global Biogeochemistry course (CHM250, offered Fall odd years).

Designed floating sediment traps.

Developed chocolate extracted catechin UPLC lab (CHM442).
 Developed caffeine extraction and determination lab using UPLC (CHM331).
 2016: Design and built membrane inlet mass spectrometer with SURE student Dan Stone.
 Calibrated instrument and ran 94 samples collected over the summer.
 Developed Arduino-based lab exercises Advanced Lab (CHM442).
 Wrote lab manual for Analytical Chemistry (CHM331).
 Proposed new course to fit within the Chemistry and Environmental Sciences majors
 titled Global Biogeochemistry.

SCHOLARSHIP

I. Peer-Reviewed Publications (undergraduates underlined, # Stonehill).

1. Mara, P., Edgcomb, V.E., Beaudoin, D.J., Martinsen, C., Lovely, C., Belcher, B.[#], Cox, R., Curran, M.[#], Farnan, C.[#], Giannini, P.[#], Lott, S., Paquette, K.[#], Pinckney, A.[#], Schafer, N.[#] and **Rogers, D.R.**[#] (2021). Comparison of oyster aquaculture methods and their potential to enhance microbial nitrogen removal from coastal ecosystems. *Frontiers in Marine Science*. **8**:633314.
2. Ray, N.E., Hancock, B., Brush, M.J., Colden, A., Cornwell, J., Labrie, M., Maguire, T.J., Maxwell, T., **Rogers, D.R.**[#], Stevick, R., Unruh, A., Kellogg, L., Smyth, A. and Fulweiler, W. (2021) A critical review of methods for assessing denitrification in oyster habitats and suggestions for future work. *Limnology and Oceanography Methods*. **19**:714-731.
3. Olins, H.C., **Rogers, D.R.**[#], Preston, C., Ussler, W., Pargett, D., Jensen, S., Roman, B., Birch, J.M., Scholin, C.A., Haroon, M.F. and P.R. Girguis (2017). Co-registered geochemistry and metatranscriptomics reveal unexpected distributions of microbial activity within a hydrothermal vent field. *Frontiers in Microbiology*. **8**:1042.
4. Tang, T., Mohr, W., Sattin, S.R., **Rogers, D.R.**[#], Girguis, P.R. and A. Pearson (2017). Geochemically-distinct carbon isotope distributions in *Allochromatium vinosum* DSM 180^T grown photoautotrophically and photoheterotrophically. *Geobiology*. **2**:324-339.
5. Frank, K.L., Rogers, K.L., **Rogers, D.R.**, Johnston, D.T., and P.R. Girguis (2015). Key factor influencing rates of heterotrophic sulfate reduction in hydrothermal massive sulfide deposits. *Frontiers in Microbiology*. **6**:1449.
6. Orcutt, B.N., Sylvan, J.B., **Rogers, D.R.**, Delaney, J, Lee, R.W. and P.R. Girguis (2015). Carbon fixation by basalt-hosted microbial communities. *Frontiers in Microbiology*. **6**:1-14.
7. **Rogers, D.R.**^{*}, Bose, A.^{*}, Adams, M.M., Joye, S.B. and Girguis, P.R. (2013). Geomicrobiological linkages between short-chain alkane consumption and sulfate reduction rates in seep sediments. *Frontiers in Aquatic Microbiology*. **4**:386. ^{*}denotes equal contribution.
8. Olins, H.C., **Rogers, D.R.**, Frank, K.L., Vidoudez, C., and Girguis, P.R. (2013). Assessing the influence of physical, geochemical, and biological factors on anaerobic microbial primary productivity within hydrothermal vent chimneys. *Geobiology* **11**(3):279-293.
9. Frank, K.L., **Rogers, D.R.**, Olins, H.C., Vidoudez, C., and Girguis, P.R. (2013). Characterizing the distribution and rates of microbial sulfate reduction at Middle Valley hydrothermal vents, Juan de Fuca Ridge. *The ISME Journal* **7**(7):1391-1401.
10. Sáenz, J.P., Hopmans, E.C., **Rogers, D.**, Henderson, P.B., Charette, M.A., Schouten, S., Casciotti, K.L., Sinninghe Damsté, J.S. and Eglinton, T.I. (2012). Distribution of anaerobic ammonia-oxidizing bacteria in a subterranean estuary. *Marine Chemistry* **136–137**(2):7-13.
11. **Rogers, D.R.** and Casciotti, K.L. (2010) Quantitative and phylogenetic examination of the ammonia-oxidizing community within a subterranean estuary. *Applied and Environmental Microbiology* **76**(24):7938-7948.

12. Edwards, K.J., Bach, W., McCollom, T.M. and **Rogers, D.R.** (2004) Neutrophilic iron-oxidizing bacteria in the ocean: Habitats, diversity, and roles in mineral deposition, rock alteration, and biomass production in the deep-sea. *Geomicrobiology Journal* **21**:393-404.
13. **Rogers, D.R.**, Santelli, C.M. and Edwards, K.J. (2003) Geomicrobiology of deep-sea deposits: Estimating community diversity from low-temperature seafloor rocks and minerals. *Geobiology* **1**:109-117.
14. Edwards, K.J., **Rogers, D.R.**, Wirsén, C.O. and McCollom, T.M. (2003) Isolation and Characterization of Novel Psychrophilic, Neutrophilic, Fe-Oxidizing, Chemolithoautotrophic α - and γ -Proteobacteria from the Deep Sea. *Applied and Environmental Microbiology* **69**:2906-2913.
15. Edwards, K.J., Bach, W. and **Rogers, D.R.** (2003) Geomicrobiology of the Ocean Crust: A Role for Chemoautotrophic Fe-Bacteria. *Biological Bulletin* **204**:180-185.
16. Visscher, P.T., Baumgartner, L.K., Buckley, D.H., **Rogers, D.R.**, Hogan, M.E., Raleigh, C.D., Turk, K.S. and Des Marais, D.J (2003) Dimethyl sulphide and methanethiol formation in microbial mats: potential pathways for biogenic signatures. *Environmental Microbiology* **5**(4):296-308.
17. Thor, P., Dam, H.G. and **Rogers, D.R.** (2003) Fate of organic carbon released from decomposing copepod fecal pellets in relation to bacterial production and ectoenzymatic activity. *Aquatic Microbial Ecology* **33**:279-288.
18. Visscher, P., Hoefft, S., Surgeon, T., **Rogers, D.R.**, Bebout, B., Thompson, J.J. and Reid, R. (2002) Microelectrode measurements in stromatolites: Unraveling the Earth's past? in Taillefert, M., and Rozan, T., eds., *Environmental Electrochemistry: Analyses of Trace Element Biogeochemistry*. ACS Symposium Series: Washington, DC, Oxford University Press.
19. Hoefft, S.E.; **Rogers, D.R.** and Visscher, P.T. (2000) Metabolism of methyl bromide and dimethyl sulfide by marine bacteria isolated from coastal and open waters. *Aquatic Microbial Ecology* **21**:221-230.
20. Tang, K.W., **Rogers, D.R.**, Dam, H.G. and Visscher, P.T. (2000) Seasonal distribution of DMSP among seston, dissolved matter and zooplankton along a transect in the Long Island Sound Estuary. *Marine Ecology Progress Series* **206**:1-11.

II. Papers delivered at meetings of learned and/or professional societies (Undergraduate researchers are underlined, # for Stonehill undergraduates).

2023

Bernhard, J.M., **D.R. Rogers**, I.T. Huang, C. Powers, Y. Zhang, D.R. Utter, C. Cavanaugh, V.P. Edgcomb, F. Goma. Gene expression of *in situ* preserved kleptoplastidic *Nonionella stella* from an aphotic sulfidic anoxic setting. FORAMS 2023, June 26-30, 2023, Perugia, Italy.

2021

Rogers, D.R., A. Remick[#], K. Hawkorn[#], E. Ledoux[#] and M. Hussey[#]. Educate, Collaborate and Preserve. Save Our River Symposium – Friends of Bass River, October 22, 2021 (Invited).

Mara, P., V.P. Edgcomb, T. Surgeon-Rogers and **D.R. Rogers**. *Comparison of Oyster Culture Methods and Their Potential to Enhance Microbial Nitrogen Removal from*

Coastal Ecosystems. American Society for Limnology and Oceanography's Aquatic Sciences Meeting, June 22-27, 2021 (Virtual).

Rogers, D.R., T. Surgeon-Rogers, P. Mara. *Can Oyster Aquaculture Help Restore Coastal Water Quality? A Collaborative Study*. National Estuarine Research Reserve Science Collaborative: Collaborative Science for Estuaries Webinar Series, May 25th (Invited).

Rogers, D.R., V. Edgcomb, P. Mara, R. Martinsen, C. Lovely, T. Rogers. *Evaluating Sediment Denitrification Under Three Oyster Aquaculture Systems in Waquoit Bay*. Waquoit Bay National Estuarine Research Reserve Webinar Series, March 23.

Edgcomb, V.E., P. Mara and **D.R. Rogers**. *Sedimentary Nitrogen Removal*. Aquaculture Research Opportunities Scoping Meeting, Woods Hole Oceanographic Institution, April 1st, Woods Hole, MA.

2020

Adam Ziegler[#] and **Daniel Rogers**. *Changes in bacterial communities inhabiting massive sulfide deposits on the Juan de Fuca Ridge across a ~10 My transects*. Ocean Sciences Meeting, February 19, San Diego, CA, Poster Presentation

2019

Peter Giannini[#], Claire Farnan[#], Virginia Edgcomb and **Daniel Rogers**. *Effectiveness of Oyster Aquacultures*. American Chemical Society National Meeting, April 1st, Orlando FL., Poster Presentation

2018

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Joan Muller, Christina Lovely and Roy Martinsen. *Working towards an ecosystem level understanding of how different oyster aquaculture practices alter nitrogen cycling*. 6th Annual Cape Coastal Conference. December 4th, Hyannis, MA. Plenary Presentation (Invited).

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Joan Muller, Roy Martinsen, Christina Lovely. *Can shellfish enhance sedimentary denitrification?* Woods Hole Sea Grant Site Review. November 6th, Woods Hole, MA. Poster Presentation (Invited).

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Joan Muller, Roy Martinsen, Christina Lovely. *Oyster aquaculture at WBNERR*. Estuaries Day, Waquoit Bay National Estuarine Research Reserve. September 16th, Falmouth, MA.

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Roy Martinsen, Christina Lovely. *Evaluating effectiveness of different oyster aquaculture strategies*. Massachusetts Department of Environmental Protection. July 10th, Falmouth, MA.

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Roy Martinsen, Christina Lovely. *NERRS Science Collaborative: Evaluating effectiveness of different oyster aquaculture strategies*. NERRS-Science Collaborative End Users Meeting. July 10th, Falmouth, MA.

Daniel Rogers, Virginia Edgcomb, Vivian Mara, Tonna-Marie Rogers, Roy Martinsen, Christina Lovely. *Evaluating effectiveness of different oyster aquaculture strategies*. Citizens for the Protection of Waquoit Bay Annual Meeting. July 9th, Falmouth, MA.

Daniel Rogers, Virginia Edgcomb, Tonna-Marie Rogers, Roy Martinsen, Christina Lovely, Sia Karplus. *Evaluating effectiveness of different oyster aquaculture strategies*. Falmouth Conservation Committee. April 18th, Falmouth, MA.

Daniel Rogers. *Evaluating effectiveness of different oyster aquaculture strategies*. NERRS-Science Collaborative Grant Kick-off Meeting. February 20th, Falmouth, MA.

Parker Dunn[#], Emily Gibeault[#], Kyle Paquette[#], Daniel Stone[#], Sarah Lott, Rebecca Cox, Janelle Shea[#], Rebecka Bence, Alec Cobban, Claudia Mazur, Virginia Edgcomb and **Daniel Rogers**. *Investigating the impact of floating oyster aquacultures on carbon and*

nitrogen flux with the sediment for potential use in nitrogen removal. American Chemical Society National Meeting, March 19th, New Orleans, LA. Poster Presentation.

2017

Daniel Rogers, Parker Dunn[#], Emily Gibeault[#], Kyle Paquette[#] and Dan Stone[#]. *Light in a Dark World: Marine Bioluminescence.* Tidal Quest Summer Science School. August 7th, Falmouth, MA (Invited and Student-led). Invited talk.

Daniel Rogers, Virginia Edgcomb, Roy Martinsen, Christina Lovely, Tonna-Marie Rogers, Joan Muller, Anastasia Karplus. *Evaluating effectiveness of different oyster aquaculture strategies for nitrogen loading remediation to inform end user decisions to restore water quality.* NERRS Annual Meeting, November 8th, Providence, RI. Poster Presentation.

Daniel Rogers, Amanda Pepe[#], Dan Stone[#], Janelle Shea[#], Kyle Paquette[#], Parker Dunn[#], Emily Gibeault[#], Josh Hubbell[#], Casey Crowe[#], Alec Cobban, Claudia Mazur, Becca Bence and Ginny Edgcomb. *We're gonna need a bigger boat.* Stonehill College Biology Department seminar. September 22nd. Easton, MA. Invited talk.

Daniel Rogers and Virginia Edgcomb. *Understanding the impact of floating oyster aquaculture on the carbon and nitrogen flux to the sediments using natural abundance isotopic surveys and metagenomic approaches.* Sea Grant site visit, June 28th, Woods Hole, MA.

2016

Daniel Stone[#], Janelle Shea[#], Rebecka Bense, Virginia Edgcomb and **Daniel Rogers**. Cape Coastal Conference, December 6-7th, Hyannis MA. Poster Presentation.

Rebecka Bense, Daniel Stone[#], Janelle Shea[#], Virginia Edgcomb and **Daniel Rogers**. Cape Coastal Conference, December 6-7th, Hyannis MA. Poster Presentation.

Daniel Rogers. *Is nitrogen removal a shell (or shellfish) game?* Waquoit Bay Research Night at the Reserve. April 26th, Falmouth, MA. Invited talk.

2015

Daniel Rogers, Alec Cobban, Claudia Mazur, Amanda Pepe[#] and Virginia Edgcomb. *The impact of floating bag oyster aquaculture on bacterial metabolic gene expression and the rate of nitrogen removal in underlying sediments.* Gordon Research Conference, Applied and Environmental Microbiology. July 12-17th Mt. Holyoke College. Poster Presentation.

2014

Daniel Rogers, A. Bose, C. Vidouvez and P. Girguis. *Ethane, Propane and Butane oxidation at a marine hydrocarbon seep: using isotopic and molecular techniques to decipher rates and pathways of microbial activity.* Gordon Research Conference – Marine Microbes; Small Microbes Big Data. June 22-27th Bentley University, Waltham, MA: Poster Presentation. 2014

Daniel Rogers, H.C. Olins, C. Vidoudez, C. Preston, W. Ussler III, D.M. Pargett, S. Jensen, B. Roman, C. Scholin, J. Birch, J. Huber, J. Meyer, P.R. Girguis. *The distribution of active carbon-fixation pathways within the dissolved and particulate-fractions at and near a deep-sea, diffuse-flow, hydrothermal vent.* American Society for Microbiology General Meeting (ASM). May 19th Boston, MA: Oral Presentation.

Daniel R. Rogers, A. Bose, M.M. Adams, S.B. Joye, P.R. Girguis. *Geomicrobiological linkages between short-chain alkane consumption and sulfate reduction rates in seep sediments.* American Society for Limnology and Oceanography (ASLO) Ocean Sciences Meeting. February 24th Honolulu, HI: Poster.

III. Cruise and Field Experience

Event	Place/Cruise	Activity	Date
1	Santa Barbara Basin, RV <i>Robert G. Sproul</i>	Coring, electrochemistry	July, 2022
2	Santa Barbara Basin, EV <i>Nautilus</i> NA127, ROV <i>Hercules</i>	Electrochemistry	July, 2021
3	Bass River, Yarmouth, MA	Water quality monitoring, nutrient cycling	2021
4	Waquoit Bay National Estuarine Research Reserve	Shellfish aquaculture, nutrient cycling	2018-2020
5	Juan De Fuca Ridge, RV <i>Kilo Moana</i> , ROV JASON Dives 1102-1104	Metatranscriptomics/genomics and microbiology of massive sulfide deposit weathering	2018
6	Little Pond, Falmouth, MA	Sediment coring, electrochemistry, isotope pairing, molecular biology	2014-2017
7	Mediterranean Sea, RV <i>Oceanus</i>	Electrochemistry, multi- and box-coring	2009
8	Santa Barbara Basin, RV <i>R.G. Sproul</i>	Electrochemistry, multi- and box-coring	2007
9	Waquoit Bay National Estuarine Reserve, MA	Coring, groundwater sampling.	2004-2009
10	9°N East Pacific Rise, RV <i>Atlantis</i> AT11-20, Alvin Dive 4059	Microbiology, Fe-oxidation	2004
11	Yellowstone National Park	Microbiology of sulfur intermediates in hot springs, electrochemistry	2004
12	Sea Education Association Cruise 193A SSV <i>Corwith Cramer</i>	Training cruise	2004
13	Loihi Seamount, HI. RV <i>KOK</i> and DSV <i>Pisces V</i>	Microbiology	2003
14	Loihi Seamount, HI. RV <i>KOK</i> and DSV <i>Pisces IV</i> and <i>V</i>	Microbiology	2002
15	Clay City, KY	Terrestrial drilling and environment chemistry and microbial culturing	2001
16	Coastal Margin, Atlantic Ocean, RV <i>Oceanus</i>	Scientific diver, blue water diving, salp collection	2001
17	Mid-Atlantic Bight, RV <i>Connecticut</i> . ROV	Scientific diver	2000
18	Guerrero Negro, Baja California Sur, Mexico	Microbiology and electrochemistry	1999
19	Santa Barbara Basin, RV <i>Robert Gordon Sproul</i>	Electrochemistry and sediment coring	1999
20	Environmental Consultant, Shennecossett Marina	Benthic surveys	1999

IV. Titles of grant applications (both funded and non-funded since 2014).

2024

2023

V.P. Edgcomb and **D.R. Rogers**. *Evaluating the efficacy of buried algal biomass for marine carbon dioxide removal*. Woods Hole Oceanographic Institution.
Submitted

F. Gomaa, J. Bernhard, V. Edgcomb and **D.R. Rogers**. *Collaborative Research: ORCC: Does metabolic plasticity provide resilience to deoxygenation including anoxia in benthic marine microeukaryotes?* National Science Foundation-Organismal Response to Climate Change (3 yrs., \$164,199 to DRR)
Submitted

F. Gomaa, J. Bernhard, V. Edgcomb and **D.R. Rogers**. *Collaborative Research: BoCP: Implementation: Function and diversity across environmental gradients reflecting ongoing global change using modern and fossil benthic foraminifera*. National Science Foundation-Biodiversity on a Changing Planet (3 yrs., \$205,521 to DRR).
Not Funded

D.R. Rogers, V.P. Edgcomb and P. Mara. *Collaborative Research: Links between hypoxia, euxinia, and shifts in the nitrogen cycle toward greenhouse gas production*. National Science Foundation-Chemical Oceanography (2 yrs. \$640,028 total, \$306,195 to DRR).
Not Funded.

D.R. Rogers and V. Edgcomb. *Investigating rotational aquaculture as a method to mitigate hypoxia while managing nitrogen loading*. National Centers for Coastal Ocean Science-Competitive Research Program-Coastal Hypoxia Research Program (4 yrs., \$1,176,943).
Not Funded.

2022

F. Gomaa, J. Bernhard, V. Edgcomb and **D.R. Rogers**. *Collaborative Research: The Undiscovered Country: Phylogenetic and functional diversity of benthic microbial eukaryotes along oxygen gradients*. NSF Division of Biological Sciences (3 yrs., \$960,000 total, \$75,340 to DRR).
Not Funded.

V. Edgcomb and **D.R. Rogers**. *Quantifying carbon sequestration in benthic coastal to deep-sea sediments. ARPA-E Request for Information on Novel Approaches to Measurement, Reporting and Validation for Marine Carbon Dioxide Removal*.
Not Funded.

V. Edgcomb and **D.R. Rogers**. *Quantifying carbon sequestration below kelp aquaculture sites in coastal to deep-sea sediments*. World Wildlife Fund.
Not Funded.

2020

J. Bernhard, V. Edgcomb, **D.R. Rogers** and F. Gomaa. *The metabolic innovations of benthic protists in response to anoxia: Foraminifera as models*. NASA-ROSES Exobiology (3 yrs., \$931,730 total, \$39,174 to DRR)
Funded.

2019

D.R. Rogers, V. Edgcomb. *Quantifying water quality remediation using three oyster aquaculture methods*. Aquatic Resource Mitigation Projects MA DFG In-Lieu Fee Program (1 yr., \$150,000)

Not Funded.

- V. Edgcomb, P. Traykovski, **D.R. Rogers**, C. Martinsen, J. Rassman. *Living shorelines for shoreline protection*. Restore America's Estuaries SNEP Watershed Grants (3 yrs., \$399,978 total, \$55,636 to DRR).

Not Funded.

2018

- V. Edgcomb, P. Traykovski, **D.R. Rogers**, C. Martinsen, J. Rassman. *Living shorelines for nitrogen remediation and shoreline protection*. Restore America's Estuaries SNEP Watershed Grants (3 yrs., \$562,267 total, \$104,425 to DRR).

Not Funded.

2017

- D.R. Rogers**, V. Edgcomb, T.M. Surgeon-Rogers, R. Martinsen, C. Lovely and A. Karplus. *Evaluating effectiveness of different oyster aquaculture strategies for nitrogen loading remediation to inform end user decisions to restore water quality*. NOAA-National Science Collaborative (2 yrs., \$499,917 total, \$89,794 to DRR)

Funded.

2016

- Tivey, M.K., Hansel, C. and **D.R. Rogers**. *Identifying Controls on Weathering of Seafloor Massive Sulfide*. National Science Foundation-Chemical Oceanography. (3 yrs., \$363,632 total, \$130,286.56 to DRR)

Funded.

2015

- D.R. Rogers** and V. Edgcomb. *Understanding the impact of floating oyster aquaculture on the carbon and nitrogen flux to the sediments using natural abundance isotopic surveys and metagenomic approaches*. Sea Grant Omnibus (2 yrs., \$104,346 total, \$53,236 to DRR).

Funded.

- Gallager S.M., York, R.H., Surgeon-Rogers, T.M., Weidman, C., Churchill, J., Valiela, I., Edgcomb, V., **Rogers, D.R.**, Frazer, G., York, A., Reitsma, J., Profita, L., Cambareri, T., Dudley, B., Shields, T., Howes, B. *Science-based shellfish and water quality restoration in Waquoit Bay: Quantifying larval transport and recruitment for maximizing shellfish yield and nitrogen removal*. National Estuarine Research Reserve Science Collaborative (3 yrs., \$743,776 total, \$15,036 to DRR). June.

Not Funded.

- V. Edgcomb and **D.R. Rogers**. *Floating artificial marsh systems as a means to enhance nitrogen removal in coastal sediments and offer erosion protection*. National Oceanic and Atmospheric Administration 2015 Coastal Ecosystem Resiliency (3 yr., \$252,056 total, \$78,052 to D.R.R.). July.

Not Funded.

2014

- V. Edgcomb, H. Kite-Powell, **D.R. Rogers**, A.C. Spivak, Z.A. Wang, T.M. Surgeon-Rogers, S. Lindell, G.T. Taylor. *The Effects of Nutrient Loading and Acidification on the Ability of Oyster Aquaculture to Mitigate Coastal Eutrophication*. NOAA-Ocean Acidification 2014 (3 yr., \$1,432,268 total)

Not Funded.

- V. Edgcomb, **D.R. Rogers**, H. Kite-Powell. *Understanding impacts of oyster aquaculture on sediment nitrogen cycling - toward meeting community water quality management objectives*. WHOI Coastal Ocean Institute (1 yr., \$30,000 total).

Funded.

V. Instrument and sampling devices designed and/or built with Stonehill Students.

- a. Membrane Inlet Mass Spectrometer (commercial value \$150,000-\$200,000 see www.BayInstruments.com for reference) for determination of ^{28,29,30}N₂, Ar, O₂ dissolved gases (built with Dan Stone, Env. Science/Engineering).
- b. User interface software for data collection on MIMS (written in JAVA by Dan Stone, Environmental Engineering)
- c. Field-based flux chamber using an Oxy10-SMA (Presens, Denmark), sediment core-liners and inhouse designed core caps that allow for real-time O₂ measurement, gentle stirring of overlying waters and timepoint based sampling of gas content of overlying water while maintaining isolation from the atmosphere (designed and built with Peter Giannini, Chemical Engineering).
- d. Anchored sediment traps designed and built to capture particulate matter falling to the sediments beneath aquaculture systems (built with Kyle Paquette, Chemistry).
- e. Suspended sediment traps designed to monitor particulate matter export from aquaculture systems in deeper waters (3-4 m water depth, built with Kyle Paquette, Chemistry).
- f. Pole corer designed using PVC, rubber couplings and a one-way check valve that allows for coring in water depth up to 2 m (built with Peter Giannini, Chemical Engineering)
- g. Dead-air box for shipboard RNA sampling (built with Adam Zeigler, Environmental Sciences).
- h. Benthic sediment traps for use in tidal river sampling (built with Madison Hussey and Emily Ledoux)

VI. Consulting in one's field, including reviewing of manuscripts.

- a. NSF-Coastlines and People review panelist (April, 2022).
- b. **Peer-reviewer for:** Frontier in Microbiology, Estuaries and Coasts, ISME Journal, Environmental Microbiology, Biogeochemistry, Applied and Environmental Microbiology, Marine Chemistry
- c. Submitted letter of support as a community user for proposed acquisition of an ICP-MS by Bridgewater State University. November 2014.
- d. Participated in E/V *Nautilus* Southern California Margin Cruise July 24- August 12, 2016 via remote presence.
- e. Maryland Sea Grant proposal reviewer 2021.

VII. Activities and memberships

- a. Memberships in professional and learned societies, offices held
 - i. American Society for Limnology and Oceanography
 - ii. American Geophysical Union
 - iii. American Chemical Society
- b. Attendance at meetings, seminars: names and dates of attendance
 - i. American Society for Limnology and Oceanography Summer Meeting, Mallorca, Spain. June, 2023.
 - ii. Workshop on Communicating Science, Waquoit Bay National Estuarine Research Reserve, Waquoit, MA, December 15, 2021.
 - iii. Workshop on the Denitrification Capacity of Oyster Aquaculture, Boston University, Boston, MA, September 10-11, 2019.
 - iv. Restore America's Estuaries, Los Angeles, CA, December 12-14, 2018.

- v. National Estuarine Research Reserve – National Science Collaborative Annual Meeting, Los Angeles, CA, December 13, 2018.
- vi. Cape Coastal Conference, Hyannis, MA, December 4-5, 2018
- vii. One Cape Summit, Hyannis, MA, August 16, 2018.
- viii. One Cape Summit, Hyannis, MA June 22, 2017.
- ix. One Cape Summit, Hyannis, MA, June 23, 2016.
- x. Water Word that Work, North Grafton, MA, June 10, 2016.
- xi. Gordon Research Conference, Applied and Environmental Microbiology. July 12-17th, 2015. Mt. Holyoke College.
 - i. Poster Presentation.
- xii. Gordon Research Conference, Chemical Oceanography. July 26-31th, 2015. Holderness School, NH.
 - i. Attendee.

VIII. Other Professional Development

- Rogers, D.R.**, T. Szalay, V. Edgcomb, P. Mara, R. Martinsen, C. Lovely and T. Rogers. (2021) *Best Practices Guide for Nitrogen Remediation using Oyster Aquaculture*.
- Rogers, D.R.** and V. Edgcomb (2018) *Oyster aquaculture potential for coastal water remediation*. Massachusetts Sea Grant site review.
- Rogers, D.R.** (2018) *Evaluating effectiveness of different oyster aquaculture strategies*. Massachusetts Department of Environmental Protection.
- Rogers, D.R.** (2018) *Evaluating effectiveness of different oyster aquaculture strategies*. Citizens for the Protection of Waquoit Bay annual meeting keynote.
- Rogers, D.R.** (2018) Coastal Permitting Presentation, Falmouth Conservation Board.
- Rogers, D.R.** (2018) Women in Science Program, Tidal Quest, Waquoit, MA.
- Rogers, D.R.**, Daniel Stone, Parker Dunn, Emily Gibeault and Kyle Paquette. (2017) Bioluminescence in the deep-ocean. Tidal Quest - Waquoit Bay Summer School of Science, Waquoit, MA. Lecture and panel discussion.
- Rogers, D.R.** (2016) The nitrogen cycle. Waquoit Bay Summer School of Science (9-12 grade). Guest Lecture/outreach lecture.

IX. College And Professional Community Activities

a. College committee appointments, administrative experience, and special activities

Activity	Dates
Stonehill Undergraduate Research Experience Committee	2022-present
Faculty liaison to the Board of Trustees (appointed)	2023-present
Chairperson, Department of Chemistry	2023-present
Search Committee for Chemistry Dept. Organic Chem.	2022
Academic advising	2016-present
Research computing ad hoc committee	2018-2020
Search Committee (diversity advocate) for Environmental Sci. Postdoc	2019
Search Committee for Chemistry Dept. Postdoctoral Fellow	2019-2021
Search Committee for Chemistry Dept. Instrument Technician	2018
Search Committee for Dean of General Education	2018
Session Chair, Academic Development Day (May 17)	2018
STEM Academic Preview Day	2018
Green Chemistry coordinator	2018-present
NSF-S-STEM Faculty Learning Community Participant	2017-present
Chemistry Dept. Alumni Day co-coordinator	2017-2020
Technology Advisory Committee	2017-2021
Earth and Planetary Sciences Steering Committee	2015-present

Environmental Sciences Steering Committee	2015-present
Stonehill Fall Open House Participant	2014-present
Stonehill Orientation Participant	2015-present
Skyhawk Welcome Day Participant	2015- present
Stonehill Alumni Weekend	2017-present
Participated in development of Earth and Planetary Sciences Major	2016
Search Committee for Assistant Professor in Env. Science	2015-2016

X. *Community activities, appointments or offices*

Activity	Dates
Assistant Scout Master, Boy Scout Troop 36 Mashpee, MA	2021-present
Youth Soccer Coach, Mashpee, MA	2016-2022
Guest Lecture-The Deep-Water Cycle, Quashnet Elementary School, Mashpee, MA	2018
Guest Lecture-Chemical Weathering, Quashnet Elementary School, Mashpee, MA	2017
Career Day Speaker, Quashnet Elementary School, Mashpee, MA	2016-2019
Guest Lectures Kenneth C. Coombs School, Mashpee, MA	2014-2017
Guest Lecturer at College Academy, Marine Biology Program	2015