

Curriculum Vitae
Jeremy E. Schreier

Education

- 2017 – 2023 Ph.D. Marine Sciences, University of Georgia, Athens, GA
Dissertation: Insights into marine bacterial community interactions using novel fitness and chemotaxis assays. Advised by Dr. Mary Ann Moran
- 2014 B.S. Marine Biology, Rutgers, The State University of New Jersey, New Brunswick, NJ, *cum laude*
George H. Cook Honor's Thesis: Exploring a possible link between quorum sensing and caspase-like activity in the halophilic archaeon *Haloferax volcanii*. Co-advised by Dr. Kelly Bidle and Dr. Kay Bidle

Experience

- 2026 - Present **Assistant Research Scientist**, Horn Point Laboratory, University of Maryland Center for Environmental Science, supervised by Dr. Joaquín Martínez Martínez
- 2023 – 2025 **Postdoctoral Scholar Research Associate in Geobiology**, Division of Geological and Planetary Sciences, California Institute of Technology, supervised by Dr. Victoria Orphan
- 2017 – 2023 **Graduate Research Assistant**, Department of Marine Sciences, University of Georgia, Athens, GA, supervised by Dr. Mary Ann Moran
- 2014 – 2017 **ORISE Post-Baccalaureate Researcher**, Center for Biologics Evaluation and Research, U.S. Federal Drug Administration, White Oak, MD, supervised by Dr. Scott Stibitz and Dr. Sheila Dreher-Lesnick
- 2014 **Research Technician**, Institute of Marine and Coastal Sciences, Rutgers, The State University of New Jersey, New Brunswick, NJ, supervised by Dr. Kay Bidle
- 2012 – 2014 **Undergraduate Researcher**, Institute of Marine and Coastal, Rutgers, The State University of New Jersey, New Brunswick, NJ, supervised by Dr. Kay Bidle
- 2012 **Intern**, Aquaculture Research Center, Department of Marine Biotechnology, Institute of Marine and Environmental Technology, University of Baltimore County, Baltimore, MD, supervised by Dr. Yonathan Zohar
- 2007 **Intern**, Aquaculture Research Center, Center of Marine Biotechnology, University of Maryland Biotechnology Institute, Baltimore, MD

Honors and Awards

- 2023 – 2025 Postdoctoral Scholar Research Associate in Geobiology in the Division of Geological and Planetary Sciences, California Institute of Technology

2023	Department of Marine Sciences Research Award, University of Georgia
2018 – 2023	National Science Foundation, Graduate Research Fellowships Program Fellow
2017	National Science Foundation, Graduate Research Fellowships Program Honorable Mention
2014	Outstanding Senior Award, Institute of Marine and Coastal Sciences, Rutgers University
2014	<i>Aresty</i> Research Fellowship, Rutgers University
2013	American Society for Microbiology Undergraduate Research Fellowship
2013	Research Internship in Ocean Sciences (RIOS) recipient, Rutgers University
2012 – 2014	School of Environmental and Biological Sciences George H. Cook Honors Scholar
2011 – 2014	Dean's Honors List (six semesters), School of Environmental and Biological Sciences, Rutgers University
2010 – 2014	James Dickson Carr Scholarship, Rutgers University

Publications

†Co-first authors

Powers, McKenzie A., **Jeremy E. Schreier**, William F. Schroer, Madeline K. Shepard, Sara Anderson, Maria Florencia Breitman, Jade LaDow, Michelle Tigges, Min Zhong, Victoria Centurino, Mariel Pfeifer, Dillon A. Doomstorm, Taylor N. English, Carl Gibson, Julia M. Jacob, Mary Ann Moran, Erin L. Dolan. "Ocean Genes CURE: Learning by researching the influence of ocean microbes on global carbon cycling". *In revision for CourseSource*.

Olofsson, Malin, Mario Uchimiya, Frank X. Ferrer-González, **Jeremy E. Schreier**, McKenzie A. Powers, Christa B. Smith, Arthur S. Edison, Mary Ann Moran. "Dynamic reworking of marine diatom endometabolomes in response to temperature and a model bacterium." *mSystems* (2025) e01036-25.

Durham, Bryndan P., Winifred M. Johnson, Catherine C. Bannon, Erin M. Bertrand, Anitra E. Ingalls, Bethanie R. Edwards, Amy Apprill, Angela K. Boysen, Randelle M. Bundy, Huan Chen, Frank X. Ferrer-González, Cara Fiore, Katherine R. Heal, Constanze Kuhlisch, Shuting Liu, Kaijun Lu, Laurel Meke, Sammy Pontrelli, Viyapuri Ramalaingam Prabavathy, Alicia M. Reigel, Joshua S. Sacks, **Jeremy E. Schreier**, Jegan Sekar, Mario Uchimiya, Elizabeth B. Kujawinski. "An ecological framework for microbial metabolites in the ocean ecosystem." *Limnology and Oceanography Letters* 10 no. 5 (2025): 636 - 659

Clerc, Estelle E.†, **Jeremy E. Schreier**†, Jonasz Słomka, Christa B. Smith, He Fu, Jean-Baptiste Raina, Mary Ann Moran, Roman Stocker. "Chemotaxis, growth, and inter-species interactions shape early bacterial community assembly." *The ISME Journal* 19 no. 1 (2025): wraf101

Dorosky, Robert J., **Jeremy E. Schreier**, Stephanie L. Lola, Rosa L. Sava, Michael P. Coryell, Adovi Akue, Mark KuKuruga, Paul E. Carlson Jr, Sheila M. Dreher-Lesnicks, and Scott Stibitz. "Nanobodies as potential tools for microbiological testing of live biotherapeutic products." *AMB Express* 14, no. 1 (2024): 9.

D'Souza, Glen, Julia Schwartzman, Johannes Keegstra, **Jeremy E. Schreier**, Michael Daniels, Otto X. Cordero, Roman Stocker, and Martin Ackermann. "Interspecies interactions determine growth dynamics of biopolymer-degrading populations in microbial communities." *Proceedings of the National Academy of Sciences* 120, no. 44 (2023): e2305198120.

Dorosky, Robert J., Stephanie L. Lola, Haleigh A. Brown, **Jeremy E. Schreier**, Sheila M. Dreher-Lesnick, and Scott Stibitz. "Characterization of Lactobacilli Phage Endolysins and Their Functional Domains—Potential Live Biotherapeutic Testing Reagents." *Viruses* 15, no. 10 (2023): 1986.

Schreier, Jeremy E., Christa B. Smith, Thomas R. Ioerger, and Mary Ann Moran. "A mutant fitness assay identifies bacterial interactions in a model ocean hot spot." *Proceedings of the National Academy of Sciences* 120, no. 12 (2023): e2217200120.

Ferrer-González, Frank X., Maria Hamilton, Christa B. Smith, **Jeremy E. Schreier**, Malin Olofsson, and Mary Ann Moran. "Bacterial transcriptional response to labile exometabolites from photosynthetic picoeukaryote *Micromonas commoda*." *ISME communications* 3, no. 1 (2023): 5.

Olofsson, Malin, Frank X. Ferrer-González, Mario Uchimiya, **Jeremy E. Schreier**, Nicole R. Holderman, Christa B. Smith, Arthur S. Edison, and Mary Ann Moran. "Growth-stage-related shifts in diatom endometabolome composition set the stage for bacterial heterotrophy." *ISME communications* 2, no. 1 (2022): 28.

Moran, Mary Ann, Frank X. Ferrer-González, He Fu, Brent Nowinski, Malin Olofsson, McKenzie A. Powers, **Jeremy E. Schreier**, William F. Schroer, Christa B. Smith, and Mario Uchimiya. "The Ocean's labile DOC supply chain." *Limnology and Oceanography* 67, no. 5 (2022): 1007-1021.

Dreher-Lesnick, Sheila M., **Jeremy E. Schreier**, and Scott Stibitz. "Development of phage lysin LysA2 for use in improved purity assays for live biotherapeutic products." *Viruses* 7, no. 12 (2015): 6675-6688.

Publications in Preparation

Schroer, William F. †, **Jeremy E. Schreier**†, Dan Utter, Elinor Holland, Eric J. Liaw, Francisco M. Hernández, Mary Ann Moran, Victoria J. Orphan. "Community structure and resource supply modulate marine phage infection dynamics". *In prep for Nature Microbiology*.

Hamilton, Maria M. †, **Jeremy E. Schreier**†, William F. Schroer, Madeline Shepard, Mary Ann Moran. "Bacterial gene fitness underlying interactions with diverse phytoplankton". *In prep for ISME J*.

Schreier, Jeremy E., Mario Uchimiya, Severen E. Brown, Justus W. Fink, William F. Schroer, Christa B. Smith, Mary Ann Moran. "Bacterial fitness outcomes in increasingly rich phycosphere communities". *In prep for ISME J*

Book Chapters

Schreier J. E., and Van Dover Cindy L, Hydrothermal Vent Ecology, 2019. In Cochran, J. Kirk; Bokuniewicz, J. Henry; Yager, Patricia L. (eds.) *Encyclopedia of Ocean Sciences*, 3rd Edition, vol. [4], pp. 320-329. Oxford: Elsevier.

Schreier J. E., and Reysenbach Anna-Louise, Deep-Sea Ridges, Microbiology, 2019. In Cochran, J. Kirk; Bokuniewicz, J. Henry; Yager, Patricia L. (eds.) *Encyclopedia of Ocean Sciences*, 3rd Edition, vol.[4], pp. 291-298. Oxford: Elsevier.

Schreier J. E., and Lutz Richard A, Hydrothermal Vent Biota, 2019. In Cochran, J. Kirk; Bokuniewicz, J. Henry; Yager, Patricia L. (eds.) *Encyclopedia of Ocean Sciences*, 3rd Edition, vol.[4], pp. 308-319. Oxford: Elsevier.

Schreier J. E., Dynamics of Bacteria and Phytoplankton in the Surface Ocean, 2019. In Cochran, J. Kirk; Bokuniewicz, J. Henry; Yager, Patricia L. (eds.) *Encyclopedia of Ocean Sciences*, 3rd Edition, vol.[1], pp. 546-552. Oxford: Elsevier.

Oral and Poster Presentations

Schreier, J.E., W.F. Schroer, E. Liaw, F. Martinez, M.A. Moran, V.J. Orphan. 'Marine bacteriophage dynamics vary with host culture conditions'. [Oral]. ASM Microbe, June 22, 2025, Los Angeles, California

- Schreier, J.E.**, W.F. Schroer, E. Liaw, F. Martinez, M.A. Moran, V.J. Orphan. 'Marine bacteriophage dynamics vary with host culture conditions'. **[Oral]**. Simons Collaboration on Principles of Microbial Ecology, February 2025, Los Angeles, California
- Schreier, J.E.**, W.F. Schroer, S.N. Silverman, V.J. Orphan. '(g)Host-phage dynamics in a model diatom system'. **[Poster]**. Simons Collaboration on Principles of Microbial Ecology, September 2024, New York City, New York.
- Schreier, J.E.**, S.E. Brown, M.A. Moran. 'Competition reversal in phycosphere bacterial communities of intermediate richness'. **[Oral]**. Simons Collaboration on Principles of Microbial Ecology, February 2023, La Jolla, San Diego.
- Schreier, J.E.**, C.B. Smith, T. R. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Invited Oral]**. Fulbright University Vietnam, 2022, Scientific Inquiry CORE104.
- Schreier, J.E.**, C.B. Smith, T. R. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Invited Oral]**. C-CoMP Physiology Working Group, October 4, 2022, Virtual Meeting.
- Schreier, J.E.**, C.B. Smith, T. R. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Oral]**. Simons Collaboration on Principles of Microbial Ecology, August 24-26, 2022, New York City, New York.
- Schreier, J.E.**, C.B. Smith, T. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Invited Oral]**. UCSD qBio Meeting, March 22, 2022, Virtual meeting
- Schreier, J.E.**, C.B. Smith, T. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Oral]**. Ocean Sciences Meeting, February 24-March 4, 2022, Virtual meeting
- Schreier, J.E.**, C.B. Smith, T. Ioeberger, M.A. Moran; 'Novel insights into phycosphere ecology through mutant fitness assays' **[Invited Oral]**. FUME lab meeting, September 24, 2021, Virtual meeting
- Schreier, J.E.**, C.B. Smith, T. Ioeberger, M.A. Moran. Fitness effects on bacterial mutants in a phycosphere community **[Oral]**. 1st Annual Marine Sciences Student Research Symposium. Department of Marine Sciences, UGA. Fall 2020. **Awarded a 'Top Three' Recognition.**
- Schreier, J. E.**, C.B. Smith, T. Ioeberger, M.A. Moran. Fitness effects on bacterial mutants in a phycosphere community **[Oral]**. Simons Collaboration on Principles of Microbial Ecology. September 2 – 7, 2020, Virtual Meeting.
- Schreier, J. E.** Environmental metatranscriptomics tutorial **[Oral]**. Simons Collaboration on Principles of Microbial Ecology. September 2 – 7, 2019, Tuscany, Italy.
- Schreier, J. E.**, C.B. Smith, H. Fu, E. Suggs, S. Sharma, M.A. Moran. Genetic basis of microbial success during marine microbiome assembly **[Poster]**. Simons Collaboration on Principles of Microbial Ecology. September 2 – 7, 2019, Tuscany, Italy.
- Schreier, J.E** & W. F. Schroer, M. A. Moran. Deconstructing trophic transfer between phytoplankton and bacteria **[Poster]**. Marine Particles and Phycosphere 2019. May 19 – 23, 2019, Ascona, Switzerland.
- Schreier, J. E.**, C.B. Smith, H. Fu, E. Suggs, S. Sharma, M.A. Moran. Genetic basis of microbial success during marine microbiome assembly **[Poster]**. ASLO 2019 Aquatic Sciences Meeting. February 23 – March 02, 2019, San Juan, PR. Poster 167.
- William F. Schroer, **J. E. Schreier**, M.A. Moran. Qualitative method to address trophic transfer between phytoplankton and bacteria **[Poster]**. 104th ASM Southeastern Branch Meeting. November 30 – December 02, 2018, Atlanta, GA.
- Schreier, J. E.**, S. Sharma, C.B. Smith, M.A. Moran. Genetic basis of microbial success during community assembly **[Poster]**. 104th ASM Southeastern Branch Meeting. November 30 – December 02, 2018, Atlanta, GA.

Schreier, J.E., M.A. Moran. How do the metabolic functions and interactions of microbes shape community assemblage on naturally occurring, complex substrates over time **[Poster]**. Simons Collaboration on Theory of Microbial Ecosystems (THE-ME). September 6-8, 2017, Cambridge, MA.

Schreier, J. E., S. M. Dreher-Lesnack, S. Stibitz. Development of nanobodies and bacteriophage lysin LysA2 cell binding domain for use in improved potency assays for live biotherapeutic products **[Poster]**. ASM Microbe 2017. June 1-5, 2017, New Orleans, LA. Abstract 5499

Schreier, J. E., S. M. Dreher-Lesnack, S. Stibitz. Development of nanobodies for improved potency assays for live biotherapeutic products **[Poster]**. Center for Biologics Evaluation & Research Science Symposium 2016. May 24-26, 2016, Silver Spring, MD. Abstract 91

Schreier, J. E., S. M. Dreher-Lesnack, M. Libonati, A. Ngouajio, S. Stibitz. Developing assays for probiotic products to better determine purity and potency using recombinant phage lysins **[Poster]**. 21st Biennial Evergreen International Phage Meeting. August 2-7, 2015, Olympia, WA.

Schreier, J. E., M. Seth-Pasricha, K. A. Bidle, and K. D. Bidle. Exploring a possible link between quorum sensing and caspase-like activity in the halophilic archaeon *Haloferax volcanii* **[Poster]**. ASM 114th General Meeting. May 17-20, 2014, Boston, MA. Abstract I-253.

Mentoring Experience

Research Mentor:

- Elinor Holland, Undergraduate, Caltech
- Madison Dunitz, Ph.D. Candidate, Caltech
- Shaelyn Silverman, Ph.D. Candidate, Caltech
- Severen E. Brown, Masters Student, UGA
- Maisha T. Epps, Masters Student, UGA
- Veida Stringfield, Undergraduate, UGA

Teaching Experience

Taught lecture on the marine carbon cycle for an upper-level undergraduate/graduate level course (Ge/ESE/Bi 178), February 2025

Developed lab and lecture on metabolism and energy flows in the pelagic environment for MARS 4500, Summer 2023

Screening transposon mutant libraries to identify novel substrate transporters, Center for Chemical Currencies of a Microbial Planet Course-based Undergraduate Research Experience "Hunting for Ocean Genes". *Currently taught at multiple institutions of higher learning.*

Developed lab and lecture on metabolism and energy flows in salt marsh and pelagic environments for MARS 4500, Summer 2022

Developed lab and lecture on microbial diversity for MARS 4500, Summer 2021

Developed lab and lecture on microbial ecology for UGAMI Marine Biology Spring Semester 2020

Developed lab and lecture on bacterial production for MARS 4500, 2019

Outreach and Volunteering

Blair High School, Pasadena, CA, Outreach activity teaching students about microbial diversity, November 14-15, 2024

Georgia Science & Engineering Fair Junior Division Judge, Athens, GA, March 31, 2023

Georgia Science & Engineering Fair Junior Division Judge, Athens, GA, April 1, 2022

Georgia Science & Engineering Fair, Senior and Junior Division Judge, Athens, GA, March 24 – 27 / April 10, 2020

Georgia Science & Engineering Fair, Junior Division Judge, Athens, GA, March 29, 2019

STEMzone at Auburn Game, Volunteer, Athens, GA, November 10, 2018

Skidaway Marine Science Day, Volunteer, Skidaway, GA, October 13, 2018

The Kindezi School West Middle School Science Fair, Judge, May 9, 2018

Georgia Science & Engineering Fair, Junior Division Judge, Athens, GA, March 23, 2018

Montgomery County Science Fair, Middle School Biology Judge, White Oak, MD, March 18, 2017
Montgomery County Science Fair, Middle School Biology Judge, White Oak, MD, March 12, 2016
Montgomery County Science Fair, Middle School Behavioral and Social Sciences Judge, White Oak, MD, March 14, 2015

Positions Held

Co-Chair, UGA Marine Sciences Diversity, Equity, and Inclusion Curriculum Subcommittee, June 2021 – June 2022.
Co-Chair, UGA Marine Sciences Diversity, Equity, and Inclusion Resources and Relationships Subcommittee, June 2020 – 2021.
Marine Sciences Graduate Student Association Treasurer, August 2017 – 2020

Lab Skills

PCR, Quantitative 16S analysis, Transposon-sequencing, DNA cloning and electrophoresis, western blotting, genomics, protein purification, FPLC, epi-fluorescent microscopy, confocal microscopy, flow cytometry, protein and enzyme assays, assay development, nanoSIMS analysis, and microbial (bacteria, archaea, phytoplankton, virus) culturing techniques

Field Skills and Experience

Field experience aboard the R/V Melville, R/V Savannah, R/V Spartina, and salt marshes on Sapelo Island, GA.,
Real-time Kinematic GPS training

Technical Skills

Business and technical writing, Adobe Illustrator, Adobe Photoshop, R, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, public speaking, conference organizing

References available upon request