

Curriculum Vitae

Craig A. Carlson

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Education

1994: Ph.D. University of Maryland, College Park, MD
1986: B.A. Colby College, Waterville, ME 1986

Professional Background

2022 – present Distinguished Professor of Marine Science, University of California, Santa Barbara
2015 – present Director of Simons Foundation International's BIOS-SCOPE program
2000 – present Adjunct Faculty, Bermuda Institute of Ocean Science, Bermuda
2007 – present Professor, University of California, Santa Barbara, CA
2018 – 2020 Vice Chair of the Interdepartmental Graduate Program in Marine Science, UCSB
2013- 2016 Chair of Ecology Evolution and Marine Biology Department
2010- 2013 Vice Chair of Ecology Evolution and Marine Biology Department
2003- 2007 Associate Professor, University of California, Santa Barbara, CA
2000 - 2003 Assistant Professor, University of California, Santa Barbara, CA
1999 – 2000 Associate Research Scientist, Bermuda Institute of Ocean Science, Bermuda.
1997- 1999 Assistant Research Scientist, Bermuda Institute of Ocean Science, Bermuda.
1994- 1996 Postgraduate researcher, Bermuda Institute of Ocean Science, Bermuda
(October 1994 – December 1996).
1988-1994 Graduate Research Assistant, University of Maryland's Horn Point Laboratory, Cambridge, MD.
1987 Research technician, Bermuda Institute of Ocean Science, Bermuda

Honors and Awards

1988 Horn Point Fellowship, University of Maryland, 1988-1990
1994 Phi Kappa Phi, National Honor Society
1995 US Congressional Antarctic Service Medal
2002 Ocean Sciences Early Career Award- American Geophysical Union
2010 Ian Morris Scholar 2010: Scholar in residence Horn Point Laboratory, Univ of Maryland
2015 G.E. Hutchinson Award- Association for the Society of Limnology and Oceanography
2018 Elected Fellow for the American Association for the Advancement of Science (AAAS)
2019 NASA's Group Achievement Award for contributions to the NASA NAAMES mission
2024 Sustaining Fellow of the Association for the Society of Limnology and Oceanography

Research Grants (active or awarded since arriving at UCSB in 2001)

Bermuda Atlantic Time-series Study, years 11-13. Period: 1998- 2001. Co-PI, Awarded by NSF Chem. OCE to A.H. Knap, D.K. Steinberg, C.A. Carlson, N.R. Bates and A.F. Michaels. (\$2,099,992)
Comparative dynamics of CDOM in open ocean systems. Period: 1999 – 2003. Co-PI, Awarded by NSF Chem. OCE to N.B. Nelson, C.A. Carlson, and D.K. Steinberg (\$445,832)
Collaborative Research on bacterioplankton biology and biogeochemistry at the Bermuda Atlantic Time-series Study station: An Oceanic Microbial Observatory. Period: 1999 – 2003. Lead PI, Awarded by NSF Microbial Observatories program to C.A. Carlson (BBSR component: \$298,318) and S.J. Giovannoni (OSU component)
Quantification and modeling of DOC and DON release in marine systems: A study of increasing trophic complexity. Period: 2002 –2007. Co-PI, Awarded by NSF Biocomplexity. C.A. Carlson \$253,000 UCSB component; Bronk of VIMS is lead PI

Collaborative Research Linking Microbial Discovery to Biogeochemical Processes: An Oligotrophic Oceanic Microbial Observatory. Period: 2003 – 2008. Lead PI, Awarded by NSF Microbial Observatories program to C.A. Carlson (UCSB component: \$592,198) and S.J. Giovannoni (OSU component)

Collaborative Research: Global Ocean Repeat Hydrography, Carbon and Tracer Measurements. Period 2003-2005 Awarded as a subcontract from University of Miami from NSF award (\$246,537)

Chromophoric DOM: An ignored Photoactive Tracer of Geochemical Processes. Period 2003 – 2005. Co-PI, awarded by NSF chemical oceanography and NASA to D. Siegel, C. Carlson and N. Nelson (\$800,000)

The Effect of Mesoscale Eddy Perturbations on Microbial Processes and Community Structure in the Sargasso Sea. Period 2004 – 2007. PI, Awarded by NSF Biological Oceanography to C.A. Carlson (\$342,038)

SGER: DOM on U.S. Global Repeat Hydrography Survey: Line 16S. Period 2005. PI, Awarded by NSF Chemical Oceanography to C.A. Carlson (\$25,901)

UCSB Instruction Improvement Grant. Period 2005. (\$6,300)

U.S. Global Repeat Hydrographic/CO₂/Tracer Surveys: DOM Distribution and Dynamics" Period 2008 Awarded as a subcontract from University of Miami from NSF award (\$73,795)

Collaborative Research: Transitions in the Surface Layer and the Role of Vertically Stratified Microbial Communities in the Carbon Cycle- An Oceanic Microbial Observatory. Period 2008- 2013. Lead PI, NSF (\$803,765)

Collaborative Research: Global Ocean Repeat Hydrography, Carbon, and Tracer Measurements, Period 2009-2014. Subcontract through University of Miami from NSF \$706,338

Mechanisms Controlling the Production and Fate of DOM During Diatom Blooms. Period 2009- 2012. NSF (\$689,579; PI Carlson, CoI Brzezinski)

Collaborative Research: ETBC: The coupling between DOM, algae, and microbes on coral reef platforms. Period 2009- 2012. UCSB PI NSF (\$339,737)

Will High CO₂ Conditions Affect Production, Partitioning and Fate in Organic Matter? Period 2010- 2015; Co-PI, NSF (\$971,524; Passow, Brzezinski, Carlson)

Improvement to the BIOS Summer course Microbial Oceanography: The Biogeochemistry, Ecology and Genomics of Oceanic Microbial Ecosystems. Period 2010- 2012. Lead PI, Gordon and Betty Moore Foundation (\$392,501)

Collaborative Research: Seawater Inorganic and Organic Carbon Measurements for the US GEOTRACES Eastern Pacific Zonal Transect. Period 2013- 2015. Lead PI, NSF Chem OCE (\$163,075)

Collaborative Research: Global Ocean Repeat Hydrography, Carbon and tracer measurements 2015-2020. Subcontract through University of Miami from NSF Chem OCE. (\$871,417)

Analyses of dissolved organic carbon and total nitrogen for the Hawaii Ocean Time-series (HOT) program. Period 2015–2018. Subcontract from University of Hawaii from NSF (\$231,852)

Collaborative Research: Dissolved organic matter feedbacks in coral reef resilience: The genomic & geochemical basis for microbial modulation of algal phase shifts. Period 2015-2018. UCSB PI, NSF Bio OCE (\$382,543)

BIOS SCOPE -A collaborative program for the study of microbial oceanography in the North Atlantic Subtropical Gyre. Period 2015-2020. Director of Science and Co-PI, (Total project ~\$6M; UCSB \$1,155,480); 2015-2021

Tracking the temporal and spatial variability of dissolved organic matter, its diagenetic state and bioavailability during various bloom states in the North Atlantic. Period 2015-2019. NSF Chem OCE (\$661,501); 2015-2021.

Evaluating the Controls of Dissolved Organic Matter Accumulation, Its Subsequent Diagenetic Alteration and Contribution to Export Flux. Period 2018- 2021. NASA (\$1,232,170) split btw UCSB and U Miami; \$611,660 to UCSB); 2018-2021.

NASA EXPORTS COVID Bridge funding. NASA (\$149,999 split btw UCSB and U Miami; \$84,154 to UCSB); 2021-2022.

Hawaii Ocean Time-series (HOT): 2018-2023. Subcontract from University of Hawaii from NSF (\$234,304); Period 2018-2023.

BIOS-SCOPE II - A collaborative program for the study of Microbial Oceanography in the North Atlantic Subtropical Gyre (~\$12M Total; UCSB -\$1,459,085); Director of Science and Co-PI, Period 2020 –2025.

Collaborative Research: US GO-SHIP 2021-2026 Repeat Hydrography, Carbon and Tracers (~\$8M total, UCSB -\$1,234,606); Period March 2021 – Feb 2027. Lead PI for the Carbon group.

Quantifying the potential and risks of large-scale macrophyte cultivation and purposeful sequestration as a viable CO₂ reduction (CDR) strategy; Co PI, DOE/ ARPA-e (\$2,247,691).

Hawaii Ocean Time-series (HOT): 2023-2028. Subcontract from University of Hawaii from NSF (\$298,144); Period 2018-2023

Scholarly Activities

Link to google scholar page and current h-Index: <https://scholar.google.com/citations?user=4Td-fJUAAAAAJ&hl=en>

Journal Publications

1. Fuhrman, J.A., T.D. Sleeter, C.A. Carlson and L.M. Proctor. 1989. Dominance of bacterial biomass in the Sargasso Sea and its ecological implications. *Marine Ecology Progress Series*, 57:207-217
2. Ducklow, H.W., D.L. Kirchman, H.L. Quinby, C.A. Carlson and H.G. Dam. 1993. Stocks and dynamics of bacterioplankton carbon during the spring bloom in the eastern North Atlantic Ocean. *Deep-Sea Research II*, 40: 245-263.
3. Sambrotto, R.N., J.H. Martin, W.W. Broenkow, C.A. Carlson and S.E. Fitzwater, 1993. Nitrate utilization in surface waters of the Iceland Basin during spring summer 1989. *Deep-Sea Research II*, 40:441-457.
4. Sharp, J.H., E.T. Peltzer, M.J. Alperin, G. Cauwet, J.W. Farrington, B. Fry, D.M. Karl, J.H. Martin, A. Spitzy, S. Turgid and C.A. Carlson. 1993. DOC Procedures subgroup report. *Marine Chemistry*, 41: 37-49.
5. Sharp, J.H., R. Benner, L. Bennett, C.A. Carlson, R. Dow and S.E. Fitzwater. 1993. A re-evaluation of high temperature combustion and chemical oxidation measurements of dissolved organic carbon in seawater. *Limnology and Oceanography*, 38: 1774-1782.
6. Carlson C.A., H.W. Ducklow and A.F. Michaels. 1994. Annual flux of dissolved organic carbon from the euphotic zone in the northwestern Sargasso Sea. *Nature*, 371: 405-408.
7. Michaels, A.F., N.R. Bates, K.O. Buesseler, C.A. Carlson, A.H. Knap. 1994. Carbon-cycle imbalances in the Sargasso Sea. *Nature*, 372: 537-540.
8. Sharp, J.H., R. Benner, L. Bennett, C.A. Carlson, S.E. Fitzwater, E.T. Peltzer and L. Tupas. 1995. Analyses of dissolved organic carbon in seawater: The JGOFS EqPac methods comparison. *Marine Chemistry*, 48: 91-108.
9. Carlson C.A., H.W. Ducklow. 1995. Dissolved organic carbon in the upper ocean of the central Equatorial Pacific, 1992: Daily and finescale vertical variations. *Deep Sea Research II*, 42: 639-656.
10. Ducklow, H.W., H.L. Quinby, C.A. Carlson. 1995. Bacterioplankton in the equatorial Pacific Ocean during the 1992 El Niño. *Deep-Sea Research II*, 42: 621-638.
11. Ducklow, H.W., C.A. Carlson, N.R. Bates, A.H. Knap and A.F. Michaels. 1995. Dissolved organic carbon as a component of the biological pump in the North Atlantic Ocean. *Philosophical Transactions of the Royal Society*, series B 348: 161-167.
12. Carlson C.A., H.W. Ducklow, T. D. Sleeter. 1996. Stocks and dynamics of bacterioplankton in the northwestern Sargasso Sea. *Deep Sea Research II*, 43: 491-516.
13. Carlson C.A., H.W. Ducklow. 1996. Growth of bacterioplankton and consumption of dissolved organic carbon in the Sargasso Sea. *Aquatic Microbial Ecology*, 10: 68-85.
14. Carlson C.A., D. Hansell, R. Parsons, B. Cullen. 1997. Distribution patterns of dissolved organic carbon in the Ross Sea Polynya: November-December, 1994. *Antarctic Journal of the U.S.*, 30: 203-204.
15. Hansell, D.A., N. R. Bates, C.A. Carlson. 1997. Predominance of vertical loss of carbon from surface waters of the equatorial Pacific Ocean. *Nature*, 386: 59-61.
16. Hansell, D.A., C. A. Carlson, N.R. Bates, A. Poisson, 1997. Horizontal and vertical removal of organic carbon in the equatorial Pacific Ocean: A mass balance assessment. *Deep-Sea Research II*, 44: 2115 - 2130
17. Carlson C.A., H.W. Ducklow, D.A. Hansell and W.O. Smith Jr. 1998. Organic carbon partitioning during spring phytoplankton blooms in the Ross Sea Polynya and the Sargasso Sea. *Limnology and Oceanography*, 43: 375-386.
18. Hansell, D.A., C.A. Carlson, 1998a. Net community production of dissolved organic carbon. *Global Biogeochemical Cycles*, 12: 443-453.
19. Hansell, D.A. and C.A. Carlson 1998b. Deep ocean gradients in the concentration of dissolved organic carbon. *Nature*, 395: 263-266.
20. Bates, N.R., D.A. Hansell, C.A. Carlson, and L.I. Gordon, 1998. Distribution of CO₂ species, estimates of net community production and air-sea CO₂ exchange in the Ross Sea polynya. *Journal of Geophysical Research*, 103: 2883-2896.
21. Smith, W.O., C.A. Carlson, H.W. Ducklow, and D.A. Hansell. 1998. Growth dynamics of *Phaeocystis antarctica* dominated plankton assemblages from the Ross Sea. *Marine Ecology Progress Series*, 168: 229-244.

22. Carlson, C.A., N.R. Bates, H.W. Ducklow and D.A. Hansell. 1999. Estimation of bacterial respiration and growth efficiency in the Ross Sea, Antarctica. *Aquatic Microbial Ecology*, 19: 229-244
23. Ducklow, H.W., C.A. Carlson and W.O. Smith 1999. Bacterial growth in experimental plankton assemblages and seawater cultures from the *Phaeocystis antarctica* bloom in the Ross Sea, Antarctica. *Aquatic Microbial Ecology*, 19: 215-227.
24. Lanoil B.D., C.A. Carlson, S.J. Giovannoni. 2000. Bacterial chromosomal painting for in situ monitoring of cultured marine bacteria. *Environmental Microbiology*, 2 (6), 654-665.
25. Carlson C.A., D.A. Hansell, E.T. Peltzer and W.O. Smith. 2000. Stocks and dynamics of dissolved and particulate organic matter in the southern Ross Sea, Antarctica. *Deep-Sea Research II*, 47: 3201-3226.
26. Mathot, S., W.O. Smith, Jr., C.A. Carlson, D.L. Garrison, M.M. Gowing, and C.L. Vickers. 2000. Carbon partitioning within *Phaeocystis antarctica* (Prymnesiophyceae) colonies in the Ross Sea, Antarctica. *Journal of Phycology*. 36: 1049-1056.
27. Steinberg, D.K., C.A. Carlson, N.R. Bates, S.A. Goldthwait, L.P. Madin and A.F. Michaels. 2000. Zooplankton vertical migration and the active transport of dissolved organic and inorganic carbon in the Sargasso Sea. *Deep Sea Research I*, 47: 137-158.
28. Steinberg, D.K., C.A. Carlson, N.R. Bates, R.J. Johnson, A.F. Michaels, and A.H. Knap. Overview of the U.S. JGOFS Bermuda Atlantic Time-series Study (BATS): A decade-scale look at ocean biology and biogeochemistry. 2001 *Deep-Sea Research II*, 48: 1405-1447.
29. Sweeney, C., D.A. Hansell, C. A. Carlson, L. Codispoti, L. Gordon, J. Marra, F. Millero, W.O. Smith and T. Takahashi. 2000 Biogeochemical regimes, net community production and carbon export in the Ross Sea, Antarctica. *Deep-Sea Research II*, 47: 3369 - 3394.
30. Sweeney, C., W.O. Smith, B. Hales, R.R. Bidigare, C.A. Carlson, L.A. Codispoti, L.I. Gordon, D.A. Hansell, F.J. Millero, M. Park and T. Takahashi. 2000. Nutrient and carbon removal ratios and fluxes in the Ross Sea, Antarctica. *Deep-Sea Research II* 47: 3395 - 3422
31. Hansell, D.A. and C.A. Carlson. 2001a. Biogeochemistry of total organic carbon and nitrogen in the Sargasso Sea: Control by convective overturn. *Deep Sea Research II* 48 (8-9): 1649-1667.
32. Ducklow, H.W., C.A. Carlson, D.L. Kirchman, W.O. Smith, F. Azam, A. Sanford, M. Church, G. Steward, R. Long, D. Smith. 2001. The Seasonal Development of Bacterioplankton in the Ross Sea, Antarctica, 1994-97. *Deep Sea Research II* 48: 4199-4221.
33. Fasham, M.J.R.; Balino, B.M.; Bowles, M.C.; Anderson, R.; Archer, D.; Bathmann, U.; Boyd, P.; Buesseler, K.; Burkill, P.; Bychkov, A.; Carlson, C.; Chen, C.T.A.; Doney, S.; Ducklow, H.; Emerson, S.; Feely, R.; Feldman, G.; Garcon, V.; Hansell, D.; Hanson, R.; Harrison, P.; Honjo, S.; Jeandel, C.; Karl, D.; Le Borgne, R.; Liu, K.K.; Lochte, K.; Louanchi, F.; Lowry, R.; Michaels, A.; Monfray, P.; Murray, J.; Oschlies, A.; Platt, T.; Priddle, J.; Quinones, R.; Ruiz-Pino, D.; Saino, T.; Sakshaug, E.; Shimmield, G.; Smith, S.; Smith, W.; Takahashi, T.; Treguer, P.; Wallace, D.; Wanninkhof, R.; Watson, A.; Willebrand, J.; Wong, C.S. A new vision of ocean biogeochemistry after a decade of the Joint Global Ocean Flux Study (JGOFS). *AMBIO*. 10: 4-31.
34. Hansell, D.A. and C.A. Carlson. 2001b. Marine dissolved organic matter and the carbon cycle. *Oceanography*. 14: 41-49.
35. Kirchman, D.L., B. Meon, H.W. Ducklow, C.A. Carlson, D.A. Hansell, and G. Steward. 2001 Glucose fluxes and concentrations of dissolved combined sugars (polysaccharides) in the Ross Sea and Polar Front Zone, Antarctica. *Deep Sea Research II*, 48:4179-4197.
36. Hansell, D.A., C.A. Carlson and S. Suzuki. 2002. Dissolved organic carbon export with North Pacific Intermediate Water formation. *Global Biogeochemical Cycles* 16: 77-84.
37. Lipschultz, F., N.R. Bates, C.A. Carlson, and D.A. Hansell. 2002. New production in the Sargasso Sea: history and current status. *Global Biogeochemical Cycles* 16: 1-16.
38. Sharp, J., C.A. Carlson, E.T. Peltzer, D.M. Castle-Ward, K.B. Savidge, K.R. Rinker 2002. Final dissolved organic carbon broad community intercalibration and preliminary use of DOC reference materials. *Marine Chemistry*. 77: 239-253.
39. Carlson, C.A., S.J. Giovannoni, D.A. Hansell, S.J. Goldberg, R. Parsons, M.P. Otero, K. Vergin, and B.R. Wheeler. 2002. The effect of nutrient amendments on bacterioplankton production, community structure and DOC utilization in the northwestern Sargasso Sea. *Aquatic Microbial Ecology*. 30: 19 - 36
40. Lomas, M.W., N.R. Bates, A.H. Knap, D.M. Karl, R. Lukas, M.R. Landry, R.R. Bidigare, D.K. Steinberg, C.A. Carlson. 2002. Modernization of our understanding of oceanographic biogeochemistry and ecosystem functioning. *EOS* 48:559-566
41. Morris, R.M., M. Rappé, S.A. Connon, K.L. Vergin, W.A. Siebold, C.A. Carlson, S.J. Giovannoni. 2002. SAR11 clade dominates ocean surface bacterioplankton. *Nature*. 420: 806-810.

42. Gardner, W.D., M.J. Richardson, C.A. Carlson, D.A. Hansell. 2003. Determining True particulate organic carbon: bottles, Pumps and Methodologies. *Deep Sea Research II*. 50:655-674.
43. Steinberg, D.S., N. B. Nelson, C. A. Carlson, and A. Prusak 2004. Production of Chromophoric Dissolved Organic Matter (CDOM) in the Open Ocean by Zooplankton and the Colonial Cyanobacterium *Trichodesmium* spp. *Marine Ecology Progress Series*. 267:45-56.
44. Carlson, C.A., S.J. Giovannoni, D.A. Hansell, S.J. Goldberg, R. Parsons, and K. Vergin. 2004. Interactions among DOC, microbial processes, and community structure in the mesopelagic zone of the northwestern Sargasso Sea. *Limnology and Oceanography*. 49: 1073-1083.
45. Nelson, N.B., C.A. Carlson and D.K. Steinberg. 2004. Production of chromophoric dissolved organic matter by Sargasso Sea microbes. *Marine Chemistry* 89: 273-287.
46. Goldthwait, S.A., C.A. Carlson, G.K. Henderson, A.L. Alldredge. 2005. Effects of physical fragmentation on remineralization of marine snow? *Marine Ecology Progress Series*. 305: 59-65.
47. Morris, R.M., J.C. Cho, M.S. Rappé, K.L. Vergin, C.A. Carlson, and S.J. Giovannoni. 2005. Temporal and spatial response of bacterioplankton lineages to annual convective overturn at BATS. *Limnology and Oceanography*. 50:1687-1696.
48. *Nelson C., and C.A. Carlson. 2005. A non-radioactive assay of bacterial productivity optimized for oligotrophic pelagic environments. *Limnology and Oceanography Methods* 3: 211-220
49. Hood, R.R., E.A. Laws, R. Armstrong, N. Bates, C.W. Brown, C.A. Carlson, F. Chai, S. Doney, P. Falkowski, R.A. Feely, M. Friedrichs, M. Landry, J.K. Moore, D. Nelson, T. Richardson, B. Salihoglu, M. Schartau, D. Toole, and J.D. Wiggert. 2006. Functional group modeling: Progress, challenges and prospects. *Deep Sea Research II* 53:459-512.
50. Angly, F.E., B. Felts, M. Breitbart, P. Salamon, R.A. Edwards, C.A. Carlson, A.M. Chen, M. Haynes, S. Kelly, H. Liu, J. Mahaffy, J.E. Mueller, J. Nulton, R. Olson, R. Parsons, S. Rayhawk, C.A. Suttle, F. Rohwer. 2006. The Marine Viromes of Four Oceanic Regions. *Public Library of Science Biology* 4:2121-2131
51. Hewson, I., P.H. Moisander, K.M. Achilles, C.A. Carlson, B.D. Jenkins, E.A. Modragon, A.E. Morrison, J.P. Zehr. 2007. Characteristics of diazotrophs in surface to abyssopelagic waters of the Sargasso Sea. *Aquatic Microbial Ecology* 46: 15-30.
52. Nelson, N.B., D.A. Siegel, C.A. Carlson, C. Swan, W.M. Smethie, S. Khatiwala. 2007 Hydrography of Chromophoric Dissolved Organic Matter in the North Atlantic. *Deep Sea Research I* 54:710-731.
53. D.J. McGillicuddy, L.A. Anderson, N.R. Bates, T. Bibby, K.O. Buesseler, C.A. Carlson, C.S. Davis, C. Ewart, P.G. Falkowski, S. Goldthwait, D.A. Hansell, W.J. Jenkins, R. Johnson, V.K. Kosnyrev, J.P. Ledwell, Q.P. Li, D.A. Siegel, D.K. Steinberg. 2007. Eddy/wind interaction stimulate extraordinary mid-ocean plankton blooms *Science* 316: 1021-1026.
54. Claudia R. Benitez-Nelson, Robert R. Bidigare, Tommy D. Dickey, Michael R. Landry, Carrie L. Leonard, Susan L. Brown, Francesco Nencioli, Yoshimi M. Rii, Kanchan Maiti, Jamie W. Becker, Thomas S. Bibby, Will Black, Wei-Jun Cai, Craig Carlson, Fei Rhou Chen, Victor S. Kuwahara, Claire Mahaffey, Patricia M. McAndrew, Paul D. Quay, Michael S. Rappé, Karen E. Selph, Melinda P. Simmons, and Eun Jin Yang. 2007. Mesoscale eddies drive increased silica export in the subtropical Pacific Ocean *Science* 316: 1017-1021
55. Carlson, C.A., P.A. del Giorgio, G.J. Herndl. 2007 Microbes and the Dissipation of Energy and Respiration: From Cells to Ecosystems. *Oceanography* 20:89-100.
56. *Ewart C.S., M.K. Meyers, E. Wallner, D.J. McGillicuddy, C.A. Carlson. 2008. Spatial and temporal dynamics of bacterioplankton in a cyclonic and anticyclonic mode-water eddy in the northwestern Sargasso Sea. *Deep Sea Research II* 55: 1334-1347.
57. *Goldberg, S.J., C.A. Carlson, D.A. Hansell, N.B. Nelson and D.A. Siegel. 2009. Temporal dynamics of dissolved combined neutral sugars and the quality of dissolved organic matter in the northwestern Sargasso Sea. *Deep Sea Research I* 56: 672-685.
58. Sowell M.S., L.J. Wilhelm, A.D. Norbeck, M.S. Lipton, C.D. Nicora, D.F. Barofsky, C.A. Carlson, R.D. Smith, S.J. Giovannoni. 2009. Transport functions dominate the SAR11 metaproteome at low nutrient extremes in the Sargasso Sea. *The ISME Journal*. 3: 93-105
59. Carlson, C., Morris, R., Treusch, A.H., Parsons, R., Giovannoni, S.J., and Vergin, K. (2009) Seasonal Dynamics in SAR11 Populations in the Euphotic and Mesopelagic Zones of the Northwestern Sargasso Sea. *The ISME Journal*. 3:283-295.
60. Treusch, A.H., K.L. Vergin, L.A. Finlay, M.G. Donatz, R.M. Burton, C.A. Carlson and S.J. Giovannoni. 2009. Seasonality and vertical structure of microbial communities in an ocean gyre. *The ISME Journal*. 3: 1148-1163.

61. Swan, C.M., D.A. Siegel, N.B. Nelson, C.A. Carlson and E. Nasira, 2009. Biogeochemical and hydrographic controls on chromophoric dissolved organic matter in the Pacific Ocean. *Deep-sea Res. I* 56:2175-2192.
62. Nelson N.B., D.A. Siegel, N.B. Nelson, C.A. Carlson and C.M. Swan. (2010) Tracing global biogeochemical cycles and meridional overturning circulation using chromophoric dissolved organic matter. *Geophysical Research Letters* L03610, doi:10.1029/2009GL042325
63. Carlson, C.A., D.A. Hansell, N.B. Nelson, D.A. Siegel, W.M. Smethie Jr., S. Khattiwala, M.M. Meyers, E. Wallner. 2010. Dissolved organic carbon export and subsequent remineralization in the mesopelagic bathypelagic realms of the North Atlantic basin. *Deep Sea Research II* 57:1433-1445
64. Robinson, C. D.K. Steinberg, R. Koppelman, B.H. Robison, T.R. Anderson, J. Aristegui, C.A. Carlson, J.R. Frost, J.F. Ghiglione, S. Hernandez-Leon, G.A. Jackson, B. Queguiner, O. Ragueneau, R. Rassoulzadegan, C. Tamburini, T. Tanaka, K.F. Wishner, J. Zhang. 2010. Mesopelagic microbial metazoan diversity and function- a synthesis. *Deep Sea Research II* 57:1504-1518
65. Lomas, M.W., D.K. Steinberg, T. Dickey, C.A. Carlson, N.B. Nelson, R.H. Condon, N.R. Bates (2010). Increased ocean carbon export in the Sargasso Sea is countered by its enhanced mesopelagic attenuation. *Biogeosciences* 7: 57-70.
66. Hansell, D.A., Carlson C.A., Repeta D.J., Schlitzer R., (2009). Dissolved organic matter in the ocean: New insights stimulated by a controversy. *Oceanography* 22: 202-211.
67. *Goldberg S.J., C.A. Carlson, B. Brock, N.B. Nelson, and D.A. Siegel. (2010) Meridional Variability in Dissolved Organic Matter Stocks and Diagenetic State Within the Euphotic and Mesopelagic Zone of the North Atlantic Subtropical Gyre. *Marine Chemistry* 119:9-21.
68. *Goldberg, S.J., C.A. Carlson, M. Brzezinski, N.B. Nelson and D.A. Siegel, 2011: Systematic removal of neutral sugars within dissolved organic matter across ocean basins. *Geophysical Research Letters*, **38**, L17606, doi:10.1029/2011GL048620.
69. Moisaner P.H., R.A. Beinart, I. Hewson, A.E. White, K.S. Johnson, C.A. Carlson, J.P. Montoya and J.P. Zehr (2010) Unicellular cyanobacterial distributions broaden the oceanic N₂ fixation domain. *Science* 327: 1512-1514.
70. Carlson CA, Hansell DA, Tamburini C (2011). DOC persistence and its fate after export within the ocean interior. In: Jiao N, Azam F, Sanders S (eds). *Microbial Carbon Pump in the Ocean*. Science / AAAS Business Office: Washington DC. pp 57-59. 10.1126/science.opms.sb0001
71. McCliment E, Nelson C, Carlson C, Alldredge A, Witting J, Amaral-Zettler L (2012). An all-taxon microbial inventory of the Moorea coral reef ecosystem. *The ISME Journal* 6: 309-319. doi:10.1038/ismej.2011.108
72. *Nelson C, Alldredge A, McCliment E, Amaral-Zettler L, Carlson C (2011). Depleted dissolved organic carbon and distinct bacterial communities in the water column of a rapid-flushing coral reef ecosystem. *The ISME Journal* **5**: 1374-1387. doi:10.1038/ismej.2011.12
73. *Nelson C, Carlson C (2011). Differential responses of high-elevation planktonic bacterial community structure and metabolism to experimental nutrient enrichment. *Public Library of Science ONE* **6**: e18320. doi:10.1371/journal.pone.0018320
74. *Parsons R, Breitbart M, Lomas M, Carlson C (2012). Ocean time-series reveals recurring seasonal patterns of viroplankton dynamics in the northwestern Sargasso Sea. *The ISME Journal* 6:273-284. doi:10.1038/ismej.2011.101
75. Treusch A.H., E. Demir- Hilton, K.L. Vergin, A.Z. Worden, C.A. Carlson, M.G. Donatz, R.M. Burton, S.J. Giovannoni. 2012 . Phytoplankton distribution patterns in the northwestern Sargasso Sea revealed by small subunit rRNA genes from plastids *The ISME Journal* 6: 481-492. 10.1038/ismej.2011.117.
76. Haas AF, Nelson CE, Wegley Kelly L, Carlson CA, Rohwer F, et al. (2011) Effects of Coral Reef Benthic Primary Producers on Dissolved Organic Carbon and Microbial Activity. *Public Library of Science ONE* 6(11): e27973. doi:10.1371/journal.pone.0027973
77. Morris, R. M., Frazar, C. D., & Carlson, C. A. (2012). Basin-scale patterns in the abundance of SAR11 subclades, marine Actinobacteria (OM1), members of the Roseobacter clade and OCS116 in the South Atlantic. *Environmental microbiology*, 14(5), 1133-1144. doi:10.1111/j.1462-2920.2011.02694.x
78. Hansell D, Carlson C, Schlitzer R (2012). Net removal of major marine dissolved organic carbon fractions in the subsurface deep ocean. *Global Biogeochemical Cycles* 26(GB1016), doi:10.1029/2011GB004069.

79. *Nelson C, Carlson C (2012). Tracking differential incorporation of dissolved organic carbon types among diverse Sargasso Sea bacteria using stable isotope probing *Environmental microbiology*.14:1500-1516 doi:10.1111/j.1462-2920.2012.02738.x
80. *Halewood ER, Carlson CA, Brzezinski MA, Reed DC, Goodman J (2012) The annual cycle of organic matter partitioning and its availability to bacteria across the Santa Barbara Channel continental shelf. *Aquatic Microbial Ecology* 67: 189-209
81. Passow U, Carlson CA (2012) Considerations for the biological pump in a high CO₂ world. *Marine Ecology Progress Series* 470: 249- 271.
82. Goodman J, M. Brzezinski, ER Halewood CA Carlson (2012) Sources of phytoplankton to the inner continental shelf in the Santa Barbara Channel inferred from cross-shelf gradients in biological, physical and chemical parameters. *Continental Shelf Research* 48: 27-39.
83. *Nelson, C.E., S.J. Goldberg, L.W. Kelly, A.F. Haas, J.E. Smith, F. Rohwer, and C.A. Carlson (2013). Coral and macroalgal exudates vary in neutral sugar composition and differentially enrich reef bacterioplankton lineages. *The ISME Journal*, 7(5), 962-979
84. Letscher, R. T., Hansell, D. A., Carlson, C. A., Lumpkin, R., & Knapp, A. N. (2013). Dissolved organic nitrogen in the global surface ocean: Distribution and fate. *Global Biogeochemical Cycles*, 27(1), 141-153.
85. Haas, A. F., Nelson, C. E., Rohwer, F., Wegley-Kelly, L., Quistad, S. D., Carlson, C. A., Leichter, J.J., Hatay, M., Smith, J. E. (2013). Influence of coral and algal exudates on microbially mediated reef metabolism. *PeerJ*, 1, e108
86. Hansell, D. A., & Carlson, C. A. (2013). Localized refractory dissolved organic carbon sinks in the deep ocean. *Global Biogeochemical Cycles*, 27(3), 705-710.
87. Alldredge, A. L., Carlson, C. A., & Carpenter, R. C. (2013). Sources of Organic Carbon to Coral Reef Flats. *Oceanography*, 26(3), 108-113.
88. Leichter, J. J., Alldredge, A. L., Bernardi, G., Brooks, A. J., Carlson, C. A., Carpenter, R. C., ... & Wyatt, A. S. (2013). Biological and Physical Interactions On A Tropical Island Coral Reef Transport And Retention Processes On Moorea, French Polynesia. *Oceanography*, 26(3), 52-63.
89. Lomas, M. W., N. R. Bates, R. J. Johnson, A. H. Knap, D. K. Steinberg, and C. A. Carlson. "Two decades and counting: 24-years of sustained open ocean biogeochemical measurements in the Sargasso Sea." *Deep Sea Research Part II: Topical Studies in Oceanography* 93 (2013): 16-32.
90. *Nelson, C. E., Carlson, C. A., Ewart, C. S., & Halewood, E. R. (2014). Community differentiation and population enrichment of Sargasso Sea bacterioplankton in the euphotic zone of a mesoscale mode-water eddy. *Environmental microbiology*, 16(3), 871-887.
91. Vergin, K. L., Done, B., Carlson, C. A., & Giovannoni, S. J. (2013). Spatiotemporal distributions of rare bacterioplankton populations indicate adaptive strategies in the oligotrophic ocean. *Aquatic Microbial Ecology*, 71(1), 1-U129.
92. *Parsons, R. J., Nelson, C. E., Carlson, C. A., Denman, C. C., Andersson, A. J., Kledzik, A. L., ... & Giovannoni, S. J. (2014). Marine bacterioplankton community turnover within seasonally hypoxic waters of a subtropical sound: Devil's Hole, Bermuda. *Environmental microbiology Published online* doi:10.1111/1462-2920.12445.
93. Kelly, L.W., G.J. Williams, K.L. Barott, C.A. Carlson, E.A. Dinsdale, R.A. Edwards, A.F. Haas, M.Haynes, Y.W. Lim, T. McDole, C.E. Nelson, E. Sala, S.A. Sandin, J.E. Smith, M.J.A. Vermeij, M. Youle, and F. Rohwer (2014) Local genomic adaptation of coral reef-associated microbiomes to gradients of natural variability and anthropogenic stressors *PNAS* 111: 10227-10232.
94. *Wear, EK, CA Carlson, AK James, MA Brzezinski, LA Windecker, and CE Nelson. (2015). Synchronous shifts in dissolved organic carbon bioavailability and bacterial community responses over the course of an upwelling-driven phytoplankton bloom. *Limnology and Oceanography* 60 (657-677);
95. Taucher, J., J. Jones, A. James, M. A. Brzezinski, C. A. Carlson, U. Riebesell, U. Passow. (2015). Combined effects of CO₂ and temperature on carbon uptake and partitioning by the marine diatoms *Thalassiosira weissflogii* and *Dactyliosolen fragilissimus*. *Limnology and Oceanography*. 60 (901-919); doi: 10.1002/lno.10063
96. Hansell, D.A. and C.A. Carlson. 2015. Figuring it out: Dissolved organic matter in the ocean carbon cycle. *EOS*, 96(15) 8-12
97. McKinley, G., C.A. Carlson, A. Andrews, D. Brown, P. Romero-Lankao, G. Shrestha. 2015. Carbon Cycle Science To Inform Targeted Climate Policies. *EOS*, 96 doi:10.1029/2015EO040161

98. Reed, D., C.A. Carlson, E.R. Halewood, J.Nelson, S.Harrer, A. Rassweiler, R. Miller. 2015. Patterns and controls of reef-scale production of dissolved organic carbon by giant kelp *Macrocystis pyrifera*. *Limnology and Oceanography*. 60, 1996-2.008
99. Goldsmith, D.B, J.R. Brum, M. Hopkins, C.A. Carlson, M. Breitbart. 2015. Water column stratification structures viral community composition in the Sargasso Sea. *Aquatic Microbial Ecology*. 76: 85-94.
100. Talley, L.D., R.A. Feely, B.M. Sloyan, R. Wanninkhof, M.O. Baringer, J.L. Bullister, C.A. Carlson, S.C. Doney, R.A. Fine, E. Firing, N. Gruber, D.A. Hansell, M. Ishii, G.C. Johnson, K. Katsumata, R.M. Key, M. Kramp, C. Langdon, A.M. Macdonald, J.T. Mathis, E.L. McDonagh, S. Mecking, F.J. Millero, C.W. Mordy, T. Nakano, C.L. Sabine, W.M. Smethie, J.H. Swift, T. Tanhua, A.M. Thurnherr, M.J. Warner, and J.-Z. Zhang. 2016. Changes in Ocean Heat, Carbon Content, and Ventilation: A Review of the First Decade of GO-SHIP Global Repeat Hydrography. *Annual Reviews of Marine Science*. Volume 8. 185-215
101. Letscher, Robert T., Angela N. Knapp, Anna K. James, Craig A. Carlson, Alyson E. Santoro, and Dennis A. Hansell. "Microbial community composition and nitrogen availability influence DOC remineralization in the South Pacific Gyre." *Marine Chemistry* 177 (2015): 325-334.
102. *Wear, Emma K., Craig A. Carlson, Laura A. Windecker, and Mark A. Brzezinski. "Roles of diatom nutrient stress and species identity in determining the short-and long-term bioavailability of diatom exudates to bacterioplankton." *Marine Chemistry* 177 (2015): 335-348.
103. Siegel, D.A., Buesseler, K.O., Behrenfeld, M.J., Benitez-Nelson, C.R., Boss, E., Brzezinski, M.A., Burd, A., Carlson, C.A., D'Asaro, E.A., Doney, S.C. and Perry, M.J., 2016. Prediction of the export and fate of global ocean net primary production: the EXPORTS science plan. *Frontiers in Marine Science*, 3, p.22.
104. *James, A.K., Passow, U., Brzezinski, M.A., Parsons, R.J., Trapani, J.N. and Carlson, C.A., 2017. Elevated pCO₂ enhances bacterioplankton removal of organic carbon. *PLoS ONE*, 12(3).
105. Vergin, K.L., Jhirad, N., Dodge, J., Carlson, C.A. and Giovannoni, S.J., 2017. Marine bacterioplankton consortia follow deterministic, non-neutral community assembly rules. *Aquatic Microbial Ecology*, 79(2), pp.165-175.
106. Quinlan, Z. A., K. Remple, M. D. Fox, N. J. Silbiger, T. A. Oliver, H. M. Putnam, L. Wegley Kelly, C. A. Carlson, M. J. Donahue and C. E. Nelson (2018). Fluorescent organic exudates of corals and algae in tropical reefs are compositionally distinct and increase with nutrient enrichment. *Limnology and Oceanography Letters* 3(4): 331-340.
107. Buck, K. N., P. N. Sedwick, B. Sohst and C. A. Carlson (2018). Organic complexation of iron in the eastern tropical South Pacific: results from US GEOTRACES Eastern Pacific Zonal Transect (GEOTRACES cruise GP16). *Marine Chemistry* 201: 229-241.
108. *Wear, E. K., E. G. Wilbanks, C. E. Nelson and C. A. Carlson (2018). Primer selection impacts specific population abundances but not community dynamics in a monthly time-series 16S rRNA gene amplicon analysis of coastal marine bacterioplankton. *Environmental microbiology* 20(8): 2709-2726.
109. Landry, Z. C., K. Vergin, C. Mannebach, S. Block, Q. Yang, P. Blainey, C. Carlson and S. Giovannoni (2018). Optofluidic single-cell genome amplification of sub-micron bacteria in the ocean subsurface. *Frontiers in Microbiology* 9: 1152.
110. Neuer, S., H. M. Benway, N. Bates, C. A. Carlson, M. Church, M. DeGrandpre, J. Dunne, R. Letelier, M. Lomas and L. Lorenzoni (2017). Monitoring ocean change in the 21st century. *Eos* 98.
111. *James, A. K., L. W. Kelly, C. E. Nelson, E. G. Wilbanks and C. A. Carlson (2019). Elevated pCO₂ alters marine heterotrophic bacterial community composition and metabolic potential in response to a pulse of phytoplankton organic matter. *Environmental microbiology* 21(2): 541-556.
112. Behrenfeld, M. J., R. H. Moore, C. A. Hostetler, J. Graff, P. Gaube, L. M. Russell, G. Chen, S. C. Doney, S. Giovannoni, H. Liu, C. Proctor, L. M. Bolaños, N. Baetge, C. Davie-Martin, T. K. Westberry, T. S. Bates, T. G. Bell, K. D. Bidle, E. S. Boss, S. D. Brooks, B. Cairns, C. Carlson, K. Halsey, E. L. Harvey, C. Hu, L. Karp-Boss, M. Kleb, S. Menden-Deuer, F. Morison, P. K. Quinn, A. J. Scarino, B. Anderson, J. Chowdhary, E. Crosbie, R. Ferrare, J. W. Hair, Y. Hu, S. Janz, J. Redemann, E. Saltzman, M. Shook, D. A. Siegel, A. Wisthaler, M. Y. Martin and L. Ziemba (2019). The North Atlantic Aerosol and Marine Ecosystem Study (NAAMES): Science Motive and Mission Overview. *Frontiers in Marine Science* 6(122).

113. Foreman, R. K., K. M. Björkman, C. A. Carlson, K. Opalk and D. M. Karl (2019). Improved ultraviolet photo-oxidation system yields estimates for deep-sea dissolved organic nitrogen and phosphorus. *Limnology and Oceanography: Methods* **17**(4): 277-291.
114. Kelly, L. W., C. E. Nelson, A. F. Haas, D. S. Naliboff, S. Calhoun, C. A. Carlson, R. A. Edwards, M. D. Fox, M. Hatay and M. D. Johnson (2019). Diel population and functional synchrony of microbial communities on coral reefs. *Nature communications* **10**(1): 1691
115. White, A. E., Giovannoni, S. J., Zhao, Y., Vergin, K., & Carlson, C. A. (2019). Elemental content and stoichiometry of SAR11 chemoheterotrophic marine bacteria. *Limnology and Oceanography Letters*, *4*(2), 44-51.
116. Mojica, K.D.A., Carlson, C.A. & Behrenfeld, M.J. (2019) Regulation of Low and High Nucleic Acid Fluorescent Heterotrophic Prokaryote Subpopulations and Links to Viral-Induced Mortality Within Natural Prokaryote-Virus Communities *Microb Ecol* (2019). <https://doi.org/10.1007/s00248-019-01393-9>
117. Saliba, G., C.-L. Chen, S. Lewis, L. M. Russell, L.-H. Rivellini, A. K. Lee, P. K. Quinn, T. S. Bates, N. Haëntjens, E. S. Boss, L.K. Boss, N. Baetge, C.A. Carlson, M.J. Behrenfeld (2019). Factors driving the seasonal and hourly variability of sea-spray aerosol number in the North Atlantic. *Proceedings of the National Academy of Sciences* **116**(41): 20309-20314
118. Quinlan, Z. A.-D., R. Ritson-Williams, B. J. Carroll, C. A. Carlson and C. E. Nelson (2019). Species-specific differences in the microbiomes and organic exudates of crustose coralline algae influence bacterioplankton communities. *Frontiers in microbiology* **10**: 2397.
119. McDonald, N., E. P. Achterberg, C. A. Carlson, M. Gledhill, S. Liu, J. R. Matheson-Barker, N. B. Nelson and R. J. Parsons (2019). The Role of Heterotrophic Bacteria and Archaea in the Transformation of Lignin in the Open Ocean. *Frontiers in Marine Science* **6**: 743.
120. Saw, J. H. W., T. Nunoura, M. Hirai, Y. Takaki, R. Parsons, M. Michelsen, K. Longnecker, E. B. Kujawinski, R. Stepanauskas, Z. Landry, C. A. Carlson and S. J. Giovannoni (2020). Pangenomics Analysis Reveals Diversification of Enzyme Families and Niche Specialization in Globally Abundant SAR202 Bacteria. *mBio* **11**(1): e02975-02919.
121. * Liu, S., Parsons, R., Opalk, K., Baetge, N., Giovannoni, S., Bolaños, L.M., Kujawinski, E.B., Longnecker, K., Lu, Y., Halewood, E. and Carlson, C.A. (2020), Different carboxyl-rich alicyclic molecules proxy compounds select distinct bacterioplankton for oxidation of dissolved organic matter in the mesopelagic Sargasso Sea. *Limnology and Oceanography*. doi:[10.1002/lno.11405](https://doi.org/10.1002/lno.11405)
122. Wear, E.K., Carlson, C.A. and Church, M.J. (2020), Bacterioplankton metabolism of phytoplankton lysates across a cyclone-anticyclone eddy dipole impacts the cycling of semi-labile organic matter in the photic zone. *Limnology and Oceanography*. doi:[10.1002/lno.11409](https://doi.org/10.1002/lno.11409)
123. Catlett, D., Matson, P.G., Carlson, C.A., Wilbanks, E.G., Siegel, D.A. and Iglesias-Rodriguez, M.D. (2020), Evaluation of accuracy and precision in an amplicon sequencing workflow for marine protist communities. *Limnology and Oceanography Methods*, **18**: 20-40. doi:[10.1002/lom3.10343](https://doi.org/10.1002/lom3.10343)
124. Bisson, K. M., N. Baetge, S. J. Kramer, D. Catlett, G. Girling, H. McNair, E. Arrington, D. Hayes, C. Jacobs, A. James, I. Closset, A. D. Fischer, S. Wagner, M. Reading, J. Comstock, S. Amiri, E. Harvey, C. Carlson, P. Gaube, K. Drushka and D. L. Valentine (2020). California Wildfire Burns Boundaries Between Science and Art. *Oceanography* **33**(1): 16-19. – COMMENTARY
125. *Baetge N, Graff JR, Behrenfeld MJ and Carlson CA (2020) Net Community Production, Dissolved Organic Carbon Accumulation, and Vertical Export in the Western North Atlantic. *Front. Mar. Sci.* **7**:227. doi: [10.3389/fmars.2020.00227](https://doi.org/10.3389/fmars.2020.00227)
126. *James, A. K., Washburn, L., Gotschalk, C., Maritorea, S., Alldredge, A., Nelson, C. E., ... & Carlson, C. A. (2020). An Island Mass Effect Resolved Near Mo'orea, French Polynesia. *Frontiers in Marine Science*, **7**, 16.
127. *James, A.K., English, C.J., Nidzieko, N.J., Carlson, C.A. and Wilbanks, E.G., 2020. Giant kelp microbiome altered in the presence of epiphytes. *Limnology and Oceanography Letters*, **5**(5), pp.354-362.
128. *Liu, S., Baetge, N., Comstock, J., Opalk, K., Parsons, R., Halewood, E., English, C.J., Giovannoni, S., Bolaños, L.M., Nelson, C.E. Vergin, K., and Carlson, C.A. 2020. Stable isotope probing identifies bacterioplankton lineages capable of utilizing dissolved organic matter across a range of bioavailability. *Frontiers in microbiology*, **11**, p.2364.
129. Saliba, G., Chen, C.L., Lewis, S., Russell, L.M., Quinn, P.K., Bates, T.S., Bell, T.G., Lawler, M.J., Saltzman, E.S., Sanchez, K.J., Moore, R., Shook, M., Rivellini, L.H., Lee, A., Baetge, N., Carlson,

- C.A., Behrenfeld, M. 2020. Seasonal Differences and Variability of Concentrations, Chemical Composition, and Cloud Condensation Nuclei of Marine Aerosol over the North Atlantic. *Journal of Geophysical Research: Atmospheres*, 125(19), p.e2020JD033145.
130. Knowles, B., J. A. Bonachela, M. J. Behrenfeld, K. G. Bondoc, B. B. Cael, C. A. Carlson, N. Cieslik, B. Diaz, H. L. Fuchs, J. R. Graff, J. A. Grasis, K. H. Halsey, L. Haramaty, C. T. Johns, F. Natale, J. I. Nissimov, B. Schieler, K. Thamtrakoln, T. Frede Thingstad, S. Våge, C. Watkins, T. K. Westberry and K. D. Bidle (2020). Temperate infection in a virus–host system previously known for virulent dynamics. *Nature Communications* **11**(1): 4626.10.1038/s41467-020-18078-4
 131. *Stephens, B.M., Opalk, K.L., Petras, D., Liu, S., Comstock, J., Aluwihare, L.I., Hansell, D.A. and Carlson, C.A., 2020. Organic matter composition at Ocean Station Papa affects its bioavailability, bacterioplankton growth efficiency and the responding taxa. *Frontiers in Marine Science*, 7, p.1077.
 132. Maas, A. E., S. Liu, L. M. Bolaños, B. Widner, R. Parsons, E. B. Kujawinski, L. Blanco-Bercial and C. A. Carlson (2020). Migratory Zooplankton Excreta and Its Influence on Prokaryotic Communities. *Frontiers in Marine Science* 7(1014).10.3389/fmars.2020.573268
 133. Bolaños LM, Choi CJ, Worden AZ, Baetge N, Carlson CA and Giovannoni S (2021) Seasonality of the Microbial Community Composition in the North Atlantic. *Frontiers in Marine Science*, 8:624164. doi: 10.3389/fmars.2021.624164
 134. Maas, A. E., A. Miccoli, K. Stamieszkin, C. A. Carlson and D. K. Steinberg (2021). Allometry and the calculation of zooplankton metabolism in the subarctic Northeast Pacific Ocean. *Journal of Plankton Research* **43**(3): 413-427.10.1093/plankt/fbab026
 135. Hendrickson BN, Brooks SD, Thornton DCO, Moore RH, Crosbie E, Ziemba LD, Carlson CA, Baetge N, Mirrieles JA and Alsante AN (2021) Role of Sea Surface Microlayer Properties in Cloud Formation. *Frontiers in Marine Science*, 7:596225. doi: 10.3389/fmars.2020.596225
 136. Siegel, D.A., I. Cetinić, J.R. Graff, C.M. Lee, N. Nelson, M.J. Perry, I. Soto Ramos, D.K. Steinberg, K. Buesseler, R. Hamme, A.J. Fassbender, D. Nicholson, M.M. Omand, M. Robert, A. Thompson, V. Amaral, M. Behrenfeld, C. Benitez-Nelson, K. Bisson, E. Boss, P.W. Boyd, M. Brzezinski, K. Buck, A. Burd, S. Burns, S. Caprara, C. Carlson, N. Cassar, H. Close, E. D'Asaro, C. Durkin, Z. Erickson, M.L. Estapa, E. Fields, J. Fox, S. Freeman, S. Gifford, W. Gong, D. Gray, L. Guidi, N. Haëntjens, K. Halsey, Y. Huot, D. Hansell, B. Jenkins, L. Karp-Boss, S. Kramer, P. Lam, J.-M. Lee, A. Maas, O. Marchal, A. Marchetti, A. McDonnell, H. McNair, S. Menden-Deuer, F. Morison, A.K. Niebergall, U. Passow, B. Popp, G. Potvin, L. Resplandy, M. Roca-Martí, C. Roesler, T. Rynearson, S. Traylor, A. Santoro, K. Duncan Seraphin, H.M. Sosik, K. Stamieszkin, B. Stephens, W. Tang, B. Van Mooy, Y. Xiong and X. Zhang (2021) An Operational Overview of the EXport Processes in the Ocean from RemoTe Sensing (EXPORTS) Northeast Pacific Field Deployment. *Elementa, Science of the Anthropocene* <https://doi.org/10.1525/elementa.2020.0010>
 137. *Baetge, N., M. J. Behrenfeld, J. Fox, K. H. Halsey, K. D. A. Mojica, A. Novoa, B. M. Stephens and C. A. Carlson (2021). The Seasonal Flux and Fate of Dissolved Organic Carbon Through Bacterioplankton in the Western North Atlantic. *Frontiers in Microbiology* **12**(1547).10.3389/fmicb.2021.669883
 138. Diaz, B. P., B. Knowles, C. T. Johns, C. P. Laber, K. G. V. Bondoc, L. Haramaty, F. Natale, E. L. Harvey, S. J. Kramer, L. M. Bolaños, D. Lowenstein, L. Fredricks, J. Graff, T. Westberry, K. Mojica, N. Haëntjens, N. Baetge, P. Gaube, E. Boss, C. A. Carlson, M. Behrenfeld, B. V. Mooy and K. Bidle (2021). Seasonal mixed layer depth shapes phytoplankton physiology, viral production, and accumulation in the North Atlantic. *Nature communications* **12**(1): 1-16
 139. Wegley Kelly, L., C. E. Nelson, D. Petras, I. Koester, Z. A. Quinlan, M. G. Arts, L.-F. Nothias, J. Comstock, B. M. White, E. C. Hopmans, F. Van Duyl, C. A. Carlson, L. Aluwihare, P. C. Dorrestein and A. F. Haas (2022). Distinguishing the molecular diversity, nutrient content, and energetic potential of exometabolomes produced by macroalgae and reef-building corals. *Proceedings of the National Academy of Sciences* **119**(5): e2110283119.
 140. *Halewood, E., K. Opalk, L. Custals, M. Carey, D. A. Hansell, and C.A. Carlson (2022). Determination of dissolved organic carbon (DOC) and total dissolved nitrogen (TDN) in seawater using High Temperature Combustion Analysis *Frontiers in Marine Science* **9**. DOI: 10.3389/fmars.2022.1061646.
 141. *Liu, S., K. Longnecker, E. B. Kujawinski, K. Vergin, L. M. Bolaños, S. J. Giovannoni, R. Parsons, K. Opalk, E. Halewood, D. A. Hansell, R. Johnson, R. Curry and C. A. Carlson (2022). Linkages Among Dissolved Organic Matter Export, Dissolved Metabolites, and Associated Microbial Community

- Structure Response in the Northwestern Sargasso Sea on a Seasonal Scale. *Frontiers in Microbiology* **13**.
142. Lewis, S. L., L. M. Russell, G. Saliba, P. K. Quinn, T. S. Bates, C. A. Carlson, N. Baetge, L. I. Aluwihare, E. Boss and A. A. Frossard (2022). Characterization of Sea Surface Microlayer and Marine Aerosol Organic Composition Using STXM-NEXAFS Microscopy and FTIR Spectroscopy. *ACS Earth and Space Chemistry* **6**(7): 1899-1913.
 143. *Baetge, N., L. M. Bolaños, A. D. Penna, P. Gaube, S. Liu, K. Opalk, J. R. Graff, S. J. Giovannoni, M. J. Behrenfeld and C. A. Carlson (2022). Bacterioplankton response to physical stratification following deep convection. *Elem Sci Anth* **10**(1): 00078.
 144. *Comstock, J., C. E. Nelson, A. James, E. Wear, N. Baetge, K. Remple, A. Juknavorian and C. A. Carlson (2022). Bacterioplankton communities reveal horizontal and vertical influence of an Island Mass Effect. *Environmental Microbiology* **24**(9): 4193-4208.
 145. *Stephens, B.M., J. Fox, S. Liu, K.H. Halsey, D.P. Nicholson, S. Traylor, C.A. Carlson. (submitted) Influence of amino acids on bacterioplankton production, biomass and community composition at Ocean Station Papa in the subarctic Pacific. *Elem Sci Anth*.
 146. Bayer, B., K. McBeain, C.A. Carlson, A.E. Santoro (2022). Carbon content, carbon fixation yield and dissolved organic carbon release from diverse marine nitrifiers. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.12252>
 147. Catlett, D., D.A. Siegel, P.G. Matson, E.K. Wear, C.A. Carlson, T.S. Lankiewicz, M.D., Iglesias-Rodriguez (2022). Integrating phytoplankton pigment and DNA meta-barcoding observations to determine phytoplankton composition in the coastal ocean doi: 10.1002/lno.1227
 148. Ladd TM, Catlett D, Maniscalco MA, Kim SM, Kelly RL, John SG, Carlson CA, Iglesias-Rodríguez MD. 2023 Food for all? Wildfire ash fuels growth of diverse eukaryotic plankton. *Proc. R. Soc. B* **290**: 20231817. <https://doi.org/10.1098/rspb.2023.1817>
 149. Longnecker, K., Kido Soule, M.C., Swarr, G.J., Parsons, R., Liu, S., Johnson, W.M., Widner, B., Curry, R., Carlson, C.A. and Kujawinski, E.B., 2024. Seasonal and daily patterns in known dissolved metabolites in the northwestern Sargasso Sea. *Limnol and Oceanogr.* <https://doi.org/10.1002/lno.12497>
 150. Parsons, R. J., S. Liu, K. Longnecker, K. Yongblab, C. Johnson, L. M., Bolaños, J. Comstock, K. Opalk, M. C. Kido Soule, R. Garley, C. A. Carlson, B. Temperton and N. R. Bates. 2023. Suboxic DOM is bioavailable to surface prokaryotes in a simulated overturn of an oxygen minimum zone, Devil's Hole, Bermuda. *Frontiers in Microbiology* **14**.
 151. Anderson, S.R., Blanco-Bercial, L., Carlson, C.A. and Harvey, E.L., 2024. Role of Syndiniales parasites in depth-specific networks and carbon flux in the oligotrophic ocean. *ISME communications*, **4**(1), p.ycae014.
 152. Sparagon, W. J., M. G. I. Arts, Z. A. Quinlan, L. Wegley Kelly, I. Koester, J. Comstock, J. A. Bullington, C. A. Carlson, P. C. Dorrestein, L. I. Aluwihare, A. F. Haas and C. E. Nelson (2024). "Coral thermal stress and bleaching enrich and restructure reef microbial communities via altered organic matter exudation." *Communications Biology* **7**(1): 160.
 153. Boiteau, R.M., Corilo, Y.E., Kew, W.R., Dewey, C., Alvarez Rodriguez, M.C., Carlson, C.A., Conway, T.M., 2024. Relating Molecular Properties to the Persistence of Marine Dissolved Organic Matter with Liquid Chromatography–Ultrahigh-Resolution Mass Spectrometry. *Environ. Sci. Technol.* **58**(7), 3267-3277.
 154. Henderson, L., Wittmers, F., Carlson, C.A., Worden, A., Close, H., 2024. Variable carbon isotope fractionation of photosynthetic communities over depth in an open ocean euphotic zone. *PNAS*. **121**(10), e2304613121.
 155. *Stephens, B.M., Durkin, C.A., Sharpe, G., Nguyen, T.T., Albers, J., Estapa, M.L., Steinberg, D.K., Levine, N.M., Gifford, S.M., Carlson, C.A., Boyd, P.W., Santoro, A.E., 2024. Direct observations of microbial community succession on sinking marine particles. *ISME J.* **18**(1).
 156. Cohn MR, Stephens B, Meyer MG, Sharpe G, Niebergall AK, Graff JR, Cassar N, Marchetti A, Carlson CA and Gifford S (2024) Microbial respiration in contrasting ocean provinces via high-frequency optode assays. *Front. Mar. Sci.* **11**:1395799. doi: 10.3389/fmars.2024.1395799
 157. Eckmann, C.A., Bachy, C., Wittmers, F., Strauss, J., Blanco-Bercial, L., Vergin, K.L., Parsons, R.J., Kudela, R.M., Johnson, R., Bolaños, L.M. and Giovannoni, S.J., 2024. Recurring seasonality exposes dominant species and niche partitioning strategies of open ocean picoeukaryotic algae. *Communications Earth & Environment*, **5**(1), p.266.

158. *Comstock, J., Henderson, L. C., Close, H. G., Liu, S., Vergin, K., Worden, A. Z., Wittmers, F., Halewood, E., Giovannoni, S. and Carlson, C. A. (2024) 'Marine particle size-fractionation indicates organic matter is processed by differing microbial communities on depth-specific particles', *ISME Communications*, 4(1).
159. Bayer, B., Liu, S., Louie, K., Northen, T. R., Wagner, M., Daims, H., Carlson, C. A. and Santoro, A. E. 2024. Metabolite release by nitrifiers facilitates metabolic interactions in the ocean. *ISME J* 18. <https://doi.org/10.1093/ismejo/wrae172>
160. Eigemann, F., Hoffmann, J., Schampera, C., Liu, S., Bolaños, L. M., Heemeyer, M., Carlson, C. A., Giovannoni, S. and Hellweger, F. L. (2024) 'Emergent ecology in a microscale model of the surface ocean', *mBio*, 15(11), pp. e02372-24.
161. Xiong, Y., Zhang, X., Huot, Y., Stephens, B. M. and Carlson, C. A. (2024) 'The Variability of the Size Distributions of Submicron Particles in the Oceans', *Journal of Geophysical Research: Oceans*, 129(10), pp. e2024JC020983.
162. Wittmers, F., Comstock, J., Poirier, C., Needham, D. M., Schulz, F., Malmstrom, R., Carlson, C. A. and Worden, A. Z. (2024) 'Non-photosynthetic lineages sibling to Cyanobacteria associate with eukaryotes in the open ocean', *Current Biology*, 34(22), pp. R1133-R1134.
163. Zakem, E. J., McNichol, J., Weissman, J., Raut, Y., Xu, L., Halewood, E. R., Carlson, C. A., Dutkiewicz, S., Fuhrman, J. A. and Levine, N. M. (2025) 'Functional biogeography of marine microbial heterotrophs', *Science*, 388(6749), eado5323.
164. Baetge, N., Halsey, K. H., Hanan, E. J., Behrenfeld, M. J., Milligan, A. J., Graff, J. R., Hansen, P., Carlson, C. A., Boiteau, R. M. and Arrington, E. C. 'Pre-existing phytoplankton biomass concentrations shape coastal plankton response to fire-generated ash leachate', *Limnology and Oceanography*. Early online <https://doi.org/10.1002/lno.70087>
165. *English, C. J., Parsons, R., Yongblab, K., Opalk, K. and Carlson, C. A. (2025) 'Photooxidation removes biologically recalcitrant dissolved organic carbon released by the macroalga *Sargassum natans*', *Limnology and Oceanography Letters*, 10(3), 349-359.
166. Sparagon, W. J., Arts, M. G. I., Quinlan, Z. A., Wegley Kelly, L., Koester, I., Comstock, J., Bullington, J. A., Carlson, C. A., Dorrestein, P. C., Aluwihare, L. I., Haas, A. F. and Nelson, C. E. (2024) 'Coral thermal stress and bleaching enrich and restructure reef microbial communities via altered organic matter exudation', *Communications Biology*, 7(1), 160.
167. *Stephens, B. M., Stincone, P., Petras, D., English, C. J., Opalk, K., Giovannoni, S. and Carlson, C. A. (2025) 'Oxidation state of bioavailable dissolved organic matter influences bacterioplankton respiration and growth efficiency', *Communications Biology*, 8(1), 145.
168. Henderson, L.C., English, C. J., Jeng, D.L., Pendorf, K.J., Carlson, C.A., Close, H.G. (2025) 'Carbohydrate content controls vertical variations in carbon to nitrogen ratios of organic particles within the euphotic zone in the northwest Sargasso Sea' *Communications Earth & Environment*, in press
169. McNichol, J., Williams, N. L., Raut, Y., Carlson, C., Halewood, E. R., Turk-Kubo, K., Zehr, J. P., Rees, A. P., Tarran, G. and Gradoville, M. R. (2025) 'Characterizing organisms from three domains of life with universal primers from throughout the global ocean', *bioRxiv*, 2025.02. 19.638942.
170. Quinlan, Z. A., Nelson, C. E., Koester, I., Petras, D., Nothias, L. F., Comstock, J., White, B. M., Aluwihare, L. I., Bailey, B. A. and Carlson, C. A. (2025) 'Microbial Community Metabolism of Coral Reef Exometabolomes Broadens the Chemodiversity of Labile Dissolved Organic Matter', *Environmental Microbiology*, 27(3), e70064.
171. Wittmers, F., Poirier, C., Bachy, C., Eckmann, C., Matantseva, O., Carlson, C., Giovannoni, S., Goodenough, U. and Worden, A. (2025) 'Symbionts of predatory protists are widespread in the oceans and related to animal pathogens', *Cell Host & Microbe*, 32(2), 182-199.
172. Wolf, S., Jayawickrama, C., Carlson, C., Deutsch, C., Davis II, E., Chan, F. and Giovannoni, S. (2025) 'Microbial Carbon Oxidation in Seawater Below the Hypoxic Threshold', *Scientific Reports*, 15(1), 2838.
173. *English, C., Manoj, M., Opalk, K. and Carlson, C. A. (2025) 'Seasonal and developmental stage changes in exudate carbohydrate content shape the kelp microbiome', *bioRxiv*, 2025.05. 07.652744.
174. Le Moigne, C., F. A., Pabortsava, K., Villa-Alfageme, M., Briggs, N., Baker, C. A., Bouman, H. A., English, C. J., Blackbird, S., Henson, S. A., Venables, H., Carlson, C. A., Moore, C. M., Williams, J., & Martin, A. P. (2025). Particle Export Fluxes in the Southern Ocean: Importance of Nonheterotrophic Processes in

POC Flux Attenuation. *Journal of Geophysical Research: Oceans*, 130(7), e2024JC021607. <https://doi.org/10.1029/2024JC021607>

*Lead author was a post doctoral scholar, student, technician or member from Carlson's Research Group.

Thesis, Book Chapters and Books (B)

- B1. Ducklow, H.W. and C.A. Carlson. 1992. Oceanic bacterial production. Advances in Microbial Ecology. (K.C. Marshall, ed.) Plenum Press, New York 12: 113-181.
- B2. Carlson, C.A. 1994. Stocks and Dynamics of Bacterioplankton and Dissolved Organic Carbon in the Open Ocean. University of Maryland and Horn Point Environmental Laboratory. 212 pages.
- B3. Carlson C.A., N.R. Bates, D.A. Hansell and D.K. Steinberg. 2001. Nutrient Cycling: The Carbon Cycle. Encyclopedia of Ocean Science. (J. Steele, S. Thorpe, and K. Turekian, eds.) Academic Press, London. 390-400.
- B4. Carlson C.A. 2002. Production and Consumption Processes. In Biogeochemistry of Marine Dissolved Organic Matter (D.A. Hansell and C.A. Carlson, eds). Academic Press, San Diego. Pg. 91-151.
- B5. Hansell D.A. and C.A. Carlson. 2002. Editors of Biogeochemistry of Marine Dissolved Organic Matter. Academic Press, San Diego. Pp 774.
- B6. Carlson C.A. and D.A. Hansell. 2003. The Contribution of dissolved organic carbon and nitrogen to biogeochemistry of the Ross Sea. Biogeochemistry of the Ross Sea. (G. DiTullio and R. Dunbar, eds.) Antarctic Research Series 78: 123-142.
- B7. Carlson C.A., D.A. Hansell. 2015. DOM Sources, Sinks, Reactivity and Budgets *In: "Biogeochemistry of marine dissolved organic matter 2nd Edition"* (Hansell, D.A., Carlson, C.A., Eds.) Academic Press, San Diego. Pg 65-126.
- B8. Hansell D.A. and C.A. Carlson 2015. Editors of Biogeochemistry of Marine Dissolved Organic Matter 2nd Edition. Academic Press, San Diego. Pp 667.
- B.9. Carlson, C. A., Liu, S., Stephens, B. M. and English, C. J. (2024) 'DOM Production, Removal, and Transformation Processes in Marine Systems', in Hansell, D.A. and Carlson, C.A. (eds.) *Biogeochemistry of Marine Dissolved Organic Matter 3rd Edition*. 3rd ed. New York: Elsevier, pp. 137 - 246.
- B10. Hansell, D. A. and Carlson, C. A. (eds.) (2024) *Biogeochemistry of Marine Dissolved Organic Matter*. 3rd edn. New York: Elsevier.

Technical Reports and News Articles (C)

- C1. Sleeter, T.D., A.H. Knap, C.A. Carlson, and R. Sherriff-Dow. 1987. Marine Environmental Survey for the East Broadway Development. Bermuda Biological Station for Research Inc.
- C2. Carlson C.A., N.R. Bates and D.K. Steinberg. 1997. Time-Series Data Sets Provide a Valuable Resource for Synthesis and Modeling Phase of U.S. JGOFS. *U.S. JGOFS News* 8: 7-8.
- C3. Carlson C.A. 1998. Community Structure and its effect on export and remineralization rates. Synthesis and Modeling Project: Time-Series Stations and Modeling. *U.S. JGOFS Planning Report* 21: 15-20.
- C4. Carlson C.A., N.R. Bates and D.K. Steinberg 1998. BATS Time-series celebrates a decade of ocean research: Providing insight toward long-term changes in upper ocean biogeochemistry. *U.S. JGOFS News* 9: 10-11.
- C5. Carlson C.A., N.R. Bates and D.K. Steinberg 1999. Ten years of BATS data: A unique opportunity to observe the variability of biogeochemical phenomena. *Earth System Monitor*. June 1999: 9-10.
- C6. Bates N.R. and C.A. Carlson, 2000. Linkages between ocean biogeochemistry at BATS and modes of climate variability (e.g. NAO, ENSO). *U.S. JGOFS News* 10: 5-6.
- C7. Carlson C.A. 2002. The Microbial Observatory: Taking a closer look at the ocean. *BBSR Currents*, Summer 2002, pp. 6-7.
- C8. S.C. Doney, R. Anderson, J. Bishop, K. Caldeira, C. Carlson, M.E. Carr, R. Feely, M. Hood, C. Hopkinson, R. Janke, D. Karl, J. Kleypas, C. Lee, R. Letelier, C. McClain, C. Sabine, J. Sarmiento, B. Stephens., R. Weller. 2004. Ocean Carbon and Climate Change (OCCC) 2004: An Implementation Strategy for U.S. Ocean Carbon Research. A white paper prepared for the U.S. Carbon Cycle Science Scientific Steering group and Interagency Working Group. Pp 108.

- C9. R.A. Feeley, C.L. Sabine, F.J. Millero, A.G. Dickson, R.A. Fine, C.A. Carlson, J. Toole, T.M. Joyce, W.M. Smethie, A.P. McNichol and R.M. Key. 2008. Carbon dioxide, hydrographic, and chemical data obtained during the R/V Knorr Repeat Hydrography cruises in the North Atlantic Ocean: CLIVAR CO2 sections A20 2003 (22 September- 20 October, 2003) and A22-2003 (23 October – 13 November, 2003). Report for the Climate Change Research Division U.S. Department of Energy.
- C10. Carlson CA. 2008. Early Studies of the Carbon Cycle in the Ross Sea, Antarctica BIOS *Meridian*, Summer 2008.
- C11. Laffoley, D.d'A., Roe, H.S.J., Angel, M.V., Ardron, J., Bates, N.R., Boyd, I.L., Brooke, S., Buck, K.N., Carlson, C.A., Causey, B., Conte, M.H., Christiansen, S., Cleary, J., Donnelly, J., Earle, S.A., Edwards, R., Gjerde, K.M., Giovannoni, S.J., Gulick, S., Gollock, M., Hallet, J., Halpin, P., Hanel, R., Hemphill, A., Johnson, R.J., Knap, A.H., Lomas, M.W., McKenna, S.A., Miller, M.J., Miller, P., Ming, F.W., Moffitt, R., Nelson, N.B., Parson, L., Peters, A.J., Pitt, J., Rouja, P., Roberts, J., Roberts, J., Siegel, D.A., Siuda, A., Steinberg, D.K., Stevenson, A., Sumaila, V.R., Swartz, W., Trott, T.M., and V. Vats. 2011. The protection and management of the Sargasso Sea: The golden floating rainforest of the Atlantic Ocean. Summary Science Case. Pp 53
- C12. Feely, R. A., L. D. Talley, J. L. Bullister, C. A. Carlson, S. C. Doney, R. A. Fine, E. Firing, N. Gruber, D. A. Hansell, G. C. Johnson, R. M. Key, C. Langdon, A. Macdonald, J. T. Mathis, S. Mecking, F. J. Millero, C. W. Mordy, C. L. Sabine, W. M. Smethie, J. H. Swift, A. M. Thurnherr, R. H. Wanninkhof, M. J. Warner, 2014: The US Repeat Hydrography CO₂/Tracer Program (GO-SHIP): Accomplishments from the first decadal survey. A US CLIVAR and OCB Report, 2014-5, US CLIVAR Project Office, 43 pp.
- C13. Giovannoni, S.J., K. Vergin, C.A Carlson. 2014. Twenty-five years of omics at BATS. Ocean Carbon Biogeochemistry News. 7; 1-6.
- C14. Mathis, J.T., R.A. Feely, A. Sutton, C.A. Carlson, F. Chai, F. Chavez, M. Church, C. Cosca, M. Ishii, C. Mordy, A. Murata, J. Resing, P. Strutton, T. Takahashi, R. Wanninkhof. Tropical Pacific Biogeochemistry: Status, Implementation and Gaps (White Paper #6). 2014 TPOS 2020 Workshop White Papers. <http://tpos2020.org/reportsdocuments/white-papers/>
- C15. Khatiwala, Samar, Timothy DeVries, Jack Cook, Galen A. McKinley, Craig A. Carlson, and Heather M. Benway. "Temporal and spatial perspectives on the fate of anthropogenic carbon: a carbon cycle slide deck for broad audiences." (2015) DOI: 10.1575/1912/76
- C16. Hansell, D.A.; Carlson, C.A.; Amon, R.M.W.; Álvarez-Salgado, X.A.; Yamashita, Y.; Romera-Castillo, C.; Bif, M.B. (2021). Compilation of dissolved organic matter (DOM) data obtained from the global ocean surveys from 1994 to 2020 (NCEI Accession 0227166). NOAA National Centers for Environmental Information. Dataset. doi.org/10.25921/s4f4-ye35.
- C17. Hansell, Dennis A.; Carlson, Craig A.; Amon, Rainer M. W.; Álvarez-Salgado, X. Antón; Yamashita, Youhei; Romera-Castillo, Cristina; Bif, Mariana B. (2022). Compilation of dissolved organic matter (DOM) data obtained from global ocean observations from 1994 to 2021. Version 2. (NCEI Accession 0227166). [indicate subset used]. NOAA National Centers for Environmental Information. Dataset. <https://doi.org/10.25921/s4f4-ye35>.
- C18. *English, C. J., Carlson, C. A. 2023. Protocols for the quantification and characterization of dissolved organic carbon from seaweed and its sequestration potential. <https://doi.org/10.31223/X5167F>
- C19. Krause, S.J.E., Matsumura, S., English, C.J., Carlson, C.A., Miller, R., Valentine, D. and Siegel, D., 2023. Methods for assessing Giant Kelp (*Macrocystis pyrifera*) biomass sinking rates and decomposition for carbon dioxide removal applications. <https://doi.org/10.31223/X5FH6W>

Selected Talks (Since Joining UCSB in 2001)

Month/Yr	Title	Meeting/Place
March /2001	Carlson CA., Carbon Dynamics at the Bermuda Atlantic Time-series Study (BATS) Station INVITED TALK	Sargasso Sea Ocean Observatory workshop / Bermuda Biological Station for Research
November, 2001	Carlson CA., The Sargasso Sea Oceanic Microbial Observatory INVITED TALK	Bermuda Biological Station for Research
December 2001	Carlson, Giovannoni, Hansell. Interactions Between Dissolved Organic Matter and Microbial	American Geophysical Union

	Processes and Community Structure at the Bermuda Atlantic Time-Series Station: The affects of mixing. INVITED POSTER	San Francisco, CA
February, 2002	Carlson CA., Hansell, Giovannoni, Goldberg, The Response of Surface and Deep Bacterioplankton to High Molecular Weight and Low Molecular Weight fractions of Dissolved Organic Carbon in the Sargasso Sea. AGU/ASLO Ocean Science meetings EOS 83:pg. 66. Honolulu, Hawaii	AGU Honolulu, HI
March, 2002	Carlson CA., Overview of prokaryotic processes in the mesopelagic. INVITED TALK	US. JGOFS SMP Midwater Meeting. INVITED San Antonio, TX.
April 2002	Carlson CA., Determining the response of surface and deep bacterioplankton communities to DOM which accumulates at the Bermuda Atlantic Time-Series Study Station INVITED TALK	University of Southern California Los Angeles, CA
June 2002	Carlson CA., Interactions Between Dissolved Organic Matter and Microbial Processes and Community Structure at the Bermuda Atlantic Time-Series Station: The affects of mixing. INVITED TALK	Scripps Institution of Oceanography La Jolla, CA
December 2002	Carlson CA., Microbial Communtiy structure and its interaction with dissolved organic matter in the mesopelagic zone in the Sargasso Sea INVITED TALK	State University of New York at Stony Brook
February 2003	Carlson, C.A., Goldberg, S.G., Nelson, N. B., Steinberg, D. K., Spatial Variability of DOC quality and quantity in the Sargasso Sea. ASLO Winter meeting 2003 Salt Lake City, Utah.	ASLO / Salt Lake City Utah
February 2003	Carlson, CA., DOM quality and its interactions with microbial processes and community structure in the Sargasso Sea (INVITED TALK)	University of California, Santa Cruz
June 2003	Carlson CA., DOM quality and its interactions with microbial processes and community structure in the Sargasso Sea (INVITED TALK)	University of California, Irvine
August 2003	Carlson CA., Microbial Ecology at the Bermuda Biological Station for Research INVITED TALK	Centenial Celebration Symposium at the Bermuda Biological Station for Research
Sept 2006	Carlson C., A. Distribution and bioavailability of dissolved organic carbon in the Santa Barbara Channel. INVITED TALK	LTER All Scientists Meeting. Estes Park, CO.
Feb 2007	Carlson, C.A., Hansell, D.A., Meyers, M.K., Nelson, N.B., Siegel, D., Smethie, D. (2007) Distribution and decay of DOC in the interior of the North Atlantic basin.	American Society for Limnology and Oceanography, Santa Fe, NM
Feb 2007	Goldberg, S.J., Carlson, C.A., Hansell, D.A., Bock, B. Stocks, dynamics, and reactivity of DOM in the upper 250 m at the Bermuda Atlantic Time-series Study (BATS) Site	American Society for Limnology and Oceanography, Santa Fe, NM
Feb 2007	Cano, A.A., C.A. Carlson, E. Wallner, D. Bronk. Biocomplexity and DOC production and consumption	American Society for Limnology and Oceanography, Santa Fe, NM
Feb 2007	D.A. Hansell, C.A. Carlson. High spatial resolution meridional sections of dissolved organic carbon in the Atlantic and Pacific oceans	American Society for Limnology and Oceanography, Santa Fe, NM

Feb 2007	Ewart C.S., C.A. Carlson, D. McGillicuddy, E. Wallner. Spatial and temporal dynamics of bacterioplankton in a cyclonic and anticyclonic mode-water eddy in the northwestern Sargasso Sea	American Society for Limnology and Oceanography, Santa Fe, NM
March 2007	Carlson, C.A. Time-series and Experimental Results from an Oceanic Microbial Observatory. INVITED PLENARY TALK	Microbial Observatory Meeting, Washington D.C.
June 2007	Carlson, C.A. Temporal and Spatial Variability of Oceanic DOM: Assessing Various Scales of Turnover and Its Implication. INVITED TALK	Distinguished Summer Lecturer Series at Rutgers University
October 2007	Implications and Opportunities of the Marine Genomics Revolution. INVITED PLENARY TALK	Marine Genomics Workshop; Bermuda Institute of Ocean Science
April and May 2008	Hansell, D.A., C.A. Carlson, D.J. Repeta, R. Schlitzer; The role of DOC in the export of carbon to the deep ocean.	European Geosciences Union, Vienna Austria and European meeting on the Deep Ocean, Amsterdam, Netherlands
March 2008	Bronk, D.A., S. Emerson, C.A. Carlson, K. Johnson, D. McGillicuddy, C. Sabine. Exploring the future of US ocean time series	Ocean Science Meeting, Orlando, FL
March 2008	Nelson, N.B., D.A. Siegel, C.A. Carlson, C.M. Swan, S.J. Goldberg, CDOM in the deep sea: Distribution and dynamics form trans-ocean sections	Ocean Science Meeting, Orlando, FL
March 2008	Carlson C.A. Mechanisms that govern DOM production, chemical character and how the fate of DOM is related to the microbial community structure. INVITED TALK	DOE Carbon Cycle and Genomics workshop. Denver, CO
June 2008	Carlson C.A. Connecting Heterotrophic Microorganisms to the Ocean C cycle at the Sargasso Sea Microbial Observatory. INVITED TALK	Agouron Summer course at CMORE. Honolulu, HI
Nov. 2008	Hansell, Carlson, Repeta and Schlitzer: Export of Dissolved organic Carbon to Deep Ocean Sinks	IMBER IMBIZO Mesopelagic workshop. Miami, FL
Nov. 2008	Carlson C.A. Microbial Diversity in the Mesopelagic Zone of the Ocean. INVITED TALK	IMBER IMBIZO Mesopelagic workshop. Miami, FL
Jan. 2009	Carlson C.A., R. Morris, A.H. Treusch, S.J. Giovannoni. Seasonal dynamics of SAR11 populations in the euphotic and mesopelagic zones of the NW Sargasso Sea	ASLO Aquatic Science Meeting, Nice, France
Jan. 2009	Giovannoni, S.J., A.H. Treusch, C.A. Carlson, K. Vergin, R.M Burton, A. Worden. Microbial community structure in the ocean surface layer	ASLO Aquatic Science Meeting, Nice, France
Jan. 2009	Hansell, D.A., C.A. Carlson, D.J. Repeta, R. Schlitzer. Deep ocean sinks for dissolved organic carbon	ASLO Aquatic Science Meeting, Nice, France
Jan 2010	Carlson, CA. Linking Variability of Bacterioplankton Lineages to Biogeochemical Patterns: Results from an Open Ocean Microbial Observatory – INVITED TALK	University of Southern California
Feb 2010	Carlson, Morris, Giovannoni, Hansell, Goldberg, Parsons and Treusch Transition of Bacterioplankton Lineages Coupled to Mixing, Export and Transformation of DOM in the	ASLO Ocean Science Meeting, Portland OR

	Mesopelagic Zone of the Northwestern Sargasso Sea. INVITED TALK	
Feb 2010	Giovannoni, Smith, Sowell, Norbeck, Lipton, Nicora, Barofsky, Carlson, Smith. Integrated transcriptional and post-transcriptional regulatory responses of Pelagibacter to environmental changes INVITED TALK	ASLO Ocean Science Meeting, Portland OR
Feb 2010	Treusch, Vergin, Demir, O'Malley, Behrenfeld, Worden, Carlson, Giovannoni Bacterioplankton and Phytoplankton Community Structure Dynamics at the Bermuda Atlantic Time-series Study Site.	ASLO Ocean Science Meeting, Portland OR
Feb 2010	SJ Goldberg, CA Carlson, B Bock, NB Nelson, DA Siegel Meridional variability in dissolved organic matter stocks and diagenetic state within the upper 600 m of the North Atlantic Subtropical Gyre	ASLO Ocean Science Meeting, Portland OR
May 2010	FOUR INVITED SEMINARS as part of the Ian Morris Distinguished Scholar in Residence Award	University of Maryland's Horn Point Laboratories. Cambridge MD
Aug 2010	Carlson C.A, R.M. Morris, S. J. Giovannoni, D. A. Hansell, S.J. Goldberg ¹ C.E. Nelson ¹ A. Treusch ³ and R. Parsons ⁵ Bacterial dynamics and lineage specific responses to mixing and DOM dynamics in the mesopelagic zone of the Northwestern Sargasso Sea. INVITED TALK	International Society for Microbial Ecology, Seattle Washington
Aug 2010	Nelson C.E. and C. Carlson The use of stable isotope probing to link marine bacterioplankton lineages to the utilization of dissolved organic matter of varying quality.	International Society for Microbial Ecology, Seattle Washington
Dec 2010	Goldberg, S. J.; Carlson, C. A.; Brzezinski, M.; Aluwihare, L. I.; Nelson, N. B.; Siegel. Predictable variability in the neutral sugar composition of DOM in the North Atlantic and South Pacific Ocean.	Fall AGU meeting San Francisco CA
Feb 2011	Carlson, C. A.; Hansell, D. A.; Goldberg, S. J.: Dissolved organic matter accumulation, transformation and export in the North Atlantic basin.	ASLO Aquatic Science Meeting, Puerto Rico
Feb 2011	Goldberg, S. J.; Carlson, C. A.; Brzezinski, M.; Aluwihare, L. I.; Nelson, N. B.; Siegel, D. A.: Predictable glucose enrichment in "aged" oceanic dom	ASLO Aquatic Science Meeting, Puerto Rico
Feb 2011	Morris, R. M.; Frazar, C. A.; Carlson, C. A.: Unique microbial communities in the South Atlantic	ASLO Aquatic Science Meeting, Puerto Rico
Feb 2011	Nelson, C. E.; Carlson, C. A.: Simultaneously tracking lability and community incorporation of varied sources of dissolved organic carbon by euphotic and mesopelagic Sargasso Sea bacteria	ASLO Aquatic Science Meeting, Puerto Rico

June 2011	Carlson, C.A., Temporal Dynamics of Bacterioplankton and Lineage Specific Response to Mixing and Organic Matter Flux at BATS. INVITED SEMINAR	Agouyon Summer course at CMORE. Honolulu, HI
July 2012	Marine Microbes- Invisible Superheroes of Our Planet. INVITED PUBLIC SEMINAR	Public Seminar at Bermuda Institute of Ocean Science
Feb 2012	Hansell, D. A., ^[1] _{SEP} Carlson, C. A. Considering the non-conservative behavior of refractory DOC in the modern deep ocean: opening windows to its dynamics in ancient ocean.	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Carlson, C.A., Hansell, D.A., Goldberg, S.J., Long-Term Accumulation of DOC in the Upper Layer at BATS	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Leichter, J. J., Carlson, C., Nelson, C., ^[1] _{SEP} Haas, A., Wegley, L., Quistad, S., Smith, J., Rohwer, F. Decreasing dissolved organic carbon concentrations coupled to increasing inorganic nutrients over shallow coral reef communities, Moorea, French Polynesia	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Nelson, N. B, Siegel, D. A, Carlson, C. A., Swan, C. M., CDOM as a deep ocean proxy for oxygen and AOU	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Wear, E. K., ^[1] _{SEP} Carlson, C. A., James, A. K., Windecker, L. A., Brzezinski, M. A., Bacterioplankton community response to gradients in dissolved organic matter bioavailability in a coastal upwelling system	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Windecker, L. A., Brzezinski, M. A., Wear, E. K., ^[1] _{SEP} Carlson, C. A., Jones, J. L., Production of dissolved organic matter by the diatom CHAETOCEROS SOCIALIS under silicate and nitrate stress	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Feb 2012	Wegley Kelly, L., Barott, K. L., Dinsdale, E. A., Haas, A. F., ^[1] _{SEP} Leichter, J. J., Rodriguez-Mueller, B., Smith, J. E., ^[1] _{SEP} Rohwer, F., Biogeography and biodiversity of the microbial communities associated with central pacific coral atolls	TOS/ASLO/AGU 2012 Ocean Sciences Meeting, Salt Lake City, Utah
Oct 2012	Carlson C.A. Seasonal to decadal variability in dissolved organic matter and its interaction with microbial lineages: Insight gained from an oceanic time series. INVITED TALK	University of Milwaukee October, 2012
Nov 2012	Carlson C.A. Where does the DOC go? Biogeochemical patterns and the interaction between microbes and dissolved organic matter on the coral reefs of Moorea. MCR ASM November 2012 INVITED TALK	University of California Santa Barbara. LTER All Scientist Meeting
Aug 2012	Carlson C.A., Linking bacterioplankton dynamics and lineage specific response to DOM export and transformation in the mesopelagic zone of the North Atlantic. INVITED TALK	SCORE Working Group, Bremen Germany

February 2013.	Wear, E.A, C. Carlson, M. Brzezinski, D. Siegel, N. Guillocheau, L. Windecker. Patterns of bacterioplankton composition along biogeochemical and productivity gradients in the Santa Barbara Channel, USA.	ALSO Aquatic Science Meeting, New Orleans, LA.
February 2013	Windecker, L.A., MA. Brzezinski, EK. Wear, C A. Carlson, JL Jones. Patterns of transparent exopolymer release by marine diatoms under silicate and nitrate stress.	ALSO Aquatic Science Meeting, New Orleans, LA.
November 2013	Carlson, CA and C Nelson, Variability of Dissolved Organic Carbon and Bacterial Community Structure in the Moorea Coral Reef System. INVITED	IDEA Workshop INVITED. Zurich Switzerland
August 2013	Carlson, CA., Dissolved Organic Carbon Accumulation, Export & Removal: Insights Gained from Oceanic Transects and Time-Series Programs. INVITED TALK	Gordon Research Conference- Marine Chemistry, Biddeford ME
February 2014	Wear EK, CA Carlson, LA Windecker, MA Brzezinski, and CE Nelson. Talk: Bioavailability of diatom exudate induced by nutrient limitation influenced by both phytoplankton species and limiting nutrient identity (nitrogen vs. silica).	TOS/ASLO/AGU Ocean Sciences Meeting, Honolulu, HI
February 2014.	Windecker LA, MA Brzezinski, EK Wear, CA Carlson, and J Jones. Poster: Dissolved organic matter production during two contrasting upwelling events in the Santa Barbara Channel.	TOS/ASLO/AGU Ocean Sciences Meeting, Honolulu, HI,
July 2014	Carlson, CA., Dissolved Organic Carbon Accumulation, Export and Microbial Transformation. INVITED	Ocean Carbon Biogeochemistry summer workshop, Woods Hole, MA
May 2014	Wear EK, CA Carlson, NB Nelson, N Guillocheau, and DA Siegel. Poster: Effects of photobleaching on dissolved organic matter bioavailability in an upwelling-driven coastal system.	Joint Aquatic Sciences Meeting, Portland, OR
December 2014	Carlson, CA, Assessing Microbial Response to Mixing, Organic Matter Flux and Transformation in the Mesopelagic Zone: Lessons Learned from a Time-Series Study. INVITED	Ocean University of China, Qingdao China
December 2014	Carlson, CA. Temporal and Spatial Variability of Oceanic DOM: Assessing Various Scales of Turnover and Its Implications. INVITED	Ocean University of China, Qingdao China
February 2015	Carlson, CA, HUTCHINSON AWARD TALK Dissolved Organic Matter and Microbial Response INVITED PLENARY	ASLO Aquatic Science Meeting, Granada, Spain
February 2015	James A., C.A. Carlson, M. Brzezinski, U. Passow. Elevated $p\text{CO}_2$ Increases Respiration of	ASLO Aquatic Science Meeting, Granada, Spain

	DOC by Natural Bacterioplankton. ASLO Aquatic Science Meeting Granada Spain, February 2015	
July 2015	Carlson, C.A. 2015. DOM Dynamics, Its Contribution to Export and Microbial Response in the Sargasso Sea. INVITED	BIOS Research Seminar Series.
December 2015	Carlson, CA, 2015. The science plan for BIOS-SCOPE; A program in microbial oceanography. INVITED	SCOPE Annual meeting. Simons Foundation. New York City.
August 2016	Carlson, CA, N. Huynh Tracking the temporal and spatial variability of dissolved organic matter, its diagenetic state and bioavailability during various bloom states in the North Atlantic - INVITED	NAAMES DATA workshop Aug 2. 2016. OSU.
October 2016	Carlson, CA, 2016. Dissolved organic carbon dynamics, export and removal: Insights gained from ocean transects and time-series programs. INVITED seminar	Duke University Marine Laboratory, Beaufort, North Carolina.
January 2017	Carlson, CA 2017, Dissolved Organic Carbon Dynamics, Export & Removal: Insights Gained from Oceanic Transects and Time-Series Programs. INVITED	University of North Carolina Chapel Hill.
February 2017	Huynh, N.Q., C.A. Carlson, K.L. Opalk, E.K. Wear. Estimating DOC availability with Marine Bioreactors	ASLO Aquatic Science meeting. Honolulu, Hawaii
February 2017	Bittar, T., K. Bulski, R. Parsons, S. Giovannoni, C.A. Carlson, E. Harvey. Growth, Grazing and Virus-Induced Mortality of Bacterioplankton in the Sargasso Sea	ASLO Aquatic Science meeting. Honolulu, Hawaii
May 2017	Carlson, C.A. 2017. NAAMES DOM and Bacterioplankton Dynamics INVITED.	NAAMES Science Planning Workshop. May 2, 2017. NASA Langley Newport News Virginia.
Jan 2019	Carlson, C.A. 2019. US GO-SHIP Dissolved Organic Carbon and Total Dissolved Nitrogen Program. GO-SHIP external review. INVITED.	GO-SHIP External Review at Scripps Institution for Oceanography
Feb 2019	Carlson, C.A. 2019. BIOS-SCOPE program's Goals, Accomplishments and Successes. Simons Foundation International Board Site Visit.	Bermuda Institute of Ocean Science.
June 2019	Carlson, C, Bactge, N. (2019) NAAMES Campaign: Improving Our Understanding of DOM Dynamics, Export, and Fate in the Western North Atlantic. INVITED	NASA Langley Newport News Virginia.
July 2019	Carlson, C. Role of Dissolved Organic Matter and its Fate in the Ocean's Mesopelagic Zone. INVITED PLENARY. BIARRITZ Meeting.	National Oceanographic Center. Southampton, UK.
Nov 2019	Carlson, C.A., Dissolved organic carbon dynamics, export and microbial interactions: Insights gained from oceanic transects and time-series programs. INVITED	University of Southern California.
Jan 2020	Carlson 2020. Challenges and Considerations Regarding Nucleic Acid Field Collection	University of North Carolina Chapel Hill, NC

	Approaches. OCB Nucleic Acid Omics Workshop. Jan 2020 INVITED.	
Jan 2020	Carlson et al. Effects of kelp on the processing and fate of dissolved organic matter. LTER lecture series. INVITED	University of California Santa Barbara
March 2020	Carlson, C.A., The BIOS-SCOPE Program. Joint Simons Marine Collaboration Video Seminar Series. INVITED	Simons Foundation Simulcast in 5 Countries
October 2021	Carlson, CA., 2021, Microbial linkages with DOM dynamics in the North Atlantic: Insight from survey and time series programs. INVITED	University of Hawaii, Monoa; Department of Oceanography - Virtual
September 2022	Carlson.CA. Simons Collaboration on Ocean Processes and Ecology -Bermuda INVITED	Simons Foundation Scientific advisory board- Virtual
October 2024	Carlson, CA, Microbial Oceanography and insights gained from the Bermuda Atlantic Time-series Study- INVITED	Arizona State University; Ocean Futures Symposium
June 2025	BIOS Past, Present and Future- INVITED	Royal Bermuda Yacht Club, Hamilton Bermuda

Professional Service

Peer Review Activities (selected)

Applied and Environmental Microbiology
Aquatic Microbial Ecology
Deep Sea Research I, II
Journal of Geophysical Research
Marine Chemistry
Nature
Journal of Marine Systems

Continental Shelf Research
Global Biogeochemical Cycles
Limnology and Oceanography
Marine Ecology Progress Series
NSF
Nature Geoscience
Annual Review of Marine Science

ISME Journal
Env. Microbiol.
Prog. Oceanogr.
Science
PNAS
DOE

Directorships, National Committees, and Service

2015 – Present Program Director of Simons Foundation International’s BIOS-SCOPE program
2003- present GO-SHIP Executive Committee, formerly CLIVAR U.S. Repeat Hydrography Oversight Committee
2020 NSF Chemical Oceanography Panelist
2016 – 2019 ASLO Awards Committee
2015-2016 NASA’s EXport Processes in the Ocean from RemoTe Sensing (EXPORTS) scientific definition team (member)
2013- 2015 NASA’s EXport Processes in the Ocean from RemoTe Sensing (EXPORTS) writing team (member)
2013- 2015 Carbon Cycle Scientific Steering Group (member)
2014-2015 Chair -Ocean Carbon Biogeochemistry Scientific Steering Committee
2012-2013 Vice Chair- Ocean Carbon Biogeochemistry Scientific Steering Committee
2009-2016 Ocean Carbon Biogeochemistry Scientific Steering Committee
2007-2016 Ocean Carbon Biogeochemistry’s (OCB) Ocean Time-Series Committee
2010 – 2012 SCOR Working Group 134 – The Microbial Carbon Pump in the Ocean- Associate Member
2011 Invited participant in a American Academy of Microbiology Colloquium entitled: “Educating the Microbiologists of the Future: The Role of Summer Courses. Jan 2011, San Francisco, CA.
2008 Invited participant DOE Carbon Cycle and Genomics workshop, Denver CO
2007 NSF Panelist
2006-2009 Nomination committee for the American Society of Limnology and Oceanography

2004-2013	Leader of Summer Course “Microbial Ecology” or “Microbial Oceanography” offered at the Bermuda Institute of Ocean Science. This course is offered as part of our Microbial Observatory Project.
2002- 2004	Carbon Cycle Science Ocean Interim Implementation Group (Chair Scott Doney)
2002-2003	ASLO 2003 Winter Meeting Steering Committee
2002	DOE Panelist
1998-1999	The Oceanography Society Membership Committee

Meeting Special Session Organizer

2024	Chair of BIOS-SCOPE Data Workshop V (Simons Foundation International) New Orleans, LA (Feb)
2022	Chair of BIOS-SCOPE Data Workshop IV (Simons Foundation International) Cambridge, MA (May)
2020	Chair of BIOS-SCOPE Data Workshop III (Simons Foundation International) San Diego, CA (Feb)
2019	Co-Chair of a session entitled “Anatomy of a Bloom: Unraveling Drivers of Biomass change and carbon dynamics over the annual cycle” Aquatic Science Meeting, San Juan, Puerto Rico
2019	Chair of BIOS-SCOPE Data Workshop II (Simons Foundation International) San Juan, Puerto Rico (Feb)
2018	Chair of BIOS-SCOPE Data Workshop I (Simons Foundation International) Portland OR (Feb)
2015	Chair of 2015 Ocean Carbon and Biogeochemistry Workshop WHOI, July 2015
2014	Co-Chair of a session entitled “The molecular chemistry and microbial biology of marine dissolved organic matter (DOM) composition and cycling”. AGU Ocean Science Meeting Honolulu, HI
2014	Chaired special session entitled “The Biological Pump: Transport Mechanisms and Mesopelagic Processes” Ocean Carbon Biogeochemistry Workshop, Woods Hole, MA
2013	Co-Chaired special session entitled “Narrowing in on key biological carbon fluxes: Estimates, approaches, and uncertainties” Ocean Carbon Biogeochemistry Workshop, Woods Hole, MA
2012	Chaired special session entitled “Integrating measurements across multiple time and space scales” Ocean Carbon Biogeochemistry Workshop, Woods Hole, MA
2010	Co-Chair of session entitled "Organic Geotraces": Towards an Understanding of the Distribution of Organic Matter in the Oceans. Fall AGU meeting. San Francisco CA.
2009	Co-Chair of session entitled “Temporal and Spatial Patterns in Planktonic Microbial Community Structure”. Aquatic Science Meeting, Nice France
2008	Co-Chaired Special session of OCB summer workshop entitled “Temporal trends in ecosystem variability” Woods Hole Oceanographic Institution, Woods Hole, MA
2003	Co-Chair of session entitled “Biogeochemistry of the Tropical and Subtropical North Atlantic” Aquatic Science Meeting. Salt Lake City, UT.
1996	Co-Chair of session entitled “Dissolved Organic Matter (DOM) in Marine Systems: Changing Paradigms Organizers” AGU Ocean Science Meeting. Honolulu, HI

Editorial Positions for Scholarly Journals or Books

2022- present	Co-Editor of <u>Biogeochemistry of Marine Dissolved Organic Matter</u> 3 rd edition, in press, D.A. Hansell and C.A. Carlson. Academic Press, San Diego. pp ~800
2016- present	Associate Editor for <i>Marine Chemistry</i>
2006- present	Founding Co-Editor of <i>Annual Reviews of Marine Science</i>
2005- present	Editor for <i>Aquatic Microbial Ecology</i>
2014- 2015	Guest Editor for <i>Marine Chemistry</i> on Special focused on Dissolved Organic Matter
2013- 2015	Co-Editor of <u>Biogeochemistry of Marine Dissolved Organic Matter</u> 2 nd edition, 2015, D.A. Hansell and C.A. Carlson. Academic Press, San Diego. pp 693
1999-2002	Co-Editor of <u>Biogeochemistry of Marine Dissolved Organic Matter</u> , 2002, D.A. Hansell and C.A. Carlson. Academic Press, San Diego. pp 774.

Cruise Experience

R.V. Weatherbird I -Sargasso Sea; biweekly cruises to Station S from Jan.-Sept. 1987.
R.V. Endeavor- North Atlantic Icelandic Basin; June 1989.
R.V. Orion- Chesapeake Bay; Fall and Summer 1989 and 1990.
R.V. Weatherbird II- Sargasso Sea; 17 cruises from 1991-1994. And various day cruises 1996-2000
R.V. Cape Henlopen- Chesapeake Bay; summer 1991.
R.V. Endeavor- Sargasso Sea; April 1992.
R.V. Cape Hatteras - Sargasso Sea; November, 1992.

R.V. Cape Hatteras- Sargasso Sea; February-March, 1993.
R.V. Nathaniel B. Palmer - Ross Sea; November- December 1994.
R.V. Nathaniel B. Palmer - Ross Sea; December - January 1995 / 1996.
R.V. Nathaniel B. Palmer- Ross Sea; October- November, 1996.
R.V. Nathaniel B. Palmer- Ross Sea; November - December, 1997.
R.V. Weatherbird II – Sargasso Sea; Various short cruises from 1998 – 2000
R.V. Weatherbird II – Sargasso Sea; 11 days August, 2001
R.V. Knorr A22 North Atlantic Line: 22 days October – November 2003.
R.V. Weatherbird II – Sargasso Sea; 11 days August, 2001, 10 days in 2005
R.V. Atlantic Explorer - Sargasso Sea 1-3 times per year 2010 – present.
R.V. Pt Sur- Santa Barbara Channel, April 2005, October 2005, April 2006, April 2010, April 2011,
R.V. Kilo Moana- South Pacific July –August 2014.
R.V. Atlantis – North Atlantic NAAMES cruises May, 2016 and August 2017.
R.V. Revelle – North Pacific EXPORT Cruise Aug -Sept 2018
RRS James Cook- Eastern North Atlantic EXPORTS Cruise – May-June, 2021.

Professional Societies (current and past)

American Geophysical Union
American Society of Limnology and Oceanography
The Oceanography Society
American Society for Microbiology
International Society of Microbial Ecology
AAAS

Diversity, Equity, and Inclusion:

2023- URGE (Unlearning Racism in Geosciences) UCSB member -Refining Anti-racist Conversations
2022- Overhauled the Bentson Scholarship Program for more equitable recruiting practices (Chair)
2021- 2023- EEMB Working group 1- met biweekly (member)
2022- Equity-Minded Mentoring workshop (participant)
2022- Fostering Wellbeing in Racialized Mentoring Environments (participant)
2023- Creating Organizational Cultures of Mentoring and Wellbeing- Equity in Graduate Education Workshop (participant)
2021- URGE (Unlearning Racism in Geosciences) UCSB member
2019- 2023- Overhauled faculty search plan to include more equitable recruiting practices MSI Director search (Chair)

University and Departmental Service:

2022 – present Senate’s UCSB Radiation Safety Committee
2020- present EEMB and IGPMS Graduate Advisor Search Committee (member)
2015- present IGPMS Advisory Committee
2014- present Bentson Fellowship Committee (Chair)
2005- present Regents Scholar Selection Committee
2022 UCSB’s NSF MRI selection committee
2021 -2023 EEMB Development Committee (Chair)
2021 -2023 Marine Science Institute Director Search Committee (Chair)
2020 -2023 Marine Biotech Building and COVID Research Ramp-up Committee (Chair)
2020- 2022 EEMB Policy and Oversight Committee (member)
2020 Marine Science Institute Director Search (Chair; put on hold in September 2020)
2019- 2022 Nejat Ezal Fellowship Committee (Chair)
2018- 2020 Vice Chair of Interdepartmental Graduate Program in Marine Science (IGPMS)
2017 – 2020 Senate Council on Faculty Issues and Awards
2017 – 2019 Committee on Academic Freedom
2016- 2023 EEMB Chair Advisory Committee
2016- 2018 EEMB Policy and Oversight Committee (Chair)
2014- 2015 IGPMS Marine Microbial Genomics Search committee (member)
2013- 2016 Department Chair, Ecology, Evolution and Marine Biology (EEMB)
2011- 2013 EEMB Curriculum Streamlining Committee
2011-2013 EEMB Worster Award Review Committee

2011-2013	EEMB web site committee
2011-2012	EEMB Biological Oceanography Search Committee (Chair)
2011	UCSB PIRE review committee
2011	Campbell Hall Building Committee
2010-2013	Department Vice Chair EEMB; Undergraduate curriculum
2010-2014	Undergraduate Educational Effectiveness in the Research University Committee for WASC preparation
2010	UCSB IACUC animal welfare committee
2008- 2012	Marine Science Institute Advisory Committee
2008-2010	Academic Senate's Chemical Safety Committee
2007-2010	EEMB Policy Oversight Committee (Co-Chair)
2007	Academic Senate Distinguished Teaching award (Chair)
2006-2008	Aquatic Major Oversight Committee (Chair)
2005- 2010	Nejat Ezal Fellowship Committee
2005- 2010	Marine Affairs Committee (Chair)
2005- 2009	EEMB Major Vision Committee
2005-2007	Council on Faculty Issues and Awards (Vice Chair)
2005	Case Fellowship Committee
2005	Campus Grad Fellowship Committee
2005	EEMB Graduate Committee
2003-2004	Kirby Jones Scholarship Committee

Courses Taught

EEMB 3 – Introductory Biology 2001- present
 EEMB 144/ 244- Marine Microbiology 2002- 2008 (every other year); 2017 – present -every year
 EEMB 144 L / 244L - Marine Microbiology Laboratory 2004- 2008 (every other year); 2017 – present- every year
 EEMB 142b – Processes in Aquatic Systems 2009- present
 EEMB 243- Biological Oceanography (Graduate) 2002- 2014
 EEMB 595MM- Seminar in Microbial Oceanography – 2005 -present
 INT 94ES – Freshman Seminar 2013- 2017
 INT 89AD – Freshman Seminar 2018 - 2020
 MARSC / EEMB 595MS- Graduate Marine Science Seminar 2002-2014; 2021- present
 1999 – 2014: Microbial Oceanography: The Biogeochemistry, Ecology and Genomics of Oceanic Microbial Ecosystems. Three-week summer immersion course hosted at the Bermuda Institute of Ocean Science
 1999 - 2000 (annual Spring semester course). Instructor for an undergraduate course in Marine Microbial Ecology offered as a course in the Beaufort to Bermuda program sponsored by Duke University and the Bermuda Biological Station for Research. Laboratory included. Instructors C.A. Carlson and N.R. Bates
 1997 (Spring semester) Instructor for an undergraduate course entitled "Marine Biogeochemistry" offered as a course in the Beaufort to Bermuda program sponsored by Duke University and the Bermuda Biological Station for Research Inc. Laboratory included. Instructors N.R. Bates and C.A. Carlson
 1995-2000. Guest lecturer for Elder Hostel program; Bermuda Biological Station for Research

Graduate Students Mentored

Name	Started	Graduated	Degree	Topic
<i>Courtney Ewart</i>	<i>2003</i>	<i>2007</i>	<i>Masters</i>	<i>Eddies and Microbial Proc.</i>
<i>Stuart Goldberg</i>	<i>2002</i>	<i>2008</i>	<i>Ph.D</i>	<i>DOM characterization</i>
<i>Elisa Wallner</i>	<i>2007</i>	<i>2010</i>	<i>Masters</i>	<i>DOM/ Microbial Interactions</i>
<i>Emma Wear</i>	<i>2009</i>	<i>2017</i>	<i>Ph.D</i>	<i>Microbial Oceanography</i>
<i>Anna James</i>	<i>2011</i>	<i>2017</i>	<i>Ph.D.</i>	<i>Microbial Oceanography</i>
<i>Nicholas Huynh</i>	<i>2014</i>	<i>2021</i>	<i>Ph.D.</i>	<i>Microbial Oceanography</i>
<i>Jacqueline Comstock</i>	<i>2016</i>	<i>2023</i>	<i>Ph.D.</i>	<i>Microbial Oceanography</i>
<i>Chance English</i>	<i>2018</i>	<i>2024</i>	<i>Ph.D.</i>	<i>Microbial Oceanography</i>
<i>Rachel Sandquist</i>	<i>2022</i>	<i>in progress</i>	<i>Ph.D.</i>	<i>Microbial Oceanography</i>

Post Doctoral Mentorship and Visiting Scholars

Name	Started		Topic
Robert Morris	2006-2007	Post Doc	Microbial Oceanography
Craig Nelson	2008- 2013	Post Doc	Microbial Ecology
Stuart Goldberg	2011 -2012	Post Doc	Marine Chemistry
Liju Tan	2012- 2013	Visiting Scholar (OUC)	Marine Chemistry
Shuting Liu	2016- 2022	Post Doc	Microbial Oceanography
Emma Wear	2017	Post Doc	Microbial Ecology
Anna James	2018 – 2021	Post Doc	Microbial Ecology
Brandon Stephens	2018 – present	Post Doc	Marine Chemistry
Jacqui Comstock	2023 – present	Post Doc	Microbial Ecology

Student Committee Service at UCSB

Name	Started	Graduated	Degree	Advisor
De De Toole	1998	2003	Ph. D.	Siegel
Sarah Goldthwait	1998	2004	Ph..D	Allredge
Mark Demarest	2001	2009	Ph.D	Brzezinski
Chantal Swan	2002	2009	Ph.D	Siegel
Jon Klamberg	2002	2005	MSc	Siegel
Craig Nelson	2002	2008	Ph.D.	Melack and Cooper
Ben Coleman	2003	2009	Ph. D	Schimel
Monica Heinz	2005	2011	Ph.D.	Haymon and Valentine
Brandon Swan	2003	2009	Ph.D	Valentine
Molly Redmond	2003	2009	Ph.D.	Valentine
Julia Vraspir	2005	2011	Ph.D.	Butler
Jo Goodman	2007	2011	Masters	Brzezinski
Chris Farwell	2007	2010	Masters	Valentine
Blair Paul	2008	2013	Ph.D.	Valentine
Stephanie Mendez	2010	2014	Ph.D.	Valentine
Rebecca Baron	2009	2014	Ph.D.	Siegel
Laura Windecker	2009	2016	Ph. D.	Brzezinski
Heather McNair	2012	2017	Ph.D.	Brzezinski
Sarah Laperriere	2017	2019	Ph.D.	Santoro
Dani Cox	2017	2024	Ph.D.	Valentine
Connor Love	2019	2023	Ph.D.	Valentine
Taruna Schuelke	2022	2024	Ph.D.	Wilbanks
Sevan Esaian	2022	2024	Ph.D.	Wilbanks
Kana Yamamoto	2022	2024	Ph.D.	Siegel
James Gately	2022	2025	Ph.D.	Iglesias-Rodriguez
Michael Nowicki	2019	2024	Ph.D.	DeVries
Nicola Paul	2022	in progress	Ph.D.	Santoro
Tori Jones	2022	in progress	Ph.D.	Wilbanks
Billy Ray	2025	in progress	Ph.D.	Miller

Student Committee External Member

Peter Countway	MSc. Virginia Institute of Marine Science (H. Ducklow 1999)
Howard Bluck	MSc. University of Newcastle-upon-Tyne (I. Head, 2000)
Jacques Oliver	Ph.D. Virginia Institute of Marine Science (H. Ducklow, 2005)
Dawn Goldsmith	Ph. D. University of South Florida (M. Breitbart, 2014)

Robert Letscher	Ph.D. University of Miami (D. Hansell, 2012)
Clara Louriero	Ph.D. University of the Azores (A. M.P. Martins., 2022)
Lillian Henderson	Ph.D. University of Miami (H. Close, 2024)

Undergraduate Research Mentor

Trevor Tredennick	BIOS REU, 1995
Mark Otero	BIOS Volunteer Intern, 1997- 1998
Benjamin Wheeler	BIOS Volunteer Intern, 1998
Stuart Goldberg	BIOS REU, 1998
Lei Young	BIOS REU, 1999
Elizabeth Varughese	BIOS Volunteer Intern 2000
Holly Biggs	BIOS REU, 2000
Kurt Gray	BIOS Volunteer Intern, 2000
Milton Bergson	BIOS REU, 2005
Sam Galle	UCSB, 2005 -2006
Kendra Swain	BIOS REU 2006
Rachel Henry	UCSB REU, 2008
Emily Giles	BIOS REU 2009
Nicole Bobco	UCSB undergraduate researcher 2010
Blake Clark	UCSB Undergraduate researcher 2010-2011
Anai Novoa	UCSB Undergraduate researcher 2007- 2012
Jame DeMayo	UCSB Undergraduate Researcher 2011- 2012
Jasmine Awadeh	UCSB Undergraduate Researcher 2011-2012
Nicholas Huynh	UCSB Undergraduate Researcher 2012- 2013
Cameron Pujdak	UCSB Undergraduate Researcher 2013- 2014
Henry Morse	UCSB Undergraduate Researcher 2014- 2015
Jacqueline Comstock	UCSB Undergraduate Researcher 2015- 2016
Chance English	UCSB Undergraduate Researcher 2016- 2017
Kara Newman	UCSB Undergraduate Researcher 2017- 2019
Noah Rubin-Saika	UCSB Undergraduate Researcher 2018- 2019
Ruby Korpics	UCSB Undergraduate Researcher 2018- 2019
Shannon Hinsdale	UCSB Undergraduate Researcher 2019- 2020
Rachel Barhouma	UCSB Undergraduate Researcher 2019- 2021
Julia Pratt	UCSB Undergraduate Researcher 2019- 2020
Jaden Hanse	Cal Poly Global Change REU 2022
Emily Hernandez	UCSB Undergraduate Researcher 2022- 2023
Brynn Campos	UCSB Undergraduate Researcher 2023- 2024
Max Pacatte	UCSB Undergraduate Researcher 2022- 2025
Danny Gillisen	UCSB Undergraduate Researcher 2023- 2025