

**Michael William Lomas**

Senior Research Scientist

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(updated 22 February 2020)

**I. Personal Data**

Date of Birth: December 11, 1971

Citizenship: United States of America

**II. Education**

1999-2000 Assistant Research Scientist (post-doctoral position; advisor Dr. Todd Kana).  
Horn Point Laboratory - University of Maryland Center for Environmental  
Science. *Research Topic*: ECOHAB: Benthic-Pelagic Coupling in Long Island  
Brown Tides.

1999 Ph.D., Biological Oceanography. University of Maryland at College Park.  
Thesis Advisor, Dr. Patricia Glibert. *Thesis Title*: Nitrate Metabolism and the  
Cellular Energy Balance: Contrasting Patterns of Nitrate uptake, Reduction, and  
Release in Marine Diatoms and Flagellates.

1994 B.Sc., Dual Degree, Marine Biology & Marine Chemistry. Long Island  
University, Southampton College (now called Stony Brook at Southampton).  
Honors Advisor, Dr. Robert Danziger.

**III. Professional Experience, Mentorship & Teaching**

**A. Academic and Professional Positions Held**

2014 – pres. Director, Provasoli-Guillard National Center for Marine Algae and  
Microbiota.

2014 – 2016 Adjunct Scientist, University of South Alabama

2012 – pres. Senior Research Scientist, Bigelow Laboratory for Ocean Sciences.

2012 – pres. Adjunct Senior Scientist, Bermuda Institute of Ocean Sciences (formerly  
Bermuda Biological Station for Research, Inc.)

2008 – 2012. Senior Scientist, Bermuda Institute of Ocean Sciences (formerly Bermuda  
Biological Station for Research, Inc.)

2007 - 2010. Associate Professor, College of Ocean and Atmospheric Sciences, Oregon  
State University

2006 – 2012. Adjunct Research Professor, Graduate School of Oceanography, University  
of Rhode Island

- 2003 – 2008. Associate Research Scientist, Bermuda Institute of Ocean Sciences (formerly Bermuda Biological Station for Research, Inc.)
- 2001 - 2007 Adjunct Associate Professor, Nicholas School of the Environment, Duke University
- 2001 – 2003 Assistant Research Scientist, Bermuda Institute of Ocean Sciences (formerly Bermuda Biological Station for Research, Inc.)
- 2000 – 2003 Assistant Research Professor, Horn Point Laboratory, UMCES

### B.1 Student Mentoring – Undergraduate (complete list)

<u>Student</u>	<u>School</u>	<u>Year</u>	<u>Support</u>	<u>Project</u>	<u>Current Status</u>
Jared Wang	Colby College	2018	Colby College	Pilot Scale Production of Haematococcus	Graduate School
Henry Arndt	Colorado State	2018	NSF-REU	Relating cell stoichiometry to cell density	undergraduate
Cynthia Michaud	URI	2016	NSF-REU	Growth of <i>Emiliana huxleyi</i> on phosphonate	undergraduate
Lauren Hayden	SMCC	2015	NSF-REU	Understanding cryopreservation in marine algae	M.Sc. at UNE
Sarah Erskine	Wheaton College	2014	NSF-REU	P physiology of marine picoeukaryotes	Graduate school
Elizabeth Johnsey	U. South Florida	2013	NSF-REU	Quantification of cellular protein from natural populations	Finished M.Sc., University of Southampton
Alex Godfrey	U. of Liverpool	2012	Bermuda Programme	Phytoplankton of Spittal Pond, Bda	Graduate school
Nerissa Fisher	University of South Carolina	2012	NSF	Microplankton of the Bering Sea	Graduate school
Agathe Cangardel	Newcastle University	2011	BIOS – biodiesel	Optimization of a pilot scale biofuel system	Graduate school
Brett Beaulieu-Jones	Boston College	2011	BIOS – SSA	Sargasso Sea Ocean Data Repository	Graduated – working in IT

<u>Student</u>	<u>School</u>	<u>Year</u>	<u>Support</u>	<u>Project</u>	<u>Current Status</u>
María Jesús Bardón	University of Vigo	2011	NSF-OPP	Autotrophic carbon biomass in the Bering Sea	graduate school
Claire Grenfell	Queen's University	2010, 2011	Bermuda Programme	Characterizing Carbon Flux in the Sargasso Sea	Completed Graduate School
Susan Allender	Intern	Sp./Su. 2010	Partner Re:	Screening of Sargasso Sea algae for ideal biodiesel isolate	Post-graduate (started as my technician 1/2011)
Darcie Ryan	Princeton University	Su. 2009	PEI	Physiological responses of <i>Trichodesmium</i> to ocean acidification	graduated
Shannon McGrath	University of Maryland	Fa. 2008	NSF-REU	Interactive effects of nutrients & CO <sub>2</sub> on phytoplankton competition	Graduated – working with Maryland DEP
Jae-Tremae Smith	U. Southampton	Su. 2008, 2009	UK Assoc.	Phytoplankton community structure and carbon export at BATS	Graduate School medical sciences
Melissa Saeland	U. Wales – Bangor	Su 2007/08	UK Assoc.	Virtual Ecology Workbench – modeling	Graduate School - NOCS
ChenChen Shen	Princeton U.	Su 2007	PU/BIOS	DOP Dynamics in the Sargasso Sea	Graduate school @ OSU
Kim Tucker	UCSB	Fa 2006	NSF-REU	Taxon-specific alkaline phosphatase activity	unknown
Elizabeth Murphy	U. Hawaii	Fa. 2006	NSF-REU	Cell-cycle Analysis in picoplankton	Grad School – U. Texas
John Casey	C. of Charleston	Fa. 2005	NSF-REU	Taxon-specific carbon and nitrogen uptake	Graduate student at UH-Manoa
Joanna Mandecki	Princeton U.	Su. 2005	PU/BIOS	Taxon-specific carbon and nitrogen uptake	Grad School – U. Chicago

<u>Student</u>	<u>School</u>	<u>Year</u>	<u>Support</u>	<u>Project</u>	<u>Current Status</u>
Ron Weissbard	Princeton U.	Su. 2005	PU/BIOS	Taxon-specific alkaline phosphatase activity	Grad School -
Natalie Roberts	Oxford U.	Sp. 2005	NSF-CO	Biological responses to storm forcing	Graduate school - Oxford U.
Daniel Depledge	U. Essex	Fa. 2004	BIOS	Sargasso Sea Genomics	Unknown
Walt Carlson IV	Tennessee Technical U.	Fa. 2004	NSF-REU	Phytoplankton Critical Ratios	Marketing
Jessica Lucchini	LIU/Southampton College	Sp. 2004	NSF-CO	Growth rates of Marine Phytoplankton	Grad School
Gwen Woods	Humboldt State U.	Fa. 2003	NSF-REU	Telomerase activity in marine phytoplankton	Unknown
Benjamin Daly	Hobart & William Smith	Fa. 2003	NSF-REU	Elevated CO <sub>2</sub> & phytoplankton succession	NOAA field scientist – Alaska
Julie Shoemaker	Harvard U.	Su. 2003	Harvard U.	Microplankton grazing	Grad School
Ryan Shelton	Duke U.	Su. 2003	BIOS	Phosphorus limitation at BATS	Graduate School -
Ashley Swain	Northeastern U.	Fa. 2003	NSF-REU	Phosphorus limitation at BATS	Medical Sales
Garrett Gregory	Humboldt State U.	Fa. 2002	NSF-REU	Urea cycling at BATS	Unknown
Tyler Brandt	High School Senior Honor's Thesis	2001	BIOS	Physical forcing and phytoplankton dynamics	Unknown
Stephanie Jaeger	LIU/Southampton College	Fa. 2001	NSF-REU	DOM production in phytoplankton communities	Washington State DNR
Debra Clougherty	LIU/Southampton College	Su. 1999	LIU Intern	Long Island Brown Tides	Research Technician at Bigelow Labs
Jeremey Jones	LIU/Southampton College	Su. 1999	LIU Intern	Long Island Brown Tides	Indiana – Fire Fighter

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## B.2 Student Mentoring Nippon Foundation/POGO Center of Excellence in Operational Oceanography (graduate student projects while at BIOS).

### 2011-2012

Priscilla Lange, Universidade Federal de Rio Grande / Institute of Oceanography  
Laboratório de Fitoplâncton e Microorganismos Marinhos, Brazil, *Biological Control of Oceanic C:N:P Ratios: Control by Ocean acidification*

Chunli Liu, Shandong University at Weihai Marine College, P.R. China, *Partitioning of primary production during spring blooms on the eastern Bering Sea Shelf.*

Arvind Singh (co-supervised with Nick Bates), Physical Research Laboratory, India, *Long-term trends in thermocline dissolved N:P ratios and relationships patterns in euphotic zone particulate N:P ratios.*

### 2010-2011

Muhammed Fatih Sert, Middle East Technical University/Institute of Marine Sciences,  
*Biological Control of Oceanic C:N:P Ratios: Control by Nutrient Supply Rates and Ratios.*

Rafael Jose Rasse Boada, Instituto Venezolano de Investigaciones Cientificas, Venezuela,  
*Biological Control of Oceanic C:N:P Ratios: Control by Ocean acidification.*

Maria Fernanda Colo Giannini, Universidade Federal do Rio Grande, Brazil, *Comparison of derivative ocean color spectra with HPLC pigment data at the Bermuda Atlantic Time-series Study.*

### 2009-2010

Hoang Cong Tin, Centre of Coastal Management and Development Studies, Vietnam, *A physiologically based primary production model for the Sargasso Sea.*

Wadanahaluge Priyadarshani, National Aquatic Resources Research and Development Agency, Sri Lanka, *Micro-phytoplankton of the Sargasso Sea: Seasonal patterns and controls.*

Kirill Kivva, Lomonosov Moscow State University, *The role of zooplankton migration in the vertical nutrient fluxes.*

### 2008-2009

René Ayala, University Simon Bolivar, Venezuela, M.S.c. candidate, *An ecosystem model: Understanding the processes controlling the deep chlorophyll maxima (DCMs) in the open ocean.*

Samina Kidwai, National Institute of Oceanography, Pakistan. Ph.D. *Micro-zooplankton grazing during the Sargasso Sea spring bloom.*

## B.3 Student Mentoring (chronological order) – Graduate Students:

### Master of Science Committee - completed:

- **Haley Brew**, Graduate School of Oceanography - University of Rhode Island (M.Sc. thesis committee). Major Professor, Dr. Brad Moran; May 2006-Jan. 2008. Haley

conducted a seasonal study of size-fractionated POC/Th ratios in the Sargasso Sea and its relationship to plankton community structure and export production.

- **Brendan Mackinson**, Graduate School of Oceanography, University of Rhode Island (M.Sc. Thesis committee). Major Professor, Dr. Brad Moran; Sept. 2011 – May 2014. Brendan is studying the cycling of particulate organic matter in the subArctic North Pacific Ocean and the role of phytoplankton community composition.
- **Alex Marquez**, University of South Alabama (M.Sc. thesis committee). Major Professor, Dr. Jeff Krause; Sept. 2013 – July 2015. Alex's research is focused on an analysis of the stoichiometric coupling of Carbon, Nitrogen, Silica and Phosphorus between the suspended particle pool and the exported organic material pool in the Sargasso Sea and the impact of eddies on this coupling.

Doctor of Philosophy Committee - completed:

- **Jeff Krause**, Oregon State University – College of Ocean and Atmospheric Sciences, co-advised with Dr. David Nelson; Ph.D. Candidate; Sept. 2003-April 2008. Jeff studied the dynamics of silica cycling in the Sargasso Sea and the Equatorial Pacific.
- **Carolyn Walker**, University of Otago, co-advised with Drs. Phillip Boyd and William Jenkins; Ph.D. Candidate; Sept. 2004-May 2009. Carolyn studied the use of geochemical tracers as indicators of nitrate inputs, and ultimately new production, to the Sargasso Sea euphotic zone.
- **Vanessa Michelou**, University of Delaware – College of Marine and Earth Sciences (Ph.D. thesis committee). Major Professor, Dr. Dave Kirchman; Sept 2006-Nov. 2009. Vanessa studied the uptake of organic phosphorus and nitrogen compounds by specific clades of bacteria in the tropical/subtropical North Atlantic Ocean.
- **George Boniello**, Old Dominion University (Ph.D. thesis committee). Major Professor, Dr. Margie Mulholland; Sept. 2006-October 2010. George is studying the biological cycling of organic carbon and nitrogen in nearshore environments and the relationships between these nutrient biogeochemical cycles and harmful algal blooms.
- **Jessica Amacher**, Arizona State University (Ph.D. Thesis committee). Major Professor, Dr. Susanne Neuer; Feb. 2009 – July 2011. Jessica is studying relationships between phytoplankton community composition and carbon export in the Sargasso Sea.
- **Sarah Fawcett**, Princeton University – co-advised with Drs. Bess Ward and Danny Sigman. Ph.D. candidate; Sept. 2008-May 2012. Sarah studied the  $\delta^{15}\text{N}$  signatures of natural phytoplankton and bacterial populations, sorted by flow cytometry, to determine the sources of nitrogen assimilated during growth.
- **Charlotte Best**, University of Southampton/National Oceanography Centre, co-advised with Dr. Duncan Purdie Ph.D. Candidate; Sept. 2008-Oct. 2012. Charlotte studied the microphytoplankton community in the Sargasso Sea, both current and archived samples, in relationship to changing inorganic carbon chemistry and other environmental variables.
- **Steven Baer**, Virginia Institute of Marine Sciences (Ph.D. Thesis committee). Major Professor, Dr. Debbie Bronk; Jan. 2009 – July 2013. Steven studied nitrogen cycling in the mesopelagic ocean using a combined flow cytometry – stable isotope protocol that has been developed jointly between Debbie Bronk and myself.

- **Mathew Baumann**, Graduate School of Oceanography, University of Rhode Island (Ph.D. Thesis committee). Major Professor, Dr. Brad Moran; Sept. 2008 – Nov 2014. Matt studied controls on organic carbon cycling in the eastern Bering Sea.
- **Francesca di Martini**, Arizona State University (PhD. Thesis committee). Major Professor, Dr. Susanne Neuer; March 2012 – April 2015. Francesca studied taxon-specific microzooplankton grazing in the Sargasso Sea food web.
- **Bridget Bachman**, U South Carolina (Ph.D. Thesis committee). Major Professor, Dr. Tammi Richardson; August 2011 – April 2017. Bridget studied the cycling of carbon through the Sargasso Sea foodweb using a variety of experimental methods and inverse modeling.
- **Jenna Spackeen**, College of William and Mary (PhD. Thesis committee). Major Professor, Dr. Deborah Bronk; January 2012 – April 2017. Jenna studied the coupling of nitrogen and phosphorus nutrition in marine phytoplankton.

Master of Science Committee – in progress:

None

Doctor of Philosophy Committee – in progress:

- **Jeanette Gann**, University of Alaska Fairbanks (PhD. Thesis committee). Major Professor, Dr. Sarah Hardy: January 2018 – present. Jeanette is focused on quantifying phytoplankton community structure in the Chukchi Sea and the Gulf of Alaska and its relationship to transfer of energy to higher trophic levels.
- **Bianca Cruz**, Arizona State University (PhD. Thesis committee). Major Professor, Dr. Susanne Neuer: September 2017 – present. Bianca is focusing on the formation of aggregates from cultures of *Synechococcus* and *Prochlorococcus* as a mechanism for the export of carbon associated with these organisms.

External Reader:

- Nicolas Schiffrine. Stoichiometry and physiology of diatoms that dominate Arctic conditions. University of Laval. April 2020.

**B.4 Post-doctoral Mentoring:**

- **Dr. Robert Condon**: July 2008 – July 2009. Rob's project focused on developing ecotype specific probes to advance our flow cytometry isotope protocols for use in studying taxon-specific biogeochemistry in the marine environment.
- **Dr. Andrés Cianca Aguilar**: January – June 2012. Andrés is a researcher with the European Station for Time-series in the Ocean, Canary Islands (ESTOC) program and conducted a 6-month post-doctoral training/sabbatical in my laboratory. Andrés' project was to work with our large phosphorus dataset for the NW subtropical N. Atlantic and evaluate hypotheses regarding the advection of dissolved organic phosphorus to the NW corner of the Sargasso Sea and its role in supporting primary and export production.
- **Dr. LeAnn Whitney**: January 2013-August 2018. LeAnn's project is examining the transcriptomic response of a model picoeukaryote, *Micromonas pusilla*, to P-limitation

and ocean acidification and the combination of the two. In addition, LeAnn has developed some primers to P-responsive genes and will be examining cruise samples from the N. Atlantic to explore further P-limitation in picoeukaryotes.

- **Dr. Matthew Baumann:** January-June 2014. Matt's project is examining the relationship between phytoplankton community structure and C export across several field campaigns that we've been involved with from the Bering Sea to the Sargasso Sea. This is a synthetic data product between Brad Moran's research group and mine.
- **Dr. Steven Baer:** April 2014 – August 2018. Steven's project is focused on using flow cytometry and elemental analysis to determine the role of taxon-specific physiology and composition in marine biogeochemistry. In addition, Steven will also participate in one cruise in the Bering Sea this spring to continue collaborations with my NOAA colleagues exploring the role of climate change on the Bering Sea ecosystem.
- **Dr. Jens Nielsen:** May 2019 – April 2021. Jen's project has two themes. First is using mooring oxygen data to estimate vertically resolved NPP at a high temporal resolution, combined with satellite based NPP, to cover the spatial domain, to improve our understanding of primary production dynamics in the Bering Sea. Second is to analyze data from the FlowCAM collected on a series of cruises in the Chukchi Sea.

### C. Courses Taught or planned (international teaching in *italics*)

<u>Course Title</u>	<u>Institution</u>	<u>Semester(s)</u>	<u>Instructors</u>	<u>Inst./Course No.</u>
<i>Comparative Marine Biogeochemistry</i>	<i>AWI-POGO Centre of Excellence</i>	<i>Spring 2014 Spring 2015</i>	<i>Michael Lomas</i>	<i>Graduate level – no course number</i>
<i>Scientific Writing</i>	<i>BIOS-POGO Centre of Excellence</i>	<i>Fall 2011</i>	<i>Michael Lomas, Andrew Peters &amp; Kristen Buck</i>	<i>Graduate level – no course number</i>
<i>Biological Oceanography</i>	<i>BIOS-POGO Centre of Excellence</i>	<i>Fall 2008-2011</i>	<i>Michael Lomas &amp; various co-instructors by year</i>	<i>Graduate level – no course number</i>
<i>Austral Summer Institute XII</i>	<i>University de Concepción, Chile</i>	<i>Jan. 2012</i>	<i>Michael Lomas &amp; Dave Checkley</i>	<i>Graduate level – no course number</i>
Observing Marine Environment	Princeton U. taught at BIOS	Su. 2007 & Su. 2008	Danny Sigman Michael Lomas	(undergrad) GEO318
Current Topics in Marine Science	Duke U./BIOS Be-2-Be Program	Sp. 2004	Peter Sedwick Michael Lomas	(undergrad) ES110
Biological Oceanography	Duke U./BIOS Be-2-Be Program	Sp. 2001 to 2006	Michael Lomas Peter Sedwick (2005 & 2006)	(undergrad) ES114L



<u>Course Title</u>	<u>Institution</u>	<u>Semester(s)</u>	<u>Instructors</u>	<u>Inst./Course No.</u>
Biological Oceanography	UMCES	Sp. 1999 & 2000	Raleigh Hood/Diane Stoecker/Michael Lomas	(graduate) MEES621
Photosynthesis Regulation	UMCES	Fa. 1999	Todd Kana/Hugh MacIntyre/Michael Lomas	(graduate) MEES698
Marine Operations and Research	LIU/Southampton College	Su. 1999	Michael Lomas	(undergrad) MS390

#### IV. Scholarship & Research

##### A.1 Peer-Reviewed Journal Articles – Published or ‘in press’ (Student authors are underlined; h-index = 48 as determined by Scopus as of the date above) (\* denotes a manuscript directly facilitated by biological collections).

- 126) Garcia, C.A., Hagstrom, G.I., Larkin, A., Ustick, L., Levin, S.A., Lomas, M.W., Martiny, A.C. 2020. Linking biome shifts in microbial genome adaptation with ocean biogeochemistry. *Proceedings of the Royal Society, B*. 375: 20190254.
- 125) Lomas, M.W., Eisner, L.B., Jeanette Gann, Baer, S.B., Mordy, C.W., Stabeno, P.J. 2020. Time-series of direct primary production and phytoplankton biomass in the Southeastern Bering Sea: Responses to cold and warm stanzas. *Marine Ecology Progress Series*, *accepted*.
- 124) Martiny, A.C., Ustick, L., Garcia, C., Lomas, M.W. 2020. Genomic adaptation of marine phytoplankton populations regulates phosphate uptake. *Limnology and Oceanography*, 65:S340-S350.
- 123) D’Alelio, D., Rampone, S., Cusano, L.M., Morfino, V., Russo, L., Sanseverino, N., Cloern, J., Lomas, M.W. 2020. Machine learning unravels the link between global warming and reduced primary productivity in the oligotrophic ocean gyres. *Scientific Reports*. will be published on February 28, 2020.
- 122) Krause, J.W. and Lomas, M.W. 2020. Understanding diatoms’ past and future biogeochemical role in high latitudes seas. *Geophysical Research Letters*. 10.1029/2019GL085602.
- 121) Cotti-Rausch, B.E., Lomas, M.W., Lachenmyer, E.M., Baumann, E.G., Richardson, T.M. 2020. Size-fractionated biomass and primary productivity of Sargasso Sea phytoplankton. *Deep Sea Research I*. DOI: [10.1016/j.dsr.2015.11.008](https://doi.org/10.1016/j.dsr.2015.11.008).
- 120) Martiny, A.C., Lomas, M.W., Fu, W., Boyd, P.W., Chen, Y.L., Cutter, G.A., Ellwood, M.J., Furuya, K., Hashihama, F., Kanda, J., Karl, D.M., Kodama, T., Li, Q.P., Ma, J., Moutin, T., Woodward, E.M.S., Moore, J.K., 2019. Biogeochemical controls of surface ocean phosphate. *Sciences Advances*. Vol. 5. eaax0341. DOI: 10.1126/sciadv.aax0341.
- 119) \*Lomas, MW, Baer, SE, Krause, JW, Acton, S. 2019. Pumped up by the cold: Elemental Quotas and Stoichiometry of Polar Diatoms. *Frontiers in Marine Science*.

- 6: [doi.org/10.3389/fmars.2019.00286](https://doi.org/10.3389/fmars.2019.00286).
- 118) Twining, B.S., Rauschenberg, S., Baer, S.E., Lomas, M.W., Martiny, A.C. 2019. A nutrient limitation mosaic in the eastern tropical Indian Ocean. *Deep Sea Research II – special issue on the Indian Ocean*. 166: 125-140.
- 117) <sup>¥</sup>Nettersheim, B.J., Brocks, J.J., Schwelm, A., Hope, J.M., Not, F., Lomas, M.W., Schmidt, C., Schiebel, R., Nowack, E., deDecker, P., Pawlowski, J., Bowser, S., Zonneveld, K., Kucera, Hallmann, C. 2019. Putative sponge biomarkers in unicellular Rhizaria question an early rise of animals. *Nature Ecology and Evolution*. doi: 10.1038/s41559-019-0806-5.
- 116) Kent, A.G., Baer, S.E., Mouginot, C., Huang, J., Larkin, A.A., Lomas, M.W., Martiny, A.C. 2019. Parallel phylogeography of *Prochlorococcus* and *Synechococcus*. *ISME J*. <https://doi.org/10.1038/s41396-018-0287-6>.
- 115) Garcia, C., Baer, S.E., Garcia, N., Rauchenberg, S., Twining, B.S., Lomas, M.W., Martiny, A.C. 2018. Nutrient supply controls particulate elemental concentrations and ratios in the Eastern Indian Ocean. 2019. *Nature Communications*, 9:4868.
- 114) Larkin, AA, Garcia, CA, Ingoglia, KA, Garcia, N, Baer, SE, Twining, BS, Lomas, MW, Martiny, AC. 2020. Subtle biogeochemical regimes in the Indian Ocean revealed by spatial and diel frequency of *Prochlorococcus* haplotypes. *Limnology and Oceanography*, 65:S220-S232.
- 113) Baer, S.E., Rauschenberg, S., Garcia, C., Martiny, A.C., Twining, B.S., Lomas, M.W. 2018. Biogeochemistry of the oligotrophic eastern Indian Ocean. *Deep Sea Research II – special issue on the Indian Ocean.*, 10.1016/j.dsr2.2018.11.008.
- 112) Whitney, L.P. **Lomas, M.W.** 2018. The bioavailability of phosphonate to eukaryotic phytoplankton. *Limnology and Oceanography: Letters*. 4: 18-24.
- 111) Kovac, Z., Platt, T., Sathyandranath, S., **Lomas, M.W.** 2018. Extraction of photosynthesis parameters from time series measurements of in situ production: Bermuda Atlantic Time-series Study. *Journal of Remote Sensing*, 10:915.
- 110) Wan, X.S., Sheng, H-X., Dai, M., Zhang, Y., Shi, D., Trull, T.W., Zhu, Y., **Lomas, M.W.**, Kao, S-J. 2018. Ambient nitrate switches the ammonium consumption pathway in the euphotic ocean. *Nature Communications*. 9:915.
- 109) DeMartini, F., Neuer, S., Hammill, D., Rubidart, J., **Lomas, M.W.** 2018. Clade and strain specific contributions of *Synechococcus* and *Prochlorococcus* to carbon export in the Sargasso Sea. *Limnology and Oceanography*. 63(S1): [doi.org/10.1002/lno.10765](https://doi.org/10.1002/lno.10765).
- 108) Neuer, S., H. Benway, N. Bates, C. Carlson, M. Church, M. DeGrandpre, J. Dunne, R. Letelier, **M. Lomas**, L. Lorenzoni, F. Muller-Karger, M. J. Perry, P. Quay (2017). [Monitoring ocean change in the 21st Century](#). *Eos* 98, doi:10.1029/2017EO080045.
- <sup>¥</sup>107) Garcia, N.S., Brown, J., Riggins, T., Sexton, J., **Lomas, M.W.**, Martiny, A.C. 2018. High variability in cellular stoichiometry of carbon, nitrogen and phosphorus within classes of marine eukaryotic phytoplankton. *Frontiers in Microbiology, section Aquatic Microbiology*. 9:doi: 10.3389/fmicb.2018.00543.
- <sup>¥</sup>106) McCluskey, K., Barker, K.B., Barton, H., Boundy-Mills, K., Brown, D.R.,

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- Coddington, J., Cook, K., Desmeth, P., Dias, M., Duke, C., Geiser, D., Glaeser, J.A., Greene, S., Kang, S., **Lomas, M.W.**, Melcher, U., Miller, S., Nobles, D., Reichman, J., Schindel, D., da Silva, M., Wertz, J., Whitworth, and Smith, D. 2017. The US Culture Collection Network responding to the requirements of the Nagoya Protocol on Access and Benefit Sharing. *mBio*. doi: 10.1128/mBio.00982-17.
- 105) Mordy, C.W., Devol, A.W., Eisner, L.B., Kachel, N., Ladd, C., **Lomas, M.W.**, Proctor, P., Sambrotto, R.N., Shull, D.H., Stabeno, P.J., Wisegarver, E.. 2017. Nutrient and phytoplankton dynamics on the inner shelf of the eastern Bering Sea. *Journal of Geophysical Research - Oceans*. 122(3): doi.org/10.1002/2016JC012071.
- 104) Baer, S.E., **Lomas, M.W.**, Whitney, L.P., Terpis, K.X., Martiny, A.C. 2017. Spatial variability of taxon-specific stoichiometry in the Western N. Atlantic: environmental controls and biogeochemical implications. *Environmental Microbiology*. 19(4): 1568-1583.
- 103) Talarmin, A., **Lomas, M.W.**, Bozec, Y., Savoye, N., Frigstad, H., Karl, D.M., Martiny, A.C. 2016. Temporal variability of particulate organic carbon, nitrogen and phosphorus ratios in the ocean. *Global Biogeochemical Cycles*, 30:1699-1711.
- 102) Tin, T.C., Cole, A.J., Fotedar, R.K., O'Leary, M.J., **Lomas, M.W.**, Roy, S. 2016. Seasonal changes in water quality and *Sargassum* biomass in a southwest Australia. *Marine Ecology Progress Series*, 551:63-79.
- 101) Whitney, L.P., **Lomas, M.W.** 2016. Phosphorus stress in the picoeukaryote *Micromonas pusilla*: a whole-genome expression analysis. *PLoS ONE*, DOI:10.1371/journal.pone.0155158.
- 100) Banas, N.S., Zhang, J., Campbell, R.G., **Lomas, M.W.**, Sambrotto, R.N., Sherr, E.B., Sherr, B.F., Ashjian, C.J., Stoecker, D., Lessard, E.J. 2016. Past and future variability in the spring plankton dynamics in the eastern Bering Sea, 1971 – 2050. *Journal of Geophysical Research-Oceans*.121:1476-1501.
- 99) Campbell, R.G., Ashjian, C.J., Sherr, E.B., Sherr, B.F., **Lomas, M.W.**, Ross, C., Alatalo, P., Gelfman, C., van Keuren, D. 2016. Mesozooplankton grazing during spring sea-ice conditions in the eastern Bering Sea. In review. *Deep-Sea Research II*, 134:157-172.
- 98) Liu, C.L., Zhai, L., Zeeman, S., Eisner, L., Mordy, C.W., **Lomas, M.W.** 2016. Comparison of seasonal and geographic variations in modeled primary production and phytoplankton losses from the mixed layer between warm years and cold years on the eastern Bering Sea shelf. *Deep-Sea Research II*, 134:141-156.
- 97) Cotti-Rausch, B.E., **Lomas, M.W.**, Lachenmyer, E.M., Goldman, E.A., Bell, D.W., Goldberg, S.R., Richardson, T.M. 2016. Mesoscale and submesoscale variability in phytoplankton community composition in the Sargasso Sea. *Deep-Sea Research I*, 110:106-122.
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- 3) **Berg, G.M.**, Glibert, P.M., **Lomas, M.W.**, and Burford, M. 1997. Organic nitrogen uptake and growth by the Chrysophyte *Aureococcus anophagefferens* during a brown tide event. *Marine Biology*, 129:377-387.
- 2) **Lomas, M. W.**, Glibert, P., **Berg, G.M.**, and Burford, M. 1996. Characterization of nitrogen uptake by *Aureococcus anophagefferens* as a function of incubation duration, substrate concentration, irradiance and temperature. *Journal of Phycology*, 32:907-916.
- 1) Escoubas, J-M., **Lomas, M.W.**, LaRoche, J., and Falkowski, P. 1995. Light intensity regulation of cab gene transcription is signaled by the redox state of the plastoquinone pool. *Proceedings of the National Academy of Sciences, USA*, 92:10237-10241.

#### **A.2 Peer-Reviewed Journal Articles – In Review (‡ denotes a manuscript directly facilitated by biological collections).**

- DeMartini, F., Neuer, S., Hamill, D., Lomas, M.W. Control of phytoplankton primary production by protist grazers in the Sargasso Sea. *Limnology and Oceanography*
- Lange, P.K., Werdell, P.J., Craig, S., Erickson, Z.K., Cetinic, I., Lomas, M.W., et al. Radiometric approach for the detection of shifts in picophytoplankton community composition across oceanic fronts. *Optics Express*.
- Mordy, C.W., Eisner, L., Kearney, K., Kimmel, D., Lomas, M.W., Mier, K., Proctor, P., Ressler, P.H., Stabeno, P. and Wisegarver, E. Spatiotemporal variability of the nitrogen deficit on the eastern Bering Sea shelf. *Continental Shelf Research*.
- Nelson, D.R., Hazzouri, K.M., Lauersen, K.J., Jaiswal, A., Chaiboonchoe, A., Mystikou, A., Fu, W., Daakour, S., Alzahmi, A., Nobles, D., Hurd, M., Sexton, J., Preston, M., Blanchette, J., Lomas, M.W., Salehi-Ashtiani, K. Large scale sequencing of diverse microalgal genomes reveals a genic basis for salt tolerance. *Scientific Advances*.
- Thorson, J.T., Arimitsu, M.L., Barnett, L., Cheng, W., Eisner, L.B., Haynie, A.C., Hermann, A.J., Holsman, K., Kimmel, D.G., Lomas, M.W., Richar, J., Siddon, E.. Forecasting community reassembly using climate-linked spatio-temporal ecosystem models. *Methods in Ecology and Evolution*.
- Wilson, S.E., Neuer, S., DeMartini, F., Lomas, M.W., Condon, R.H. Prey choice as an influencing factor in the nature of zooplankton-mediated particle export. *Limnology and Oceanography: Letters*.

#### **A.3 Peer-Reviewed Journal Articles – In Preparation (>50% complete)**

- Baer, S.E., Whitney, L.P., Erskine, S., Lomas, M.W.. (tentative title) Picoeukaryote dynamics throughout the western N. Atlantic: relationships to environmental gradients and manipulation experiment.
- Grundle, D.S. Lomas, M.W., Juniper, S.K. (tentative title) Euphotic zone nitrification in the Sargasso Sea: Implications for measurements of new production. *Aquatic Microbial*

## Ecology.

Krause et al. silica cycling and grazing in the Chukchi Sea.

Lomas, M.W., S.E. Baer, C. Mouginot, K.X. Terpis, A.C. Martiny. (tentative title) Regional variability of direct observations of algal CNP. *PNAS*.

McDonald, N., Nelson, N., Lomas, M.W., Achteberg, E. (tentative title) Autotrophic production of chromophoric dissolved organic matter in oceanic waters.

Whitney, L.P., Lomas, M.W. (tentative title) Characterizing the cellular response to the combined effect of elevated CO<sub>2</sub> and phosphorus stress in the picoeukaryote *Micromonas pusilla*.

**B. Books and Chapters – Published, Submitted or In Preparation (peer reviewed) (¥ denotes a manuscript directly facilitated by biological collections).**

1) Mulholland, M. and **Lomas, M.W.** Nitrogen uptake and assimilation. 2008. *In: Nitrogen in the Marine Environment*, 2<sup>nd</sup> Edition. (eds) Capone, D.G., Carpenter, E.J., Mulholland, M.R., Bronk, D.A. pp. 293-379.

¥2) Sexton, J.P., and **Lomas, M.W.**, Microalgal Systematics. 2017. *In: Microalgae in Health and Disease Prevention*. (eds) Levine, I., and Fleurence, J. pp. 73-107.

**C. Conference Proceedings – Published, Submitted or In Preparation (peer reviewed)**

1) **Lomas, M.W.** 2004. Urea, a source for both carbon and nitrogen in the brown tide organism, *Aureococcus anophagefferens*. *Proceedings of the X<sup>th</sup> International Harmful Algal Bloom Conference*.

**D. Technical Reports and other non-peer reviewed publications**

1) **Lomas, M.W.**, Bates, N.R., Buck, K.N. and Knap, A.H. Oceanography of the Sargasso Sea. Overview of scientific studies conducted by the Bermuda Institute of Ocean Sciences. Technical Report submitted to the Sargasso Sea Alliance. BIOS Special Publication No. 2011-1.

2) **Lomas, M.W.**, Bates, N.R., Buck, K.N. and A.H. Knap. (eds) 2011a. Oceanography of the Sargasso Sea: Overview of Scientific Studies. Sargasso Sea Alliance Science Report Series, No 6, 64 pp. ISBN 978-0-9847520-7-2

3) Valdes, J.L. and **Lomas, M.W.** 2017. New Light for ship-based time series. *In: O'Brien T. D.1, Lorenzoni, L.2, Isensee, K.3, and Valdés, L.4 (Eds). 2017. What are Marine Ecological Time Series telling us about the ocean? A status report. IOC-UNESCO, IOC Technical Series, No. 129: 297 pp.*

**E. Published Synthetic Datasets**

1) Martiny, A.C., Vrugt, J.A., **Lomas, M.W.** 2014. Concentrations and ratios of particulate organic carbon, nitrogen, and phosphorus in the global ocean. *Scientific Data*, Article number: 140048 (2014) doi:10.1038/sdata.2014.48

**F.1 Contributed Presentations at National & International Meetings (lead author)**

38) Lomas, M.W. Johnson, R.J., Bates, N.R., and Steinberg, D.K., 2020. Adaptive

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- biogeochemical responses in the Sargasso Sea in response to reductions in winter mixing. ASLO Ocean Science Meeting, San Diego, CA.
- 37) Lomas, M.W., Baer, S.E., Johnson, R.J., Lomas, D.A., Martiny, A.C., Bates, N.R. 2019. Particulate stoichiometry of the western North Atlantic Ocean. ASLO Meeting, San Juan Puerto Rico.
- 36) Lomas, M.W., Eisner, L.B., Gann, J., Baer, S.E., Ladd, C., Mordy, C., Stabeno, P.J. 2019. Time-series of direct net primary production and phytoplankton biomass observations in the Eastern Bering Sea: Responses to warm and cold year stanzas. AMSS Meeting.
- 35) Lomas, M.W., Baer, S.E., Acton, S., Krause, J.W. Species specific variability of biogeochemical traits in polar diatoms. ASLO Meeting, Portland, OR.
- 34) Lomas, M.W., Eisner, L.A., Gann, J., Mordy, C.W., Stabeno, P. 2017. Time-series of direct primary production measurements in the eastern Bering Sea. Alaska Marine Science Symposium. Anchorage, AK.
- 33) Lomas, M.W., Singh, A., Baer, S.E., Riebesell, U., Martiny, A.C. 2016. Biogeochemical Stoichiometry in the Sargasso Sea. Ocean Sciences Meeting, Oahu, HI.
- 32) Lomas, M.W., Baer, S.E., Talarmin, A., Mouginit, C., Terpis, K.X., Martiny, A.C.. 2015. Regional Variation in Phytoplankton Stoichiometry. ASLO Aquatic Sciences Meeting, Grenada, Spain.
- 31) Lomas, M.W., Bates, N.R., Johnson, R.J. 2014. The Bermuda Atlantic Time-series Study: Sustained physical, biogeochemical, ecosystem, and ocean change observations and linkages in the subtropical North Atlantic. OCB Summer Meeting, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 30) Lomas, M.W., Eisner, L., Cokelet, E., Mordy, C.W. 2014. Combining Shipboard Data and a Vertically Generalized Productivity Model to Resolve Fine Temporal and Spatial Scale Variability in Primary Production on the Eastern Bering Sea Shelf. Bering Sea Open Science Meeting, Honolulu, HI, USA.
- 29) Lomas, M.W., Coles, V., Goodwin, D., Roe, H., Siuda, A.N.S. 2014. Pelagic *Sargassum* in the North Atlantic: Current understanding, recent progress, future directions, and management implications. ASLO Meeting, Honolulu, HI, USA.
- 28) Lomas, M.W., Bell, D.W., Casey, J.R., Terpis, K.X., Martiny, A.C. 2014. Controls on cell quota and elemental ratio variability in natural marine phytoplankton populations. ASLO Meeting, Honolulu, HI, USA.
- 27) Lomas, M.W., Martiny, A.C., Moran, S.B., Richardson, T.L., van Mooy, B.A. Small cells, the Redfield Ratio and particulate carbon export in the ocean. 2014. IMBIZO III Meeting, Goa, India.
- 26) Lomas, M.W., Hopkinson, B.M., Losh, J.A., Ryan, D.E., Shi, D., Xu, Y., Morel, F.M.M. 2012. Effect of ocean acidification on cyanobacteria in the subtropical North Atlantic. ASLO Ocean Sciences Meeting, Salt Lake City, UT, USA.
- 25) Lomas, M.W., Church, M.J. 2011. BATS and HOT: Comparative analysis of similar yet different marine ecosystems. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 24) Lomas, M.W., Bates, N.R., Johnson, R.J., Knap, A.H. 2010. The Bermuda Atlantic Time-series Study (BATS): A research platform to study change in the subtropical North

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- Atlantic. OCB Time-series Scoping Workshop: Sea Change: Charting the Course for Ecological and Biogeochemical Ocean Time-series Research. Hawaii, USA.
- 23) Lomas, M. W., Steinberg, D.K., Nelson, N.B., Condon, R.H., Bates, N.R. 2009. A multi-year increase in shallow POC export is countered by enhanced mesopelagic POC attenuation in the Sargasso Sea. AGU Chapman Conference, Brockenhurst, UK.
  - 22) Lomas, M. W., Steinberg, D.K., Nelson, N.B., Condon, R.H., Bates, N.R. 2009. A multi-year increase in shallow POC export is countered by enhanced mesopelagic POC attenuation in the Sargasso Sea. ASLO Aquatic Sciences Meeting, Nice, France.
  - 21) Lomas, M. W., Bates, N. R., Johnson, R. J., Knap, A. H. 2008. The Bermuda Atlantic Time-series Study: A research platform to study change in the oligotrophic subtropical North Atlantic. ASLO Ocean Sciences Meeting, Orlando, FL.
  - 20) Lomas, M.W. 2007. Multi-year Oscillations in Phytoplankton Community Composition in the Sargasso Sea. Chapman Conference - Long Time-series Observations in Coastal Ecosystems: Comparative Analyses of Phytoplankton Dynamics on Regional to Global Scales. Rovinj, Croatia.
  - 19) Lomas, M.W., Burke, A., Dyrman, S.T., Orchard, E.D., Sylvan, J.B., and Ammerman, J.W. 2007. Does assimilation of dissolved organic phosphorus support growth and export fluxes in the Sargasso Sea. Ocean Carbon Biogeochemistry Meeting, Woods Hole, MA.
  - 18) Lomas, M.W., Sedwick, P.N., and Casey, J.R. 2007. Does iron control new production by *Prochlorococcus* in the Sargasso Sea deep chlorophyll maximum? ASLO Aquatic Sciences Meeting, Santa Fe, NM.
  - 17) Lomas, M.W., Casey, J.R., Mandecki, J., and Walker, D.E. 2006. Taxon-specific carbon and nitrogen uptake rates in natural populations of *Prochlorococcus* and *Synechococcus*. ASLO Summer Meeting, Victoria, BC.
  - 16) Lomas, M.W., Lipschultz, F., Nelson, D.M., and Bates, N.R. 2006. Enhanced New Production During Winter Mixing: Are We Missing a Component of Current Estimates? Ocean Research Conference, Honolulu, Hawaii.
  - 15) Lomas, M.W., Lipschultz, F., Nelson, D.M., Bates, N.R., and Knap, A.H. 2004. Storms in the Sargasso Sea: Winter mixing and carbon export. Fall AGU Meeting, San Francisco, California.
  - 14) Lomas, M.W., Knap, A.H., and Bates, N.R. 2004. Potential Controls on Interannual Partitioning of Organic Carbon During the Winter/Spring Phytoplankton Bloom at the Bermuda Atlantic Time-series Study (BATS) Site. Ocean Research Conference, Honolulu, Hawaii.
  - 13) Lomas, M.W., Knap, A.H., Bates, N.R. and Johnson, R.J. 2003. The Bermuda Atlantic Time-series Study (BATS): A time-series window on climate forcing of ocean variability. JGOFS Open Science Conference, Washington D.C.
  - 12) Lomas, M.W. 2003. Shallow remineralization and phytoplankton community structure at the Bermuda Atlantic Time-series Study: What is the role of mineral ballasting? Aquatic Sciences Meeting, Salt Lake City, Utah.
  - 11) Lomas, M.W. 2002. Is urea a significant carbon supplement for *Aureococcus anophagefferens*? Xth International Harmful Algal Bloom Symposium. St. Petersburg,

- Florida.
- 10) Lomas, M.W., Kana, T.M., MacIntyre, H.L. and Cornwell, J. 2002. Benthic-Pelagic Coupling and the Long Island Brown Tide: Part 2. Seasonal patterns in Water Column Nutrient Concentrations, Benthic Fluxes and Nitrogen Utilization. Xth International Harmful Algal Bloom Symposium. St. Petersburg, Florida.
  - 9) Lomas, M.W. 2002. Changes in Phytoplankton Pigment Structure at BATS: Causes and Implications for Ecosystem Functioning. Ocean Sciences Meeting, Honolulu, Hawaii.
  - 8) Lomas, M.W. and Bates, N.R. 2002. Fate of Oceanic Primary Production: A Potential Change in Sargasso Sea Ecosystem Functioning? Phytoplankton Productivity Conference, Wales, England.
  - 7) Lomas, M.W., Kana, T.M., MacIntyre, H.L., and Cornwell, J.C. 2000. Benthic-Pelagic Coupling and Long Island Brown Tide Blooms. U.S. National HAB Meeting, Woods Hole.
  - 6) Lomas, M.W. Nitrate Reduction and Cellular Energy Balance. 2000. Photoprotection of the photosynthetic apparatus: alternative photon and electron sinks. Discussion Meeting of the Royal Society, London, England.
  - 5) Lomas, M. W., Glibert, P. M., Bronk, D. A., Haramoto, E., and Fan, C. 2000. Temporal and Spatial Variability of Dissolved Organic Nitrogen Pools in Chesapeake Bay. Ocean Sciences Spring Meeting, San Antonio, Texas.
  - 4) Lomas, M. W., Glibert, P. M., Clougherty, D. A., Huber, D. E., Jones, J., Alexander, J., and Haramoto, E. 2000. Water Column Characteristics Associated with Blooms of the Nuisance Alga *Aureococcus anophagefferens*. 9<sup>th</sup> International Conference on Harmful Algal Blooms, Hobart, Tasmania.
  - 3) Lomas, M.W. 1999. Nitrate Reduction and Cellular Energy Balance. Primary Productivity of Planet Earth. Marine Biological Association of the United Kingdom. Plymouth, England.
  - 2) Lomas, M.W. 1999. Nitrate Reduction and Cellular Energy Balance. DIALOG III. American Society of Limnology and Oceanography. Bermuda Biological Research Station, Bermuda.
  - 1) Lomas, M.W., Rumbley, C.J., and Glibert, P.M. 1999. Photoregulated  $\text{NO}_3^-$  reduction: contrasting patterns of  $\text{NO}_2^-$  and  $\text{NH}_4^+$  release by diatoms and flagellates following a shift to high light. American Society of Limnology and Oceanography, Spring Meeting, Santa Fe, New Mexico

## F.2 Invited Oral Presentations at National and International Meetings or Universities

- 48) Lomas, M.W., 2020. Woods Hole Oceanographic Institution. Phytoplankton and Primary Production in a Changing (sub) Arctic. Marine Chemistry and Geochemistry Departmental Seminar.
- 47) Lomas, M.W. 2019. Duke University Marine Lab. Phytoplankton and Primary Production in a Changing (sub) Arctic. Graduate Student seminar.
- 46) Lomas, M.W. 2019. University of Maine, Orono. Phytoplankton and Primary Production in a Changing (sub) Arctic. Departmental Seminar.
- 45) Lomas, M.W. 2019. Maine Maritime Academy. Phytoplankton and Primary Production in a Changing (sub) Arctic. Departmental Seminar

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- 44) Lomas, M.W. 2017. Scales of variability in the Sargasso Sea. University of Wisconsin Milwaukee. Time-series seminar course.
  - 43) Lomas, M.W. 2017. Stoichiometry of natural populations around the world: Environmental controls and impacts for biogeochemistry. University of California Irvine Seminar Series.
  - 42) Lomas, M.W. 2016. Ecological stoichiometry across scales: Cells to Ecosystems. Gordon Research Conference.
  - 41) Lomas, M.W. 2015. Role of phytoplankton biodiversity and physiology in global biogeochemical cycles. *Stony Brook University SoMAS Departmental Seminar*.
  - 40) Lomas, M.W. 2015. Role of phytoplankton biodiversity and physiology in global biogeochemical cycles. *GEOMAR-Kiel*.
  - 39) Lomas, M.W. 2015. Role of phytoplankton biodiversity and physiology in global biogeochemical cycles. *University of Maine Orono SMS Departmental seminar*.
  - 38) Lomas, M.W. 2014. Do we have the BIO in biogeochemistry correct? *University of Massachusetts at Dartmouth Departmental seminar*.
  - 37) Lomas, M.W. 2014. Do we have the BIO in biogeochemistry correct? *Rutgers University ICMS Departmental seminar*.
  - 36) Lomas, M.W. 2013. How well do we know the BIO in BIOgeochemistry? *Woods Hole Oceanographic Institution invited seminar*.
  - 35) Lomas, M.W. 2012. The Bermuda Atlantic Time-series Study. *International Time-series Methods Workshop: Intercomparability in a changing ocean. BIOS, Bermuda*.
  - 34) Lomas, M.W., Stabeno, P.J. 2013. What controls trophic interconnectivity in the eastern Bering Sea? *Alaska Marine Science Symposium. Anchorage, Alaska*.
  - 33) Lomas, M.W. 2012. BEST. *Transatlantic Science Week. US-Norway Fulbright Foundation Arctic Chairs and Beyond*.
  - 32) Lomas, M.W. 2012. Ocean acidification and changes in the biological carbon pump of the oligotrophic ocean. *Chesapeake Biological Laboratory – University of Maryland Center for Environmental Science Seminar Series*.
  - 31) Lomas, M.W. 2012. Disentangling the black box of the particulate marine carbon cycle. *University of South Florida Marine Science Seminar Series*.
  - 30) Lomas, M.W. 2012. Sargasso Sea Phosphorus Biogeochemistry: The role of dissolved organic phosphorus (DOP). *Bigelow Laboratory for Ocean Sciences Marine Science Seminar Series*.
  - 29) Lomas, M.W. 2012. Sargasso Sea Phosphorus Biogeochemistry: The role of dissolved organic phosphorus (DOP). *University of South Carolina Marine Science Seminar Series*.
  - 28) Lomas, M.W. 2012. Sargasso Sea Phosphorus Biogeochemistry: The role of dissolved organic phosphorus (DOP). *University of California Santa Barbara Seminar Series*.
  - 27) Lomas, M.W. 2012. Overview of the scientific accomplishments of the BEST-BSIERP program. Tutorial talk, ASLO Ocean Sciences Meeting, Salt Lake City, UT.
  - 26) Lomas, M.W. 2011. DORIS: a ecosystem oriented open ocean data portal. Bermuda Ocean Observing System Annual Meeting, Flatts, Bermuda.
  - 25) Lomas, M.W. 2011. Global Carbon Observing System: How to observe changing ecosystems. 23<sup>rd</sup> CCSSG Meeting, Washington D.C..



- 24) Lomas, M.W. 2011. Can the ocean heal itself? Thoughts on the role of the ocean in the global carbon cycle and ocean acidification. *TEDxBermuda: Ideas Worth Spreading*.
- 23) Lomas, M.W. 2011. (on behalf of many others). Synthesis of project research focusing on carbon production and partitioning within the lower trophic levels of the Bering Sea shelf ecosystem. *BEST-BSIERP PI meeting, Anchorage, AK*.
- 22) Lomas, M.W. 2011. Sargasso Sea Phosphorus Biogeochemistry: The role of dissolved organic phosphorus (DOP). *URI Chemical Oceanography Faculty Seminar*.
- 21) Lomas M.W. 2011. Disentangling the mechanisms of the particulate organic carbon cycle in the ocean. *URI Chemical Oceanography Faculty Seminar*.
- 20) Lomas, M.W. 2010. Vertical coupling of biological carbon pump processes in the subtropical North Atlantic and responses to North Atlantic Oscillation phase shifts. *ASLO Ocean Sciences Meeting, Portland OR, USA*.
- 19) Lomas, M.W., Church, M.J. BATS and HOT: 2010. Comparative analysis of similar yet different marine ecosystems. *IMBER IMBIZO II Meeting, Crete, Greece*.
- 18) Church, M.J., Lomas, M.W. 2010. Temporal variability in organic matter inventories in the oligotrophic North Pacific Ocean and the Sargasso Sea: A HOT and BATS comparison. *IMBIZO II Meeting, Crete, Greece*.
- 17) Lomas, M.W. Ice algae, pelagic phytoplankton and primary production. *Bering Sea Study 2009 PI Meeting, Girdwood, AK*.
- 16) Lomas, M.W. 2009. A multi-year increase in shallow POC export is countered by enhanced mesopelagic POC attenuation in the Sargasso Sea. *Virginia Institute of Marine Science Seminar Series*.
- 15) Lomas, M.W. 2009. A multi-year increase in shallow POC export is countered by enhanced mesopelagic POC attenuation in the Sargasso Sea. *Arizona State University – Environmental Sciences Class – Dr. Susanne Neuer*.
- 14) Lomas, M.W. 2008. Does dissolved organic phosphorus play a quantitatively important biogeochemical role in the western North Atlantic subtropical gyre? *LDEO Biological Oceanography Seminar*.
- 13) Lomas, M.W. BATS: 2008. A research platform to study change in the oligotrophic subtropical North Atlantic. *Changing Times: An International Ocean Biogeochemical Time-series Workshop, Scripps Institution of Oceanography, November 5-7, 2008*.
- 12) Lomas, M.W. 2007. Taxon-specific evaluation of ocean biogeochemical cycles using flow cytometry and isotopes. *Old Dominion University – Ocean, Earth and Atmospheric Sciences Seminar Series*.
- 11) Lomas, M.W. Taxon-specific evaluation of ocean biogeochemical cycles using flow cytometry and isotopes. *Princeton Environmental Institute. – Environmental Geosciences Seminar Series*.
- 10) Lomas, M.W. 2007. Does assimilation of dissolved organic phosphorus support particulate phosphorus export fluxes in the Sargasso Sea? *Oregon State University – College of Ocean and Atmospheric Studies*.
- 9) Lomas, M.W. 2007. Does assimilation of dissolved organic phosphorus support particulate phosphorus export fluxes in the Sargasso Sea? *University of Delaware – College of Marine and Earth Studies*.

- 8) Lomas, M.W. 2006. *Prochlorococcus* contributes to new production in the Sargasso Sea deep chlorophyll maximum. *University of Rhode Island – Graduate School of Oceanography*.
- 7) Lomas, M.W. 2006. Taxon-specific carbon and nitrogen uptake rates in natural populations of *Prochlorococcus* and *Synechococcus*. *Louisiana State University*.
- 6) Lomas, M.W. 2006. Ecological Oceanography in the Sargasso Sea. *University of North Carolina – Wilmington*.
- 5) Lomas, M.W. 2005. Ocean Plankton Diversity Revisited: New Technologies for Biological Oceanography. *University of Wisconsin-Milwaukee. Recent Advances in Limnology and Oceanography Seminar Series*.
- 4) Lomas, M.W. 2004. Storms and the Sargasso Sea: Enhanced Winter Mixing and Carbon Export. *Bigelow Laboratory for Ocean Sciences, Bigelow Lecture Series*.
- 3) Lomas, M.W. 2003. The Bermuda Atlantic Time-series Study (BATS) in the Sargasso Sea: Current understanding and future research. *Southampton College - Long Island University, McGrath Endowed Lecture Series*.
- 2) Lomas, M.W. 2002. “A Day in the Life of the R/V Weatherbird II”. *Bermuda Biological Station for Research, Inc. Public Lecture Series*.
- 1) Lomas, M.W. 2001. The Bermuda Atlantic Time-series Study (BATS): A Decadal Window to Sargasso Sea Ecosystem Functioning. *Fall AGU Meeting, San Francisco, California*.

### F.3 Other Contributed Presentations at National and International Meetings

- 144) Burr, G., Aryee, A., Lomas, M.W., 2020. Use of microalgae as an astaxanthin source in Atlantic Salmon (*Salmo salar*) feed. World Aquaculture Association meeting. Honolulu, HI, USA.
- 143) Whitney, L., McDermith, E.J., Mahoney, C., Lomas, M.W. 2020. Evidence of Phosphonate Utilization by the Eukaryotic Phytoplankton, *Isochrysis galbana*. ASLO Ocean Sciences Meeting, San Diego, CA.
- 142) Garcia, C., Hagstrom, G., Larkin, A., Ustick, L., Levin, S., Lomas, M.W., Martiny, A.C. 2020. Incorporating phytoplankton genomic traits into cellular resource allocation models. ASLO Ocean Sciences Meeting, San Diego, CA.
- 141) Mahoney, C., McDermith, E.J., Whitney, L., Lomas, M.W. 2020. Cellular response of *Emiliana huxleyi* to growth on phosphonates. ASLO Ocean Sciences Meeting, San Diego, CA.
- 140) Johnson, R.R., Bates, N.R., Lomas, M.W., Stevens, S.W., Lethaby, P., Knap, A.H. 2020. Meridional Heat and Salinity Budgets of the Sargasso Sea Inferred from Two Decades of Ocean Time-series and Transect Observations. ASLO Ocean Sciences Meeting, San Diego, CA.
- 139) Nielsen, J.M., Mordy, C.W., Lomas, M.W., Eisner, L.B., Stabeno, P.J. 2020. Phenology and magnitude of primary production in the Eastern Bering Sea. ASLO Ocean Sciences Meeting, San Diego, CA.
- 138) Eisner, L.B., Lomas, M.W., Nielsen, J. 2019. Variations in spring and summer phytoplankton size structure and community composition across water mass gradients in

- the Chukchi Sea. PICES Meeting Victoria, BC Canada.
- 137) Eisner, L.B., Lomas, M.W., Stockwell, D.A. 2019. Variations in primary production in the southern Chukchi Sea in 2017: June (ASGARD) and August/September (Arctic IES) survey results. AMSS Meeting, Anchorage, AK.
- 136) Nelson, D.R., Jaiswal, A., Chaiboonchoie, A., Blanchette, J., Lomas, M.W., Preston, M., Nobles, D., Salehi-Ashtiani, K. 2019. 100+ new genomes show influence of salt and viruses on microalgal evolution. 9th International Conference on Algal Biomass, Biofuels, and Bioproducts [June 17th-19th, Boulder, CO, USA].
- 135) Nelson, D.R., Jaiswal, A., Chaiboonchoie, A., Hazzouri, K.M., Fu, W., Daakour, S., O'Conner, M., mArnoux, M., Sultana, J., Nobles, D., Hurd, M., Lomas, M.W., Sexton, J., Preston, M., Blanchette, J., Salehi-Ashtiani, K. 2018. Alg-All-Code: Towards generating a comprehensive catalog of microalgal genomes. 18<sup>th</sup> International Conference3 on the Cell and Molecular Biology of *Chlamydomonas*. Washington DC.
- 134) Mannino, A., Vandermeulen, R.A., Neeley, A.R., Lomas, M.W. 2018. Development of Optical Fingerprint Libraries to evaluate Phytoplankton Community Composition from Ocean Color Satellite Products. Ocean Optics XXIV. Dubrovnik, Croatia.
- 133) Neeley, A.R., Lomas, M.W., Mannino, A., Vandermeulen, R.A. 2018. Towards improved satellite algorithm validation tools: A revised pigment-based approach for discriminating phytoplankton groups. Ocean Optics XXIV. Dubrovnik, Croatia.
- 132) Eaton, S., Schwartz, T., Lomas, M.W. 2018. MicroAlgae Culture Coupled Catalysis: Producing Fuel Additives from the Algal Extracellular Media. 8<sup>th</sup> International Conference on Algal Biomass, Biofuels and Bioproducts. Seattle, WA.
- 131) Martiny, A.C., Garcia, C., Moreno, A., Hagstrom, G., Garcia, N., Primeau, F., Levin, S., Lomas, M.W. 2018. Understanding and predicting the regulation of the elemental stoichiometry in low latitude environments. Ocean Sciences Meeting, Portland, OR.
- 130) Eisner, L., Baer, S.E., Lomas, M.W. 2018. Variations in summer phytoplankton communities across water mass gradients in the Chukchi and Beaufort Seas. Ocean Sciences Meeting, Portland, OR.
- 129) Bates, N.R., Garley, R., Johnson, R.J., Knap, A.H., Lomas, M.W., Stevens, S. 2018. Insights from Hydrostation S and BATS about ocean warming, deoxygenation and acidification in the North Atlantic Ocean over the past sixty five years. Ocean Sciences Meeting, Portland, OR.
- 128) Whitney, L.P., Lomas, M.W. 2018. An Untapped Resource: Molecular and Cellular Evidence of Phosphonate Utilization by Eukaryotic Phytoplankton. Ocean Sciences Meeting, Portland, OR.
- 127) Baer, S.E., Lomas, D.A., Johnson, R.J., Bates, N.R., Lomas, M.W. 2018. Short and long-term trends in dissolved organic phosphorus availability. Ocean Sciences Meeting, Portland, OR.
- 126) Mordy, C.W., Eisner, L.B., Hermann, A.J., Kimmel, D., Ladd, C.A., Lomas, M.W. 2018. Spatiotemporal variability of nitrogen deficits on the eastern Bering Sea shelf. Ocean Sciences Meeting, Portland, OR.
- 125) Krause, J.W., Lomas, M.W. 2017. Do microzooplankton grazers control large-phytoplankton biomass in the northern Bering and Chukchi Seas? AGU Meeting, New

- Orleans, LA.
- 124) Saito, M., McIlvin, M.W., Moran, D.M., Hawco, N.J., Matheson, J., Sedwick, P.N., Noble, A.E., Bates, N.R., Lomas, M.W., Johnson, R.J. 2017. Layering of adaptive nutrient responses in the North Atlantic subtropical gyre as detected by metaproteomics. ASLO Meeting, Honolulu, HI.
- 123) Matheson, J., Johnson, R.J., Bates, N.R., Lomas, M.W., Montgomery, Q. 2017. An evaluation of CHEMTAX at the Bermuda Atlantic Time-series Study (BATS) in the southeastern Sargasso Sea. ASLO Meeting, Honolulu, HI.
- 122) Garcia, C.N., Garcia, N.S., Baer, S.E., Lomas, M.W., Martiny, A.C. 2017. Regional trends and diel cycles of particulate organic matter and elemental ratios in the eastern Indian Ocean. ASLO Meeting, Honolulu, HI.
- 121) Mordy, C.W., Eisner, L., Hermann, A., Kimmel, D., Ladd, C., Lomas, M.W., Mier, K., Proctor, P., Sambrotto, R., Stabeno, P., and Wisegarver, E. 2017. Loss of fixed nitrogen on the eastern Bering Sea Shelf. Alaska Marine Science Symposium, Anchorage, AK.
- 120) Baer, S.E., Rauschenberg, S., Steinberger, A., Martiny, A.C., Twining, B.S., Lomas, M.W. Phytoplankton biogeography, primary productivity and nitrogen uptake in the ultra-oligotrophic Indian Ocean. OCB Summer Meeting, Woods Hole, MA.
- 119) Whitney, L.P., Michaud, C.A., Lomas, M.W. 2016 Phosphonate utilization by eukaryotic phytoplankton. OCB Summer Meeting, Woods Hole, MA.
- 118) Cotti-Rausch, Richardson, T.L., Lomas, M.W. Mesoscale and sub-mesoscale variability in phytoplankton community composition in the Sargasso Sea. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 117) Montes, E.H., Muller-Karger, F.J., Cianca, A., Lomas, M.W., Lorenzoni, L., Habtes, S. Decadal variability in the oxygen inventory of North Atlantic Subtropical Underwater captured by sustained, long-term oceanographic time-series observations. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 116) Marquez, I.A., Krause, J.M. Lomas, M.W. Further examination of the biogeochemical consequences of mesoscale eddies in the Sargasso Sea. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 115) Whitney, L.P., Baer, S.E., Lomas, M.W. Picoeukaryote Diversity and Spatial Distribution Patterns in the North Atlantic. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 114) Garcia, N.P., Martiny, A.C., Lomas, M.W. Variability in cellular elemental composition among several major lineages of marine eukaryotic phytoplankton. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 113) Martiny, A.C., Kent, A.G., Mouginit, C., Baer, S.E., Lomas, M.W. Strong latitudinal and vertical biogeography of *Synechococcus* diversity in the equatorial Pacific Ocean. ASLO 2016 Ocean Sciences Meeting, New Orleans, LA.
- 112) Baer, S.E., Lomas, M.W., Martiny, A.C., Singh, A. 2015. Macronutrient Stoichiometry at the Bermuda Atlantic Time-series Study site and surrounding ocean. OCB Summer Meeting, Woods Hole, MA.
- 111) Erskine, S.E., Whitney, L.P., Lomas, M.W. 2015. Spatial abundance of picoeukaryotes in the North Atlantic. ASLO Aquatic Sciences Meeting, Grenada, Spain.

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- 110) Martiny, A.C., Flombaum, P., Lomas, M.W. 2015. Predicting future global distributions and biogeochemical impacts of the marine Cyanobacteria *Prochlorococcus* and *Synechococcus*. ASLO Aquatic Sciences Meeting, Grenada, Spain.
- 109) Baer, S.E., Lomas, M.W., Martiny, A.C., Terpis, K.X., Mouginot, C. 2015. Stoichiometry of Phytoplankton Subpopulations in the North Atlantic Ocean. ASLO Aquatic Sciences Meeting, Grenada Spain.
- 108) Prokopenko, M.G., Granger, J., Moran, S.B., Lomas, M.W. 2014. The role of sea ice in regulating potential ecosystem export efficiency on the Eastern Bering Sea shelf – implications for benthic vs. pelagic ecosystem proliferation. OCB Summer Meeting, Woods Hole Oceanographic Institute, Woods Hole, MA.
- 107) Teng, Y-C., Primeau, F.W., Moore, J.K., Martiny, A.C., Lomas, M.W. 2014. Global-scale variations in the carbon to phosphorous ratio of exported marine organic matter. OCB Summer Meeting, Woods Hole Oceanographic Institute, Woods Hole, MA.
- 106) de Martini, F., Neuer, S., Hamill, D., Lomas, M.W. 2014. Predator-prey relationships and their link to carbon export at the Bermuda Atlantic Time-Series Station. OCB Summer Meeting, Woods Hole Oceanographic Institute, Woods Hole, MA.
- 105) Bachman, B.E., Baumann, M.S., Moran, S.B., Lomas, M.W., Richardson, T.L. Anticyclones enhance *Prochlorococcus* and POC export in the Sargasso Sea. OCB Summer Meeting, Woods Hole Oceanographic Institute, Woods Hole, MA.
- 104) Montes, E., Muller-Karger, F., Lorenzonii, L., Lomas, M.W., Cianca, A., Habtes, S., Masserini, R., 2014. Climate-driven changes in oxygen inventories of North Atlantic Subtropical Underwater captured by oceanographic time-series stations. *OCB Summer Meeting*.
- 103) Bonachela, J.A., Martiny, A.C., Allison, S.A., Lomas, M.W., Levin, S.A. 2014. The importance of phytoplankton diversity on marine nitrogen and phosphorus cycles. Marine Alliance for Science and Technology for Scotland: Annual Science Meeting. Scotland.
- 102) Marquez, I.A., Lomas, M.W., Krause, J.W. 2014. The consequences of mesoscale eddy type on the coupling of Si and organic matter export in the Sargasso Sea. Southeastern Biogeochemistry Symposium. Georgia Institute of Technology, Atlanta, Georgia.
- 101) Bachman, B.E., Lomas, M.W., Richardson, T.L. 2014. Picoplankton rule! From the Labrador to the Sargasso Sea: size-fractionated and group specific rates of primary productivity. ASLO Meeting, Honolulu, HI, USA.
- 100) Stabeno, P.J., Mordy, C.W., Lomas, M.W., Kachel, N. 2014. Mechanisms that influence the magnitude, distribution and fate of primary production on the Bering Sea Shelf. Bering Sea Open Science Meeting, Honolulu, HI, USA.
- 99) Prokopenko, M., Granger, J., Moran, S.B., Lomas, M.W. 2014. Seasonal variability of Net Community and Gross Photosynthetic Production and the role of water column stratification in controlling ecosystem export efficiency on the Eastern Bering Sea shelf. Bering Sea Open Science Meeting, Honolulu, HI, USA.
- 98) Mordy, C.W., Zhang, J-Z., Johnson, G.C., Langdon, C., Lomas, M.W., Baringer, M., Bullister, J.L., Wanninkhof, R., Wisegarver, E., Fisher, C. 2013. Decadal Variability of Nutrients in the Northeast Atlantic Observed During CLIVAR Repeat Hydrographic Surveys. AGU Meeting, San Francisco, CA, USA.

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- 97) Teng, Y.-C., Primeau, F.W., Moore, J.K., Martiny, A.C., Lomas, M.W. 2014. Impact of non-Redfield particulate matter export on inorganic nutrient distributions in the ocean. ASLO Meeting, Honolulu, HI, USA.
  - 96) Lomas, M.W., Coles, V., Goodwin, D.S., Roe, H., Siuda, A.N.S. 2014. Pelagic Sargassum in the North Atlantic: Current understanding, recent progress, future directions and management implications. ASLO Meeting, Honolulu, HI, USA.
  - 95) Fawcett, S.E., Lomas, M.W., Ward, B.B., Sigman, D.M. 2014. (Further) Probing the black box of suspended particulate nitrogen in the Sargasso Sea. ASLO Meeting, Honolulu, HI, USA.
  - 94) Stoecker, D., Wiegel, D., Lomas, M.W. Microzooplankton: Abundance, Biomass, Contribution to Chlorophyll and Grazing in the Eastern Bering Sea in Summer. ASLO Meeting, Honolulu, HI, USA.
  - 93) Jones, J., Van Meersshe, E., Johnson, R.J., Lomas, M.W. 2014. Influence of phytoplankton community structure and cell size on inter-annual variability of primary production in the Sargasso Sea. ASLO Meeting, Honolulu, HI, USA.
  - 92) De Martini, F., Neuer, S., Lomas, M.W. 2014. Growth and grazing rates of the pico and nanophytoplankton community and its link to carbon export at the Bermuda Atlantic Time-series Study site. ASLO Meeting, Honolulu, HI, USA.
  - 91) Talarmin, A., Lomas, M.W., Martiny, A.C. 2014. Long term variability of elemental ratios in marine particulate organic matter. ASLO Meeting, Honolulu, HI, USA.
  - 90) Martiny, A.C., and Lomas, M.W. 2014. Impact of phytoplankton diversity on ocean phosphate uptake. ASLO Meeting, Honolulu, HI, USA.
  - 89) Triebergs, L.A., Fawcett, S.E., Lomas, M.W., Sigman, D.M. 2013. Nitrogen isotopic response of prokaryotic and eukaryotic phytoplankton to nitrate availability in Sargasso Sea surface water. ASLO Meeting, New Orleans, LA, USA.
  - 88) Wallhead, P., Garcon, V., Casey, J.R., Lomas, M.W. 2013. Long-term variability of phytoplankton biomass in the Sargasso Sea. ASLO Meeting, New Orleans, LA, USA.
  - 87) Fawcett, S.E., Ward, B.B., Lomas, M.W., Sigman, D.M. Counterintuitive effect of fall mixed layer deepening on the dominant nitrogen source to eukaryotic phytoplankton in the Sargasso Sea. ASLO Meeting, New Orleans, LA, USA.
  - 86) Fields, E., Siegel, D.A., Estapa, M.L., Lomas, M.W., Sudre, J., Garcon, V. Finding submesoscale features using near-real time satellite observations. ASLO Meeting, New Orleans, LA, USA.
  - 85) De Martini, F., Neuer, S., Hamill, D., Lomas, M.W. Growth and grazing rates of nano and pico-phytoplankton in the Sargasso Sea using qPCR in combination with dilution experiments. ASLO Meeting, New Orleans, LA, USA.
  - 84) Neuer, S., De Martini, F., Condon, R.H., Richardson, T., Lomas, M.W. Oasis in the desert? Enhanced production, grazing and carbon export associated with core and edge of an anticyclonic eddy in the Sargasso Sea. ASLO Meeting, New Orleans, LA, USA.
  - 83) Stewart, G., Choi, Y., Lomas, M.W., Moran, S.B. Connecting plankton community structure to POC export using Po-210/Pb-210 tracers along Line P, subarctic Pacific. ASLO Meeting, New Orleans, LA, USA.
  - 82) Buesseler, K.O., Estapa, M.L., Siegel, D.A., Nelson, N., Lomas, M., Stanley, R. High-

- resolution variability in particle properties and export associated with submesoscale fronts. ASLO Meeting, New Orleans, LA, USA.
- 81) Fawcett, S.E., Lomas, M.W., Ward, B.B., Sigman, D.M. Counterintuitive effect of fall mixed layer deepening on the f-ratio of eukaryotic primary production in the Sargasso Sea. AGU Meeting, San Francisco, CA. USA.
- 80) Johnson, R.J., Evans, D.G., McGillicuddy, D.J. Jr., Bates, N.R., Lomas, M.W., Knap, A.H. 2012. Observations of mesoscale eddies near the Bermuda Atlantic Time-series Study site and implications for local hydrography and nutrient budgets. ASLO Meeting, Salt Lake City, UT. USA.
- 79) Mordy, C.W., Lomas, M.W. 2012. The impact of sea-ice on bottom-up and top-down controls of crustacean zooplankton and the mediation of carbon and energy flow in the eastern Bering Sea. ASLO Meeting, Salt Lake City, UT. USA.
- 78) Shelton, N.L., Condon, R.H., Richardson, T.L., Neuer, S., Lomas, M.W., Smith, S.R., Kramer, L. Carrasou, L. 2012. Contrasting roles of gelatinous and crustacean copepods as mediators of carbon pathways in oligotrophic food webs. ASLO Meeting, Salt Lake City, UT. USA.
- 77) De Martini, F., Neuer, S., Lomas, M.W. 2012. Growth and grazing mortality of nano- and picoplankton in the Sargasso Sea. ASLO Meeting, Salt Lake City, UT. USA.
- 76) Neuer, S.N., Amacher, J., Hansen, A., Lomas, M.W. 2012. The smoking gun: linking phytoplankton community composition with particle export. ASLO Meeting, Salt Lake City, UT. USA.
- 75) van Meerssche, E.S., Johnson, R.J., Lomas, M.W., Bates, N.R., Knap, A.H. 2012. Qualitative variability of phytoplankton biomass and community structure of the Sargasso Sea based upon pigment analysis. ASLO Meeting, Salt Lake City, UT. USA.
- 74) Owens, S.A., Buesseler, K.O., Lamborg, C.H., Valdes, J., Lomas, M.W., Johnson, R.J., Steinberg, D.K., Siegel, D.A. 2012. A new record of particle flux at the Bermuda Atlantic Time-series Study site from neutrally buoyant sediment traps. ASLO Meeting, Salt Lake City, UT. USA.
- 73) Best, C., Purdie, D., Lomas, M.W. 2012. Microplankton time-series and elemental stoichiometry at BATS. ASLO Meeting, Salt Lake City, UT. USA.
- 72) Baumann, M.S., Moran, S.B., Kelly, R.P., Lomas, M.W. 2012. Seasonal particle retention on the eastern Bering Sea Shelf: implications for pelagic-benthic coupling. ASLO Meeting, Salt Lake City, UT. USA.
- 71) Bachman, B.E., Goldman, E.A., Lomas, M.W., Richardson, T.L. 2012. Contributions of picophytoplankton to primary productivity and biomass in mesoscale eddies in the Sargasso Sea. ASLO Meeting, Salt Lake City, UT. USA.
- 70) Pham, C., Lomas, M.W., Martiny, A.C., 2012. Global plankton stoichiometry. ASLO Meeting, Salt Lake City, UT. USA.
- 69) Choi, Y., Stewart, G., Lomas, M.W., Moran, S.B., Mason, A., Kelly, R.P., Bell, D.W., Bell, S., Lance, V. 2012. Seasonal  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  distributions and plankton community structure in the NE Pacific. ASLO Meeting, Salt Lake City, UT. USA.
- 68) Mordy, C.W., Lomas, M.W.. 2012. The impact of sea-ice on bottom-up and top-down controls of crustacean zooplankton and the mediation of carbon and energy flow in the

- eastern Bering Sea. Alaska Marine Science Symposium, Anchorage, AK. USA.
- 67) Mackey, K.R.M., Post, A.F., **Lomas, M.W.**, Paytan, A. 2011. Variable dissolution and ecological impact of atmospheric phosphorus deposition. AGU Fall Meeting, San Francisco, CA.
- 66) Best, C.H., Purdie, D.A., **Lomas, M.W.** 2011. Temporal dynamics of microplankton in the Sargasso Sea. Plankton 2011: Plankton Biodiversity and Global Change, Plymouth, U.K.
- 65) Amacher, J., Neuer, S., Baysinger, C., **Lomas, M.W.** 2011. Molecular time-series of phytoplankton export from the upper water column at the Bermuda Atlantic Time-series Study. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 64) Bell, D.W., **Lomas, M.W.**, Burke, A.L., Lomas, D.A., Dyhrman, S.T., Ammerman, J.W. 2011. DOP utilization in the North Atlantic Subtropical Gyre (NASG). ASLO Aquatic Sciences Meeting, Puerto Rico.
- 63) Best, C.H., Purdie, D.A., **Lomas, M.W.** 2011. Temporal dynamics of microplankton in the Sargasso Sea. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 62) Casey, J.R., **Lomas, M.W.**, Aucan, J. 2011. Interannual dynamics of carbon partitioning within the Sargasso Sea picoplankton assemblage. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 61) Fawcett, S.E., **Lomas, M.W.**, Ward, B.B., Casey, J.R., Sigman, D.M. 2011. Small eukaryotic phytoplankton drive the Sargasso Sea biological pump. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 60) Johnson, K., Riser, S., Swift, J., Coletti, Jannasch, H., Plant, Sakamoto, Church, M.J., **Lomas, M.W.** 2011. Profiling float time-series at BATS and HOT. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 59) Grundle, D. S.; Juniper, S. K.; **Lomas, M. W.**; Giesbrecht, K. 2011. Euphotic zone nitrification in the Pacific and Sargasso Sea: Implications for measurements of new production. AGU, San Francisco, CA, USA.
- 58) Mackey, K.R.M., Casey, J.R., Chen, Y., **Lomas, M.W.**, Paytan, A. 2011. Picophytoplankton growth and toxicity responses to atmospheric metal deposition. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 57) Moran, S.B.; **Lomas, M.W.**; 2011. Aggregation and export of cyanobacteria and nano-eukaryotes from the Sargasso Sea euphotic zone. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 56) Neuer, S., Hansen, A., Freibott, A., **Lomas, M.W.** 2011. Protist community response to the intense winter storms in the Sargasso Sea in 2010. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 55) Paytan, A.; McLaughlin, K.; Sohm, J.; Cutter, G.; **Lomas, M.W.** 2011. Phosphate cycling in the Sargasso Sea: Investigation using the oxygen isotopic composition of phosphate, enzyme labeled fluorescence, and turnover times.
- 54) Shi, D., Ryan, D.E., **Lomas, M.W.**, Morel, F.M. 2011. Effects of elevated pCO<sub>2</sub> on carbon and nitrogen fixation by *Trichodesmium*. ASLO Aquatic Sciences Meeting, Puerto Rico.
- 53) Batmalle, C.S., **Lomas, M.W.**, Martiny, A.C. 2010. Metagenomic analysis of specific



- Prochlorococcus* populations using cell sorting and multiple displacement amplification. *ISME Meeting, Paris, France.*
- 52) Fawcett, S.E., **Lomas, M.W.**, Sigman, D.M., Ward, B.B. 2010. Coupling flow cytometry with natural abundance nitrogen isotope analysis in the Sargasso Sea. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 51) Goldsmith, D.B., Parsons, R., **Lomas, M.W.**, Carlson, C.A., Breitbart, M. 2010. Abundance and Diversity of Viruses Throughout the Water Column in the Northwestern Sargasso Sea. *ISME Meeting, Paris, France.*
- 50) Hansen, A.M., Neuer, S., Freibott, A., Amacher, J., **Lomas, M.W.** 2010. Seasonal Variability of the Protist and Cyanobacterial Communities in the Sargasso Sea. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 49) Jenkins, B.D., Haddock, T., Robinson, T., Menden-Deuer, S., **Lomas, M.W.** 2010. Niche differentiation in marine cyanobacteria with the potential to assimilate nitrate. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 48) Lomas, D.A., Bell, D.W., Burke, A.L., Shen, C., **Lomas, M.W.**, Dyhrman, S.T., Ammerman, J.W. 2010. Sargasso Sea phosphorus biogeochemistry: An important role for dissolved organic phosphorus (DOP). *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 47) Michelou, V.K., Lomas, M.W., Kirchman, D.K. 2010. Phosphate and ATP Uptake by Autotrophic and Heterotrophic Bacteria in the Sargasso Sea. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 46) Moran, S.B., **Lomas, M.W.**, Kelly, R.P., Iken, K., Gradinger, R., Mathis, J.T. 2010. Carbon cycling within the lower trophic levels of the Southeastern Bering Sea: primary production and particulate organic carbon export. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 45) Moran, S.B., **Lomas, M.W.**, Kelly, R.P., Iken, K., Gradinger, R., Mathis, J.T. 2010. Carbon cycling within the lower trophic levels of the Southeastern Bering Sea: primary production and particulate organic carbon export. *OCB Summer Meeting, Scripps Institute of Oceanography.*
- 44) Mordy, C.W., Ladd, C., **Lomas, M.W.**, Sambrotto, R., Stabeno, P.J. 2010. The Annual Nutrient Cycle on the Bering Sea Shelf: Seasonal Drawdown vs. Winter Replenishment. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 43) Neuer, S., Amacher, J., Baysinger, C., **Lomas, M.W.** 2010. Molecular Time-series of Phytoplankton Contribution to Particle Flux in the Sargasso Sea. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 42) Parsons, R., Breitbart, M., **Lomas, M.W.**, Carlson, C.A. 2010. Spatial and Seasonal variations in the abundance of Virus sized particles in the North Atlantic, in and around the BATS site. *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
- 41) Parsons, R., Breitbart, M., **Lomas, M.W.**, Carlson, C.A. 2010. Spatial and Seasonal variations in the abundance of Virus sized particles in the North Atlantic, in and around the BATS site. *Conference, Viruses of Microbes, Paris, France.*
- 40) Roberts, N.L., Piotrowski, A.M., Lomas, M.W., Eglinton, T.I., Curry W.B., Keigwin, L.D. 2010. Investigating the incorporation of rare earth elements into planktonic

- foraminifera. *ICP10 Conference, San Diego, CA.*
- 39) Sambrotto, R., **Lomas, M.W.**, Gradinger, R., Bluhm, B., Mordy, C. 2010. Productivity in ice-impacted regions of the eastern Bering Sea *ASLO Ocean Sciences Meeting, Portland, Oregon, USA.*
  - 38) Haddock, T.L., **Lomas, M.W.**, Menden-Deuer, S., Zehr, J.P., Jenkins, B.D. 2009. Enumeration of Novel Marine Cyanobacterial Nitrate Reductase Sequences Shows Vertical and Spatial Patterning. *ASLO Aquatic Sciences Meeting, Nice, France.*
  - 37) Michelou, V.H., **Lomas, M.W.**, Kirchman, D.L. 2009. Amino Acid and Glucose Uptake by Autotrophic and Heterotrophic Bacteria in the Sargasso Sea. *ASM Meeting, Philadelphia, PA.*
  - 36) Mohler, J.A., Baysinger, C.W., Lomas, M.W., Neuer, S. 2009. Molecular Time Series of Phytoplankton Export from the Upper Water Column at the Bermuda Atlantic Time-Series Station (BATS). *AGU Chapman Conference, Brockenhurst, UK.*
  - 35) Neuer, S., Helmke, P., Conte, M., Lomas, M.W. 2009. Biological carbon pump comparisons across a subtropical gyre: What have we learned? *AGU Chapman Conference, Brockenhurst, UK.*
  - 34) Owens, S., Buesseler, K.O., Lamborg, C.H., Valdes, J.R., Lomas, M.W., Johnson, R.J., Siegel, D.A., Steinberg, D.K. 2009. A New Record of Particle Flux at the Bermuda Atlantic Time-Series Site From Neutrally Buoyant Sediment Traps. *AGU Chapman Conference, Brockenhurst, UK.*
  - 33) Popendorf, K., Van Mooy, B., Fredricks, H., **Lomas, M.W.**, Casey, J.R., Johnson, C. 2009. Functionally and taxonomically defined planktonic sources of intact polar lipids in the sea. *ASLO Aquatic Sciences Meeting, Nice, France.*
  - 32) Van Mooy, B., Fredricks, H.F., Pedler, B.E., Dyhrman, S.T., Lomas, M.W., Mincer, T., Moore, L.R., Moutin, T., Rappe, M.S., Webb, E.A. 2009. Phytoplankton in the oligotrophic ocean substitute phospholipids in response to phosphorus limitation on a global scale. *ASLO Aquatic Sciences Meeting, Nice, France.*
  - 31) Beaugard, A Y., Sharp, J.H., Lipschultz, F., and **Lomas, M.W.** 2008. Biogeochemical cycling of carbon and nitrogen by the coral *Diploria strigosa* in Bermuda. *ASLO Ocean Sciences Meeting, Orlando, FL.*
  - 30) Bell, S.J., Johnson, R.J., **Lomas, M.W.**, Bates, N.R., and Knap, AH. 2008. Interdecadal nutrient variability throughout the water column in the western North Atlantic subtropical gyre. *ASLO Ocean Sciences Meeting, Orlando, FL.*
  - 29) Boneillo, G.E., **Lomas, M.W.**, Bernhardt, P.W., and Mulholland, M.R. 2008. Interannual differences in nutrient dynamics during blooms of *Aureococcus anophagefferens*: A flow cytometry approach. *ASLO Ocean Sciences Meeting, Orlando, FL.*
  - 28) Buesseler, K., Owens, S., Lamborg, C., Valdes, J., **Lomas, M.W.**, Johnson, R.J., Steinberg, D., and Siegel, D. 2008. Carbon flux through the twilight zone – new tools to measure change. *ASLO Ocean Sciences Meeting, Orlando, FL.*
  - 27) Casey, J., **Lomas, M.W.**, Sylvan, J.B., Ammerman, J.W., and Dyhrman, S.T. 2008. Uptake of phosphate and ATP by flow-sorted cyanobacteria, picoeukaryotes, and nanoeukaryotes in the subtropical western North Atlantic. *ASLO Ocean Sciences Meeting, Orlando, FL.*

- 26) Haddock, T.L., **Lomas, M.W.**, Zehr, J.P., and Jenkins, B.D. 2008. Using the Nitrate Reductase Gene to Follow Differences in Distribution Patterns of Novel Groups of Marine Cyanobacteria. American Society of Microbiologists Meeting, Boston, MA.
- 25) Jackman, L.M., Bates, N. R., Johnson, R. J., and **Lomas, M. W.** 2008. Variability of the carbon budget and consequential fluxes at the BATS site. ASLO Ocean Sciences Meeting, Orlando, FL.
- 24) Johnson, R.J., Bates, N.R., Knap, A.H., Whitefield, J.D., **Lomas, M.W.**, and Kadko, D. 2008. Coordinated change in the heat, salinity and CO<sub>2</sub> budgets of the mesopelagic zone at the Bermuda Time-series sites. ASLO Ocean Sciences Meeting, Orlando, FL.
- 23) Kirchman, D.L., Michelou, V., and **Lomas, M.W.** 2008. Photoheterotrophy by *Prochlorococcus* and *Synechococcus* in the North Atlantic Ocean. 20<sup>th</sup> Anniversary of *Prochlorococcus* Meeting. Boston, MA.
- 22) Krause, J.W., **Lomas, M.W.**, and Nelson, D.M. 2008. A 15 year record of biogenic silica at the Bermuda Atlantic Time-series Study Site: Are diatoms on the decline? ASLO Ocean Sciences Meeting, Orlando FL.
- 21) Lomas, D.A., and **Lomas, M.W.** 2008. Multi-year Changes in Phytoplankton Biomass and Composition at the Bermuda Atlantic Time-series Study (BATS) Site. ASLO Ocean Sciences Meeting, Orlando FL.
- 20) Neuer, S., Helmke, P., **Lomas, M. W.**, and Conte, M. H. 2008. The role of carbonate in influencing particulate organic carbon export in the subtropical North Atlantic gyre.
- 19) Paulmier, A., Salihoglu, B., Oschlies, A., **Lomas, M.W.**, Neuer, S., and Garcon, V. 2008. Influence of new nutrient input and remineralization on phytoplankton species and primary production: a modelling comparative study at ESTOC and BATS. Marine Environment and Security for the European Area, Paris, France.
- 18) Salihoglu, B., Garcon, V., Oschlies, A., and **Lomas, M.W.** 2008. Influence of nutrient utilization and remineralization stoichiometry on phytoplankton species and carbon export: a modeling study at BATS. ASLO Ocean Sciences Meeting, Orlando, FL.
- 17) Steinberg, D.K., **Lomas, M.W.**, and Madin, L.P. 2008. A long-term increase in zooplankton biomass at the Bermuda Atlantic Time-series Study (BATS) site in the Sargasso Sea. ASLO Ocean Sciences Meeting, Orlando, FL.
- 16) Tiahlo, M., Johnson, R.J., and **Lomas, M.W.** 2008. Primary production in the northwestern Sargasso Sea: 19 years of data from the Bermuda Atlantic Time-series Study. ASLO Ocean Sciences Meeting, Orlando, FL.
- 15) Boniello, G.E., **Lomas, M.W.**, Bernhardt, P.W., and Mulholland, M.R. 2007. Nitrogen uptake by *Aureococcus anophagefferens* versus co-occurring bacteria during a bloom, a flow cytometry approach. ASLO Aquatic Sciences Meeting, Santa Fe, NM.
- 14) Burke, A., **Lomas, M.W.**, Ammerman, J.W., and Dyhrman, S.T. 2007. Does assimilation of dissolved organic phosphorus support particulate phosphorus export fluxes in the Sargasso Sea? ASLO Aquatic Sciences Meeting, Santa Fe, NM.
- 13) Maiti, K., Benitez-Nelson, C.R., **Lomas, M.W.**, and Krause, J.W. 2007. Estimates of Export production in Sargasso Sea During Winter Storms Prior to Seasonal Stratification. AGU Meeting, San Francisco, CA.
- 12) Orchard, E.D., Ammerman, J.W., Benitez-Nelson, C.R., **Lomas, M.W.**, and Dyhrman,

- S.T. 2007. Polyphosphate metabolism in the marine cyanobacteria *Trichodesmium* and *Crocosphaera*. ASLO Aquatic Sciences Meeting, Santa Fe, NM.
- 11) Casey, J., and **Lomas, M.W.** 2006. Taxon-specific nitrogen and carbon uptake by marine phytoplankton in the Sargasso Sea. ASLO Ocean Sciences Meeting, Honolulu, HI.
  - 10) Krause, J.W., Nelson, D.M., and **Lomas, M.W.** 2006. Diatom Response to Short-Lived Winter Storms and Subsequent Stratification Events in the Sargasso Sea. ASLO Ocean Sciences Meeting, Honolulu, HI.
  - 9) Peeler, K., Lomas, D.A., **Lomas, M.W.**, and Sharp, J.H. 2006. Use of the BATS/HOT Time Series Program for Accurate International DOC and DON Analyses in Seawater. ASLO Ocean Sciences Meeting, Honolulu, HI.
  - 8) Lipschultz, F., **Lomas, M.W.**, Nelson, D.M., Bates, N.R., Walker, C.F., and Krause, J.W. 2005. Winter mixing and the spring bloom: Revising new production in the Sargasso Sea. ASLO Aquatic Sciences Meeting, Salt Lake City, UT.
  - 7) Carlson, W.F., and **Lomas, M.W.** 2004. Taxonomic variability in nutrient cell quotas in marine phytoplankton. Ocean Research Conference, Honolulu, HI.
  - 6) Bates, N.R., **Lomas, M.W.**, Johnson, R.J., and Knap, A.H. 2003. Biogeochemical and ecosystem responses of the North Atlantic subtropical gyre to atmospheric forcing and climate variability. EGS Meeting, Vienna, Austria.
  - 5) Knap, A.H., Michaels, A.F., Karl, D.M., **Lomas, M.W.**, Send, U., and Weller, R. 2003. Time-Series Studies During JGOFS – An Overview. JGOFS Open Science Conference, Washington D.C.
  - 4) Woods, G., Owen, R., and **Lomas, M.W.** 2003. Characterization of telomerase activity in phytoplankton. ASLO Aquatic Sciences Meeting, Salt Lake City, UT.
  - 3) Jaeger, S., and **Lomas, M.W.** 2002. Dynamics of DOM production by the oceanic diatom *Thalassiosira oceanica*. ASLO Ocean Sciences Meeting, Honolulu, HI.
  - 2) Lipschultz, F., and **Lomas, M.W.** 2002. Towards a new paradigm for the formation of the primary nitrite maximum. ASLO Ocean Sciences Meeting, Honolulu, HI.
  - 1) Lochhead, V.C., **Lomas, M.W.**, Lethaby, P.J., Johnson, R.J., Bates, N.R., and Knap, A.H. 2001. A spatial and temporal study on long-term variability of phytoplankton community structure at the Bermuda Atlantic Time-series Study (BATS) site and Bermuda to Puerto Rico transect based on pigment analyses using the 'CHEMTAX' matrix. ASLO Ocean Sciences Meeting, Honolulu, HI.

### G. Patent Filings

- 1) Lomas, M.W., Preston, M. July 22, 2019. Improved method for the natural production of the compound *astaxanthin* using the microalgae *Haematococcus pluvialis*. Provisional Patent Application Number: 62876803.
- 2) Lomas, M.W., Fox, E. September 29, 2019. Microalgae Extracellular Metabolite Production System (MEMPS). Provisional Patent Application Number: 62907661

### H. Popular Press Articles/Documentaries

- 9) Contributor to (and included in) National Geographic documentary on climate and CO<sub>2</sub>, <http://channel.nationalgeographic.com/episode/earth-overhaul-5686/Overview#tab->

[Overview](#). Aired August/September 2011.

- 8) Lomas, M.W., Spring 2011, Meridian. “The Future of U.S. Ocean Time-series.”
- 7) Lomas, M.W., and Bates, N.R., Spring 2011, Meridian. “20-years of Accomplishments at the Bermuda Atlantic Time-series Station (BATS).”
- 6) Discovery Channel biodiesel segment, <http://watch.discoverychannel.ca/daily-planet/april-2010/daily-planet---april-27-2010/#clip295119>
- 5) Bermudian Business April/May 2010, written by Darlene Barnfield. BIOS-biofuel program interview “Oil from Water”.
- 4) Lomas, M.W., Spring 2008, Meridian. “Sea Ice and the Bering Sea Ecosystem.”
- 3) Lomas, M.W., Fall 2006, Currents. “Ocean Productivity: Organic Phosphorus in the Sargasso Sea.”
- 2) Lomas, M.W., Winter 2002/2003, Currents. “BATS: Looking for answers in the ocean.”
- 1) Lomas, M.W., Spring 2002, US JGOFS Newsletter. “Ocean Climate Patterns, Changes in Phytoplankton Community Composition and Links to Ocean Carbon Fluxes.”

#### I. Awards and Special Recognition

- |      |  |
|------|--|
| 2016 | Most cited paper in Deep-Sea Research II for the period 2014-2016. <b>Lomas, M.W.</b> , Bates, N.R., Johnson, R.J., Knap, A.H., Steinberg, D.K., Carlson, C.A. 2013. Two decades and counting: overview of 24-years of sustained open ocean biogeochemical measurements. <i>Deep Sea Research II</i> , 93: 16-32 |
| 2001 | Nomination for Journal of Phycology’s <i>Luigi Provasoli</i> Award for the outstanding paper published in the Journal during 2001  |
| 1997 | Hannah T. Croasdale Fellowship, Phycological Society of America  |
| 1997 | Sigma Xi Grant-in-Aid of Research, Sigma Xi  |
| 1997 | PSA Grant-in-Aid of Research, Phycological Society of America  |

**J. Funded Research Grants. Proposals where Lomas is P.I. are marked with §, proposals to enhance science and/or educational infrastructure, with little or no direct salary support, are marked with ¥, all others Lomas is a co-PI. All dollar amounts are the budgets for Lomas' institution alone and do not reflect budgets for collaborating institutions.**

<b>Title</b>	<b>Funding Agency</b>	<b>Amount</b>	<b>Duration</b>
High resolution glider surveys allow reassessment of the carbon imbalance in the oligotrophic Sargasso Sea	NSF-ChemOce	\$203,642	2/1/2019 to 1/31/2022
§¥ Acquisition of equipment to support projects in the development of the Maine Algal Economy.	MTI	\$93,600	4/1/2018 to 3/31/2020
The Bermuda Atlantic Time-series Study: Sustained Biogeochemical, Ecosystem and Ocean Change Observations and Linkages in the Subtropical North Atlantic (Years 31-35)	NSF-ChemOce	\$611,794	7/1/2018 to 6/30/2023
§ Phosphonate utilization by marine eukaryotic phytoplankton. Who, How, and Where.	NSF-BiOce	\$472,014	1/1/2018 to 12/31/2020
Arctic Integrated Ecosystem Survey (IES): Phase II. Physics and lower trophic level	NPRB	\$226,210	9/1/2016 to 8/30/2021
What controls the fate of diatom organic matter in the Bering Sea Ecosystem?	NSF-OPP	\$108,908	11/1/2016 to 10/31/2017
§ Response of Phytoplankton Community Composition and Biomass to Climate: Development of Optical and Pigment Fingerprint Libraries to evaluate Phytoplankton Functional Type (PFT) estimates from Satellite Products	NASA	\$249,964	11/1/2016 to 10/31/2019
Neuro-Oil™: <i>Optimizing a green source of DHA</i>	MTI	\$25,000	1/1/2016 to 12/31/2016
Regional variation of phytoplankton diversity and biogeochemical functioning in the subtropical Indian Ocean	NSF-BO	\$150,236	1/1/2016 to 12/31/2017
§ MERHAB: Training Course on the Identification of Harmful Algae in United States Marine Waters	NOAA	\$527,000	9/1/2015 to 8/31/2018
§ CSBR Living Stocks: Provasoli-Guillard National Center for Marine Algae and Microbiota	NSF-CSBR	\$450,000	6/1/2015 to 5/31/2018
§ Maine Algal Cluster Planning Grant	MTI	\$50,000	3/1/2015 to 8/30/2015

<b>Title</b>	<b>Funding Agency</b>	<b>Amount</b>	<b>Duration</b>
§¥ Improving predictive biogeochemical models through single cell-based analyses of marine plankton physiological plasticity, genetic diversity and evolutionary processes	OCB Office	\$59,350	1/1/2014 to 12/1/2014
The Bermuda Atlantic Time-Series Study: Sustained Biogeochemical, Ecosystem, and Ocean Change Observations and Linkages in the Subtropical North Atlantic.	NSF-CO/BO	\$747,564	8/1/2013 to 7/31/2018
§ Sargasso Sea Data Repository	J.M. Kaplan Foundation	\$100,500	6/1/2011 to 5/31/2012
§ Collaborative Research: Impact of sea-ice on bottom-up and top-down controls of crustacean zooplankton and the mediation of carbon and energy flow in the eastern Bering Sea	NSF-ARC	\$169,588	7/1/2011 to 6/30/2013
A Mechanistic Approach Towards the Remote Assessment of Carbon Export by Sinking Particles in the Open Ocean (subcontract)	NASA	\$57,017	6/1/2011 to 5/30/2014
§CRI:Dimensions of Biodiversity: Biological Controls of the Ocean C:N:P ratios	NSF-Climate Research Investments	\$899,656	1/1/2011 to 12/31/2015
Collaborative Research: Plankton Community Composition and Trophic Interactions as Modifiers of Carbon Export in the Sargasso Sea.	NSF-BioOce	\$149,631	10/1/2010 to 9/30/2013
Biogeochemical impact and fate of non-phosphorus membrane lipids in the Sargasso Sea	NSF-ChemOce	\$84,383	9/1/2010 to 8/31/2013
¥ BIOS-Diesel: Screening of Sargasso Sea algae for improved biodiesel strains	Partner Re: (private sponsor)	\$150,000	3/1/2009 to 2/28/2010
Testing Linkages Between Plankton Community Structure and Export of C, Po, and Th in the Sub-Arctic NE Pacific: Field and Lab Studies	NSF-ChemOce	\$149,932	1/1/2010 to 12/31/2012
§ Nitrate uptake by natural populations of <i>Prochlorococcus</i> : contributions to new production.	NSF-BioOce	\$507,538	9/1/2009 to 8/30/2013
The Bermuda Atlantic Time-series Study: Years 21-25.	NSF-ChemOce/BioOce	\$5,257,101	8/1/2008 to 7/31/2013
§ Combining Flow Cytometry and Stable Isotope Techniques: A Method to Measure phytoplankton- and Bacteria- specific Nitrogen and Carbon Uptake.	NSF-BioOce	\$252,779	5/1/2008 to 4/30/2011

<b>Title</b>	<b>Funding Agency</b>	<b>Amount</b>	<b>Duration</b>
Composition of the plankton community and its contribution to particle flux in the Sargasso Sea.	NSF-BioOce	\$123,368	5/1/2008 to 4/30/2011
§ BEST: The Impact of Changes in Sea Ice Extent on Primary Production, Phytoplankton Community Structure, and Export in the eastern Bering Sea.	NSF-ARC	\$385,679	10/1/2007 to 9/30/2011
Sources and Biogeochemical Cycling of Intact Membrane Lipids in the Upper Ocean.	NSF-ChemOce	\$75,460	2/1/2007 to 1/31/2010
Carbon through the twilight zone: New tools Measure change.	NSF-CinH <sub>2</sub> O	\$188,759	9/15/2006 to 9/14/2010
§DOP Cycling in the Sargasso Sea: Taxon-Specific rates of hydrolysis and uptake.	NSF-BioOce	\$254,404	5/1/2005 to 4/31/2009
§¥ Marine Microbial Imaging: Qualitative and Quantitative Comparisons. Development of a Facility for the Analysis of Marine Particles at the Bermuda Biological Station for Research, Inc.	NSF-MRI	\$420,000	11/1/2004 to 10/31/2007
Collaborative Research: Using Geochemical Tracers to Characterize the Effects of Wintertime Episodic Nutrient Inputs on Biological Activity in the Sargasso Sea.	NSF-ChemOce	\$113,000	2/1/2004 – 1/31/2007
§ Enhanced New Production During Winter Mixing: A Missing Component of Current Estimates.	NSF-ChemOce	\$887,391	4/1/2003 to 3/31/2006
¥ Expansion of a Seawater Facility for Marine Organisms at the Bermuda Biological Station for Research, Inc.	NSF-FSML	\$199,860	12/1/2002 to 11/31/2004
§ The Bermuda Atlantic Time-series Study: Years 16-20.	NSF-ChemOce/BioOce	\$4,200,851	8/1/2003 to 7/31/2008
§ The Bermuda Atlantic Time-series Study: Years 14-15	NSF-ChemOce/BioOce	\$1,500,000	5/1/2001 to 4/30/2003
¥ Open Ocean and Sub-tropical Marine Research Experiences for Under-graduates at the Bermuda Biological Station for Research, Inc.	NSF-REU	\$245,944	8/1/2000 to 7/31/2006
§ ECOHAB: Benthic-Pelagic Coupling in Long Island Brown Tide.	NOAA-BTRI	\$53,053	1/1/2001 to 8/31/2002

While a soft-money researcher over the past 20 years, I've raised a total of \$21.6M in Federal, State, and Foundation grant support (not including collaborators budgets). In addition, the above projects have included an aggregate of >550 funded UNOLS ship days with an approximate value of \$20M.



## J. Research Cruise Participation

2019	R/V Ocean Starr, OS1901, Arctic IES
2019	R/V Atlantic Explorer, BATS Core Cruise, AE1905
2017	R/V Sikuliaq, SKQ1701, ASGARD
2015	R/V Sonne, SO243, Oxygen in a Future Ocean.
2014	R/V New Horizon, NH1418, Biodiversity ( <i>Chief Scientist</i> )
2013	R/V Atlantic Explorer, AE1319, Biodiversity ( <i>Chief Scientist</i> )
2012	R/V Atlantic Explorer, AE1227, BATS-Val 47 ( <i>Chief Scientist</i> )
2012	R/V Atlantic Explorer, AE1206 & AE1219, TROPIC-BATS
2011	R/V Atlantic Explorer, BVal46 ( <i>Chief Scientist</i> )
2011	R/V Atlantic Explorer, X1101 & X1108, TROPIC-BATS,
2010	R/V Tommy Thompson, TN249, BEST Program Cruise
2009	R/V Atlantic Explorer, X0908, K. Buesseler Cruise
2009	R/V Atlantic Explorer, X0906, C. Ting Cruise
2009	USCG Icebreaker Healy, HLY0902, BEST Program Cruise
2008	R/V Atlantic Explorer, X0804, ATP <sup>3</sup> Cruise ( <i>Chief Scientist</i> )
2007	R/V Atlantic Explorer, BATS Validation 39 Cruise
2007	R/V Atlantic Explorer, X0705, DOP/CLIMODE Cruise ( <i>co-chief scientist</i> )
2006	R/V Atlantic Explorer X0619, ATP <sup>3</sup> Cruise ( <i>Chief Scientist</i> )
2006	R/V Atlantic Explorer X0606, ATP <sup>3</sup> Cruise ( <i>Chief Scientist</i> )
2005	R/V Oceanus 408-2, New Production Cruise ( <i>Chief Scientist</i> )
2004	R/V Oceanus 399-3, New Production Cruise ( <i>Chief Scientist</i> )
2001-2012	Various Bermuda Atlantic Time-series Study Core Cruises
1996-1998	Trophic Interactions in Estuarine Systems (TIES) – 9 total cruises
1994	OMP II Cruise – U.S. Continental Shelf

## V. National/International Service

### A. Active Memberships in Professional Societies

American Geophysical Union  
 American Society of Limnology and Oceanography  
 The Oceanography Society

### B. Symposia or Special Sessions Chaired or Coordinated.

2020 – Chair (co-chairs, Richard Dewey, John Trowbridge, Damian Grundle) “*Sustained Ocean Observing: From Events to Assessing Long-Term Ecosystem Patterns.*” At the ASLO Aquatic Sciences meeting February 2020 in San Diego, CA.

- 2012-Co-chair (fellow co-chairs Tom van Pelt and Michael Sigler) for a special session entitled “*Climate Change Impacts on the Bering Sea and Related Polar Seas: From Observation to Prediction*” at the ASLO Ocean Sciences meeting February 2012 in Salt Lake City, UT.
- 2012 –Co-chair (fellow co-chairs Gordon Taylor, Frank Muller-Karger and Matt Church) for a special session (S02) entitled “*Ocean Biogeochemistry Time-Series and Climate*” at the ASLO Ocean Sciences meeting February 2012 in Salt Lake City, UT.
- 2011- Co-chair (fellow co-chairs Matt Church and Frank Muller-Karger) for a special session (S02) entitled “*Ocean Biogeochemistry Time-Series and Climate*” at the ASLO Aquatic Sciences meeting February 2011 in San Juan, Puerto Rico.
- 2011- Co-chair (Gillian Stewart and Brad Moran) for a special session (S20) entitled “*Multi-tracer Approaches to Understanding Plankton Community Composition Controls on POC Export Flux from the Surface Ocean*” at the ASLO Aquatic Sciences meeting February 2011 in San Juan, Puerto Rico.
- 2010- Co-chair (fellow co-chairs Matt Church, Frank Muller-Karger and Laura Lorenzoni) for the Ocean Carbon Biogeochemistry (OCB) Scoping workshop on US time-series entitled: Sea Change: Charting the course for ecological and biogeochemical ocean time-series research. The objective of this workshop is to bring together leading US oceanographers to provide a vision and research plan for the future of US open ocean times-series programs.
- 2010 – Co-chair (fellow co-chairs Thierry Moutin, Ben Van Mooy and Frede Thingstad) for a special session on “*Interactions between biogeochemistry and ecosystems in low-P oligotrophic areas*” at the 2010 Ocean Sciences Meeting in Portland, Oregon. The objective of this session was to bring together people interested in the nutrient response, specifically phosphorus, of marine ecosystems to climate change.
- 2008 - Co-chair (fellow co-chairs Debbie Bronk and Margie Mulholland) for a special session on “*Taxon-specific techniques and Marine Biogeochemical Studies*” at the 2008 Ocean Sciences Meeting in Orlando, Florida. The objective of this session was to provide a forum for discussion and presentation of research that uses advanced taxon-specific tools in biogeochemical studies.
- 2008 - Co-chair (fellow co-chairs Susanne Neuer, Frank Muller-Karger and Laura Lorenzoni) for a special session on the “*Open ocean time-series programs*” at the 2008 Ocean Sciences Meeting in Orlando, Florida.
- 2007 - Invited rapporteur for the Chapman Conference entitled “*Long Time-series Observations in Coastal Ecosystems: Comparative Analyses of Phytoplankton Dynamics on Regional to Global Scales*” to be held October, 2007.
- 2002 - Co-chair (fellow co-chairs: John Dore and Nick Bates) for a special session on “*Oceanic Time-series Measurements: Assessment of the Past and Planning for the Future*” at the 2002 Ocean Sciences Meeting in Honolulu, Hawaii.
- 2002 - Planning (w/ Nick Bates, Tony Knap and Dave Karl) of the U.S. JGOFS Time-series Summit meeting, held in Vancouver British Columbia, 2002. The objective of this meeting was to re-establish linkages between the broad range of research interests at BATS and HOT as well as provide some synthesis and planning for future research.

### C.1. Review of Research Proposals and Manuscripts

- I serve as a reviewer for the following scientific journals: *Aquatic Microbial Ecology*, *Biogeosciences*, *Deep Sea Research I & II*, *Estuaries and Coasts*, *Geophysical Research Letters*, *Global and Planetary Change*, *Harmful Algae*, *ISME Journal*, *Journal of Geophysical Research – Oceans*, *Journal of Phycology*, *Journal of Plankton Research*, *Limnology and Oceanography*, *Marine Biology*, *Marine Ecology Progress Series*, *Marine and Freshwater Research*, *Proceedings of the National Academy of Sciences, USA*, *Remote Sensing of the Environment*.
- I serve as a reviewer for the National Science Foundations Biological, Chemical and Physical Oceanography Programs, NSF Ocean Instrumentation Program, NSF Office of Polar Programs, U.S./Israel Binational Science Foundation, as well as the Meadowlands Environmental Research Center.
- In November 2005, I served on the NSF Chemical Oceanography Proposal Review Panel. In November 2009, I served on the NSF Biological Oceanography Proposal Review Panel. In June 2011, I served on the NSF Dimensions in Biodiversity Review Panel. In March 2017, I served on the NOAA HAB Review Panel. In April 2018, I served on the NASA Review Panel.

### C.2. Journal Guest Editor activities

- 2014 – Guest co-Editor for the 4<sup>th</sup> special issue of *Deep Sea Research II* focusing on the first results of the Bering Sea Ecosystem Study.
- 2013 – Guest co-Editor for the 3<sup>rd</sup> special issue of *Deep Sea Research II* focusing on the first results of the Bering Sea Ecosystem Study.
- 2012 – Guest co-Editor for the 2<sup>nd</sup> special issue of *Deep Sea Research II* focusing on the first results of the Bering Sea Ecosystem Study.
- 2012 – Managing Guest Editor for a special issue of *Deep Sea Research II* focusing on recent research conducted at the US. open ocean time-series (this is the third such issue, earlier issues published in 1996 and 2001).
- 2010/2011 – Guest co-Editor for a special issue of *Deep Sea Research II* focusing on the first results of the Bering Sea Ecosystem Study.
- 2004 - Managing Editor for a special issue of *Harmful Algae* focusing on *Aureococcus anophagefferens* (Brown Tide) research conducted as part of the Brown Tide Research Initiative (BTRI) and served as the guest editor.

### C.3. Journal Editorial Board activities

- 2020 – present, Review Editor for *MDPI Oceans*.
- 2014 – present, Associate Editor for *Frontiers in Marine Biogeochemistry*
- 2006 – 2012, Review Editor for *Aquatic Microbial Ecology*.
- 2011 – present, Review Editor, *Frontiers in Aquatic Microbiology*.

### D. National/international committee service

- 2015-2017, I served as a member of the OCB Scientific Steering Committee.

- 2014-2020, I serve on the UNOLS Arctic Icebreaker Coordination Committee (AICC). This group is responsible for overseeing the US's Arctic icebreaker fleet to ensure continued ability to lead in this important area of research.
- 2014-2015, I served on the IOC/UNESCO Biogeochemical Time-series Working Group. This group is responsible for creating a report akin to the ICES Zooplankton and Phytoplankton reports, but focused on biogeochemical time-series.
- 2011-2012, I served on the Advisory Committee for Tabor Academy's *Ocean's First* program. Tabor Academy, *High School by the Sea*, ([www.taboracademy.org](http://www.taboracademy.org)), is a preparatory high school with the most complete curricula in marine science in the U.S. The role of the Advisory Committee is to provide guidance in the areas of both research and education as Tabor updates and upgrades its *Ocean's First* curricula.
- 2010 – 2015, I served on U.S. Carbon Cycle Scientific Steering Group (CCSSG) which reports to Carbon Cycle Interagency Working Group (CCIWG). The function of the CCSSG is to provide individual as well as broad scientific and application input to the CCIWG as it develops and administers carbon cycle science programs within the federal government. The CCSSG provides input on the direction of the Carbon Cycle Science Program, scientific content and its relevance to the various stakeholder communities, identifying gaps and potential new areas of emphasis.
- 2009 – 2014, I served on Science Advisory Board for Bering Sea Ecosystem Study – Bering Sea Integrated Ecosystem Research Program program. Objective of the SAB is to provide guidance to program PI's and federal funding agencies to ensure long term success of the project.

#### **E. Institutional Service (BLOS only)**

- 2012-present, Bigelow Lab representative to UNOLS
- 2012-2016, Budget Committee
- 2012-present, Search Committee
- 2012-present, CATT Committee
- 2014-present, Internal Biosafety Committee, Chair
- 2014-present, NCMA Director