KAY DANIEL BIDLE

Rutgers University
Department of Marine and Coastal Sciences
71 Dudley Road, New Brunswick, NJ 08901
Phone: 848-932-3467; Fax 732-932-4083
bidle@marine.rutgers.edu

RESEARCH INTERESTS

Marine microbiology, phytoplankton ecophysiology and mortality, virology, molecular evolution and ecology, biogeochemistry, ecosystem processes, the structure and function of microbial food webs

EDUCATION

2001 Ph.D., Marine Biology/Oceanography
Scripps Institution of Oceanography, University of California San Diego
Bacterial control of oceanic silicon cycling from diatoms
Advisor- Farooq Azam

1991 B.S., Biological Sciences- *cum laude*
Minor in Geography
University of Maryland Baltimore County (UMBC)

PROFESSIONAL PREPARATION

2015-present Professor, Department of Marine and Coastal Sciences, Rutgers University
2011-2015 Associate Professor, Department of Marine and Coastal Sciences, Rutgers University
2005- 2011 Assistant Professor, Department of Marine and Coastal Sciences, Rutgers University
2004 –2005 Assistant Research Professor, Institute of Marine and Coastal Sciences, Rutgers University
2001- 2004 Postdoctoral Fellow, Institute of Marine and Coastal Sciences, Rutgers University
1996- 2001 Graduate Research Assistant, Scripps Institution of Oceanography, University of California San Diego
1991- 1996 Faculty Research Assistant, Center of Marine Biotechnology, University of Maryland
1990-1991 Independent Study Research, UMBC, Biology Department
1990 REU-Undergraduate Research Fellow, Shannon Point Marine Center/Western Washington University

TEACHING

2005- present Rutgers University
Undergraduate (Dept. of Marine and Coastal Science/Earth and Planetary Science)
*Introduction to Oceanography (*11:628:120:02/01:460:120:02)
*Molecular Oceanography (*11:628:404)
Advanced Technologies in Biosciences (11:126:444)
Guest Lectures in: Comparative Virology (11:126:407)

Graduate (Oceanography, Ecology and Evolution, Molecular Biosciences, Microbial Biology)
*Molecular Oceanography (*16:712:525, 16:681:602, 16:215:603)
Biochemistry Seminar Course–Topics in Molecular & Cell Biology (16:695:611:01)
Guest Lectures in: First Year Seminar in Ecology and Evolution (16:215: 601); First Year Seminar in Microbial Biology (16:682:521); Microbial Life (16:682:501)

2002- 2004 Adjunct Faculty, Rider University
Department of Biology/Department of Geological and Marine Science
Oceanography (MAR 120), Environmental Microbiology (BIO 215/215L)

1998-1999 Graduate Teaching Assistant, University of California San Diego
Environmental Microbiology, Microbiology Laboratory

1995- 1996 Marine Science Educator, Sci-Tec Program, Columbus Center Baltimore, Maryland
1994- 1995 Coordinator of the City Life Program, Center of Marine Biotechnology/ City Life Museums

FUNDING

Pending *IOS EDGE: Virus-inspired, lipid-mediated transfection and genetic manipulation of the marine coccolithophore, Emiliania huxleyi;* IOS-1645361; NSF, Integrative Ecological Physiology; $1,485,408 ($670,435 to Rutgers); 1 January 2017 – 31 December 2019; PI.

2016 *"Light-dependent regulation of coccolithophore host-virus interactions: mechanistic insights and implications for structuring infection in the surface ocean"; OCE-1559179;* NSF, Biological Oceanography; $698,546 to Rutgers; 1 July 2016 – 30 June 2019; co-PI.

2015 *"Collaborative Research: Elucidating algal host-virus dynamics in different nutrient regimes-- mechanistic interactions and biogeochemical impact";* OCE-1537951; NSF, Biological Oceanography; $808,437 ($481,573 to Rutgers); 1 September 2015 – 31 August 2018; PI.

2015 "*Role of virus infection in North Atlantic bloom succession";* RAPID Response project in coordination with North Atlantic Aerosol and Marine Ecosystems Study (NAAMES); 15-RRNES15-0011; NASA Earth Science Program; $442,597 ($380,858 to Rutgers); 6 August 2015 – 5 August 2017; PI.

2015 "*Collaborative Research: Quantifying competing loss rates of viral lysis and microzooplankton grazing on Emiliania huxleyi mortality*"; OCE-1459200; NSF, Biological Oceanography; $826,684 ($223,677 to Rutgers); 1 May 2015 – 30 April 2018; Co-PI.

2012 Investigator Award; #3789; Gordon & Betty Moore Foundation, Marine Microbiology Initiative; $1,720,000; 1 June 2013 – 30 May 2018.

2012 *"Exploring the consequences of microbial communications on bloom dynamics and nutrient cycling in the North Atlantic Ocean";* #3301; Gordon and Betty Moore Foundation, Marine Microbiology Initiative (via subcontract from Woods Hole Oceanographic Institution); $446,463 (total of $2,423,000 among five PIs); 1 November 2012 – 31 October 2015; Co-PI .

2011 "*Collaborative Research: Lipid lubrication of oceanic carbon and sulfur biogeochemistry by a host-virus chemical arms race*"; OCE-1061883; NSF Division of Ocean Sciences, Biological Oceanography; $1,961,927 ($725,000 to Rutgers); 1 February 2011 – 31 January 2014; Principal Investigator.

2010 Research Partner; "*Interference of iron availability on the effect of CO_2 and UV increases related to oxidative stress and cell death processes in marine phytoplankton: consequences on diversity modification*"; Ministry for Science and Innovation (Spain); PI- Maria Segovia; 1 October 2010- 1 October 2013.

2010 "*Novel Apoptosis-Inducing and Anti-Viral Lipids Derived from Marine Viruses*"; Rutgers University Technology Commercialization Fund (RU TCF); $40,000; 1 June 2010 – 31 December 2010; Principal Investigator.

2009 *"Collaborative Research: A Matter of Life or Death? Assessing the physiological roles of PCD-related genes to stress adaptation in diatoms"*; OCE-0927829; NSF Division of Ocean Sciences, Biological Oceanography; $707,949; 1 September 2009 – 31 August 2012; Principal Investigator.

2009 *"Programmed cell death in the marine cyanobacterium Trichodesmium: implications for vertical flux of carbon and nitrogen following blooms"*; United States-Israel Bi-national Science Foundation; $29,900; 1 October 2009 – 30 September 2013; Principal US Investigator.

2009 *"Assessing Genetic Mechanisms of DNA Repair in Ancient Ice Microbes through Analytical Flow Cytometry, High-Speed Cell Sorting, and Single Cell Genomics*"; ANT-0907846; NSF Small Grant for Exploratory Research, National Science Foundation, Office of Polar Programs; $194,608; 1 January 2009 – 31 December 2010; Principal Investigator.

2008 *"Genetic mechanisms of DNA repair in ancient ice microbes*"; Rutgers University, Pre-tenure Faculty Career Development Awards; $30,000; 1 November 2008 – 30 June 2009; Principal Investigator.

2008 REU Supplement for IOS-0717494, " *The role of metacaspases in mediating cell fate during viral infection of unicellular, marine phytoplankton*"; NSF, Integrated Organismal Systems -Symbiosis, Defense and Self Recognition; $6,000; 1 June 2008 – 31 May 2009; Principal Investigator.

2008 "*Acquisition of a Flow Cytometer/ High-Speed Cell Sorter and Establishment of a Particle Analysis Facility*"; Academic Excellence Fund, Rutgers University; $110,000; 1 March 2008. Principal Investigator.

2008 Research Partner; "*Viral lysis and programmed cell death in marine phytoplankton*"; Norwegian Research Council (Norway); PI- Aud Larsen; 1 January 2008- 1 January 2011.

2007 "*The role of metacaspases in mediating cell fate during viral infection of unicellular, marine phytoplankton*"; IOS-0717494; NSF Integrated Organismal Systems, Symbiosis, Defense & Self Recognition; $578,198; 1 August 2007- 31 July 2010; Principal Investigator.

2007 REU Supplement for IOB-0414536, "*Examination of the autocatalytic cell death machinery in marine, planktonic photoautotrophs*"; NSF Integrated Organismal Systems, Physiological and Structural Systems $6,000; 1 June 2007 – 31 May 2008; Principal Investigator.

2006 Research Partner; "*Ecological and functional importance of novel virus genes expressed during infection of the globally important microalga, Emiliania huxleyi*"; Natural Environment Research Council (UK); PI William Wilson, 1 January 2006 – 31 December 2009.

2005 "*Collaborative Research: Regulation Of The C_4-CO_2 Concentrating mechanism In marine diatoms by CO_2, light, and nutrients*"; OCE-0526365; NSF Ocean Sciences, Biological Oceanography; $434,860; 1 September 2005 – 31 August 2008; Co-PI.

2004 "*Examination of the autocatalytic cell death machinery in marine, planktonic photoautotrophs*"; National Science Foundation, Ecological and Evolutionary Physiology Program; IOB-0414536; $428,475; 1 July 2004 – 30 June 2008; Principal Investigator.

2004 "*Metabolic and genetic characterization of microorganisms encased in ancient, buried Antarctic ice*"; The Gordon and Betty Moore Foundation; $375,500; 1 September 2004 – 31 August 2006; Co-PI.

2003 "*Activation of programmed cell death in marine phytoplankton by iron stress*"; The Center for Environmental Bioinorganic Chemistry (CEBIC), Princeton Environmental Institute; $50,000; 1 October 2003 – 30 September 2004; Principal Investigator.

PEER-REVIEWED PUBLICATIONS

Irigoien, Xabier, S. Jia, K.D. More, C. Balkema, C. Laber, B. Schieler, G. DiTullio, G. Chust, **K.D. Bidle** and M.J.L. Coolen. Protist biodiversity in the North Atlantic. *Mol. Ecol. (in review).*

Spungin, D., G. Rosenberg, **K.D. Bidle**, I. Berman-Frank. Metacaspases and bloom demise in the marine cyanobacterium *Trichodesmium. ISME J. (in review).*

Bailleul, B., J.S. Park, C.M. Brown, **K.D. Bidle**, S.H. Lee and P.G. Falkowski. Direct measurements of the light dependence of gross photosynthesis and oxygen consumption in the ocean. *Limnol. Oceanogr. (in revision)*

Bidle, K.D. 2016. Programmed cell death in unicellular phytoplankton. *Curr. Biol.* 26: R594–R607

Spungin, D., U. Pfreundt, H. Berthelot, S. Bonnet, D. AlRoumi, F. Natale, W.R. Hess, **K.D. Bidle**, and I. Berman-Frank. 2016. Mechanisms of *Trichodesmium* bloom demise within the New Caledonia Lagoon. *Biogeosciences* 13: 4187–4203.

Hirsh, D.J., K.M. Fomchenko, E.M. Jordan, B. Schieler, and **K.D. Bidle**. 2016. A liposome-encapsulated spin trap for the detection of nitric oxide. *Free Radic. Biol. Med.* 16: 199-210

Tuorto, S.J., C.M. Brown, **K.D. Bidle**, L.R. McGuinness, L.J. Kerkhof. 2015. BioDry: an inexpensive, low-power method to preserve aquatic microbial biomass at room temperature. *PLoS One* 10(12): e0144686.

Collins, J.R., B.R. Edwards, K. Thamatrakoln, J.R. Valdes, J.E. Ossolinski, G.R. DiTullio, **K.D. Bidle**, S.C. Doney, R.G. Keil, and B.A.S. Van Mooy. 2015. The multiple fates of sinking particles in the North Atlantic Ocean. *Global Biogeochem. Cycles* 29 (9): 1471–1494.

Harvey, E.L., **K.D. Bidle** and M.D. Johnson. 2015. Consequences of strain variability and calcification in *Emilania huxleyi* on microzooplankton grazing. *J. Plankton Research* 37(6): 1137–1148.

Sharoni, S., M. Trainic, D. Schatz, Y. Lehahn, J.M. Flores, **K.D Bidle**, S. Ben-Dor, Y. Rudich, I. Koren, A.Vardi. Infection of bloom-forming phytoplankton by aerosolized marine viruses. 2015. *Proc. Natl. Acad. Sci. USA* 112(21): 6643-6647.

Edwards, B.R., **K.D. Bidle**, and B.A.S. Van Mooy. 2015. Dose-dependent polyunsaturated-aldehyde regulation of microbial activity on sinking particles in the ocean *Proc. Natl. Acad. Sci. USA* 112(19): 5909-5914.

Bidle, K.D. 2015. The molecular ecophysiology of programmed cell death in marine phytoplankton. *Annu. Rev. Mar. Sci.*, 7: 341-375.

Kendrick, B.J., G.R. DiTullio, T.J. Cyronak, P.A. Lee, J.M. Fulton, B.A.S. Van Mooy, **K.D. Bidle**. 2014. Temperature-induced viral resistance in *Emiliania huxleyi* (Prymnesiophyceae) *PLoS One* 9(11): e112134.

Bidle, K.D. 2014. Elucidating marine virus ecology through a unified heartbeat. *Proc. Natl. Acad. Sci. USA* 111(44): 15606-15607.

Kustka, A.B., A. Milligan, A. New, C. Gates, H. Zheng, **K.D. Bidle**, and J. Rienfelder. 2014. Low CO_2 results in a rearrangement of carbon metabolism to support C4 photosynthetic carbon assimilation in two marine diatoms. *New Phytologist.* 204(3):507-520.

Brown, C.M., and **K.D. Bidle**. 2014. Attenuation of virus production at high multiplicities of infection in *Aureococcus anophagefferens*. *Virology* 466-467: 71-81.

Moniruzzaman, M., G.R. LeCleir, C.M. Brown, C.J. Gobler, **K.D. Bidle**, W.H. Wilson, and S.W. Wilhelm. 2014. Genome of Brown Tide virus (AaV), the little giant of the Megaviridae, elucidates NCLDV genome expansion and host-virus coevolution *Virology* 466-467: 60-70.

Lehahn, Y., I. Koren, D. Schatz, M. Frada, U. Sheyn, E. Boss, S. Efrati, Y. Rudich, M. Trainic, S. Sharoni, C. Laber, G.R. DiTullio, M.J.L. Coolen, A.M. Martins, B.A.S. Van Mooy, **K.D. Bidle**, and A. Vardi. 2014. Decoupling physical from biological processes to assess the impact of viruses on a mesoscale algal bloom. *Current Biology* 24: 2041-2046.

Lehahn, Y., I. Koren, Y. Rudich, **K.D. Bidle**, M. Trainic, J.M. Flores, S. Sharoni, A. Vardi. 2014. Decoupling atmospheric and oceanic factors affecting aerosol loading over a cluster of mesoscale North Atlantic eddies. *Geophys. Res. Lett.* 41(11): 4075-4081.

Keeling, P.J., et al (total of 77 authors). 2014. The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): Illuminating the functional diversity of eukaryotic life in the oceans through transcriptome sequencing. *PLoS Biology* 12(6): e1001889.

Ray, J.L., L. Haramaty, R. Thyrhaug, H. Fredricks, B. Van Mooy, A. Larsen, **K.D. Bidle**, and R.-A. Sandaa. 2014. Virus infection of *Haptolina ericina* and *Phaeocystis pouchetii* suggests evolutionary conservation of programmed cell death induction in marine haptophyte-virus interactions. *J. Plankton Res.* 36(4): 943–955.

Rose, S.L., J. Fulton, C.M. Brown, F. Natale, B.A.S. Van Mooy, and **K.D. Bidle**. 2014. Isolation and characterization of lipid rafts in *Emiliania huxleyi*: a role for membrane microdomains in host-virus Interactions. *Environ. Microbiol.* 16(4): 1150–1166.

Fulton, J.M, H.F. Fredricks, **K.D. Bidle**, A. Vardi, B.J. Kendrick, G.R. DiTullio and B.A.S. Van Mooy. 2014. Novel molecular determinants of viral susceptibility and resistance in the lipidome of *Emiliania huxleyi. Environ. Microbiol.* 16(4): 1137–1149.

Thamatrakoln, K., B. Bailleul, C.M. Brown, M.Y. Gorbunov, A.B. Kustka, M. Frada, P. Joliot, P.G. Falkowski and **K.D. Bidle**. 2013. Death-specific protein in a marine diatom regulates photosynthetic responses to iron and light availability. *Proc. Natl. Acad. Sci. USA* 10(50): 20123-20128.

Bar-Zeev, E., I. Avishay, **K.D. Bidle** and I. Berman-Frank. 2013. Programmed cell death in the marine cyanobacterium *Trichodesmium* mediates carbon and nitrogen export. *ISME Journal* 7(12): 2340-2348.

Read, B., et al. (total of 73 authors). 2013. Pan genome of the phytoplankton Emiliania underpins its global distribution. *Nature.* 499:209-213.

Seth-Pasricha, M., K.A. Bidle, and **K.D. Bidle.** 2013. Specificity of archaeal caspase activity in the extreme halophile *Haloferax volcanii*. *Environ. Microbiol. Reports* 5(2): 263-271.

Vardi, A., L. Haramaty, B.A.S. Van Mooy, H.F. Fredricks, S.A. Kimmance, A. Larsen, and **K.D. Bidle**. 2012. Host–virus dynamics and subcellular controls of cell fate in a natural coccolithophore population. *Proc. Natl. Acad. Sci. USA* 109(47): 19327-19332.

Bidle, K.D. and C.J. Kwityn. 2012. Assessing the role of caspase activity and metacaspase expression on viral susceptibility of the coccolithophore, *Emiliania huxleyi*. *J. Phycol.* 48(5): 1079-1089.

Frada, M.J., **K.D. Bidle**, I. Probert, C. de Vargas. 2012 I*n situ* survey of life cycle phases of the coccolithophore *Emiliania huxleyi* (*Haptophyta)*. *Environ. Microbiol.* 14(6):1558-1569.

Thamatrakoln, K., O. Korenovska, A.K. Niheu, and **K.D. Bidle**. 2012. Whole-genome expression analysis reveals a role for death-related genes in stress acclimation of the diatom *Thalassiosira pseudonana*. *Environ. Microbiol.* 14(1): 67-81.

Bidle, K.D. and A. Vardi. A chemical arms race at sea mediates algal host–virus interactions. 2011. *Curr. Opin. Microbiol.* 14(4): 449-457.

Whittaker, S., **K.D. Bidle**, A. Kustka, and P.G. Falkowski. 2011. Quantification of nitrogenase in *Trichodesmium* IMS 101: Implications for iron limitation of nitrogen fixation in the ocean. *Environ. Microbiol. Reports* 3(1):54-58

Oliver M.J.,O. Schofield and **K. Bidle**. 2010. Density dependent expression of a diatom retrotransposon. *Marine Genomics* 3(3-4):145-150

Bidle, K.D. 2010. Phytoplankton-bacteria interactions: Ectohydrolytic enzymes and their influence on biogeochemical cycling. *Limnol. Oceanogr. e-Lectures 4 (doi:10.4319/lol.2010.kbidle.4) (http://www.aslo.org/lectures/10_004/10_004_kbidle.html).*

Bidle, K.A., L. Haramaty, N. Baggett, J. Nannen, and **K.D. Bidle**. 2010. Tantalizing evidence for archaeal caspase-like protein expression and activity and its role in cellular stress response. *Environ. Microbiol.* 12(5): 1161-1172.

Vardi, A, B. Van Mooy, H.F. Fredricks, K.J. Popendorf, J.E. Ossolinski L. Haramaty, and **K.D. Bidle**. 2009. Viral glycosphingolipids induce lytic infection and cell death in marine phytoplankton. *Science* 326 (5954): 861-865.

Vardi, A, K. Thamatrakoln, **K.D. Bidle**, and P.G. Falkowski. 2008. Diatom genomes come of age. *Genome Biology* 9:245.

Vardi, A., **K. Bidle**, C. Kwityn, D.J. Hirsch, S.M. Thompson, J.A. Callow, P. Falkowski, and C. Bowler. 2008. A diatom gene regulating nitric oxide signaling and susceptibility to diatom-derived aldehydes. *Current Biology* 18:1-5.

Bidle, K.D. and S.J. Bender. 2008. Iron starvation and culture age activate metacaspases and programmed cell death in the marine diatom, *Thalassiosira pseudonana*. *Eukaryotic Cell* 7(2): 223-236.

Bidle, K.D., S. Lee, D.R. Marchant and P.G. Falkowski. 2007. Fossil genes and microbes in the oldest ice on Earth. *Proc. Natl. Acad. Sci USA* 104(33): 13455-13460.

Bidle, K.D., L. Haramaty, J. Barcelos-Ramos and P.G. Falkowski. 2007. Viral activation and recruitment of metacaspases in the unicellular coccolithophorid, *Emiliania huxleyi. Proc. Natl. Acad. Sci. USA* 104: 6049-6054.

Ragueneau, O., S. Schultes, **K. Bidle,** P. Claquin and B. Moriceau. 2006. Si and C interactions in the world ocean: Importance of ecological processes and implications for the role of diatoms in the biological pump. *Global Biogeochemical Cycles* 20: GB4SO2, doi:10.1029/2006GB002688.

Bidle, K.D. and P.G. Falkowski. 2004. Cell death in planktonic, photosynthetic microorganisms. *Nature Reviews Microbiol.* 2: 643-655.

Berman-Frank, I., **K.D. Bidle**, L. Haramaty and P. Falkowski. 2004. The demise of the marine cyanobacterium, *Trichodesmium* spp., via an autocatalyzed cell death pathway. *Limnol. Oceanogr.* 49: 997-1005.

Bidle, K.D., R.A. Long, J. Jones, M.A. Brzezinski and F. Azam. 2003. Diminished efficiency of the oceanic silica pump by bacterially-mediated silica dissolution. *Limnol. Oceanogr.* 48: 1855-1868.

Brzezinski M. A., J. Jones, **K. Bidle**, and F. Azam. 2003. The balance between silica production and silica dissolution in the sea. Insights from Monterey Bay, California applied to the global data set. *Limnol. Oceanogr.* 48: 1846-1854.

Bidle, K.D., M. Manganelli and F. Azam. 2002. Regulation of diatom silicon and carbon preservation by temperature effects on bacterial activity. *Science* 298:1980-1984.

Bidle K.D. and F. Azam. 2001. Bacterial control of silicon regeneration from diatom detritus: significance of bacterial ectohydrolases and species identity. *Limnol. Oceanogr*. 46(7): 1606-1623.

Bidle, K.D. and F. Azam. 1999. Accelerated dissolution of diatom silica by marine bacterial assemblages. *Nature*. 397:508-512.

Noble, P.A**, K.D. Bidle**, and M. Fletcher. 1997. Natural microbial community compositions compared by a back-propagating neural network and cluster analysis of 5S rRNA. *Appl. Environ. Microbiol.* 63: 1762-1770.

Bidle, K. D. and M. Fletcher. 1995. Comparisons of free-living and particle-associated bacterial communities in the Chesapeake Bay using stable low-molecular weight RNA analysis. *Appl. Environ. Microbiol*. 61:944-952.

Bidle, K., H. Wickman, and M. Fletcher. 1993. Attachment of a *Pseudomonas*-like bacterium and *Bacillus coagulans* to solid surfaces and adsorption of their S-layer proteins. *J. Gen. Microbiol.* 139:1891-1897.

Bidle, K. D. and P. A. McLaughlin. 1992. Development in the hermit crab *Pagurus caurinus* Hart (Decapoda: Anomura: Paguridae) reared in the laboratory. Part I. Zoeal and megalopal stages. *J. Crustacean Biol.* 12(2):224-238.

Cronin, T. W., H. Y. Yan, and **K. D. Bidle**. 1992. Regional specialization for control of ocular movements in the compound eyes of a stomatopod crustacean. *J. Exp. Biol.* 171:373-393.

MANUSCRIPTS IN PREPARATION

Laber, C.P, John E. Hunter, Ana Filipa Carvalho, Emmanuel Boss, Marco Coolen, Giacomo DiTullio, Ana M. Martins, Brittany Schieler, Kim Thamatrakoln, Chris Brown, Liti Haramaty, Assaf Vardi, Miguel Frada, Yoav Lehahn, Benjamin Van Mooy, and **Kay D. Bidle.** Viral lubrication of the biological pump: bridging optical and biomolecular proxies to investigate Coccolithophore-Coccolithovirus role in ocean biogeochemistry.

Nissimov, J.I, R. Gardella, H. Fredricks, U. Zelzion, M.J.L. Coolen, D. Bhattacharya, B.A.S. Van Mooy and **K.D. Bidle**. Biochemical diversity of Coccolithovirus-derived SPT and its impact on glycosphingolipid production and viral demise of *Emiliania huxleyi*

Thamtrakoln, K., D. Talmy, J. Latham, L. Haramaty, **K.D. Bidle**. Light structuring of coccolithovirus infection.

Seth-Pasricha, M., S. Senn, L. Sanman, M. Bogyo, V. Nanda, K.A. Bidle and **K.D. Bidle**. Biochemical association of caspase activity with stress-related protein complexes in *Haloferax volcanii*

Johns, C.T., J.I. Nissimov, F. Natale, V. KnappA. Mui, H. Fredricks, B.A.S. Van Mooy and **K.D. Bidle**. 'Though the looking glass': the mutual interplay between coccolithovirus infection and cellular PIC quotas in *Emiliania huxleyi*

Nissimov, J.I., R. Gardella, H. Fredricks, M.J.L. Coolen, B.A.S. Van Mooy and **K.D. Bidle**. The impact of biochemical diversity on infochemical production and viral demise of *Emiliania huxleyi*

INVITED TALKS/LECTURES

Stazione Zoologica Anton Dohrn Napoli (Naples, Italy); November 2016 (Host: Raffaella Cosotti)

Duke University, Marine Laboratory Seminar Series; '*Phytoplankton-virus arms races at sea: bridging subcellular controls and oceanographic scales*'; 27 April 2016 (Hosts: Sarah Loftus and Anastasia Quintana, Ph.D. Students)

Rutgers University, Speical Symposium on 'The Ocean and the Evolution of Earth's Biogechemical Cycles' (in honor of Paul Falkowski); 'Ode to Granpa Death'; 14-15 April 2016 (host: Oscar Schofield)

University of Nebraska; Biotechnology / Life Sciences Seminar Series; '*Algal-virus arms races at sea: how subcellular controls manifest over oceanographic scales';* 13 April 2016 (Host: Jim Van Etten)

Massachusetts Institute of Technology, Department of Earth, Atmosphere and Planetary Sciences; "*Phytoplankton-virus 'arms races': from subcellular controls to oceanographic and biogeochemical contexts";* 19 October 2015 (Host: Mick Follows)

University of Rhode Island, Graduate School of Oceanography, '*Bio at Noon*' Seminar Series; '*Phytoplankton-virus arms races: from subcellular controls to oceanographic and biogeochemical contexts*'; 24 March 2015 (Host: Tatiana Rynearson)

The Tech Museum of Innovation (San Jose, CA), An Evening with the World's Leading Marine Microbiologists; A Creative Collisions Initiative';'*The invisible world of marine microbes: how Earth's smallest living things have the biggest impact on how our ocean works*'; 30 July 2014 *(host: Gordon & Betty Moore Foundation).*

Princeton University, Environmental Geology & Geochemistry Seminar (EGGS) Lecture Series, Department of Geosciences; '*Lubrication of algal host–virus interactions and biogeochemical fluxes by a co-evolutionary lipid-based arms race at sea*'; 1 May 2014 (Host: Paul Gauthier).

Cornell University, Field of Microbiology Students; '*Lubrication of algal host–virus interactions and biogeochemical fluxes by a co-evolutionary lipid-based arms race at sea*'; 24 April 2014 (Host: David Sannino).

Princeton University, Plasma Physics Laboratory; *Science on Saturday Lecture Series*; '*The invisible world of marine microbes: how Earth's smallest living things have the biggest impact on how our ocean works;* 1 February 2014.
See: http://www.pppl.gov/events/science-saturday-lecture-series-2

School of Marine Science and Policy, University of Delaware; "*Lubrication of algal host-virus interactions and biogeochemical fluxes by a co-evolutionary lipid-based arms race at sea*"; 1 November 2013 (Fall 2013 Seminar Series; host: Thomas Hanson).

Institute of Marine and Environmental Technology, University of Maryland System; "*Mediation of algal host–virus interactions by a co-evolutionary chemical arms race at sea";* 5 December 2012 (Host: Feng Chen).

Rutgers University, Ecology and Evolution Graduate Program; " *Mediation of algal host–virus interactions by a co-evolutionary chemical arms race at sea*"; 15 November 2012 (Host: Julie Lockwood).

Rutgers University, SEBS/NJAES Symposium on Applied and Environmental Genomics; "*Molecular Oceanography"; 9* December 2011.

Rutgers University, *"Marine Viruses*"; 2 December 2011 (Host: Bradley Hillman).

Rider University, "*A host-virus chemical arms race mediates the biological pump and ecosystem pathways in the sea*"; 7 November 2011 (Host: Gabriela Smalley).

Rutgers University, Seminar in Microbial Biology; 1 December 2010 (host: Max Haggblom).

The College of New Jersey, School of Science; "*A lipid based chemical arms race at sea: The role of sphingolipids in regulating host-virus interactions in marine phytoplankton*" 19 November 2010 (Host: Leeann Thornton).

Rutgers University, Fermentation Seminar Series, Department of Microbiology and Biochemistry; *A lipid based chemical arms race at sea: The role of sphingolipids in regulating host-virus interactions in marine phytoplankton*"; 12 November 2010 (host: Elisabetta Bini).

Rutgers University, Ecology and Evolution Graduate Program; "*The evolutionary development and ecological significance of programmed cell death pathways in marine phytoplankton*"; 10 December 2009 (Host: Julie Lockwood).

Rider University, "*The Oceanic Biological Pump: Ecosystem Controls on Its Efficiency* "; 7 December 2009 (Host: Gabriela Smalley).

Rutgers University, *"Marine Viruses*"; 1 December 2009 (Host: Bradley Hillman).

Gordon Research Conference, Chemical Oceanography; "*Programmed cell death and the lubrication of biogeochemical cycling in the surface ocean*"; 4 August 2009 (Host: Bob Aller).

'Darknight' Event, Professional Lighting Designers' Association; *"Darkness in Oceanography*"; Xenon Architectural Lighting (XAL) Showroom, New York, NY; 5 May 2009 (Host: Glenn Shrum).

Grice Marine Lab, College of Charleston & Medical University of South Carolina, "A Matter of Life or Death? Cellular Mechanisms Regulating Phytoplankton Mortality in the Oceans"; Fort Johnson Marine Science Seminar Series, 20 March 2009 (Host: Michael Janech).

Fordham University, "*A Matter of Life or Death? Cellular Mechanisms Regulating Phytoplankton Mortality in the Oceans*"; Biology Department Spring Seminar Series, 25 February 2009 (Host: Jillian Decker).

School of Marine and Atmospheric Sciences, Stony Brook University, "*A Matter of Life or Death? Cellular Mechanisms of Phytoplankton Mortality in the Oceans***,** 3 October 2008 (Host: Josephine Aller).

University of Nebraska Medical Center, "Cellular Mechanisms Regulating the Fate of Phytoplankton in the Ocean"; Pathology and Microbiology Basic Science Seminar Series, 12 March 2008 (Host: Ken Bayles).

British Phycological Society Winter Meeting, "*Molecular mechanisms triggering phytoplankton mortality in the oceans*"; Algae and Global Processes Special Session; University of Bristol; 3-5 January 2008.

University of Washington, School of Oceanography, "*Desolation Row: Cellular Mechanisms Regulating the Fate of Phytoplankton in the Oceans*"; 6 December 2007 (Host: Ginger Armbrust).

Rider University, "*The fate of phytoplankton in the oceans: Mechanisms regulating the biological pump and channeling primary productivity to microbial food webs*"; 30 November 2007 (Host: Gabriela Smalley).

Rutgers University, *"Marine Viruses and Molecular Mechanisms of Mortality*"; 16 November 2007 (Host: Bradley Hillman).

Bigelow Marine Laboratory, West Boothbay Harbor, ME. "*Molecular mechanisms regulating phytoplankton mortality in the oceans*"; 16 August 2007 (Host: Willie Wilson).

Stanford University, Ocean Sciences Series. *"A fate for phytoplankton in the oceans: Molecular mechanisms regulating mortality and channeling productivity to microbial foodwebs"*; 13 February 2007 (Host: Chris Francis).

Rutgers University, Ecology and Evolution Graduate Program; "*Assessing the establishment and retention of programmed cell death pathways in marine phytoplankton*"; 9 November 2006 (Host: Peter Morin).

Scripps Institution of Oceanography, La Jolla, CA. "*The state of microbial ectohydrolytic enzymes*", Special Symposium on Marine Microbial Ecology; February 2006 (Organizer: Jim Ammerman).

College of Marine Science, University of Delaware. "*Linking Upper Ocean Biogeochemistry and Ecosystem Processes with Molecular Activity and Diversity"*; 18 October 2005 (Host: Eric Wommack).

ASLO Summer Meeting; *"Two Roads to Ruin: Assessing the mechanistic relationship Between Programmed Cell Death and Viral Infection in the Coccolithophorid, Emiliania huxleyi*"; Santiago de Compostela, Spain; 19-24 June 2005.

Biology and Paleoenvironment Division Seminar, Lamont Earth Observatory. *"Metabolic and genetic characterization of microorganisms encased in ancient, buried Antarctic ice"*; October 2004 (Host: Ajit Subramaniam).

Rutgers University, IMCS Seminar Series, *"A fate for phytoplankton in the sea: Mechanisms and consequences of coupling to the microbial loop";* September 2004.

School of Marine Sciences, University of Maine at Orono, *"Mechanisms and consequences of coupling phytoplankton productivity to the microbial loop"*; April 2004 (Host: Feng Chai).

American Geophysical Union, Chapman Conference:The Role of Diatom Production and Si Flux and Burial in the Regulation of Global Cycles; "*Mechanistic controls on silica dissolution and the coupling of Si and C cycles by the marine microbial loop*"; Paroikia, Paros, Greece; 22-26 September 2003.

Scripps Institute of Oceanography; Special Colloquium- "Oceanography: The Making of a Science"; "*Future Views in Oceanography: The Advent of Microbial Oceanography*"; 2000.

PATENTS

US Patent # 8557514; *"Methods for obtaining bioactive compounds from phytoplankton*"; issued on 15 October 2013; estimated expiration on 7 July 2029; http://www.google.com/patents/US8557514

FELLOWSHIPS, AWARDS, and HONORS

2013-present	Marine Microbiology Initiative Investigator Award, Gordon & Betty Moore Foundation
2011-2013	Kavli Fellow, US National Academy of Sciences
2011	Board of Trustees Research Fellow for Scholarly Excellence, Rutgers University
2005	Raymond A. Lindeman Award, American Society of Limnology and Oceanography
2001- 2004	Postdoctoral Research Fellow, Institute of Marine and Coastal Sciences, Rutgers University
1999- 2001	Achievement Rewards for College Students (ARCS) Scholar, ARCS Foundation (Los Angeles, CA)
2000	Edward A. Frieman Award, Scripps Institution of Oceanography
1996	Regents Fellow, University of California San Diego
1990	Research Experience for Undergraduates (REU) Fellow, National Science Foundation,

CONFERENCE PROCEEDINGS
ORAL

2016 NAAMES Science Team Meeting, Oregon State University (Corvallis, OR; 25-27 August 2016)
C. Laber, E. Harvey, B. Van Mooy, K.D. Bidle. *Update from NAAMES Cruise Legs #1 and #2.*

2016 11th Annual Marine Microbiology Initiative Investigator Symposium, Gordon and Betty Moore Foundation (21-22 July 2016; San Francisco, CA); K.D. Bidle, PI Research Overview Presentation

2016 8th Algal Virus Workshop (Plymouth, UK; 10-13 July 2016

2015 NAAMES Science Team Meeting (NASA Langley Science Research Center; 25-27 August 2016)
Bidle, K.D., C. Laber, E. Harvey, B. Van Mooy. *Emerging Role of Marine Viruses In Plankton Dynamics*

2015 10th Annual Marine Microbiology Initiative Investigator Symposium, Gordon and Betty Moore Foundation (20-24 July 2015; San Francisco, CA); K.D. Bidle, PI Research Overview Presentation

2015 ASLO Aquatic Sciences Meeting (Granada, Spain; 23-27 February 2015)
Co-Chair, Infochemical controls on biogeochemcial processes in aquatic and marine ecosystems (Session 089)
Berman-Frank, I.R.; Bar-Zeev, E.; Spungin, D.; Bidle, K. *Mechanism of death determines fate of biomass - coupling export production and programmed cell death in the bloom forming Trichodesmium* (ID: 26548)
Van Mooy, B.A.; Bidle, K.D.; Dyhrman, S.T.; Johnson, M.D.; Mincer, T. J.; Vardi, A. *Connections between infochemical communication and upper ocean elemental import and export.* (ID: 27458)
Edwards, B.R.; Collins, J. R.; Fredricks, H.F.; Ossolinski, J.E.; McNair, H.; Brzezinski, M.A.; Krause, J.W.; Thamatrakoln, K.; Bidle, K.D.; Van Mooy, B.A.: *Comparative lipidomics link bloom decline to infochemical production in the California upwelling zone* (ID: 27405)
Harvey, E.L.; Poulson-Ellestad, K.; Mincer, T.; Van Mooy, B.; Bidle, K.D.; Johnson, M. *The combined influence of morphology and chemistry in mediating heterotrophic protist grazing interactions* (ID: 25669)
Nissimov, J.I.; Fredricks, H.; Van Mooy, B.; Bidle, K.D. *The impact of biochemical diversity on infochemical production and viral demise of Emiliania huxleyi* (ID: 27328)
Thamatrakoln, K.; Maniscalco, C.; Haramaty, L.; Allen, L.; Allen, A.; Van Mooy, B.; Bidle, K. *The role of light and photosynthesis in viral infection of marine, eukaryotic photoautotrophs* (id: 27568)
Moniruzzaman, M.; Gann, E.; LeCleir, G.R.; Brown, C.M.; Gobler, C.J.; Bidle, K.D.; Wilson, W.H.; Wilhelm, S.W. *Probing the diversity of algal megaviridae members during a harmful brown tide bloom* (ID: 25930)
Thamatrakoln, K.; Maniscalco, C.; Fredricks, H.F.; Allen, L.Z.; Allen, A.E.; Van Mooy, B.; Bidle, K.D. *Differential effects of viral infection on host physiology in two strains of the diatom, Chaetoceros tenuissimus* (ID: 27722)

2014 9th Annual Marine Microbiology Initiative Investigator Symposium, Gordon and Betty Moore Foundation (29 July -1 August 2014; Palo Alto, CA); K.D. Bidle, PI Research Overview Presentation

2014 Gordon Research Conference, Marine Microbes- 'Small Microbes, Big Data' (22-27 June 2014: Bentley University, Waltham MA)
Invited speaker- "*A Tug of War at Sea: Arms Races Across a Mandala of Phytoplankton-Virus Interactions*"

2014 Ocean Sciences Meeting (23-28 February 2014; Honolulu, HI)
Bidle, K. D.; Van Mooy, B. A.; Vardi, A.; DiTullio, G.; Coolen, M. J. *Lubrication of oceanic carbon and sulfur cycling by a host-virus chemical arms race: 'North Atlantic virus infection of coccolithophores expedition' (NA VICE)*

2013 8th Annual Marine Microbiology Initiative Investigator Symposium, Gordon and Betty Moore Foundation (17-18 July 2013; Palo Alto, CA); PI Research Overview Presentation.

2013 2013 Halophiles Conference (23-27 June 2013; University of Connecticut, Storrs, CT)
Seth-Pasricha, M**.**, M. Maniscalco, S. Senn, J. Schreier, K.A. Bidle, and K.D. Bidle**.** *Identification of caspase active proteins in Haloferax volcanii*

2013 Aquatic Sciences Meeting (17-22 February 2013; New Orleans, LA)
Fulton, J.M.; Fredricks, H.F.; Kendricks, B.J.; DiTullio, G.R.; Vardi, A.; Bidle, K.D.; Van Mooy, B. *Lipidome of the Emiliania huxleyi-coccolithovirus system in a changing ocean*
Kustka , A.B.; Reinfelder, J.R.; Gates, C.; New, A.M.; Bidle, K.D.; Milligan, A.J. *The metabolic response of diatoms to low co2 includes C4- assisted photosynthesis and recovery of photorespiratory products: implications for bloom sustenance*

2012 Microbiology Symposium at Rutgers University, 'Cultivating Traditions, Current Strength, and Future Frontiers' (2-3 February 2012, Trayes Hall, Douglas Campus Center, Rutgers University)
Bidle, K.D., "*A host-virus chemical arms race at sea: placing subcellular controls of cell fate into an ecological and biogeochemical context*"

2012 Ocean Sciences Meeting (20-24 February 2012; Salt Lake City, UT)
Bidle, K.D., Vardi, A., Haramaty, L.,Van Mooy, B.A.S., Fredricks, H.F., Larsen, A., Kimmance, S., DiTullio, G.R. *A host-virus chemical arms race at sea: placing subcellular controls of cell fate into an ecological and biogeochemical context*

2011 Aquatic Virus Workshop 6 (30 October – 4 November 2011; NIOZ – Royal Netherlands Institute for Sea Research,Texel The Netherlands)
K.D. Bidle, A. Vardi, L. Haramaty,B.A.S. Van Mooy, H.F. Fredricks, A. Larsen, S. Kimmance, M. Frada, T. Bibby, G.R. DiTullio. "*A host-virus chemical arms race at sea: placing subcellular controls of cell fate into an ecological and biogeochemical context*"

2011 'The Molecular Life of Diatoms' (5-10 June 2011; Georgia Tech University, Atlanta, GA)
K.D. Bidle, K. Thamatrakoln, B. Santa Maria, and D.J. Hirsh. "*Fundamentally different mechanisms of cellular nitric oxide production between pennate and centric diatoms?"*
K. Thamatrakoln*, C.M. Brown*, A.B. Kustka, B. Ballieul, P. Joliot, M. Gorbunov, P.G. Falkowski, and K.D. Bidle. "*Over-expression of a death-specific protein homolog in the diatom thalassiosira pseudonana alleviates iron stress"*

2011 2011 ASLO Aquatic Sciences Meeting (13-18 February 2011; San Juan, Puerto Rico)
K.D. Bidle, C. Kwityn and W. Liao. *"A Role for Caspase Activity and Metacaspase Expression as Subcellular Determinants of Viral Susceptibility in The Coccolithophore, Emiliania huxleyi"*
K. Thamatrakoln, A.B. Kustka, M.Y. Gorbunov, K.D. Bidle. "*Over-expression of a death-specific protein homolog in the centric diatom Thalassiosira pseudonana alleviates iron stress*"

2010 Viruses of Microbes (21-25 June 2010; Institut Pasteur, Paris, France)
A. Vardi, B.A.S Van Mooy, H.F. Fredricks, L. Haramaty, K. Bidle. "*Chemical Arms Race at Sea: The role of sphingolipids in regulating host-virus interactions in marine phytoplankton".*

2010 AGU/ASLO Ocean Sciences Meeting (22-26 February 2010; Portland, Oregon)
A. Vardi*, B. Van Mooy, H. Fredricks, L. Haramaty and K. Bidle. "*Chemical Arms Race at Sea: The role of sphingolipids in regulating host-virus interactions in the marine coccolithophore* Emiliania huxleyi"
K. Thamatrakoln*, O. Korenovska*, S. Brown*, L. Seyler* and K.D. Bidle. "*A Matter of life or death? Assessing the physiological role of programmed cell death-related genes to stress adaptation in diatoms*"

2009 Gordon Research Conference on Chemical Oceanography: Process, dynamics, and change in the Anthropocene ocean (2-7 August 2009; Tilton, NH)
K. Bidle. "*Programmed cell death and the lubrication of biogeochemical cycling in the surface ocean"*

2009 *Emiliania huxleyi* Genome Annotation Jamboree (Woods Hole Oceanographic Institution; 17-19 June 2009)
"*A sophisticated programmed cell death machinery with viral connections*"

2009 Aquatic Viral Ecology: Two Decades of Discovery, What's next?
3rd Annual meeting of the SCOR Working Group on the Role of Viruses in Marine Ecosystems
(14-16 May 2009; University of Delaware, Newark, Delaware)
K. Bidle, A.Vardi*, L. Haramaty, B. Van Mooy, H. Fredericks. "*The mechanistic impact of apoptosis on algal-virus dynamics"*
C.M. Brown*, P.M. Woodruff* and K.D. Bidle "*Virus-Induced programmed cell death in* Aureococcus anophagefferens*"*
A. Vardi*, B. Van Mooy, H. Fredricks, K. Popendorf, J. Ossolinski, L. Haramaty, and K. Bidle. "*Viral sphingolipids biomimic infection via induction of coccolithophores programmed cell death"*

2009 ASLO Aquatic Sciences Meeting (Nice, France; 25-30 January 2009)
Co-organizer, Special Session SS83 *"Cellular mechanisms of phytoplankton stress, defense, and mortality"*
Bidle, K.D. "*A matter of life or death? Cellular mechanisms regulating phytoplankton mortality*".
Vardi, A*., B. Van Mooy, H. Fredricks, L. Haramaty, and K.D. Bidle. "*Virally-induced sphingolipids regulate host PCD in the marine coccolithophore,* Emiliania huxleyi*".*

2008 *Emiliania huxleyi* Genome Annotation Jamboree (Joint Genome Institute, Walnut Creek, CA; 15-17 October 2008), *"Cell Death Genes in* Emiliania huxleyi

2008 Aquatic Virus Workshop 5 (University of British Columbia, Vancouver, Canada, 6-11 July 2008)
K.D. Bidle and C.J. Kwityn. *"The influence of metacaspase expression and activity on viral susceptibility in the marine coccolithophore, Emiliania huxleyi"*
A. Vardi*, B. Van Mooy, H. Fredricks, L. Haramaty, and K. Bidle. "*Virally-induced sphingolipids regulate host PCD in the marine coccolithophore, Emiliania huxleyi"*

2008 British Phycological Society Winter Meeting, "*Molecular mechanisms triggering phytoplankton mortality in the oceans*"; Algae and Global Processes Special Session; University of Bristol; 3-5 January 2008

2007 *Emiliania huxleyi* Genome Pre-Annotation Jamboree (Station Biologique de Roscoff, 19-20 March 2007), *"Autocatalytic Programmed Cell Death in Emiliania huxleyi"*

2007 ASLO Aquatic Sciences Meeting (Santa Fe, New Mexico; 4-9 February 2007)
Co-organizer, Special Session SS31 "Mortality Among Microbes"
Bidle, K D, Haramaty, L, Barcelos e Ramos, J, Falkowski, P G. *"Activation and recruitment of the caspase cell death machinery during lytic viral infection of the unicellular coccolithophorid,* Emiliania huxleyi*."* (Abstract ID: 994)
Rosenberg, G ; Bidle, K ; Berman-Frank, I R "*Genes regulating programmed cell death in the marine cyanobacterium* Trichodesmium*"* (Abstract ID: 552)
Vardi , A ; Bidle, K D ; Falkowski, P G ; Bowler, C P "*The role of nitric oxide in stress surveillance and its interplay with the cell death machinery in marine diatoms*" (Abstract ID: 1056)

2005 ASLO Summer Meeting (Santiago de Compostela, Spain; 19-24 June 2005)
Co-organizer, Special Session SS79 "*Algal and Bacterial Cell Death: Incidence, Mechanisms and Consequences"*
"*Multi-faceted in situ Controls on Silica and Carbon Cycling from Diatoms*" (Plenary Talk)
"*Two Roads to Ruin: Assessing the mechanistic relationship Between Programmed Cell Death and Viral Infection in the Coccolithophorid,* Emiliania huxleyi*"* (tutorial talk)

2005 4th Algal Virus Workshop (Amsterdam, The Netherlands; 17-21 April 2005)
"*A Role for Caspases During Viral Infection of the Coccolithophorid,* Emiliania huxleyi"

2003 The Evolution and Radiation of Eukaryotic Phytoplankton Taxa (Rutgers Univ.; 18-19 December 2003) "*The evolution of programmed cell death in Earth's early oxygenic photoautotrophs"*

2003 Chapman Conference (American Geophysical Union), The Role of Diatom Production and Si Flux and Burial in the Regulation of Global Cycles (Paroikia, Paros, Greece; 22-26 September 2003)
"Mechanistic controls on silica dissolution and the coupling of Si and C cycles by the marine microbial loop"

2003 European Geophysical Society- American Geophysical Union - European Union of Geosciences Joint Assembly (Nice, France, 06 - 11 April 2003)
"*The Demise of* Trichodesmium *Blooms via a Programmed Cell Death Pathway"* I. Berman-Frank, L. Haramaty, K. Bidle, P. Falkowski.

2000 "Oceanography: The Making of a Science" (SIO/University of Hawaii)
Colloquium Speaker, *"Future Views in Oceanography: The Advent of Microbial Oceanography*"

1995 General Meeting of the American Society for Microbiology (21-25 May 1995; Washington, D. C.)
"*Comparisons of particle-associated and freely suspended microbial communities in the Chesapeake Bay*". Session 211 (N), The effects of surfaces on bacterial communities and their physiological activities.

POSTERS

2016 NAAMES Science Team Meeting, Oregon State University (Corvallis, OR; 25-27 August 2016)
C. Laber, E. Harvey, B. Van Mooy, K.D. Bidle. Interrogating algal host-virus arms races in North Atlantic bloom succession
E.L. Harvey, F. Morison, S. Menden-Deuer, K. Bidle. Partitioning mortality: comparing loss due to viral lysis and microzooplankton grazing

2015 ASLO Aquatic Sciences Meeting (Granada, Spain; 23-27 February 2015)
Johns, C.T.; Knapp, V.; Mui, A.; Natale, F.; Fredricks, H.; Van Mooy, B.A.; Bidle, K.D. Mutual interplay between viruses and cellular pic quotas in *Emiliania huxleyi* (ID: 27356)
Schieler, B.M.; Bidle, K.D. Nitric oxide signaling during growth and viral-induced demise of *Emiliania huxleyi* (ID: 27200)
Laber, C.P.; Schofield, O.M.; Bidle, K.D. Detection of coccolithovirus infection using fourth derivative spectral absorption (ID: 27573)
Haramaty, L.; Johns, C.T.; Starovoytov, V.; Natale, F.; Bidle, K.D. Infectivity and stability of coccolithoviruses (ID: 27370)

2014 OCB Summer Science Workshop (Woods Hole Oceanographic Institution, Woods Hole, MA; July 21-24, 2014).
Edwards, B.R., J.E. Ossolinski, K. Thamatrakoln, K.D. Bidle, H. McNair, M.A. Brzezinski4, J.W. Krause and B.A.S Van Mooy. *The response of particle associated microbes to diatom derived oxylipins: enhanced nutrient recycling on sinking particles during bloom decline*

2014 Gordon Research Conference, Marine Microbes- 'Small Microbes, Big Data' (22-27 June 2014: Bentley University, Waltham MA).
Schieler, B. M.; Bidle, K.D. *The potential role of nitric oxide signaling in the infection of Emiliania huxleyi with Coccolithoviruses*

Laber, C.P.; Boss, E.; Vardi, A.; Van Mooy, B.A.; Bidle, K.D. *Assessing the impact of Coccolithovirus infection on bloom and ecosystem dynamics in the North Atlantic using in situ optical profiling floats*

M. Seth-Pasricha, M. Maniscalco2, S. Senn, J. Schrier, K.A. Bidle, K.D. Bidle. *What "hyper-marine" Archaea tell us about metazoan cell death proteins.*

2014 114th General Meeting of the American Society for Microbiology (17-20 May 2014; Boston, MA)

Schreier, J.E., M. Seth-Pasricha, K.A. Bidle, and K.D. Bidle. *Exploring a possible link between quorum sensing and caspase-like activity in the halophilic archaeon Haloferax volcanii*

2014 Ocean Sciences Meeting (23-28 February 2014; Honolulu, HI)

Edwards, B.R.; Thamatrakoln, K.; Ossolinski, J.E.; Bidle, K.D.; Van Mooy, B.A. *The effects of oxylipins on particle associated microbial communities: implications for the silica cycle*

Kendrick, B.J.; DiTullio, G.R.; Fulton, J.M.; van Mooy, B.A.; Bidle, K.D. *Temperature induced viral resistance in the coccolithophorid, Emiliania huxleyi (Prymnesiophyceae)*

Schieler, B. M.; Bidle, K.D. *The potential role of nitric oxide signaling in the infection of Emiliania huxleyi with Coccolithoviruses*

Coolen, M.J.; More, K.; Balkema, C.; Van Mooy, B.; Bidle, K. *The role of environmental factors in shaping the genetic diversity of the North Atlantic Emiliania huxleyi-Coccolithovirus system*

Laber, C.P.; Boss, E.; Vardi, A.; Van Mooy, B.A.; Bidle, K.D. *Assessing the impact of Coccolithovirus infection on bloom and ecosystem dynamics in the North Atlantic using in situ optical profiling floats*

Fulton, J. M.; Van Mooy, B.; Collins, J. R.; Hunter, J. E.; Bidle, K.; *Lipid connections between viral termination of coccolithophore blooms and carbon export*

Ana Martins, M., Carvalho, A.F.; Loureiro, C; DiTullio, J.; Bidle, K. *Detection of Emiliania huxleyi in the open ocean NE Atlantic using Modis/Aqua ocean color imagery*

2013 113th General Meeting of the American Society for Microbiology (18-21 May2013; Denver, Colorado)

M. Seth-Pasricha, M. Maniscalco2, S. Senn, J. Schrier, K.A. Bidle, K.D. Bidle. *Caspase active proteins in the extreme halophile Haloferax volcanii*

2013 Aquatic Sciences Meeting (17-22 February 2013; New Orleans, LA)

Thamatrakoln, K., B. Bailleul, C. Laber, K.D. Bidle. *Shedding light on viral infection of diatoms and coccolithophores: assessing the interplay between photosynthesis and host-virus interactions (#SS79)*

2012 Twenty-fourth Annual Kavli Frontiers of Science Symposium (National Academy of Sciences Arnold and Mabel Beckman Center; Irvine, California; 2-4 November 2012)

Co-organizer, Special Sessions on '*Geoengineering- The good, the bad, and the ugly*' and '*Synthetic Biology*'

K.D. Bidle, "*A matter of life or death? The molecular ecology and evolution of phytoplankton cell death pathways in the oceans"*

2011 Aquatic Virus Workshop 6 (30 October – 4 November 2011; NIOZ – Royal Netherlands Institute for Sea Research,Texel The Netherlands)

S. Rose*, J.M. Fulton, H.F. Fredricks, B.A.S Van Mooy, and K.D. Bidle. *Isolation and characterization of lipid rafts in Emiliania huxleyi: key players in host-virus interactions*

H.F. Fredricks, B.A.S Van Mooy, J.M. Fulton, A. Vardi, A, K.D. Bidle. *Mass spectrometry for the structural elucidation of membrane lipids implicated in viral invasions (chemical fortifications or a chink in the armor of Emiliania huxleyi)*

J.M. Fulton, H.F. Fredricks, K.D. Bidle, G.R. Ditullio, A. Vardi, B.A.S. Van Mooy. *Lipid-based mechanisms of viral infection and defense in Emiliania huxleyi*

2011 MUSE Undergraduate Symposium (29 July 2011; The College of New Jersey)

N. Bhashyam, K.D. Bidle, and D. Hirsh. *"Determining the Rate and Mechanism of Nitric Oxide (NO) Production in Marine Diatoms"*

2011 111th General Meeting of the American Society for Microbiology (21-24 May 2011; New Orleans, LA)

N. Baggett, M. Seth-Pasricha, L. Haramaty, K. Bidle, and K.A. Bidle. "*Response of Haloferax volcanii to high temperature stress as evidenced by elevated caspase-like activity*"

2011 Microbiology Symposium at Rutgers University, 'Cultivating Traditions, Current Strength, and Future Frontiers' (3-4 February 2011, Trayes Hall, Douglas Campus Center, Rutgers University)

F. Natale and K.D. Bidle. "*The Rutgers Microbial Flow Sort Lab: Enabling the analysis of microbial populations via flow cytometry and high-speed cell sorting"*

K.D. Bidle, and F. Natale. "*The use of analytical flow cytometry and high-speed cell sorting to assess the abundance and viability of ancient ice microbes*"

S. Rose, L. Haramaty, F. Natale, C. Brown, and K.D. Bidle. "*Involvement of lipid raft proteins in the immunological response of Emiliania huxleyi to viral infection*.

2010 Viruses of Microbes (21-25 June 2010; Institut Pasteur, Paris, France)
J. Ray, R.-A. Sundaa, K. Bidle. "*Inherent differences in programmed cell death induction/execution during virus infection of blooming and non-bloom-forming unicellular algae"*

2010 Gordon Research Conference, Marine Microbes: From Genes To Global Cycles (4-9 July 2010; Tilton, NH)
Thamatrakoln, K*., O. Korenovska*, S. Brown*, L.M. Seyler* and K.D. Bidle. "*Probing the molecular mechanism of programmed cell death in the diatom,* Thalassiosira pseudonana*, using whole-genome microarray analysis*".

2010 110th General Meeting of the American Society for Microbiology (23-27 May 2010; San Diego, CA)
N. Baggett, L. Haramaty, K. Bidle, and K.A. Bidle. "*Evidence for caspase-like protein expression and activity in the cellular stress response of* Archaea"

2010 Chapman Conference on the Exploration and Study of Antarctic Subglacial Aquatic Environments (SAE), American Geophysical Union (15-17 March 2010; Baltimore, MD)
Bidle, K.D. and F. Natale. "*The use of analytical flow cytometry and high-speed cell sorting to assess the abundance and viability of ancient ice microbes"*

2010 AGU/ASLO Ocean Sciences Meeting (22-26 February 2010; Portland, Oregon)
C.M. Brown, P.M/ Woodruff and K.D. Bidle. "*Virus induced programmed cell death (PCD) in the brown tide alga* Aureococcus anophagefferens*"*

2009 Evolutionary Genetics and Genomics at Rutgers Workshop (30 October 2009)
Thamatrakoln, K*., O. Korenovska*, and K.D. Bidle. "*Probing the molecular mechanism of programmed cell death in the diatom,* Thalassiosira pseudonana*, using whole-genome microarray analysis*".
Brown, Sarah*, K. Thamatrakoln and K. Bidle. "*Putative Role of Death Specific Protein in the Model Diatom* Thalassiosira pseudonana*"*

2009 Research Experience in Ocean Sciences Symposium, Institute of Marine and Coastal Sciences, Rutgers University (7 August 2008)
Brown, Sarah*, K. Thamatrakoln and K. Bidle. "*Putative Role of Death Specific Protein in the Model Diatom* Thalassiosira pseudonana*"*

2009 Gordon Research Conference, Archaea: Ecology, Metabolism & Molecular Biology (26-31 July 2009; Waterville Valley, NH)
K.A. Bidle, L. Haramaty, J. Nannen, N. Baggett, K.D. Bidle. "*Tantalizing evidence for archaeal caspase-like protein expression and activity*"

2009 ASLO Aquatic Sciences Meeting (25-30 January 2009; Nice, France)
Thamatrakoln, K*., O. Korenovska*, and K.D. Bidle. "*Probing the molecular mechanism of programmed cell death in the diatom,* Thalassiosira pseudonana*, using whole-genome microarray analysis*".
Liao, W.* and K.D. Bidle. "*Characterization of metacaspases from the coccolithophore,* Emiliania huxleyi*"*.

2008 Research Experience in Ocean Sciences Symposium (Rutgers University; August 2008)
Korenovska, O.*, K. Thamatrakoln and K. Bidle. "*Genetics of Programmed Cell Death in the Model Diatom* Thalassiosira pseudonana*"*

2008 2nd Annual Mini-Symposium, 'Microbiology at Rutgers: Cultivating Traditions, Current Strength, and Future Frontiers' (7-8 February 2008, Cook Campus Center, Rutgers University)
Vardi, A., K. Bidle, C. Kwityn, P. Falkowski and C. Bowler. *"Identification of a novel diatom gene regulating threshold response to environmental stress"*
Kwityn, C., and K. Bidle. "*Metacaspase expression and activity in the coccolithophore* Emiliania huxleyi*: An assessment of the role in viral susceptibility"*

2007 ARESTY Summer Undergraduate Research Symposium (14 August 2007, Busch Campus Center International Lounge, Rutgers University)
Korenovska, O., K. Thamatrakoln, and K. Bidle. "*Evidence of programmed cell death in the heterotrophic diatom* Nitzschia alba.

2007 3rd Annual Undergraduate Research Symposium, ARESTY Research Center for Undergraduates (20 April 2007, Rutgers Student Center, Rutgers University).
Tully, B.J.; Bidle, K D "Assessing the biochemical diversity of marine ectoproteases."

2007 ASLO Aquatic Sciences Meeting, 4-9 February 2007 (Santa Fe, New Mexico)
Tully, B.J., Bidle, K D. *"Assessing the biochemical diversity of marine ectoproteases"* (Abstract ID#992, in session SS41 Research Experiences of Undergraduates)

2006 Marine Microbes- Gordon Research Conference (23-28 July 2006; University of New England, Biddeford, Maine).
Bidle, K.D., L. Haramaty, J. Barcelos-Ramos and P.G. Falkowski*. "Two roads to ruin: Assessing the mechanistic interaction between programmed cell death and viral infection in the coccolithophorid,* Emiliania huxleyi".

2006 Biocomplexity-Evolution of Marine Phytoplankton (11-13 Jan 2006; Rutgers University)
Bender, S.J. and Bidle, K.D. "*A case for autocatalytic cell death as a result of nutrient limitation in the diatom* Thalassiosira pseudonana".

2005 ASLO Summer Meeting (19-24 June 2005; Santiago de Compostela, Spain)
Bender, S.J.; Bidle, K.D.; "*Mortality in the diatom,* Thalassiosira pseudonana*, in response to differing nutrient stresses".* Poster 226 (in SS79: Algal and Bacterial Cell Death: Incidence, Mechanisms and Consequences.

2001 9th International Symposium of Microbial Ecology (26-31 August 2001; Amsterdam, The Netherlands)
Bidle, K.D., R.A. Long, M.A. Brzezinski and F. Azam. "*Bacteria-mediated silicon regeneration during a natural diatom bloom".*

2000 ASLO Summer Meeting (5-9 June 2000; Copenhagen, Denmark)
Bidle, K.D. and F. Azam. "*Ectoenzymatic control of bacteria-mediated silicon regeneration in the sea".*

1997 General Meeting of the American Society for Microbiology (5-8 May 1997; Miami, FL)
Noble, P.A., K.D. Bidle, and M. Fletcher. "*Microbial community compositions determined by neural network and cluster analysis".* Abstract 1081

1996 General Meeting of the American Society for Microbiology (19-23 May 1996; New Orleans, LA)
Noble, P. A., K. D. Bidle, and M. Fletcher. "*Statistical analysis of bacterial community structure as revealed by stable, low-molecular weight RNA profiles".* Abstract N127.

1995 General Meeting of the American Society for Microbiology (21-25 May 1995; Washington, D. C.)
Bidle, K. D. and M. Fletcher. "*Low-molecular weight RNA comparisons of free-living and attached bacterial communities in the Chesapeake Bay".* Abstract N42.

CRUISE and FIELD PARTICIPATION

2015 Research Scientist, MUSiCC Cruise, California upwelling zone; R/V Oceanus (19 April – 2 May 2015)

2013 Research Scientist, DYEatom Cruise, California upwelling zone; R/V Point Sur (26 June – 7 July 2013)

2013 Research Scientist, VAHINE project (*VAriability of vertical and tropHIc transfer of fixed N2 in the southwEst Pacific and potential impact on the oceanic carbon pump*; 8 January 2012 to 8 February 2013; Institut de Recherche pour le Développement, New Caledonia)

2012 Chief Scientist, North Atlantic Virus Infection of Coccolithophore Expedition (NaVICE); R/V Knorr (KN207-03; 13 June – 16 July 2012)

2008 Research Scientist, Bergen Mesocosm Experiment, Marine Biological Station, University of Bergen (Norway); international program studying viral infection of the coccolithophore, *Emiliania huxleyi* (2-25 June 2008)

2005 Research Scientist, Bergen Mesocosm Experiment, Marine Biological Station, University of Bergen (Norway); part of an international EU *CARBOOCEAN* Program (May 2005)

2000 Research scientist*, R/V* Point Sur, Monterey, California upwelling system
Control of silicon biogeochemistry during a natural diatom bloom

1994 Research Scientist, *R/V* Cape Henlopen, Chesapeake Bay Estuary, Maryland
Microbial community dynamics in the Chesapeake Bay

1993 Research Scientist, *R/V* Columbus Islin, Bahamian waters, Caribbean
Microbial community compositions in oligotrophic waters

1992 Research Scientist, *R/V* Cape Henlopen, Chesapeake Bay Estuary, Maryland
Microbial community dynamics in the Chesapeake Bay

SOCIETY MEMBERSHIPS

2007-present British Phycological Society
2003-present American Association for the Advancement of Science (AAAS)
1997-present American Society of Limnology and Oceanography (ASLO)
1994-present American Society of Microbiology (ASM)

SERVICE

Department/Institute

Chair, Faculty Compensation Program Evaluation Committee (2016)
Member, DMCS Research Faculty Reappointment Committee (2013-present)
Chair, Search Committee for IMCS Postdoctoral Fellowships (2011-2012)
Chair, IMCS Space Committee (2010 – present)
Member, Scholastic Review Committee, Graduate Program in Oceanography (2010-2012)
Member, IMCS Space Committee (2009 – 2010)

Member, Search Committee for IMCS Postdoctoral Fellowships (2009-present)
Faculty Participant; Congressional Site Visit to IMCS, Rutgers University (8 Aug 2007)
Participating IMCS Scientist; National Science Foundation Site Visit of the Mid-Atlantic Centers for Ocean Science Education Excellence (MA-COSEE) at The Jacques Cousteau National Estuarine Research Reserve (20-23 May 2006).

University

Chair, Pathogen-related faculty search for the Center of Vector Biology, School of Environmental and Biological Sciences (6 October 2015 - present)
Member, George H. Cook Honors Committee, School of Environmental and Biological Sciences (19 October 2015 – 30 June 2020)
Member, Committee on the Near- and Long-Term Impact of Instructional Technology, Rutgers University (25 March 2014-present)
Member, Ecology and Evolution Graduate Admissions Committee (2010-2011)
Faculty Participant; Visit of Staff of Rutgers' President to IMCS, Rutgers University (27 July 2010)
Member, Search Committee for Director of Institute of Marine and Coastal Sciences (2006-2008)
Chair, Virology Session; George H. Cook Honors Program- Senior Thesis Defense (April 2007)
Chemical Society Meeting, Rutgers University; Gave seminar to undergraduate students on "*My Life as a Molecular Oceanographer*" (October 2006)
Chair, Virology Session, George H. Cook Scholars Program- Proposal Colloquium (7 April 2006)
Founding member, Graduate Program in Microbial Biology (2009-present)
Member, Rutgers' Graduate Programs in Oceanography; Microbiology & Molecular Genetics; Ecology and Evolution; Microbial Biology (2004-present)
NJ Medical School Summer Youth Program; Office of Diversity and Academic Success, Rutgers University (July 2005)

Scientific Community

Co-Chair, 2018 Ocean Sciences Meeting, ASLO-AGU-TOS (Portland OR)
Member, Editorial Board, *Environmental Microbiology* and *Environmental Microbiology Reports* (February 2015 to present)
Vice Chair, 2016 Gordon Research Conference on Marine Microbes (date/site TBD)
Session Co-Chair; 2015 ASLO Aquatic Sciences Meeting (Granada, Spain; 22-27 February 2015); Session# 89: "*Infochemical controls on biogeochemcial processes in aquatic and marine ecosystems*".
External Reviewer, Rhode Island ESPSoR RII Track 1 proposal, The Implementation Group (July 2014)
Invited Scientist and Panelist, Meeting on '*Diatoms As A Potential Experimental Model System In Marine Microbial Ecology And Evolution*' (Gordon and Betty Moore Foundation, Palo Alto CA; 8-10 June 8-10 2014)
Ad Hoc Reviewer, Schmidt Ocean Institute (July 2014)
External Evaluator, Dept. of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution (April 2014)
Member, Board of Editors, *Journal of Marine Research* (January 2013 to present)
Chair, Organizing Committee, 25th Kavli Frontiers of Science Symposium (National Academy of Sciences Arnold and Mabel Beckman Center; Irvine, California; 7-9 November 2013)
External Evaluator, Bermuda Institute of Ocean Sciences (November 2013)
External Evaluator, Ad Hoc Review Committee, Woods Hole Oceanographic Institution (July 2013)
Organizing Committee, 24th Kavli Frontiers of Science Symposium (National Academy of Sciences Arnold and Mabel Beckman Center; Irvine, California; 2-4 November 2012)
External Evaluator, Scripps Institution of Oceanography, Marine Biology Research Division (November 2012)
Participating Scientist, COSEE-NOW, 'Broader Impact' videos (March 2012);
see: : http://www.youtube.com/watch?v=IJw_Nk-rySE&feature=youtu.be and
http://www.youtube.com/watch?v=4bTuFynsOBE&feature=related
Planning Committee, 2012 Ocean Sciences Meeting (20-24 February 2012; Salt Lake City, Utah)
NASA Panel Service; Astrobiology Science and Technology for Exploring Planets (ASTEP) (27-29 October 2010)
NSF Panel Service; Integrated Organismal Systems, Organism-Environment Interactions (13-15 October 2010)
External evaluator, Dept. of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution (June 2010)
NSF Science and Technology Center, Site-Visit Panel: Center for Dark Energy Biosphere Investigations (C-DEBI), University of Southern California (Los Angeles, CA; 7-9 October 2009)
NSF Panel Service: Office of Polar Programs, Antarctic Integrated System Science (July 2009)
Program Committee, Chapman Conference on Submerged Aquatic Environments, American Geophysical Union (Baltimore, Maryland; March 2010)

Co-organizer, Special Session SS83 *"Cellular mechanisms of phytoplankton stress, defense, and mortality";* 2009 ASLO Aquatic Sciences Meeting (Nice, France; 25-30 January 2009)

Raymond L. Lindeman Award Subcommittee, American Society of Limnology and Oceanography (2009-2012)

NSF Panel Service: Office of Polar Programs, Antarctic Integrated System Science (December 2008)

Ad Hoc Reviewer; NASA Postdoctoral Program; Oak Ridge Associated Universities. Program to development of instrumentation and methods for the detection of life in icy environments on Mars (August 2008)

Author; Web-based lecture series for American Society of Limnology and Oceanography; run by the Undergraduate Lectures for Teaching & Research Advancement (ULTRA) subcommittee which reports directly to the ASLO Board of Directors (June 2007- 2010)

Member, *Emiliania huxleyi* Genome Annotation Steering Committee (March 2007-Present)

Co-organizer, Special Session SS31 "*Mortality Among Microbes*"; ASLO Aquatic Sciences Meeting; Santa Fe, New Mexico (4-9 February 2007)

Ad Hoc Reviewer; NASA Postdoctoral Program; Oak Ridge Associated Universities. Program to development of instrumentation and methods for the detection of life in icy environments on Mars (April 2007)

NSF Panel Service: Office of Polar Programs, Antarctic Biology and Medicine (September 2006)

Co-organizer, Special Session SS79 "*Algal and Bacterial Cell Death: Incidence, Mechanisms and Consequences*"; ASLO Summer Meeting; Santiago de Compostela, Spain (19-24 June 2005

Ad Hoc Reviewer: Ad Hoc Reviewer and Panelist for National Science Foundation (Office of Polar Programs, Antarctic Biology and Medicine; Antarctic Integrated System Science; Ocean Sciences; Earth Sciences; Integrative Organismal Systems, Ecological and Evolutionary Physiology; Microbial Observatories/Microbial Interactions and Processes; Emerging Frontiers, EF/ Biocomplexity in the Environment (2002-present)

Ad Hoc Reviewer: The Schmidt Ocean Institute; Gordon Research Conferences; The Austrian Science Fund (FWF); The British Council; Netherlands Council for Earth and Life Sciences; Israeli Science Foundation (2005-present)

Ad Hoc Reviewer: *Nature*, *Science*, *PLoS One, PNAS, Plant Cell*, *Environmental Microbiology*, *ISME eLife, Journal*, *Limnology and Oceanography*, *FEMS Microbiology Ecology, Geochimica et Cosmochimica Acta*, *Biochimica et Biophysica Acta*, *Virus Research*, *Proteome Science*, *Aquatic Microbial Ecology, Journal of Phycology, Marine Ecology Progress Series, New Phytologist* (1999- present)

General Public

The Tech Museum of Innovation (San Jose, CA), An Evening with the World's Leading Marine Microbiologists; A Creative Collisions Initiative'; Gave a publically attended talks entitled '*The invisible world of marine microbes: how Earth's smallest living things have the biggest impact on how our ocean works"*; 30 July 2014 *(host: Gordon & Betty Moore Foundation).*

Faculty Scientist Presenter, Ocean Observing Initiative (OOI) Follow-Up Workshop, Community College Undergraduate Research Initiative (CCURI) (27-30 May 2014). *Presented research findings and discussed topics on 'Marine Microbiology: Virus & Phytoplankton Interactions' and how to effectively teach these concepts to undergraduate students using web-based technology tools and teaching modules.*

Faculty Scientist Presenter, STEM Educators' Series (Rutgers University, 3 April 2014). Presented research findings and discussed topics on '*Microbiology: Virus & Phytoplankton Interactions'*; http://coseenow.net/mare/ocean-lecture-educators-night/2013-2014/stem-es-bidle/)

Visiting scientist, Lawrenceville Intermediate School (Lawrenceville, NJ) (4 March 2014). Presented topics on '*Oceanography and Ocean Currents'* to three 6th grade classes, including an interactive demonstration and lab (Host: Mr. Martin Mielkerek, Science Teacher)

Princeton University, Plasma Physics Laboratory; *Science on Saturday Lecture Series*; '*The invisible world of marine microbes: how Earth's smallest living things have the biggest impact on how our ocean works;* 1 February 2014

Visiting scientist, Lawrenceville Intermediate School (Lawrenceville, NJ) (May 2012). Presented topics on marine phytoplankton and the *North Atlantic Virus Infection of Coccolithophore Expedition (NaVICE)* to the entire 4th grade class body, discussing how oceanographers study the oceans on research vessels.

Vice President of Competitive Soccer, Lawrence Hamnett Soccer Association (2009-present)

Coach, Lawrence Hamnett Soccer Association, U13B Blazers & U16B Devils Competitive Soccer Team (2005-present)

Member of the Planning Committee, Lawrence Intermediate School Science Fair (2009-present)

Visiting scientist, Lawrenceville Intermediate School (Lawrenceville, NJ) (June 2009). Presented topics in "Phytoplankton/ Food Web Dynamics" to 4th grade class, emphasizing the role that phytoplankton play in supporting life in the oceans.

Visiting scientist, Lawrenceville Elementary School (Lawrenceville, NJ) (4 June 2008). Presented topics in "Phytoplankton/ Food Web Dynamics" to kindergarten and 3rd grade classes, emphasizing the role that phytoplankton play in supporting life in the oceans.

"*Pulse of the Planet*" public lecture series; Liberty Science Center, Jersey City, New Jersey (17 May 2008). Gave lecture entitled "*Spring Has Sprung In the Oceans*" and participated in 2 hr teacher workshop on plankton.

Coach, Lawrence Lacrosse (2008-present)

Coach, Lawrence Basketball (2008-present)

Coach, Lawrence Hamnett Soccer Association, 7-8 Boys Rec Soccer (2008- 2009)

Board Member, Lawrence Hamnett Soccer Association (2008-present)

Volunteer, 'The Solar Panel'; Sustainable Lawrence, a non-profit organization in Lawrence Township dedicated to developing a community solar project (2006-present).

Participating Scientist; cruise aboard the USCG *Sturgeon Bay* into the Hudson and East Rivers; discussed the Hudson Estuary with teachers and representatives from local environmental organizations (October 2006).

Developed "*Rutgers Science Page*" on phytoplankton; published in New Jersey's seven Gannett newspapers reaching nearly a half-million readers and 40,000 papers distributed directly to New Jersey classrooms as part of "Newspapers in Education" (22 May 2006).

ADVISING

Undergraduate Academic

2014-present	Shawn Hazlett, SEBS Marine Sciences major- Biology option
2013-present	Dana Somers, SEBS Marine Sciences major- Biology option
2012-present	Francis McQuarrie, SEBS Marine Sciences major- Biology option
2012-present	Lauren Huey, SEBS Marine Sciences major- Biology option
2010-2012	Allisia Corl, SEBS Marine Sciences major- Biology option
2009-2012	Amelia Snow, SEBS Marine Sciences major- Biology option
2009-2010	Thomas Brooks, SEBS Marine Sciences major- Biology option
2008-2011	Kurt Cheng, SEBS Marine Sciences major- Biology option
2008-2011	Danielle Holden, SEBS Marine Sciences major- Biology option
2007-2008	Dipen Patel, SEBS Marine Sciences major- Biology option

Undergraduate Research

2016-present	Lauren Palena; "The impact of nitrogen and phosphorous limitation on host fitness and viral production in the *Emiliania huxleyi- Coccolithovirus* model system" (*George H. Cook Honors Program*)
2016-prsent	Yui Kurakake; "The effect of irradiance level on the infectivity of algal viruses" (*George H. Cook Honors Program*)
2015-2016	Jason Latham, Independent Research; "*Optimizing the pentose phosphate pathway protocol using E. huxleyi strain 374"*
2014-2016	Rebecca Gardella; "Elucidating the interplay of TEP production in marine phytoplankton during viral infection" (*ARESTY Research Assistant; George H. Cook Honors Program*)
2014-2015	Constance Huang, ARESTY Research Assistant
2012-2014	Jeremy Schreier; "Exploring a possible link between quorum sensing and caspase-like activity in the halophilic archaeon *Haloferax volcanii* " (*George H. Cook Honors Program; ASM Undergraduate Fellowship; RIOS Fellowship; ARESTY Undergraduate Research Fellowship; Jeremy received the 2014 Outstanding Graduating Senior in Marine Sciences Award)*
2013-2014	Shaila Huq; "Assessing changes in cell size morphology in the dinoflagellate *Alexandrium fundyense* over a diel cycle" (co-advised with Monica Bricelj)
2013	Alwin Mui; "Anaylsis of PIC quota and virus infectivity of *Emiliania huxleyi*"
2012-2013	Dan Ravaioli; "The Role of DMSO in the virus-host interaction between *E. huxleyi* and EhV (*George H. Cook Honors Thesis*)
2011-2013	Christopher Johns; "Assessing the virus sensitivity of newly isolated strains of *Emiliania huxleyi* to *Coccolithoviruses"*
2011-2013	Christopher Maniscalco; "Elucidating the role of death-specific protein in the stress acclimation of the centric diatom, *Thalassiosira pseudonana*"
2011-2012	Ashley Lemire; "Assessing the importance of microdiversity on viral infection of the coccolithophore *Emiliania huxleyi*".
2011	Tess Bender

2010-2011 Jennifer Rusciani; "Assessing the physiological response of the dinoflagellate *Heterocapsa circularisquama* during infection by a ssRNA virus" (*NSF S-STEM Biotechnology Scholars Program*)

2010-2011 Michael Maniscalco (*Independent Research Project*)

2010 Amelia Min-Venditti; "Assessing the role of death-specific proteins to stress adaptation in *Thalassiosira pseudonana* using functional genomics" (*NSF-funded Research Internships in Ocean Sciences Program*)

2010 Daniel Holmes (*Independent Research Project*)

2009 Sarah Brown; "Putative Role of Death Specific Protein in the Model Diatom *Thalassiosira pseudonana"* (*NSF-funded Research Internships in Ocean Sciences Program)*

2008-2009 Patricia Woodruff; "Development of cell plating and plaque assays to investigate viral-induced PCD in *Emiliania huxleyi"* (*Research Experience for Undergraduates*)

2007- 2010 Olga Korenovska; "Evidence for PCD in the heterotrophic diatom, *Nitschia alba"* (*ARESTY Summer Undergraduate Program*); "Assessing a role for metacaspases in the execution of PCD in the diatom, *Thalassiosira pseudonana* (*Research Experience for Undergraduates)*

2008 Devshree Khachane, Introduction to Scientific Research (ISR) Program for Rutgers Women, Douglas College

2007-2008 Maria Montano (*George H. Cook Honors Program, Honors Tutorial*)

2007-2008 Behnam Shanehsaz; "Assessing the biochemical diversity marine ectoproteases" (*Independent Research Project)*

2007- 2008 Cliff Kwityn; "Metacaspase expression and activity in the coccolithophore *Emiliania huxleyi:* An assessment of the role in viral susceptibility" (*George H. Cook Honors Program; Research Experience for Undergraduates). Cliff received the 2008 Outstanding Graduating Senior in Marine Sciences Award.*

2006-2007 Ben Tully; "An assessment of the biochemical diversity of marine ectoproteases" (*Henry Rutgers Honors Program); Ben received the 2007 Outstanding Graduating Senior in Marine Sciences Award and the Betty Falk Yatvin Memorial Award.*

2004-2005 Sara Bender; "Cellular stress and death in *Thalassiosira pseudonana"* (*Henry Rutgers Honors Program*); *Sara received the 2005 Outstanding Graduating Senior in Marine Sciences Award and the Betty Falk Yatvin Memorial Award.*

2004 Cyndi Corwonski; "A Role for Caspases During Viral Infection of the Coccolithophorid, *Emiliania huxleyi"* (*NSF-funded Research Internships in Ocean Sciences program*)

2003 Funmi Okuyemii; "Overexpression of a metacaspase from *Emiliania huxleyi*" (*George H. Cook Honors Program*)

Graduate Students

Chris Johns, Graduate Program in Oceanography, Rutgers University (Ph.D.) (2016-present)
Dina AlRoumi, Microbial Biology Graduate Program, Rutgers University, (Ph.D.) (2014-present)
Christian Laber, Graduate Program in Oceanography, Rutgers University (Ph.D.) (2011-present)
Brittany Schieler, Graduate Program in Oceanography, Rutgers University (Ph.D.) (2011-present)
Mansha Seth-Pasricha, Microbiology & Molecular Genetics Program, Rutgers Univ. (Ph.D.) (2011-2014)
Michael Johnson, Microbiology & Molecular Genetics Program, Rutgers University (M.S., without thesis) (2014)
Jorge Montalvo, Microbial Biology Graduate Program, Rutgers University (M.S., without thesis) (2011-2013)
Suzanne Rose, Ecology and Evolution Graduate Program Rutgers University (M.S.) (2009-2012)
Maria Teresa Mata Contreras, Department of Ecology, University of Málaga (hosted for Ph.D.; 2009, 2010)
Gad Rosenberg, Ecological and Biological Oceanography, Bar Ilan University (hosted for M.S..; 2008, 2009)
Lauren Seyler, Graduate Program in Oceanography, Rutgers University (Ph.D.) (2009, rotation)
Wanjing Liao, Graduate Program in Oceanography, Rutgers University (M.S.) (2006-2009)
Sanese White, Molecular Biosciences Graduate Program, Rutgers University (Ph.D.) (Fall 2008, rotation)

Thesis Committee Member

Sushmita Patwardhan, Graduate Program in Oceanography, Rutgers University (Ph.D. student)
Preshita Gadkari, Microbial Biology Graduate Program, Rutgers University (Ph.D student)
Lele Zhao, Microbial Biology Graduate Program, Rutgers University (Ph.D student)
Ashley Grosche, Ecology and Evolution Graduate Program, Rutgers University (Ph.D student)
Fatima Foflonker, Graduate Program in Microbiology and Molecular Genetics, Rutgers Univ. (Ph.D. student)
Joomi Kim, Graduate Program in Oceanography, Rutgers University (Ph.D. student)
Aubrey Watson, Microbial Biology Graduate Program, Rutgers University (*M.S. awarded in 2015*)
Daniel Cardinale, Graduate Program in Microbiology and Molecular Genetics, Rutgers Univ. (*Ph.D awarded in 2015)*

Yee Mey Seah, Graduate Program in Microbiology and Molecular Genetics, Rutgers Univ. *(Ph.D. awarded in 2015)*
Gigi Lin Ksiazak, Graduate Program in Microbiology and Molecular Genetics, Rutgers Univ. (*M.S. awarded 2014*)
Jacob Kendrick, Graduate Program in Marine Biology, College of Charleston (*M.S. awarded 2013*)
Chuck O'Brien, Graduate Program in Oceanography, Rutgers University (*Ph.D. awarded in 2013*)
Mike Garzio, Ecology and Evolution Graduate Program Rutgers University (*M.S. awarded in 2013*)
Jill Johnson, Marine Biomedicine & Environmental Sciences, Medical University of South Carolina (*PhD awarded in 2012*)
Rachel Sipler, Graduate Program in Oceanography, Rutgers University (*Ph.D. awarded in 2009*)
Carrie Frasier, Graduate Program in Oceanography, Rutgers University (*Ph.D. awarded in 2009*)
Sherrie Whittaker, Graduate Program in Oceanography, Rutgers University (*M.S. awarded in 2008*)
Dave Gruber, Graduate Program in Oceanography, Rutgers University (*Ph.D. awarded in 2007*)
Matt Oliver, Graduate Program in Oceanography, Rutgers University (*Ph.D. awarded in 2006*)

Postdoctoral Researchers
Dr. Ben Knowles, 1 September 2016 – present
Dr. Jozef Nissimov, October 2013 – present
Dr. Jessica Ray, hosted from October 2009 – February 2010 (*University of Bergen*)
Dr. Chris Brown, 2008-2013 (*Postdoctoral Researcher, Mount Allison University, Canada*)
Dr. Kim Thamatrakoln, 2007-2012 (*Assistant Research Professor, Dept. of Marine & Coastal Science, Rutgers*)
Dr. Assaf Vardi, 2006-2009 (*Senior Scientist, Dept. of Plant Sciences, Weizmann Institute of Science, Israel*)
Dr. Adam Kustka, 2007 (*Assistant Professor, Dept. of Earth & Environmental Sciences, Rutgers- Newark*)

Sabbatical Host
Dr. Donald Hirsh, Spring 2015 (Department of Chemistry, The College of New Jersey)
Dr. Kelly Bidle, 2008 (*Department of Biology, Rider University*)