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Van Mooy Lab: Publications

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2014

Bellinger, B.J., Van Mooy, B.A.S., Cotner, J.B., *Fredricks, H.F., Benitez-Nelson, C.R., Thompson, J., Cotter, A., Knuth, M., Godwin, C.M., 2014. Physiological modifications by seston in response to physicochemical gradients within Lake Superior. *Limnol Oceanogr.*59: 1011-1026.

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

Honjo, S., Eglinton, T.I., Taylor, C.D., Ulmer, K.M., Sievert, S.M., Bracher, A., German, C.R., Edgcomb, V., Francois, R., Iglesias-Rodriguez, M.D., Van Mooy, B.A.S., Repeta, D.J., 2014. Understanding the Role of the Biological Pump in the Global Carbon Cycle: An Imperative for Ocean Science. *Oceanography* 27, 10-16.

Lehahn, Y., Koren, I., Schatz, D., Frada, M., Sheyn, U., Boss, E., Efrati, S., Rudich, Y., Trainic, M., Sharoni, S., Laber, C., DiTullio, G.R., Coolen, M.J.L., Martins, A.M., Van Mooy, B.A.S., Bidle, K.D., Vardi, A., 2014. Decoupling of physical from biological processes to asses the impact of viruses on a mesoscale algal bloom. *Curr. Biol.* 24, 1-6. DOI: 10.1016/j.cub.2014.07.046

*Martin, P., Dyhrman, S.T., Lomas, M.W., Poulton, N., Van Mooy, B.A.S., 2014 Accumulation and enhanced cycling of polyphosphate by Sargasso Sea plankton in response to low phosphorus. *Proc Natl Acad Sci USA.* 111: 8089-8094.

Ray, J.L., Haramaty, L., Thyrhaug, R., Fredricks, H.F., Van Mooy, B.A.S., Larsen, A. Bidle, K.D., and Sandaa, R.-A. , 2014. Virus Infection of Haptolina Ericina and Phaeocystis Pouchetii Implicates Evolutionary Conservation of Programmed Cell Death Induction in Marine Haptophyte–Virus Interactions. *Journal of Plankton Research*. DOI:10.1093/plankt/fbu029.

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

Van Mooy, B.A.S., *L.R. Hmelo, *H.F. Fredricks, *J.E. Ossolinski, B.E. Pedler, D.J. Bogorff, and P.J.S. Smith, 2014. Quantitative Exploration of the Contribution of Settlement, Growth, Dispersal and Grazing to the Accumulation of Natural Marine Biofilms on Antifouling and Fouling-Release Coatings. *Biofouling* 30(2) 223-36.

2013

*Martin, P., and Van Mooy, B.A.S. (2013) Fluorometric quantification of polyphosphate in marine samples: dissolution protocols, matrix effects, and nucleic acid interference, *Appl Environ Microb.*79: 273-281; doi:10.1128/aem.02592-12.

*Popendorf, K.J., *Fredricks, H.F., and Van Mooy, B.A.S. (2013) Molecular-ion independent quantitation of intact polar diacylglycerolipids in marine plankton using triple quadrupole MS. *Lipids* 48: 185-195; doi:10.1007/s11745-012-3748-0.

Schouten, S., Hopmans, E.C., Rosell-Melé, A., Pearson, A., Adam, P., Bauersachs, T., Bard, E., Bernasconi, S.M., Bianchi, T.S., Brocks, J.J., Carlson, L.T., Castañeda, I.S., Derenne, S., Selver, A.D., Dutta, K., Eglinton, T., Fosse, C., Galy, V., Grice, K., Hinrichs, K.-U., Huang, Y., Huguet, A., Huguet, C., Hurley, S., Ingalls, A., Jia, G., Keely, B., Knappy, C., Kondo, M., Krishnan, S., Lincoln, S., Lipp, J., Mangelsdorf, K., Martínez-García, A., Ménot, G., Mets, A., Mollenhauer, G., Ohkouchi, N., Ossebaar, J., Pagani, M., Pancost, R.D., Pearson, E.J., Peterse, F., Reichart, G.-J., Schaeffer, P., Schmitt, G., Schwark, L., *Shah, S.R., Smith, R.W., Smittenberg, R.H., Summons, R.E., Takano, Y., Talbot, H.M., Taylor, K.W.R., Tarozo, R., Uchida, M., van Dongen, B.E., Van Mooy, B.A.S., Wang, J., Warren, C., Weijers, J.W.H., Werne, J.P., Woltering, M., Xie, S., Yamamoto, M., Yang, H., Zhang, C.L., Zhang, Y., Zhao, M., Damsté, J.S.S., 2013. An interlaboratory study of TEX86 and BIT analysis of sediments, extracts, and standard mixtures. *Geochemistry, Geophysics, Geosystems* 14, 5263-5285; doi: 10.1002/2013GC004904.

Shanahan T.M., Hughen K.A., Van Mooy B.A.S. 2013. Temperature sensitivity of branched and isoprenoidal GDGTs in Arctic lakes. *Org Geochem.* 64:119-128.

2012

Bellinger, B. J. and Van Mooy, B. A. S. (2012) Non-phosphorus lipids in periphyton reflect available nutrients in the Florida Everglades, U.S.A. *J. Phycol.* 48: 303-311; doi:10.1111/j.1529-8817.2012.01125.x.

*Hmelo, L.R., Van Mooy, B.A.S., and Mincer, T.J. (2012) Bacerial epibionts in *Trichodesmium* colonies are distinct from bacteria in surrounding waters. *Aquat. Microb. Ecol.*67: 1-14; doi:10.3354/ame01571.

O'Neil, G.W., C.A. Carmichael, T.J. Goepfert, J.M. *Fulton, G. Knother, C.P.L. Lau, S.R. Lindell, N.G.-E. Mohammady, B.A.S. Van Mooy, and C.M. Reddy, (2012) Beyond fatty acid methyl esters: Expanding the renewable carbon profile with microalgal lipids from Ishochrysis sp. *Energy and Fuels*, 26: 2434-2441; doi:10.1021/ef3001828.

Reddy, C.M., Arey, J.S., Seewald, J.S., Sylva, S.P., Lemkau, K.L., Nelson, R.K., Carmichael, C.A., McIntyre, C.P., Fenwick, J., Ventura, G.T., Van Mooy, B.A.S., and Camilli, R. (2012) Composition and fate of gas and oil released to the water column during the *Deepwater Horizon* spill. *Proc. Nat. Acad. Sci., USA.* 109: 20229-20234; doi:10.1073/pnas.1101242108.

Van Mooy, B. A. S., *Hmelo, L.R., *Sofen, L.E., Campagna, S.R., May, A.L., Dyhrman, S.T., Heithoff, A., Webb, E.A., Momper, L., Mincer, T.J. (2012) Quorum sensing control of phosphorus acquisition in *Trichodesmium* consortia. *ISME J.* 6:422-429; doi:10.1038/ismej.2011.115.

Vardi, A., Haramaty, L., Van Mooy, B.A.S., *Fredricks, H.F., Kimmance, S., Larsen, A., Bidle, K.D. (2012) Host-virus dynamics and subcellular controls of cell fate in a natural coccolithophore population. *Proc. Natl. Acad. Sci.*, 109: 19327-19332; doi: 10.1073/pnas.1208895109.

2011

*Edwards, B.R., Reddy, C.M., Camilli, R., Carmichael, C., *Longnecker, K., Van Mooy, B.A.S. (2011) Rapid microbial respiration of *Deepwater Horizon* oil in surface waters of the Gulf of Mexico. *Environ. Res. Lett.* 6: 035301 DOI:10.1088/1748-9326/6/3/035301

*Hmelo L.R., Mincer T. J., and Van Mooy B. A. S. (2011) Possible influence of bacterial quorum sensing on the hydrolysis of sinking particulate organic carbon in marine environments. *Environ. Microbiol. Reports* 3: 682-688. DOI: 10.1111/j.1758-2229.2011.00281.x

*Martin P., Van Mooy B. A. S., Heithoff A., and Dyhrman S. T. (2011) Phosphorus supply drives rapid turnover of membrane phospholipids in the diatom *Thalassiosira pseudonanna*. *ISME J.* 5,1057-1060. DOI:10.1038/ismej.2010.192

*Popendorf, K.J., Lomas, M.W., and Van Mooy, B.A.S. (2011) Microbial sources of intact polar diacylglycerolipids in the western North Atlantic Ocean. *Org. Geochem.,* 42(7) 803–811. DOI:10.1016/j.orggeochem.2011.05.003

*Popendorf K.J., Tanaka T., Pujo-Pay M., Lagaria A., Courties C., Conan P., Oriol L., Sofen L.E., Moutin T., Van Mooy B.A.S. (2011). Gradients in intact polar diacylglycerolipids across the Mediterranean Sea are related to phosphate availibility. *Biogeosci.* 8: 3733-3745. DOI:10.5194/bg-8-3733-2011

Wurch, L.L, Bertrand, E, Saito, M., Van Mooy, B.A.S., Dyhrman, S.T. (2011). Proteome changes driven by phosphorus deficiency and recovery in the brown-tide forming alga *Aureococcus anophagefferens.* *PLoS One* 6: e28949. DOI:10.1371/journal.pone.0028949

2010

Camilli R., Reddy C. M., Yoerger D. R., Van Mooy B. A. S., Jakuba M. V., Kinsey J. C., McIntyre C. P., Sylvan S. P., and Maloney J. V. (2010) Tracking hydrocarbon plume transport and biodegradation at *Deepwater Horizon*. *Science*. 330: 201-204. DOI: 10.1126/science.1195223

*Longnecker K., Lomas M. W., and Van Mooy B. A. S. (2010) Abundance and diversity of heterotrophic bacterial cells assimilating ^{33}P-phosphate in the subtropical North Atlantic Ocean. *Environ. Microbiol.*12: 2773-2782. DOI: 10.1111/j.1462-2920.2010.02247.x

Van Mooy B. A. S. and *Fredricks H. F. (2010) Bacterial and eukaryotic intact polar lipids in the eastern subtropical South Pacific: water-column distribution, planktonic sources, and fatty acid composition. *Geochimica et Cosmochimica Acta*. 74: 6499-6516. DOI:10.1016/j.gca.2010.08.026

2009

*Hmelo, L. R. and Van Mooy, B.A.S. (2009) Kinetic constraints on acylated homoserine lactone-based quorum sensing in marine environments. *Aquat. Microb. Ecol.* 54:127-133. DOI:10.3354/ame01261

Schouten, S., Hopmans, E. C., van der Meer, J., Mets, A., Bard, E., Bianchi, T. S., Diefendorf, A., Escala, M., Freeman, K. H., Furukawa, Y., Huguet, C., Ingalls, A., Ménot-Combes, G., Nederbragt, A. J., Oba, M., Pearson, A., Pearson, E. J., Rosell-Melé, Schaeffer, P., Shah, S. R., *Shanahan, T., Smith, R. W., Smittenburg, R., Talbot, H. M., Uchida, M., Van Mooy, B. A. S., Yamamoto, M., Zhang, Z., and Sinnginghe Damsté, J. S.: (2009) An interlaboratory study of TEX86 and BIT analysis using high-performance liquid chromatography-mass spectrometry. *Geochem. Geophys. Geosyst.,* 10, Q03012. DOI: 10.1029/2008GC002221

Van Mooy, B.A.S., *Fredricks, H.F., *Pedler, B.E., Dyhrman, S.T., Karl, D.M., Koblízek, M., Lomas, M.W., Mincer. T., Moore, L.R., Moutin, T., Rappé, M.S., and Webb, E.A. (2009) Phytoplankton in the ocean substitute lipids in response to phosphorus scarcity. *Nature*, 458:69-

72. DOI:10.1038/nature07659

Vardi A., Van Mooy B. A. S., *Fredricks H. F., *Popendorf K. J., *Ossolinski J. E., Haramaty L., and Bidle K. A. (2009) Viral glycosphingolipids induce lytic infection and cell death in marine phytoplankton. *Science* 326, 861-865. DOI: 10.1126/science.1177322

2008

Dehairs, F., S. Jacquet, N. Savoye, J. Bishop, B. A. S. Van Mooy, K. Buesseler, C. Lamborg, M. Elskens, P. Boyd, K. Casciotti and W. Baeyens (2008). Barium in twilight zone suspended matter as a proxy for particulate organic carbon mineralization: Results for the North Pacific. *Deep-Sea Research II*. 55:1673-1672. DOI:10.1016/j.dsr2.2008.04.020

Elskens, M., N. Brion, K.O. Buesseler, B.A.S. Van Mooy, P. Boyd, F. Dehairs. N. Savoyes and W. Baeyens (2008). Primary, new and export production in the NW Pacific Subarctic Gyre during the VERTIGO K2 experiments. *Deep-Sea Res. II*. 55: 1594-1604. DOI:10.1016/j.dsr2.2008.04.013

Moutin, T., Karl, D., Duhamel, S., Rimmelin, P., Raimbault, P. and Van Mooy, B. (2008) Phosphate availability: ultimate control of new nitrogen input by nitrogen fixation in the tropical Pacific Ocean. *Biogeosciences* 5:95-109. DOI:10.5194/bg-5-95-2008

Steinberg, D.K., B.A.S. Van Mooy, K.O. Buesseler, P.W. Boyd, T. Kobari and D.M. Karl (2008). Microbial vs. zooplankton control of sinking particle flux in the ocean's twilight zone. *Limnol. Oceanogr*. 53:1327-1338. DOI: *does not work*

Van Mooy, B.A.S. and A.H. Devol (2008) Assessing nutrient limitation of *Prochlorococcus* in the North Pacific subtropical gyre by using an RNA capture method. *Limnol. Oceanogr.* 53:78-88. DOI:10.2307/40006151

Van Mooy, B.A.S., Moutin, T., Duhamel, S., Rimmelin, P., and Van Wambeke, F. (2008) Phospholipid synthesis rates in the eastern subtropical South Pacific Ocean. *Biogeosciences* 5:95-109. DOI:10.5194/bg-5-95-2008

Ventura, G.T., Kenig, F., Frysinger, G.S., Reddy, C.M., Nelson, R.K., Van Mooy, B.A.S. and Gaines, R.B. (2008) Analysis of unresolved complex mixtures of hydrocarbons extracted from Late Archean sediments by comprehensive two-dimensional gas chromatography (GC×GC). *Org. Geochem.*39:846-867. DOI:10.1016/j.orggeochem.2008.03.006

2007

Buesseler, K.O., Lamborg, C.H., Boyd, P.W., Lam, P.J., Trull, T.W., Bidigare, R.R., Bishop, J.K.B., Casciotti, K.L., Dehairs, F., Elskens, M., Honda, M., Karl, D.M., Siegel, D.A., Silver, M.W., Steinberg, D.K., Valdes, J., Van Mooy, B., Wilson, S. (2007) Revisiting carbon flux through the ocean's twilight zone. *Science*. 316:567-570. DOI:10.1126/science.1137959

Duhamel, S., Moutin, T., Van Wambeke, F., Van Mooy, B., Rimmelin, P. Raimbault, P. and Claustre, H. (2007) Growth and P-specific uptake rates of bacterial and phytoplanktonic communities in the Southeast Pacific (BISOSOPE cruise). *Biogeosciences* 4:941-956. DOI:10.5194/bg-4-941-2007

Dyhrman, S.T., Ammerman, J.W., and Van Mooy, B.A.S. (2007) Microbes and the marine phosphorus cycle. *Oceanography*. 20:110-116. DOI:10.5670/oceanog.2007.54

2006

Van Mooy, B.A.S., Rocap, G., *Fredricks, H.F., *Evans, C.T., and Devol, A.H. (2006) Sulfolipids dramatically decrease phosphorus demand by picocyanobacteria in oligotrophic marine environments. *Proc. Natl. Acad. Sci*. 103:8607-8612. DOI:10.1073/pnas.0600540103

2004

Van Mooy, B.A.S., Devol, A.H., and Keil, R.G. (2004) Quantifying ^{3}H-thymidine incorporation rates by a phylogenetically defined group of marine planktonic bacteria (Bacteriodetes phylum). *Environ. Microbiol.* 6: 1061-1069. DOI:10.1111/j.1462-2920.2004.00636.x

Van Mooy, B.A.S., Devol, A.H., and Keil, R.G. (2004) Relationships between bacterial community structure, light, and carbon cycling in the eastern subarctic North Pacific. *Limnol. Oceanogr*. 49:1056-1062. DOI: does not work

2002

Van Mooy, B.A.S., Keil, R.G. and Devol, A.H. (2002) Impact of suboxia on sinking particulate organic carbon: Enhanced carbon flux and preferential degradation of amino acids via denitrification. *Geochim. Cosmochim. Acta* 66: 457-465. DOI:10.1016/S0016-7037(01)00787-6

Van Mooy, B.A.S. and Keil, R.G. (2002) Seasonal variation in sedimentary amino acids and the association of organic matter with mineral surfaces in a sandy eelgrass meadow. *Mar. Ecol. Prog. Ser.* 227:275-280. DOI:10.3354/meps227275

2001

MacGregor, B.J., Van Mooy, B., Baker, B.J., Mellon, M., Moisander, P.H., Paerl, H.W., Zehr, J., Hollander, D.J. and Stahl, D.A. (2001) Microbiological, molecular biological and stable isotope evidence for nitrogen fixation in the open waters of Lake Michigan. *Environ. Microbiol.* 3: 205-219. DOI: 10.1046/j.1462-2920.2001.00180.x

Van Mooy, B., MacGregor, B., Hollander, D., Nealson, K., and Stahl, D. (2001) Evidence of tight coupling between bacteria and particulate organic carbon during seasonal stratification of Lake Michigan. *Limnol. Oceanogr.* 46:1202-1208.

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