

Maureen L. Coleman

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EDUCATION

2009-2011	Postdoctoral Fellow, Geobiology (advisor DK Newman)	MIT/Caltech
2008	Ph.D., Civil & Environ Engineering (advisor SW Chisholm)	MIT
2002	A.B., Biology, <i>summa cum laude</i>	Dartmouth College

APPOINTMENTS

2021-	Associate Professor, Geophysical Sciences	University of Chicago
2012-2020	Assistant Professor, Geophysical Sciences	University of Chicago

HONORS & AWARDS

2014	Sloan Research Fellow in Ocean Sciences
2010	Best Paper Award, Organic Geochemistry Division, The Geochemical Society
2008	Agouron Geobiology Postdoctoral Fellowship
2003	National Science Foundation Graduate Fellowship
2003	National Defense Science & Engineering Graduate Fellowship

REFEREED PUBLICATIONS

Zimmerman AE, Howard-Varona C, Needham DM, John S, Worden AZ, Sullivan MB, Waldbauer JR, **Coleman ML**. 2019. Metabolic and biogeochemical consequences of viral infection in aquatic ecosystems. *Nature Reviews Microbiology*. doi:10.1038/s41579-019-0270-x

Paver SF, Newton RJ, **Coleman ML**. 2019. Microbial communities of the Laurentian Great Lakes reflect connectivity and local biogeochemistry. *Environmental Microbiology*. doi:10.1111/1462-2920.14862

Waldbauer JR*, **Coleman ML***, Rizzo AD, Campbell KL, Lotus JM, and Zhang LC. 2019. Nitrogen sourcing during viral infection of marine cyanobacteria. *Proc Natl Acad Sci* 116:15590-15595. doi:10.1073/pnas.1901856116 (* contributed equally; corresponding authors)

Hentchel KL, Reyes Ruiz LM, Curtis PD, Fiebig A*, **Coleman ML***, Crosson S*. 2019. Genome-scale fitness profile of *Caulobacter crescentus* grown in natural freshwater. *ISME Journal* 13:523-536. doi:10.1038/s41396-018-0295-6. (*corresponding authors)

Paver SF, Muratore D, Newton RJ, **Coleman ML**. 2018. Re-evaluating the salty divide: phylogenetic specificity of transitions between marine and freshwater systems. *mSystems* 3:e00232-18. doi:10.1128/mSystems.00232-18.

Ma X, **Coleman ML**, Waldbauer JR. 2018. Distinct molecular signatures in dissolved organic matter produced by viral lysis of marine cyanobacteria. *Environ Microbiol* 20(8): 3001-3011. doi:10.1111/1462-2920.14338

Bachy C, Charlesworth C, Finke J, Wong CH, Sudek S, **Coleman ML**, Wei CL, Suttle C, Worden AZ. 2018. Transcriptional responses of the marine green alga *Micromonas pusilla* and an infecting prasinovirus under different phosphate conditions. *Environ Microbiol* 20(8): 2898-2912. doi:10.1111/1462-2920.14273

Murata K, Zhang Q, Fu C, Liu X, **Coleman ML**, Osburne M, Schmid MF, Chisholm SW, Sullivan MB, and Chiu W. 2017. Visualizing adsorption of cyanophage P-SSP7 onto marine *Prochlorococcus*. *Scientific Reports* 7:44176. doi:10.1038/srep44176

Gibbons SM, Scholz M, Hutchison AL, Dinner AR, Gilbert JA, **Coleman ML**. 2016. Disturbance regimes predictably alter diversity in an ecologically complex bacterial system. *mBio* 7(6):e01372-16. doi:10.1128/mBio.01372-16

Roux S, Solonenko N, Dang VT, Poulos BT, Schwenck SM, Goldsmith DB, **Coleman ML**, Breitbart M, and Sullivan MB. 2016. Towards quantitative viromics for both double-stranded and single-stranded DNA viruses. *PeerJ* 4:e2777.

Howe A, Ringus DL, Williams RJ, Choo ZN, Greenwald SM, Owens SM, **Coleman ML**, Meyer F, Chang EB. 2016. Divergent responses of viral and bacterial communities in the gut microbiome to dietary disturbances in mice. *ISME Journal* 10:1217-1227. doi:10.1038/ismej.2015.183

- Weitz JS, Stock CA, Wilhelm SW, Bourouiba L, Buchan A, **Coleman ML**, Follows MJ, Fuhrman JA, Jover LF, Lennon J, Middelboe M, Sonderegger DL, Suttle CA, Taylor BP, Thingstad TF, Wilson WH, Wommack KE. 2015. A multitrophic model to quantify the effects of marine viruses on microbial food webs and ecosystem processes. *ISME Journal* 9:1352-1364. doi:10.1038/ismej.2014.220
- Gibbons SM, Jones E, Bearquiver A, Blackwolf F, Roundstone W, Scott N, Hooker J, Madsen R, **Coleman ML**, and Gilbert JA. 2014. Human and environmental impacts on Tongue River sediment microbial communities. *PLoS One* 9(5): e97435. doi:10.1371/journal.pone.0097435
- Ricci JN, **Coleman ML**, Welander PV, Sessions AL, Summons RE, Spear JR, and Newman DK. 2014. Diverse capacity for 2-methylhopanoid production correlates with a specific ecological niche. *ISME Journal* 8:675-684. doi:10.1038/ismej.2013.191
- Bird LJ, **Coleman ML**, and Newman DK. 2013. Iron and copper act synergistically to delay anaerobic growth in bacteria. *Appl Environ Microbiol* 79(12): 3619-3627.
- Waldbauer JR, Rodrigue S, **Coleman ML**, and Chisholm SW. 2012. Transcriptome and proteome dynamics of a light-dark synchronized bacterial cell cycle. *PLoS One* 7(8): e43432. doi:10.1371/journal.pone.0043432
- Kreamer NNK, Wilks JC, Marlow JJ, **Coleman ML**, and Newman DK. 2012. BqsR/BqsS constitute a two-component system that senses extracellular Fe(II) in *Pseudomonas aeruginosa*. *J. Bacteriol.* 194: 1195-1204.
- Doughty DM, **Coleman ML**, Hunter RC, Sessions AL, Summons R and Newman DK. 2011. The RND-family transporter, HpnN, is required for hopanoid localization to the outer membrane of *Rhodopseudomonas palustris* TIE-1. *Proc. Natl. Acad. Sci.*, 108: E1045-E1051.
- Newman DK and **Coleman ML**. 2011. Where reductionism meets complexity: a call for growth in the study of non-growth. *Environ Microbiol Reports*, 3 (1): 14-15.
- Coleman ML** and SW Chisholm. 2010. Ecosystem-specific selection pressures revealed through comparative population genomics. *Proc Natl Acad Sci*, 107:18634-18639.
- Welander PV*, **Coleman ML***, Sessions AL, Summons RE, Newman DK. 2010. Identification of a methylase required for 2-methylhopanoid production and implications for the interpretation of sedimentary hopanes. *Proc Natl Acad Sci* 107:8537-8542. (*contributed equally)
- Zinser ER, Lindell D, Johnson ZI, Futschik ME, Steglich C, **Coleman ML**, Wright MA, Rector T, Steen R, McNulty N, Thompson LR, Chisholm SW. 2009. Choreography of the transcriptome, photophysiology, and cell cycle of a minimal photoautotroph, *Prochlorococcus*. *PLoS ONE* 4(4): e5135. doi:10.1371/journal.pone.0005135
- Sullivan MB, **Coleman ML**, Quinlivan V, Rosenkrantz JE, Tan G, Lee JA, Waterbury JB, Bielawski JP, Chisholm SW. 2008. Portal protein diversity and phage ecology. *Environ. Microbiol.* 10:2810-2823.
- Frias-Lopez J, Shi Y, Tyson GW, **Coleman ML**, Schuster SC, Chisholm SW, DeLong EF. 2008. Microbial community gene expression in ocean surface waters. *Proc. Natl. Acad. Sci.* 105:3805-3810.
- Kettler G, Martiny AC, Huang K, Zucker J, **Coleman ML**, Rodrigue S, Chen F, Ferreira S, Johnson J, Lapidus A, Church GM, Chisholm SW. 2007. Patterns and implications of gene gain and loss during the evolution of *Prochlorococcus*. *PLoS Genetics* 3(12):e231.
- Lindell D, Jaffe JD, **Coleman ML**, Futschik ME, Axmann IM, Rector T, Kettler G, Sullivan MB, Steen R, Hess WR, Church GM, and Chisholm SW. 2007. Genome-wide expression dynamics of a marine virus and its host reveal features of co-evolution. *Nature* 449:83-86.
- Coleman ML** and SW Chisholm. 2007. Code and context: *Prochlorococcus* as a model for cross-scale biology. *Trends Microbiol.* 15:398-407.
- Martiny AC*, **Coleman ML***, Chisholm SW. 2006. Phosphate acquisition genes in *Prochlorococcus* ecotypes: evidence for genome-wide adaptation. *Proc. Natl. Acad. Sci.* 103:12552-12557. (*contributed equally)
- Coleman ML**, Sullivan MB, Martiny AC, Steglich C, Barry KL, DeLong E, Chisholm SW. 2006. Genomic islands and the ecology and evolution of *Prochlorococcus*. *Science* 311:1768-1770.
- Sullivan MB, **Coleman ML**, Weigele P, Rohwer F, Chisholm SW. 2005. Three *Prochlorococcus* cyanophage genomes: signature features and ecological interpretation. *PLoS Biol.* 3(5):e144.
- Rocap G, Larimer FW, Lamerdin J, Malfatti S, Chain P, Ahlgren NA, Arellano A, **Coleman M**, Hauser L, Hess WR, Johnson ZI, Land M, Lindell D, Post AF, Regala W, Shah M, Shaw SL, Steglich C, Sullivan MB, Ting CS, Tolonen A, Webb EA, Zinser ER, Chisholm SW. 2003. Genome divergence in two *Prochlorococcus* ecotypes reflects oceanic niche differentiation. *Nature* 424:1024-7.

BOOK CHAPTERS

Newman DK and **Coleman ML**. Molecular methods in geomicrobiology. Chapter 9 in: Ehrlich HL, Newman DK, Kappler A, eds. *Ehrlich's Geomicrobiology*. 6th edition. Boca Raton, FL: CRC Press/Taylor & Francis Group, 2016: pp. 187-207.

PROFESSIONAL ACTIVITIES & SERVICE

- 2018 Co-convenor, "Virus-Host Interactions and their Biogeochemical Impacts", ASLO/AGU Ocean Sciences Meeting
- 2015-2017 Editorial Board, Environmental Microbiology & Environmental Microbiology Reports
- 2016 Co-convenor, "Microbial Ecology of the Great Lakes, from Genomes to Geochemistry", 59th Annual Conference on Great Lakes Research
- 2015, 2016 Panelist, JGI Community Sequencing Program
- 2015 Co-convenor, "'Enlightened' Microorganisms: What's New with Phototrophic Microbes?" American Society for Microbiology Annual Meeting
- 2014 Co-convenor, "Life at Low Nutrients", ASLO Joint Aquatic Sciences Meeting
- 2012-2014 Working group, "Ocean Viral Dynamics", National Institute for Mathematical and Biological Synthesis (NIMBioS)
- 2013 Co-convenor, "Large Lake Microbial Ecology", 56th Annual Conference on Great Lakes Research
- 2012 Panelist, NASA Exobiology
- 2012 Co-convenor, "Biodiversity, Biogeochemistry and Ecology: Establishing Linkages Between Molecular Diversity and Ecosystem Functioning", ASLO/AGU Ocean Sciences Meeting
- Occasional Panelist, NSF Biological Oceanography
- Occasional Panelist, DOE Joint Genome Institute/Environmental Molecular Sciences Laboratory Joint Program
- Ongoing Reviewer for Science, Nature, Nature Microbiology, Nature Ecology & Evolution, PNAS, Environmental Microbiology, The ISME Journal, BMC Genomics, Molecular Ecology, Frontiers in Microbiology, FEMS Microbiology Ecology, Deep Sea Research
- Ongoing *Ad hoc* reviewer for NSF Biological and Chemical Oceanography, Dimensions of Biodiversity, Geobiology, Population and Community Ecology; DOE Science
- Ongoing Member, American Society for Microbiology, American Society for Limnology & Oceanography, International Society for Microbial Ecology

TEACHING

- Geobiology (GEOS 26600, co-taught with J. Waldbauer)
- Environmental Microbiology (GEOS 22650)
- Topics in Microbial Biogeochemistry (GEOS 33825)