MELISSA B. DUHAIME

4068 Biological Sciences Building
Department of Ecology and Evolutionary Biology
University of Michigan, Ann Arbor, MI 48109

Telephone: 734-764-6219
duhaimem@umich.edu
www-personal.umich.edu/~duhaimem

EDUCATION

Cornell University	Ithaca, NY	Biology (Microbiology)	B.A. 2005
Max Planck Institute for Marine Microbiology	Bremen, Germany	Marine Microbiology	M.Sc. 2007
Max Planck Institute for Marine Microbiology	Bremen, Germany	Microbial Genomics	Ph.D. 2010

PROFESSIONAL APPOINTMENTS

2023 – present	Associate Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2025 – present	Faculty Affiliate, Sustainable Foods System Initiative, U-M
2012 – present	Faculty Affiliate, Center for Computational Medicine and Bioinformatics, University of Michigan
2017 – 2023	Assistant Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2012 – 2016	Assistant Research Scientist, Department of Ecology and Evolutionary Biology, University of Michigan
2010 – 2011	Post-doctoral fellow, Ecology and Evolutionary Biology, University of Arizona
2005	Research Fellow, Woods Hole Oceanographic Research Institute (WHOI)
2004	Research Intern, Max Planck Institute for Marine Microbiology (MPI)
2003	Research Intern, Monterey Bay Aquarium Research Institute (MBARI)

PUBLICATIONS

Citations: 6365; i10/h-index: 41/38 [Google Scholar page]

Key: senior/corresponding author**,* Duhaime Lab members, *undergraduate/high school students***, ^shared first authorship)

Submitted manuscripts

1'. Langenfeld K, Arts P, Monahan, A, Criswell A, Wigginton KR*, **Duhaime MB***. Novel Machine Learning-based Approach to Identify Viral Biomarkers of Human Respiratory Emissions from Oral and Nasal Metagenomes. *In review*

Published and in press manuscripts

50. Wing AJ, Hegarty B, Bastien E, Denef V, Evans J, Dick G, **Duhaime MB***. Tracking Microcystis viruses and infection dynamics across distinct phases of a Microcystis-dominated bloom. *mSystems (IF 5).* doi.org/10.1101/2024.05.24.595742.

49. Lindback MM^, Howard-Varona C^, Fudyma J, Tfaily M, Sullivan MB*, **Duhaime MB***. Virocell resource manipulation under nutrient limitation. *mSystems (IF 5). 10:e00521-25.*

48. Rochman C, Langenfeld D, Cable R, Covernton G, Hermabessiere L, McNamee R, Veneruzzo C, Munno K, Omer M, Paterson M, Rennie M, Rooney R, **Duhaime MB**, Jeffries K, McMeans B, Orihel D, Hoffman M, Provencher J. "Where is all the plastic? How microplastic partitions across different environmental compartments within a large pelagic in-lake mesocosm experiment." *Environ Science & Technology (IF 11.3)*, 58, 18, 7998–8008.

47. Zhang S, Lin T, Wenzhao Yang W, Zhou X, Cable R; Choi J, Michaelson E, Rossi D, Thakre P, Tang Y, Hu J, Meunier D, Lai Y, **Duhaime MB**, Chen Z. Evaluating Polyethylene Weathering Processes after Simulated Solar Exposure and In situ Lake Deployment. *Polymer Degradation and Stability (IF 7.4).* 239(111385).

46. Langenfeld K, Hegarty B, *Vidaurri S***, Crossette E, **Duhaime MB***, Wigginton KR*. 2025 Development of a quantitative metagenomic approach to establish quantitative limits and its application to viruses. *Nucleic Acids Research (IF 16.7).* 53(5). doi: 10.1093/nar/gkaf118

45. Zhang S, Lin T, Zhang C, Yang W, Zhou X, Cable R, Choi J, Michaelson E, Thakre P, Serrat C, Tan Y, Hu J, Meunier D, Lai Y, **Duhaime M**, Chen Z. 2024. Analysis of Accelerated Weathering Effect on Polyethylene With Varied Parameters Using a Combination of Analytical Techniques. *ChemistrySelect [IF 1.9]*. 9(41) e202404334.

44. Bastien GE, Cable RN, *Batterbee C*, Wing A, Zaman L*, **Duhaime MB***. 2024.Virus-Host Interactions Predictor (VHIP): machine learning approach to resolve microbial virus-host interaction networks. *PLoS Computational Biology [IF 3.8].* 20(9): e1011649.

43. Rochman C, Bucci K, Langenfeld D, McNamee R, Veneruzzo C, Covernton G, Gao G, Ghosh M, Cable R, Hermabessiere L, Lezcano R, Paterson M, Rennie M, Rooney R, Helm P, **Duhaime MB**, Hoellein T, Jeffries K, Hoffman M, Orihel D, Provencher J. 2024. The fate of microplastics in a large pelagic in-lake mesocosm experiment – informing the exposure landscape. *Environmental Science and Technology [IF 7.4]*. 58(18).

42. Hegarty B*^, *Riddell JV*^, Bastien GE, Langenfeld K, Lindback M, Saini JS, Wing A, Zhang J, **Duhaime MB***. 2024. Benchmarking informatics approaches for virus discovery: Caution is needed when combining *in silico* identification methods. *mSystems [IF 5]*. 9(3)

41. Howard-Varona C, Lindback MM, Fudyma JD, Krongauz A, Solonenko NE, Zayed AA, Andreopoulos WB, Olson HM, Kim YM, Kyle JE, Glavina del Rio T, Adkins JN, Tfaily MM, Paul S, Sullivan MB, **Duhaime MB***. 2024. Environment-specific virocell metabolic reprogramming. *The ISME Journal (IF 10.30)*, 18(1), wrae055.

40. Saini S, Manni M, Hassler C, Cable R, **Duhaime MB**, Zdobnov EM. Genomic insights into coupling of *Chlorella*-like microeukaryote and phototrophic sulfur bacteria in chemocline of permanently stratified Lake Cadagno. 2023. *ISME Journal (IF 10.30).*

39. Ayala-Ortiz C, Graf-Grachet N, Freire-Zapata V, Fudyma J, Hildebrand G, Amini Tabrizi R, Howard-Varona C, Corilo Y, Hess N, **Duhaime MB**, Sullivan MB, Tfaily M. MetaboDirect: A comprehensive command-line based pipeline for the analysis of direct injection FT-ICR mass spectrometry data. 2023. *Microbiome (IF 14.65)*. 11 (28).

38. Blostein FA, Bhaumik D, Davis E, Salzman E, Shedden K, **Duhaime MB**, Bakulski KM, McNeil DW, Marazita ML, Foxman B*. 2022. Evaluating the ecological hypothesis: Early life salivary microbiome assembly predicts dental caries in a longitudinal case-control study. *Microbiome (IF 14.65)*. 10 (240).

37. Saini JS, Hassler C, Cable R, Fourquez M, Danza F, Roman S, Tonolla M, Storelli N, Jacquet S, Zdobnov EM, **Duhaime MB***. 2022. Bacterial, phytoplankton and viral distributions and their biogeochemical contexts in meromictic Lake Cadagno offer insights into the Proterozoic ocean microbial loop. *mBio (IF 6.78)*. 13(4), e00052-22.

36. Hegarty BE, Dai Z, Raskin L, Pinto AJ, Wigginton K*, **MB Duhaime*.** 2022. A Snapshot of the Global Drinking Water Virome: Diversity and Metabolic Potential Vary with Residual Disinfectant Use. *Water Research (IF 11.24)*. Vol 218, 118484.

35. Marino JA*, Denef VJ, Dick GJ, **Duhaime MB**, James TY. 2022. Fungal community dynamics associated with harmful cyanobacterial blooms in two Great Lakes. *Journal of Great Lakes Research (IF 2.48)*. 48(4).

34. Dick GJ*, **Duhaime MB**, Evans JT, Errera RM, Godwin CM, Kharbush JJ, Nitschky HS, Powers MA, Vanderploeg HA, Schmidt KC, Smith DJ, Yancey CE, Zwiers CC, Denef VJ. 2021. The genetic and ecophysiological diversity of *Microcystis*. *Environmental Microbiology (IF 5.491)*. 23 (12), 7278-7313.

33. Ozersky T*, Bramburger AJ, Elgin AK, Vanderploeg HA, Wang J, Austin JA, Carrick HJ, Chavarie L, Depew DC, Fisk AT, Hampton SE, Hinchey EK, North RL, Wells MG, Xenopoulos MA, Coleman ML, **Duhaime MB**, Fujisaki-Manome A, McKay RM, Meadows GA, Rowe MD, Sharma S, Twiss MR, Zastepa. 2021. A. The changing face of winter: lessons and questions from the Laurentian Great Lakes. *Journal of Geophysical Research: Biogeosciences (IF 4.26)*. 126 (6), e2021JG006247.
***top cited article in journal*

32. Scales BS, Cable RN, **Duhaime MB**, Gerdts G, Fischer F, Fischer D, Mothes S, Hintzki L, Moldaenke L, Ruwe M, Kalinowski J, Kreikemeyer B, Pedrotti ML, Gorsky G, Elineau A, Labrenz M, Oberbeckmann S. 2021*. Cross-Hemisphere Study Reveals Geographically

Ubiquitous, Plastic-Specific Bacteria Emerging from the Rare and Unexplored Biosphere. *mSphere (IF 3.68)*. 6: 3. E00851-20.

31. Langenfeld K, *Chin K**, Roy A**,* Wigginton KR*, **Duhaime MB***. 2021. Comparison of ultrafiltration and iron chloride flocculation in the preparation of aquatic viromes from contrasting sample types. *PeerJ (IF 2.98).*

30. Crossette E, Gumm J, Langenfeld K, Raskin L, **Duhaime MB***, Wigginton K*. Metagenomic Quantification of Genes with Internal Standards. 2021. *mBio (IF 6.78).* 12:1.

29. Blanco-Ameijeiras, Cabanes DJE, Cable RN, Trimborn S*, S Jacquet, S Wiegmann, Völkner C, Lelchat F, Bracher A, **Duhaime MB**, Hassler C. 2021. Exopolymeric Substances Control Microbial Community Structure and Function by Contributing to both C and Fe Nutrition in Fe-Limited Southern Ocean Provinces. *Microorganisms (IF 3.864)* 8:12, 1980.

28. Howard-Varona C, Lindback MM, Bastien GE, Solonenko N, Zayed AA, Jang H, Andreopoulos B, Brewer HM, Glavina del Rio T, Adkins JN, Subhadeep P, Sullivan MB*, **Duhaime MB***. 2020. Phage-specific reprogramming of virocells. *ISME Journal (IF 10.30). **awarded inaugural **The ISME Journal 2020 Best Paper Award *****

27. Bolduc B, Hodgkins SB, Varner RK, Crill PM, McCalley CK, Chanton JP, Tyson GW, Riley WJ, Palace M, **Duhaime MB**, Hough MA, Saleska S, Sullivan MB, Rich VI*. 2020. The IsoGenie database: an interdisciplinary data management solution for ecosystems biology and environmental research. *PeerJ.* 8 *(IF 2.98)*, e9467.

26. Petrovich ML, Zilberman A, Kaplan A, Eliraz GR, Wang Y, Poretsky R, Langenfeld K, **Duhaime M**, Wigginton K, Avisar D, Wells GF*. 2020. Metagenomics-Guided Analysis of Antibiotic Resistance Genes and Viral Communities in a Hospital Wastewater Treatment System. *Frontiers in Microbiology (IF 5.64).* 11, 153.

25. Merzel RL, Purser L, Soucy TL, Olszewski M, Colón-Bernal I, **Duhaime MB***, Elgin AK*, Banaszak Holl MM*. 2019. Uptake and retention of nanoplastics in quagga mussels. *Global Challenges (IF 3.85).* DOI: 10.1002/gch2.201800104*.*

24. Roux S, Adriaenssens EM, Dutilh BE, Koonin EV, Kropinski AM, ..., **Duhaime MB**, …, Nikos C Kyrpides, Emiley A Eloe-Fadrosh*. 2019. Minimum information about an uncultivated virus genome (MIUVIG). *Nature Biotechnology (IF 54.908)*. 37:1, 29–37.

23. Hannigan GD, **Duhaime MB**, Ruffin MT, Koumpouras CC, Schloss PD*. 2018. The Diagnostic Potential and Interactive Dynamics of the Colorectal Cancer Virome. *mBio (IF 6.78).* 9: e02248-18.

22. Hannigan GD, **Duhaime MB**, Koutra D, Schloss PD*. 2018. Biogeography and environmental conditions shape bacteriophage-bacteria networks across the human microbiome. *PLoS Computational Biology (IF 4.475).* 14 (4), e1006099.

21. Alberti A, Poulain J, …, **Duhaime MB**, …, Wincker P. 2017. Viral to metazoan marine plankton nucleotide sequences from the Tara Oceans expedition. Sci Data. 4:170093. doi: 10.1038/sdata.2017.93.

20. **Duhaime MB***, Solonenko N, Roux S, Verberkmoes NC, Wichels A, Sullivan MB*. 2017. Comparative omics and trait analyses of marine *Pseudoalteromonas* phages advance the phage OTU concept. *Frontiers in Microbiology (IF 5.64)*. 8:1241.

19. Cable RN, Beletsky D, Beletsky R, Wigginton K, Locke BW, **Duhaime MB***. 2017. Distribution and modeled transport of plastic pollution in the Great Lakes, the world's largest freshwater resource. *Frontiers in Environmental Science (IF 4.24)*. 5, 45.

18. Berry MA, Davis TW, Cory RM, **Duhaime MB**, Johengen TH, Kling GW, Marino JA, Den Uyl PA, Gossiaux D, Dick GJ, Denef VJ*. 2017. Cyanobacterial harmful algal blooms are a biological disturbance to western Lake Erie bacterial communities. *Environmental Microbiology (IF 5.491)*. 19(3), 1149-1162.

17. Roux S, Brum JR, Dutlih BE, Sunagawa S, **Duhaime MB**, Poulos PT, Solonenko N, Lara E, Poulain J, Pesant S, Kandels-Lewis S, Dimier C, Picheral M, Searson S, Cruaud C, Alberti A, Duarte CM, Gasol JM, Vaque D, Tara Oceans Coordinators, Bork P, Acinas SA, Wincker P, Sullivan MB*. 2016. Ecogenomics and potential biogeochemical impacts of globally abundant ocean viruses. *Nature (IF 49.96)*, 537(7622), 689.

16. *Michielssen MR***, *Michielssen ER***, *Ni J***, **Duhaime MB***. 2016. Fate of microplastics and other small anthropogenic litter (SAL) in wastewater treatment plants depends on unit processes employed. *Environmental Science: Water Research & Technology (IF 4.251).* 2(6), 1064-1073. *** high school co-authors*

15. Oberbeckmann S, Osborn M, **Duhaime MB***. 2016. Microbes on a bottle: substrate, season and geography influence community composition of microbes colonizing marine plastic debris. *PLoS One (IF 3.24)*. 11(8), e0159289.

14. **Duhaime MB***, Wichels A, Sullivan MB. 2016. Six *Pseudoalteromonas* Strains Isolated from Surface Waters of Kabeltonne, Offshore Helgoland, North Sea. *genomeA (IF 2.166)*. 4(1), e01697-15.

13. Hankett J, Collin WR, Yang P, Chen Z*, **Duhaime MB***. 2016. Low-v**o**latility Model Demonstrates Humidity Affects Environmental Toxin Deposition on Plastics at a Molecular Level. *Environmental Science & Technology*. doi: 10.1021/acs.est.5b05598.

12. Syberg K*, Khan SR, Selck H, Palmqvist A, Banta G, Daley J, Sano L, **Duhaime MB**. 2015. Microplastics: Addressing Ecological Risk Through Lessons Learned. *Environmental Toxicology and Chemistry*. DOI: 10.1002/etc.2914.

11. Voorhies AA, Eisenlord SD, Marcus DN, **Duhaime MB**, Cavalcoli JD, Dick GJ*. 2015. Ecological and genetic interactions between cyanobacteria and viruses in low-oxygen mat community inferred through metagenomics and metatranscriptomics. *Environmental Microbiology*. DOI:10.111/1462-2920.12756.

10. Anantharaman K, **Duhaime M**, Toner BM, Breier JA, Dick GJ. 2014. Sulfur oxidation genes in diverse deep-sea viruses. *Science*. 344(6185): 757-760.

9. Buttigieg PL, Hankeln W, Kostadinov I, Kottmann R, Yilmaz P, **Duhaime MB**, Glöckner FO*. 2013. Ecogenomic Perspectives on Domains of Unknown Function: Correlation-based Exploration of Marine Metagenomes. *PLoS One.* 8(3): e50869. DOI:10.1371/journal.pone.0050869.

8. Allers E, Moraru C, **Duhaime MB**, Beneze E, Solonenko N, Canosa JB, Amann R, MB Sullivan*. 2012. phageFISH: Single-cell and population level viral infection dynamics revealed by phageFISH, a method to visualize intracellular and free viruses. *Environmental Microbiology*. 15: 2306–2318.

7. **Duhaime MB** and Sullivan MB*. 2012. Ocean viruses: Rigorously evaluating the metagenomic sample-to-sequence pipeline. *Virology*, *434*(2), 181-6.

6. **Duhaime MB**, Deng L, Poulos BP, Sullivan MB*. 2012. Towards quantitative metagenomics of wild viruses and other ultra-low concentration DNA samples: a rigorous assessment and optimization of the linker amplification method. *Environmental Microbiology*. *14*(9), 2526-37.

5. **Duhaime MB***, Wichels A, Waldmann J, Teeling H, Glöckner FO. 2011. Ecogenomics and Genome Landscapes of Marine *Pseudoalteromonas* Phage H105/1. *ISME Journal*. 5(1):107-21.

4. **Duhaime MB***, Kottmann R, Field D, Glöckner FO*. 2011. Enriching public descriptions of marine phages using the Genomic Standards Consortium MIGS standard. *Standards in Genome Sciences*.

3. Kottmann R, Kostadinov I, **Duhaime MB**, Buttigieg P, Yilmaz P, Hankeln W, Glöckner FO*. 2010. Megx.net: Integrated database resource for marine ecological genomics. *Nucleic Acids Res*. 38: 391-395.

2. Richter M, Lombardot T, Kostadinov I, Kottmann R, **Duhaime MB**, Peplies J, Glockner FO*. 2008. JCoast - A biologist-centric software tool for data mining and comparison of prokaryotic (meta)genomes. *BMC Bioinformatics*. 9:177.

1. Vrijenhoek RC, **Duhaime M**, Jones WJ*. 2007. Subtype variation among bacterial endosymbionts of tubeworms (Annelida: Siboglinidae) from the Gulf of California. *Biological Bulletin.* 212(3): 180-184.

RESEARCH GRANTS (lead PI*)

2025	$15,000 (lead PI)	Graham Sustainability Institute Catalyst Award. *Developing a Fibershed Research Framework—Ecosystem Mapping For Regenerative Textile Futures*. 5/2025-4/2026. **Duhaime MB.**
2024	$50,621 (lead PI)	NSF. INTERN DCL - GeoHealth INTERN: ANT LIA - Viral Ecogenomics of the Southern Ocean: Unifying Omics and Ecological Networks to Advance our Understanding of Antarctic Microbial Ecosystem Function. 11/2024 - 4/2025. **Duhaime MB***, Zaman L.
2024	$600,000	NSF. *BRITE PIVOT: Breaking Down Plastic with Biology: A Multi-Scale Framework For Mechanics-Driven Plastic Biodegradation Modeling*. 3/2024-2/2027. Galbourne N*, **Duhaime M.**
2024	$249,760	UM Meet the Moment Research Grant, *Detroit River Story Lab*, 7/2024-6/2026. Porter D*, Dillard A, **Duhaime M**, Hass K
2023	$734,225	NOAA. *Great Lakes Omics.* 7/2024-12/2025. Dick GJ, Denef V, **Duhaime M.**
2022	$80,000 (lead PI) *in kind*	Department of Energy PNNL Large Scale Research Award. *Determining mechanisms and rates of microbial plastic biodegradation and the consequences for freshwater carbon cycling*. 10/2022 - 9/2024. **Duhaime MB**.
2022	$4,981,000 *($340,616 Duhaime)*	Flu Lab Foundation. *Multidisciplinary InvesTIGATion of Transmission to Ease inFLUenza (MITIGATE FLU)*. 11/2021 - 4/2025. Martin E*, Wigginton K, Lauring A, **Duhaime M**, Clack H, Hayashi M, Hashikawa A.
2022	$168,796	Michigan Sea Grant. *Mapping genetic variation in Microcystis to improve Great Lakes harmful algal bloom models.* Denef VD*, **Duhaime MB**.
2021	$884,192 (lead PI)	NSF. *ANT LIA - Viral ecogenomics of the Southern Ocean: unifying omics and ecological networks to advance our understanding of viral controls on Antarctic productivity and carbon cycling*. 3/1/2021 - 2/28/2026. **Duhaime MB***, Zaman L.
2021	$84,888	Humanities Collaboratory Proposal Development Project. *Detroit River Story Lab*. Porter D*, Arquero M, Dillard A, **Duhaime MB**, Hardin R.

2021	$270,000	Graham Sustainability Institute's Carbon Neutrality Acceleration Program. *Detroit River Story Lab: Carbon Neutrality Narratives Project*. Porter D*, Arquero M, **Duhaime MB**, Hardin R, Hass K.
2020	$1,170,000 (lead PI)	Dow Inc. *Measuring processes of environmental plastic weathering: towards experimentally parameterized plastic transport models*. **Duhaime MB***, Chen Z. 7/1/2020 - 6/30/2023.
2019	$322,605	National Oceanic and Atmospheric Association (NOAA). *Linking genes to microbial traits key to the rise and demise of cyanobacterial harmful algal blooms.* Cardinale B*, Johengen T, Errera R, Godwin C, Denef V, **Duhaime M**, Dick G.
2017	$150,000	Department of the Interior (contracted with National Park Service) *Identifying microbiological factors driving botulism outbreaks at Sleeping Bear Dunes National Lakeshore.* Denef VJ*, **Duhaime M**
2016	$60,328	Swiss Polar Institute (Antarctic Circumpolar Expedition) *Biodiversity and isolation of bacteria and viruses in contrasted regions of the Southern Ocean*. C Hassler*, **Duhaime M**
2016	$40,000 (lead PI)	Gordon and Betty Moore Foundation (contracted with the San Francisco Estuary Institute)*. Nanoplastic pollution in aquatic ecosystems.* **M Duhaime***, M Banaczak-Holl
2015	$15,000	University of Michigan MCubed. *The Role of the Virome in Cystic Fibrosis;* Schloss P*, **Duhaime M**, LiPuma J
2015	$148,962 (lead PI)	Department of Energy JGI-EMSL FICUS. *Building the phage-host-environment interaction data to scale from genes-to-ecosystems: Towards predictive modeling of wild microbial and viral community dynamics;* **Duhaime M***, Sullivan M
2015	$14,915 (lead PI)	University of Michigan Office of Research. *The Ocean Plastic Microbiome: Ecosystem-level impacts of microbial biofilms on ocean plastic debris*. **Duhaime MB***
2013	$274,463 (lead PI)	University of Michigan Water Center. *Microplastics in the Great Lakes: Towards establishing a long-term multidisciplinary research platform to assess the impact of microplastics on Laurentian Great Lakes ecosystem health*; **Duhaime M*,** Wigginton KR, Beletsky D, Rios Mendoza, L, Chen Z, Beletsky R, Sano L, Burton A
2013	$14, 825 (lead PI)	Elizabeth C. Crosby Award, University of Michigan ADVANCE Program. **Duhaime M***
2013	$249,485	University of Michigan Water Center. *Building capacity for freshwater science: Integrating microbial genomics, environmental chemistry, and ecosystem processes to understand harmful algal blooms;* Dick G*, Johengen T, Denef, V, **Duhaime M**, Sherman D, Cory R, Kling G, Fahnenstiel G, Ruberg S, James T, Davis, T
2013	*in kind*	Pacific Northwest National Lab (transcriptomics sequencing). *Bringing the viral "unknown" to light through wild community and*

		model system characterization; Coleman M, **Duhaime M**, Holmfeldt K, Sullivan M*
2010	*in kind* (lead PI)	Broad Institute Marine Virus Initiative (PI), 454 sequencing for two virus metagenomes. **Duhaime M***

INVITED SEMINARS

2024 National Conference on Race and Ethnicity in Higher Education
2024 Department of Biology. Central Michigan University
2024 Department of Energy Joint Genome Institute (JGI) Viral EcoGenomics & Applications (VEGA) Symposium (declined)
2023 Department of Evolution, Ecology, and Behavior, University of Illinois Urbana-Champaign (declined)
2023 Gosnell Seminar Series. School of Life Sciences. Rochester Institute of Technology.
2022 Dow Chemical. Texas Innovation Center.
2022 Society of Engineering Sciences Annual Meeting SES2022. Texas A&M.
2022 Geobiology, California Institute of Technology.
2021 Harvard University Microbial Sciences Initiative 2021 Symposium
2021 World Microbe Forum 2021, joint annual meeting of American Society for Microbiology (ASM) and Federation of European Microbial Science (FEMS)
2021 University of Michigan Biological Station Annual Winter Meeting.
2020 Keynote, Ohio State University Microbial Communities Symposium (canceled, COVID)
2020 ASM Microbe, annual meeting American Society for Microbiology (canceled COVID)
2019 Kellogg Biological Station, Michigan State University.
2018 Swiss Polar Institute, Plymouth, UK.
2018 Madison Microbe Meeting, University of Wisconsin Madison.
2018 Keynote. Kid Tech University, Bowling Green State University, OH.
2015 Department of Biology. Bowling Green State University
2014 Water Center Annual Meeting, Graham Sustainability Institute
2014 Annis Water Resources Institute (AWRI)
2010 Phages in Interaction III Symposium. KU Leuven (University), Belgium
2008 International Society for Microbial Ecology Annual Meeting (ISME 12)

INVITED WORKING GROUPS, WORKSHOPS, GUEST LECTURES, AND PANELS

2025 Healthy Textiles Coalition, Member
2025 Sacramento State Lecture: *Microplastics, "Microfibers", and our Water: The Path to Natural Fiber Textiles*
2025 University Partnership Statewide Textile Recovery Act Taskforce (U-STRAT) with California Product Stewardship Council
2025 Rustbelt Fibershed Symposium.
2025 Halt the Harm: Convergence Space on Fast Fashion to Break the Fossil-Fashion Chain
2022 NSF-funded workshop. *Mapping Future Applications of 'Omics in Antarctic Research*

2022 University Research Corridor, *Microplastics & Water Quality*; panelist, Traverse City, MI
2020 Ocean Carbon & Biogeochemistry (NASA-NSF), *Ocean Omics Intercalibration and Standards workshop.* Workshop report: https://tinyurl.com/24n29v8b
2017 CIFAR-GBMF Workshop: *Marine Viruses - Continuum of Persistence* (Portugal), invited
2016 Marine Debris Training Workshop, GLERL, Ann Arbor, MI.
2015 Freshwater Summit, invited panelist, Traverse City, MI
2015 International Association for Great Lakes Annual Meeting (Burlington, VT). State-of-the art and strategic planning for microplastics research in Great Lakes
2014 University Research Corridor, *Blue Economy*; panelist, press conference, Muskegon, MI
2014 Great Lakes Restoration Conference, *Healing Our Waters*, panelist, Grand Rapids, MI
2013 Women Evolving Biological Sciences (WEBS). Highly-competitive symposia targeting early career women in the biological sciences to address the retention and transition to tenure track and leadership roles.
2013 Environmental Virology Workshop, Biosphere2 Oracle, AZ: "*phageFISH"*
2013 Environmental Virology Workshop, Biosphere2 Oracle, AZ: "*Sample-to-Sequence"*
2008 Metagenomics 2008, San Diego, CA: "*Megx.net*"

AWARDS AND HONORS

2020 2020 Best Paper Award of International Society for Microbial Ecology (ISME) Journal (for Howard-Varona et al., 2020).
2013 *Women Evolving* the *Biological Sciences* (WEBS), NSF ADVANCE
2010 Teaching award, Max Planck Institute Graduate School (Bioinformatics course)
2007-10 Marie Curie Early Stage Training Ph.D. fellowship
2009 Poster Prize, Gordon Research Conference Applied and Environmental Microbiology

---

TEACHING, MENTORSHIP, AND TRAINING

COURSES TAUGHT *newly conceived and developed

*EEB 500 Foundations** (5 credit) - Students engage in critical reflection, community science, and anticolonial approaches to understand scientific and personal positionality and communication skills for dialogue across diverse perspectives.

*BIO 207 Microbiology** (4 credit) - Examines microbial diversity, ecology, and function through hands-on field and laboratory experiences at UMBS.

BIO 207 Microbiology (4 credit) - Explores the principles of microbiology at the cellular and molecular levels, focusing on genetics, biochemistry, and cell structure/function.

*EEB 447 Advanced Environmental Microbiology Lab** (3 credit) - Investigates environmental microbes and their roles in regional sustainability through intensive fieldwork and advanced lab

methods, emphasizing microbiological techniques, scientific communication, and project-based research. (developed and taught on both Ann Arbor and UMBS campuses)

*EEB 400 Microbes in the Wild** (2 credit) - Immerses students in field and lab research on freshwater microbes and regional sustainability—developing sampling, analysis, and science communication skills at UMBS.

POST DOCTORAL TRAINEES ***(co-advisor*)***

Trainee	Period	Current Position
Cody Sheik	2014 - 2015	Assistant Professor, University of Minnesota - Duluth
Geof Hannigan*	2015 - 2017	Principal Scientist, Merck
Brittan Scales	2017 - 2019	Post Doc, Leibniz Institute for Baltic Sea Research
Bridget Hegarty*	2019 - 2022	Assistant Professor, Case Western Reserve University
Jessica Choi	2021 - 2023	Scientist, Dow Chemical
Kira Newman[T]	2021 - 2023	Clinical Assistant Professor, Michigan Medicine
Katie Langenfeld	2024 -	Post Doc, University of Michigan
AJ Wing	2024 - 2025	Lecturer, University of Michigan
Morgan Lindback	2024 - 2025	Post Doc, University of Southern California
Armun Liaghat	2025 - present	Post Doc, University of Michigan

[T]*I mentor the bacteriophage work on Dr. Newman's NIH T32 training grant project*

DISSERTATION CHAIR ***(co-chair*)***

Student	Degree	Department	Period	Next Position
Kathryn Langenfeld*	PhD	CEE (UM CoE)	9/2016 - 12/2021	Post Doc, Stanford
Joyah Watkins	MSc	EEB	1/2019 - 6/2021	PhD student, Rice
Jaspreet Singh Saini*	PhD	U Geneva	9/2018 - 3/2022	Univ Geneva
Morgan Lindback	PhD	EEB	9/2017 - 4/2024	Univ Michigan
AJ Wing	PhD	EEB	9/2017 - 12/2023	Univ Michigan
Eric Bastien	PhD	EEB	9/2020 - 9/2025	Bioinf, Locus Biosci
Rachel Cable	PhD	EEB	9/2020 -	
Skyler Har	PhD	EEB	9/2023 -	

COMMITTEE MEMBER

Student	Degree	Department	Start - Completion
Manasvin Raina	PhD	EEB	2025 -
Marvin Yu-Cheng Lin	PhD	EEB	2024 -
Emma Carlson	PhD	EEB	2023 -
Malavika Ramkumar	PhD	Chemistry	2023 -
Erica Gardner	PhD	Chem E (UM CoE)	2021 -
Jillian Myers	PhD	EEB	9/2014 - 9/2020
Emily Crossette	PhD	Civ Env E (UM CoE)	8/2016 - 1/2021
Rebeca Clemons	MSc	EEB	9/2020 - 6/2022

EXAMINATION COMMITTEE MEMBER

Student	Degree	Department	Exam Date
Mitch Witt	PhD	Bioinformatics	5/2025
Jess Millar	PhD	Bioinformatics, EEB	2/2019
Kevin Tracy	PhD	Bioinformatics	5/2020

UNDERGRADUATE HONORS THESIS ADVISOR

Student	Major	Advising Period
Adi Mizrahi	EEB	2022 - 2024
Elizabeth Leonard	BHS	2024 - 2024
Eric Bastien	Microbiology, Biophysics	2016 - 2018
Cecelia Batterbee	EEB	2018 - 2020
Rebecca Chandross	EEB	2019 - 2021
Maxim Murray	EEB	2020 - 2023

STUDENT MENTORING (UM undergraduate research advising, unless otherwise specified)**

2024 - 2025	Emmalyn Campau, Bioinformatics Master's Student**
2024 - 2025	Evelyn Faust, Bioinformatics Master's Student**
2024 - 2025	Sarah Gasko
2023 - 2025	Elizabeth Leonard
2023 - 2024	Indira Sankaran
2023 - 2024	Emily Hutchings
2023 - 2024	Corey Plotske
2022 - 2023	Charles Luther Smith
2022 - 2025	Adi Mizrahi
2021 - 2022	Hannah DeHetre (SEAS Master's student research credit in my lab**)
2021	Maggie Halpern (SEAS MSc student, Detroit River Story Lab project)
	Four high school students in Detroit-based Green Door Initiative Youth Program
2020 - 2024	Agniva Bhaumik
	Isabelle Montilla
	Max Murray
2020 - 2021	Jaylen Armey
	Caitlin Shyuu
	Anna DeVeaux
	Fernanda Ryan
	Nancy Carmona
	Julia Linton
2019 - 2022	James Riddell (UCSD undergrad, summer then remote intern**)
2019	Gabrielle Flint
	Arjun Puri (Washington University in St. Louis undergrad, summer intern**)
2018 - 2020	Cecelia Batterbee
2019	Anjali Shakya (Frontiers Master's student rotation**)

	Matthew Greydanus
	Sahana Shankar
2018 - 2019	Nathalie Hernandez
2018 - 2021	Rebecca Chandross
2018	Jaspreet Saini Singh, PhD University of Geneva (visiting graduate student)
2016 - 2018	Eric Bastien
2016 - 2017	Aaron Adiwijaja
	Yi Qiu
	Andrew Wong
2016	Zena Lapp (Bioinformatics graduate student rotation**)
2015	Marlies Michielssen (Ann Arbor high school student**)
	Elien Michielssen (Ann Arbor high school student**)
	Jonathan Ni (Ann Arbor high school student**)
2013 - 2015	Alexi Schnur
2015 - 2017	Sierra McClain (MSc student, Eastern Michigan University, secondary advisor**)
2014 - 2015	Sarah Halperin
2013 - 2014	Melissa Freeland
	Vinnie Gupta
2014	Emma Borjigin-Wang (Harvard University undergrad, summer intern**)
	Gabriel Vargas (University of Costa Rica, visiting scholar**)
2013 - 2014	Nicole Dear
2011	Ryan Schenk (University of Arizona undergrad**)
2010	Ian McGill (University of Arizona undergrad**)

UNIVERSITY AND DEPARTMENT SERVICE

2025 - *current*	Engaged Teaching and Experiential Learning Working Group Member, Campus As Lab, Student Life Sustainability, Planet Blue
2025 - *current*	EEB Department JEDI Committee
2022 - 2023	EEB Department JEDI Committee
2022	Panelist. Ginsberg Center Workshop. *Remote Togetherness: How We're Reimagining Community Engagement within a New Context*
2019 - 2020	EEB Department Executive Committee
2018 - 2019	**EEB Department Frontiers Graduate Student Admissions Committee**
2019	LSA College Nominating Committee
2016 - 2018	**Seminar Committee**

PROFESSIONAL SERVICE

Society Memberships:
American Society for Microbiology (ASM); *Microbes and Social Equity Working Group* member
Association for the Sciences of Limnology and Oceanography (ASLO)
Society of Environmental Toxicology and Chemistry (SETAC)

JOURNAL PEER-REVIEW

Science, Nature, International Society for Microbial Ecology Journal (ISMEJ, Nature Publishing Group), Applied and Environmental Microbiology, Microbiome, Environmental Chemistry, Environmental Science & Technology

GRANT PEER-REVIEW

NSF Molecular Cellular Biology, NSF Biological Oceanography, European Research Council, Sea Grant of Michigan, Sea Grant of Wisconsin, Sea Grant of New York

PROFESSIONAL LEADERSHIP

2014 – 2016 Executive board member *Tara Mediterranean*—international research consortium of 20+ research groups studying impacts of plastic debris on Mediterranean ecosystem. Duhaime lab leads microbial analyses of interdisciplinary project (field sampling 2014, R. Cable).

2008 – 2009 Spokesperson Max Planck Society PhDnet: represented ~5000 PhD students of the Max Planck Society to the society's governing body, the German government, and the public.

Published during tenure as Max Planck Society PhDnet spokesperson:
Duhaime MB, Alsheimer S, Angelova R, FitzPatrick I. 2008. In defense of Max Planck. *Science* 320(5878): 872.

PUBLIC OUTREACH AND ENGAGEMENT

PUBLIC ENGAGEMENT

2024-2025 Detroit River Story Lab River Scholars Program, lab host

2024-2025 Detroit River Story Lab Schooner Lessons

2024 Science Café, Connor O'Neil's, Ann Arbor, MI. *"A problem so small you can see it from space?"* with University of Michigan Natural History Museum

2024 Advised 12 middle schoolers from Midland, MI in FIRST ® Tech Challenge 'Into the Deep' Robotics Competition. Team awarded Motivate Award and Inspire III Award and advanced to state championship.

2023 Carbon Cycling and Climate curriculum development with UM Museum of Natural History and Ypsilanti and Detroit-based Middle Schools

2022 Boat building workshop with Green Door Initiative middle and high school students in their youth training program (Detroit-based environ justice non-profit)

2021 Collaborated with Green Door Initiative to create ship-based field experiences on Lake Michigan for students in their youth training program (Detroit-based environmental justice non-profit)

2021 Youth boat building workshop at Dossin Museum (Belle Isle, Detroit), created and taught a lesson on freshwater microbial ecology, carbon cycling, microplastics pollution through Detroit River Story Lab project (co-I).

	https://news.umich.edu/what-lies-beneath-detroit-river-narratives-emerge-through-schooner-trips-boat-building/
2021	Advised two high school science fair teams from Tucson, Arizona (one awarded 2nd place in the competition)
2019 - 2024	Developed interactive museum installation with University of Michigan Natural History Museum highlighting lab research and graduate student research.
2019	Science Café, Connor O'Neil's, Ann Arbor, MI. *"What does water health have to do with microbes?"* with University of Michigan Natural History Museum
2019	Scientist spotlight events (3 public events in Ann Arbor) on Lake Erie Harmful Algal Blooms
2019	Participant in a comedy event (Science Gallery Detroit) led by NYC-based Code Switch, an all people of color improv team, discussing my experiences as a woman in field work and science
2016	A lead science ship of *eXXpedition Great Lakes* (all female crew on day of largest simultaneous plastic sampling event on record)
2016	*Great Lakes vs Plastic*. Duhaime Lab plastic pollution awareness outreach event at Belle Isle Aquarium in downtown Detroit, in concert with *eXXpedition Great Lakes*
2015	Invited speaker with Sierra Club Huron Valley: "*Plastics! Plastic Debris and Ecosystem Health of our Great Lakes*"
2015	Hosted Grand Rapids LEGO Team Research Experience (15 students, ages 8-10) introduced concepts and hands on experience studying plastic debris in Great Lakes watershed https://dudelabadventures.wordpress.com/2015/10/19/a-visit-from-the-grand-rapids-first-lego-league-team
2014	Ann Arbor middle school (STEAM) session on plastic debris in our watersheds
2014	Duhaime Lab led Windward Bound summer field camp sailing Lake Huron for 2 weeks, instructing 10-14 year olds on microplastics sampling, lab analyses, environmental stewardship
2013	Dundee middle school session on marine plastic debris and "path of a STEM girl"
2012 – 2013	Training of ~30 STEM teachers (grades 3-6), 15 tour guides and installation of educational posters at Biosphere2 Ocean (Oracle, AZ)
2012	Year-long interaction with students at multiple schools in France to teach about the effects of plastic pollution on marine ecosystems

GOVERNMENT ENGAGEMENT

2018	Consulted with state representatives to discuss state-of-the-art of plastic pollution research in the Great Lakes, Lansing, MI.
2017	Testified to the U.S. Senate sub-committee hearing on marine debris (July 2017)
2016	International Joint Commission—Microplastics Workshop, Windsor, Canada
2013-present	NOAA Marine Debris Action Plan: member of core science advisory team working with regional/national stakeholders to assess and reduce the threat of plastics to Great Lakes health

SELECT MEDIA COVERAGE AND INTERVIEWS

LSA Magazine, “Back to Basics.” Spring 2025. https://lsa.umich.edu/lsa/news-events/lsa-magazine/spring-2025/back-to-basics.html

DOE Joint Genome Institute, “Viruses Reprogram Cells into Different Virocells.” 10 February 2020: https://jgi.doe.gov/viruses-reprogram-cells-into-different-virocells/

Downtown News Magazine, “Microplastics infiltrate the human food chain.” 27 December 2019: https://www.downtownpublications.com/single-post/2019/12/27/Microplastics-infiltrate-the-human-food-chain

LSA Magazine, “Plague of Plastics: An uncommon scientist who steps out of the lab onto boats and in front of policy makers, LSA Professor Melissa Duhaime turns a skeptical side-eye to the presence of plastics in our lakes and oceans. She wants to use science to keep our water healthy.” 2019 https://lsa.umich.edu/lsa/news-events/all-news/search-news/Plague-of-Plastics.html

Northern Express, “Breakthroughs in the battle against avian botulism” 22 Sept 2018: https://www.northernexpress.com/news/feature/breakthroughs-in-the-battle-against-avian-botulism/

The Traverse Ticker, “A War in the Waters of Lake Michigan” 24 Sept 2018: https://www.traverseticker.com/news/a-war-in-the-waters-of-lake-michigan/

Consortium for Ocean Leadership, “Senate Navigates Growing Marine Debris Problem” 31 Jul 2017: http://oceanleadership.org/senate-navigates-growing-marine-debris-problem/

The Scientist, “Ocean Viruses Cataloged.“ 21 September 2016: http://www.the-scientist.com/?articles.view/articleNo/47086/title/Ocean-Viruses-Cataloged/

U-M press release. “Scientists triple known types of viruses in world's oceans.” 21 Sept 2016: http://ns.umich.edu/new/releases/24203-scientists-triple-known-types-of-viruses-in-world-s-oceans

Interviewed by Carl Zimmer for Quanta Magazine. “Scientists Map 5,000 New Ocean Viruses.” 21 May 2015: https://www.quantamagazine.org/20150521-ocean-viruses/

WILS Morning Wake-Up with Dave Akerly (live interview), 16 March 2015

WMUK, Michigan NPR (interview, radio cast), “Michigan to Consider Microbead Ban.” 7 March 2015: http://wmuk.org/post/michigan-consider-microbead-ban

WKAR, Current State (live interview, Michigan Radio), “UM researcher says microplastics could threaten Great Lakes fish.” 3 March 2015: http://wkar.org/post/um-researcher-says-microplastics-could-threaten-great-lakes-fish#stream/0

Port Stanley News, “Research field station docks in Port Stanley.” 29 July 2014

Great Lakes Echo, “Researchers troll for plastic on Great Lakes fishing boat.” 16 July 2014: http://greatlakesecho.org/2014/07/16/researchers-troll-for-plastic-aboard-converted-great-lakes-fishing-boat/

Lake Scientist, “Microplastics Pollution in the Great Lakes Ecosystem.” 16 July 2014: http://www.lakescientist.com/microplastics-pollution-great-lakes-ecosystem-summary-presentations-iaglr-2014/

MIRS, Michigan's Capitol Coverage, "Tiny Plastics Register on States' Policy Radar." 26 July 2014: http://www-personal.umich.edu/~duhaimem/mirs_article.html

UM News, "Viruses hijack deep-sea bacteria at hydrothermal vents." 1 May 2014: http://ns.umich.edu/new/releases/22158-viruses-hijack-deep-sea-bacteria-at-hydrothermal-vents

Michigan Radio, Environment Report, "Hunting for Plastic Pollution in the Great Lakes." 29 August 2013: http://michiganradio.org/post/hunting-plastic-pollution-great-lakes

---

PROFESSIONAL DEVELOPMENT

2025 **Strategically Navigating Projects for Public Impact.** 5-Week Focused Intensive Winter 2025. Office for the Vice President for Research. University of Michigan

2023 **Speculative Budgeting: Resource Management for Our Futures**. AORTA (anti-oppression resource and training alliance) and ABC (A Bookkeeping Collective) workshop to develop skills for mapping resource allocation and developing understanding of budgeting with an anti-oppression ethos.

2022 **Uprooting White Supremacy in Organizations.** AORTA (anti-oppression resource and training alliance). Identify subtle ways that white supremacy shows up inside organizations; highlight common challenges and missteps; lay groundwork for discussion and change work within your organization.

2022 **RIGOR: Skill Up! Facilitation Training**. AORTA (anti-oppression resource and training alliance) Headwaters Facilitation Training Program. 3-hour online workshop that supports facilitators in deepening their craft.

2022 **Radical Leadership** / The Authentic Academic. 7-week small group workshop taught by Dr. Bree Rosenblum (UC Berkeley) designed for leaders and emerging leaders in academia seeking the support to be part of a better culture.

2022 **ADAPT: Skill Up! Facilitation Training**. AORTA (anti-oppression resource and training alliance) Headwaters Facilitation Training Program. A 3-hour online training that explores when and why a facilitator decides to change course, and you can use pivot moments to support a group to express its values and priorities.

2021 **How to Succeed in Academia Without Losing Your Soul** / The Authentic Academic. 6-week small group workshop taught by Dr. Bree Rosenblum (UC Berkeley)

2021 **Facilitate for Freedom Fundamentals Training**. AORTA (anti-oppression resource and training alliance) Headwaters Facilitation Training Program. Through group discussion and hands-on exercises, this workshop introduces AORTA's facilitation pedagogy and lays the groundwork for anti-oppression facilitation.

2018 **Faculty Success Program**. National Center for Faculty Development & Diversity (NCFDD). 12-week to support tenure-track and tenured faculty with skills necessary to increase research and writing productivity while maintaining a healthy work-life balance.

FIELD PROGRAMS

Cumulative 86 days (Duhaime) and ~200 days (including all Duhaime Lab members) aboard oceanographic and large lakes research vessels sampling microbes, viruses, and microplastics

2021-current	monthly sampling Douglas Lake, University of Michigan Biological Station
2014-current	weekly sampling Lake Erie to study toxic harmful algal blooms
2017	Antarctic Circumpolar Navigation (ACE), 3 months at sea
2014	Tara Mediterranean (Duhaime Lab efforts represented by R. Cable), Algeria to France http://oceans.taraexpeditions.org/en/m/science/news/interview-of-rachel-cable/
2014	NOAA vessel and R/V Nancy K, Laurentian Great Lakes
2011	Tara Oceans Expedition, Chile to Easter Island, Southern Pacific
2008	McMurdo Station, Antarctica
2007	R/V Maria S. Merian, Iceland to Portugal, Northern Atlantic
2003	R/V Tiburon to whale falls with Monterey Bay Aquarium Research Institute, Monterey Canyon, Pacific

ADVISORS AND MENTORS

Faculty Mentor: Dr. Meghan Duffy, Ecology and Evolutionary Biology, University of Michigan
Faculty Mentor: Dr. Gregory Dick, Earth and Environmental Sciences, University of Michigan
Post-doctoral Advisor: Dr. Matthew B. Sullivan, Microbiology, The Ohio State University
PhD Advisor: Dr. Frank Oliver Glöckner, Bioinformatics Group, Max Planck Institute for Marine Microbiology