

MELISSA B. DUHAIME

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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

2017 – present	Assistant Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2012 – present	Faculty Affiliate, Center for Computational Medicine and Bioinformatics, 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
2003	Research Intern, Monterey Bay Aquarium Research Institute (MBARI)

RESEARCH PUBLICATIONS

Citations: 1350; h-index: 19 (19 February 2020)

*(Undergraduate, high school students**; graduate students and post-bac lab members), senior/corresponding author*)*

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

2. 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***. Phage-specific reprogramming of virocells. *ISME Journal*. 2020.
3. 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*. DOI: 10.1002/gch2.201800104. *joint senior/corresponding authors
4. Roux S, Adriaenssens EM, Dutilh BE, Koonin EV, Kropinski AM, ..., **Duhaime MB**, ..., Nikos C Kyrpides, Emiley A Eloe-Fadrosch. 2019. Minimum information about an uncultivated virus genome (MIUVIG). *Nature Biotechnology*. 37:1, 29–37
5. Hannigan GD, **Duhaime MB**, Ruffin MT, Koumpouras CC, Schloss PD. 2018. The Diagnostic Potential and Interactive Dynamics of the Colorectal Cancer Virome. *mBio*. 9: e02248-18.
6. Hannigan GC, **Duhaime MB**, Koutra D, Schloss PD. 2018. Biogeography and environmental conditions shape bacteriophage-bacteria networks across the human microbiome. *PLoS Computational Biology*. 14 (4), e1006099.
7. **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*. 8:1241.
8. 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*. 5, 45.
9. 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*. 19(3), 1149-1162.
10. Roux S, Brum JR, Dutilh 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*, 537(7622), 689.
11. *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*. 2(6), 1064-1073. ** high school co-authors

12. 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*. PLoS One 11(8), e0159289.
13. **Duhaime MB***, Wichels A, Sullivan MB. Six *Pseudoalteromonas* Strains Isolated from Surface Waters of Kabeltonne, Offshore Helgoland, North Sea. 2016. *genomeA*.
14. Hankett J, Collin WR, Yang P, Chen Z*, **Duhaime MB***. 2016. Low-volatility Model Demonstrates Humidity Affects Environmental Toxin Deposition on Plastics at a Molecular Level. *Environmental Science & Technology*. DOI: 10.1021/acs.est.5b05598
* joint corresponding authors
15. 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
16. 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:10.1111/1462-2920.12756
17. Anantharaman K, **Duhaime M**, Toner BM, Breier JA, Dick GJ. 2014. Sulfur oxidation genes in diverse deep-sea viruses. *Science*. 344(6185): 757-760.
18. 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.
19. 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.
20. **Duhaime MB** and Sullivan MB. 2012. Ocean viruses: Rigorously evaluating the metagenomic sample-to-sequence pipeline. *Virology*, 434(2), 181-6.
21. **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.

22. **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.
23. **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*.
24. 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.
25. 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.
26. 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.

IN PREP (*Manuscripts currently in writing stage*)

1. Crossette E, Langenfeld K, Raskin L, **Duhaime MB**, Wigginton K. Development of absolute gene quantification from microbial metagenomes outperforms quantitative PCR.
2. Blanco-Ameijeiras S, Cabanes DJE, Trimborn S, Jacquet S, Wiegmann S, Völkner C, Lelchat F, Bracher A, Cable R, **Duhaime M**, Christel S. Hassler. Effects of iron bioavailability on productivity and microbial and viral community dynamics in contrasting Southern Ocean provinces.
3. Howard-Varona C**, Lindback MM**, Bastien GE, Solonenko N, Subhadeep P, Andreopoulos B, Brewer HM, Glavina del Rio T, Adkins JN, Sullivan MB*, **Duhaime MB***. Virocell reprogramming influenced more strongly by environmental conditions than by specific phage. ***shared first-authorship*
4. Bastien GE, *Batterbee C***, Evans J, **Duhaime MB***. Sequence-based viral host range prediction at the species-level using gradient boosted decision trees.
5. Pohl A, Cable R, Pedrotti ML, Gorski G, **Duhaime MB***. Biogeography of the Mediterranean Sea plastic microbiome.
6. Scales B, Cable R, Biddanda V, Sheik C, **Duhaime MB***. Human and fish pathogens are enriched in the plastic microbiome of highly populated waterways in the Great Lakes.

RESEARCH GRANTS AND AWARDS

RESEARCH GRANTS

2020	\$1,170,000 (PI)	Dow Inc. <i>Measuring processes of environmental plastic weathering: towards experimentally parameterized plastic transport models.</i> <u>Duhaime M</u> (\$705,000 to Duhaime), Chen Z
2019	<i>pending</i> (PI)	National Science Foundation. <i>Identifying viral constraints on the Southern Ocean biological carbon pump to advance prediction of net community production.</i>
2019	\$322,605	National Oceanic and Atmospheric Association (NOAA). <i>Linking genes to microbial traits key to the rise and demise of cyanobacterial harmful algal blooms.</i> Cardinale B, Johengen T, Errera R, Godwin C, Denef V, <u>Duhaime M</u> (\$96,426), Dick G.
2017	\$150,000	Department of the Interior (contracted with the National Park Service) <i>Identifying microbiological factors driving botulism outbreaks at Sleeping Bear Dunes National Lakeshore</i>
2016	\$60,328	Swiss Polar Institute, Lead PI Hassler C (Antarctic Circumpolar Expedition) <i>Biodiversity and isolation of bacteria and viruses in contrasted regions of the Southern Ocean</i>
2016	\$40,000 (PI)	Gordon and Betty Moore Foundation (contracted with the San Francisco Estuary Institute). <i>Nanoplastic pollution in aquatic ecosystems</i>
2015	\$15,000	University of Michigan MCubed. <i>The Role of the Virome in Cystic Fibrosis</i> ; Schloss P, <u>Duhaime M</u> , LiPuma J
2015	\$148,962 (PI)	Department of Energy JGI-EMSL Cooperative Science Initiative. <i>Building the phage-host-environment interaction data to scale from genes-to-ecosystems: Towards predictive modeling of wild microbial and viral community dynamics</i> ; <u>Duhaime M</u> , Sullivan MB
2015	\$14,915 (PI)	University of Michigan Office of Research. <i>The Ocean Plastic Microbiome: Ecosystem-level impacts of microbial biofilms on ocean plastic debris</i>
2013	\$274,463 (PI)	University of Michigan Water Center. <i>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</i> ; <u>Duhaime M</u> , Wigginton KR, Beletsky D, Rios Mendoza, L, Chen Z, Beletsky R, Sano L, Burton A
2013	\$14, 825 (PI)	Elizabeth C. Crosby Award, University of Michigan ADVANCE Program
2013	\$249,485 (PI)	University of Michigan Water Center. <i>Building capacity for freshwater science: Integrating microbial genomics, environmental chemistry, and ecosystem processes to understand harmful algal</i>

- 2013 *services* *blooms*; Dick G, Johengen T, Deneff, V, Duhaime M, Sherman D, Cory R, Kling G, Fahnenstiel G, Ruberg S, James T, Davis, T 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 *services* Broad Institute Marine Virus Initiative (PI), 454 sequencing for two virus metagenomes

AWARDS AND HONORS

- 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

INVITED SPEAKING ENGAGEMENTS

SYMPOSIUMS

- 2018 Madison Microbe Meeting, Madison, WI. *“Virus-microbe interaction ecology: implications for ecosystem function from human to ocean microbiomes”*
- 2018 Kid Tech University**, Bowling Green State University, OH. *“Global Change Microbiology: The microscopic organisms that fuel our planet.”* **invited keynote for outreach program
- 2014 Water Center Annual Meeting, Graham Sustainability Institute, Ann Arbor, MI: *“Great Lakes Microplastics: Establishing an ecosystem-level understanding”*
- 2010 Phages in Interaction III Symposium, Leuven, Belgium: *“Painting the Genome Landscape of a Marine Phage”*

INVITED SEMINARS

- 2019 Kellogg Biological Station, Michigan State University, MI. *“Microcystis viruses: the population signals of viral predation in Lake Erie’s toxic cyanobacterial blooms”*
- 2015 Bowling Green State, Bowling Green, OH: *“The Aquatic Plastic Debris Microbiome: From the applied to the theoretical, lessons learned to better understand ecosystem impacts”*
- 2014 Annis Water Resources Institute (AWRI), Muskegon, MI: *“Aquatic viruses: Implications for microbial community structure and function”*

WORKING GROUPS, WORKSHOPS, AND PANELS

- 2020 Ocean Carbon & Biogeochemistry (NASA-NSF), *Ocean Omics Intercalibration and Standards workshop*, invited.
- 2017 CIFAR-GBMF Workshop: *Marine Viruses - Continuum of Persistence* (Portugal), invited
- 2016 Marine Debris Training Workshop, GLERL, Ann Arbor, MI. *“Great Lakes Microplastics Across Scales: From Surface Interactions to Basin-wide Transport Models”*

- 2015 Freshwater Summit, invited panelist, Traverse City, MI
- 2014 University Research Corridor, *Blue Economy*; invited panelist, press conference, Muskegon, MI
- 2014 Great Lakes Restoration Conference, *Healing Our Waters*, invited panelist, Grand Rapids, MI
- 2013 Environmental Virology Workshop, Biosphere2 Oracle, AZ: "*phageFISH: visualizing intracellular and free viruses for single-cell and population-level viral infection dynamics*"
- 2013 Environmental Virology Workshop, Biosphere2 Oracle, AZ: "*Sample-to-Sequence: the virus metagenome process-line*"

PROFESSIONAL MEETINGS

- 2020 Oral Presentation, American Society for Microbiology, invited (June 2020)
- 2018 Oral Presentation, Swiss Polar Institute meeting, Plymouth, UK. "*Southern Ocean Viruses: unexplored diversity and modulators of microbial metabolism*"
- 2015 Hosted session at International Association for Great Lakes Annual Meeting (Burlington, VT) to discuss current state-of-the art and strategic planning for microplastics research in Great Lakes
- 2010 Poster, ISME 13, Seattle, WA.
- 2008 Led tutorial session, Metagenomics 2008, San Diego, CA: "*Megx.net*" (tutorial session).
- 2008 Oral Presentation, ISME 12, Cairns, Australia: "*Insights into the Genome of H105/1, a marine lysogenic phage with a Pseudoalteromonas host from the North Sea*"

TEACHING, MENTORING AND ADVISING

INSTRUCTOR

- 2020 BIO 207 Introductory Microbiology; 160 student enrollment, co-taught with Anthony Vecchiarelli (MCDB)
- 2017 - 2019 EEB 401 [Advanced Environmental Microbiology Laboratory](#) -- Field Course at UMBS (new course developed through Third Century Initiative grant to UMBS); 12-16 student enrollment
- 2017 - 2019 EEB 447 [Advanced Environmental Microbiology Laboratory](#) -- Semester Lab Course on campus (new course developed through Third Century Initiative grant to UMBS); 12-16 student enrollment
- 2016 M-Sci project instructor, "*Microcystis Viruses: Hunting the Natural Born Killers of Lake Erie's Harmful Algal Blooms*"
- 2008 - 2009 Bioinformatics graduate course, MPI Marine Microbiology (teaching award)
- 2008 - 2009 Molecular Ecology graduate course, MPI Marine Microbiology

PRIMARY ADVISING

- 2019 - current Joyah Watkins, EEB Frontiers Master's (exp. grad. date 2020)
- 2017 - current Morgan Lindback, EEB PhD Candidate (exp. grad. date 2022)
- 2017 - current A.J Wing, EEB PhD Candidate (exp. grad. date 2022)

2017 - current Kathryn Langenfeld (co-advised with Krista Wigginton, PhD Candidate, Civil and Environmental Engineering

THESIS COMMITTEES AND SECONDARY ADVISING

2019 - current Emily Crossette (committee member), PhD Candidate, University of Michigan, CEE

2014 - current Jillian Meyers (committee member), PhD Candidate, University of Michigan; EEB

2015 - 2017 Sierra McClain (research advisor), MSc student, Eastern Michigan University, *currently veterinary student Michigan State University*

2014 - 2016 Joy Jeyaratnam (secondary advisor, PhD pre-candidate, Civil and Environmental Engineering

POSTDOCTORAL ADVISEES

2019 - current Bridget Hegarty, co-mentored with Krista Wigginton, CEE

2017 - 2018 Brittan Scales *currently post-doc, University of Rostock, Germany*

2015 - 2016 Cody Sheik *currently Assistant Professor, University of Wisconsin-Duluth, Large Lakes Observatory*

FORMER UNDERGRADUATE AND HIGH SCHOOL STUDENT ADVISEES

2018 - current Rebecca Chandross, University of Michigan

2018 - current Cecelia Batterbee, Biology Honors Program, University of Michigan

2018 - current Nathalie O'Hernandez, UROP, University of Michigan

2018 Emily Chiang, Doris Duke Conservation Scholars Program, University of Michigan

2017 - 2018 Molly Radosevich, University of Michigan

2017 Isaac Klimasmith, Doris Duke Conservation Scholars Program, Wesleyan University

2017 Alec Flores, Doris Duke Conservation Scholars Program, Santa Barbara Community College

2016 - 2019 Eric Bastien, Honors Program and UROP, University of Michigan; *currently UM researcher Duhaime Lab*

2016 - 2017 Aaron Adiwijaja, UROP, University of Michigan

2016 - 2017 Yi Qiu, UROP, University of Michigan

2016 - 2017 Andrew Wong, UROP, University of Michigan

2016 - 2017 Kaitelyn Benedek, EEB minor, University of Michigan

2016 - 2017 Payton Watt, EEB major, University of Michigan

2013 - 2018 Alexi Schnur, M-Bio / UROP, University of Michigan; *currently Michigan State graduate student*

2013 - 2016 Greg Boehm, UROP (Senior), University of Michigan

2014 - 2016 Kathryn Wiles, MSc student, Univ. of Michigan

2015 Paulina Devlin (Senior), University of Michigan; *currently UM Medical School*

2015 Shubhum Sidhar (Senior), University of Michigan

2015 Naomi Huntley (Senior), University of Michigan

- 2014 Elien Michielssen, Washtenaw International High School; *currently University of Michigan*
- 2014 Marlies Michielssen, Washtenaw International High School; *currently Stanford University*
- 2014 Jonathan Ni, southeast Michigan High School
- 2014 - 2015 Sarah Halperin; *left for MSc degree Bren School of Environmental Science and Management, University of California Santa Barbara*
- 2013 - 2014 Melissa Freeland; University of Michigan
- 2013 - 2014 Bridget Vial, University of Michigan
- 2014 Vinnie Gupta, University of Michigan
- 2014 Emma Borjigin-Wang, Harvard University
- 2013 - 2014 Nicole Dear, *left for MSc. School of Public Health, University of Michigan*
- 2011 Ryan Schenk, University of Arizona
- 2010 Ian McGill, University of Arizona

STUDENT ADVISEE AWARDS

- 2015 Alexi Schnur, American Society Microbiology Undergraduate Research Fellowship (ASM-URF)
- 2013 Nicole Dear, American Society Microbiology Undergraduate Research Fellowship (ASM-URF; declined for internship at NEON—*National Ecological Observatory Network*)

STUDENT PRESENTATIONS (undergraduate*)

Duhaime MB, Berry M, Schnur A*, Devlin P*, Dick GJ. Lake Erie Viruses: 'Viromic' Approaches to Track the Killers of Erie's Blooming Microbes (oral presentation). 2016 IAGLR Annual Meeting, Guelph, Ontario

Boehm G*, Vial BS*, Halperin SE*, Duhaime MB, Cable R. Great Lakes' microplastics: Developing novel methods of microplastic extraction and quantification (poster presentation). 2015 IAGLR Annual Meeting, Burlington, VT
<https://dudelabadventures.wordpress.com/2015/05/30/lab-presents-at-iaglr-2015-burlington-vt/>

Boehm G*, Oberbeckmann S, Duhaime MB. The Ocean Plastic Microbiome: Biofilm Community Dynamics and Microbe-Plastic Interface (poster presentation). 2013 UROP Symposium, University of Michigan

Schnur A*, Duhaime MB. The Great Ocean Virus Hunt: Isolating Novel Marine Phages (poster presentation). 2013 MBio Symposium, University of Michigan

PUBLIC OUTREACH AND EDUCATION

MEDIA COVERAGE AND INTERVIEWS

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, “Plaque 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/Plaque-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-iaqlr-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>

PUBLIC ENGAGEMENT

- 2019 - current 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 Met with group of 15 state representatives to discuss state-of-the-art of plastic pollution research in the Great Lakes, Lansing, MI.
- 2017 Submitted oral and written testimony 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
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FIELD PROGRAMS

Cumulative 74 days (Duhaime) and 177 days (including all Duhaime Lab members) aboard oceanographic and large lakes research vessels sampling microbes, viruses, and microplastics

- 2017 Antarctic Circumpolar Navigation (ACE), 3 months at sea
2014-current weekly sampling on Lake Erie to study toxic harmful algal blooms
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
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SERVICE ACTIVITIES

DEPARTMENT SERVICE

- 2019 - current Executive Committee
2018 - 2019 Frontiers Admissions Committee
2016 - 2018 Seminar Committee

COLLEGE SERVICE

- 2019 LSA Nominating Committee

SOCIETY INVOLVEMENT

- 2020 Invited participant (Chapel Hill, NC; Jan 2020) "Ocean nucleic acids 'omics intercalibration and standardization workshop", led by US Ocean Carbon Biogeochemistry program (NASA, NSF) to develop a marine microbial nucleic acid omics intercomparison and intercalibration effort to enhance future field programs.
2017 Invited contributor to Microbial Ecology and Evolution Retreat, ASM Headquarters, Washington D.C.

Society Memberships: American Society for Microbiology (ASM), Association for the Sciences of Limnology and Oceanography (ASLO)

JOURNAL PEER-REVIEW

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

GRANT PEER-REVIEW

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

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: led body representing ~5000 PhD students of the Max Planck Society to the governing body of the society, the German government, the public.

Published during tenure as spokesperson:

Duhaime MB, Alsheimer S, Angelova R, FitzPatrick I. 2008. In defense of Max Planck. *Science* 320(5878): 872.

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 Mentor: Dr. Matthew B. Sullivan, Microbiology, The Ohio State University

PhD Advisor: Dr. Frank Oliver Glöckner, Bioinformatics Group, Max Planck Institute for Marine Microbiology