MARIO E. MUSCARELLA

Assistant Professor of Microbiology
Institute of Arctic Biology & Department of Biology and Wildlife, University of Alaska Fairbanks
Phone: (907) 474-7955; E-mail: memuscarella@alaska.edu

EDUCATION

Indiana University *Aug 2012 – Jun 2016*
Biology, Ph.D.; Evolution, Ecology & Behavior Program

Michigan State University *June 2010 – Aug 2012*
Microbiology & Molecular Genetics
Ecology and Evolutionary Biology

Armstrong State University *Aug 2004 – May 2008*
Biology, Summa Cum Laude, B.S.

EXPERIENCE

Assistant Professor of Microbiology *July 2020 – Present*
University of Alaska Fairbanks *Fairbanks, AK*
Institute of Arctic Biology: Boreal and Arctic Microbial Ecology, Microbial Ecophysiology
Department of Biology and Wildlife: Microbiology

Postdoctoral Fellow *July 2019 – June 2020*
Université du Québec à Montréal *Montréal, QC*
del Giorgio Lab: Aquatic Ecology Research Group, Aquatic Microbial Ecology, Microbial Metabolism

Postdoctoral Research Associate *August 2016 – June 2019*
University of Illinois *Urbana, IL*
O'Dwyer Lab: Theoretical Ecology, Microbial Ecology, Trait-Based Ecology, Phylogenetic Patterns

Instructor *August 2018 – June 2019*
University of Illinois *Urbana, IL*
Courses Taught: Evolution of Molecules and Cells (Integrative Biology Honors Program)

Graduate Research Assistant *June 2010 – July 2016*
Indiana University *Bloomington, IN*
Lennon Lab: Aquatic Microbial Ecology, Molecular and Ecological Strategies of Resource Utilization; Interactions between Microbes and Molecules

Graduate Teaching Assistant *June 2011 – May 2015*
Michigan State University / Indiana University *East Lansing, MI / Bloomington, IN*
Courses Taught (MSU): Microbial Metagenomics; Cells and Molecules Lab; Introductory Microbiology Lab
Courses Taught (IU): Quantitative Biodiversity; Environmental Microbiology; Introductory Biology Lab

Research Technician *June 2008 – June 2010*
University of Georgia Marine Institute *Sapelo Island, GA*
Booth Lab: Georgia Coastal Ecosystems LTER, & Sapelo Island Microbial Observatory

GRANTS

National Science Foundation, Office of Polar Programs *$498,883* *2023 – 2027*
Arctic Systems Science
Collaborative Research: Predicting Micro to Macro-scale Hot-spot and Hot-moment dynamics in Arctic Tundra Ecosystems (Co-PI)

USDA ARS / UAF AFES (Collaborative Food Production Systems Research) *$28,927* *2023 – 2024*
Pilot Project
Evaluation of barley genotypes for their agronomic value in Alaska and their interactions with belowground properties

Alaska INBRE (IDeA Network of Biomedical Research Excellence) *$70,000* *2022 – 2022*
Carry Over Award
Equipment Purchase - Purchase of Echo Revolve R4 Hybrid fluorescence microscope

Alaska INBRE (IDeA Network of Biomedical Research Excellence) *$6,021* *2022 – 2022*
Exceptional Request Award
Service costs - service and repair a Perkin Elmer Tri-Carb 2910 TR Liquid Scintillation Analyzer

National Science Foundation, EPSCoR *$388,942* *2021 – 2023*
EPSCoR RII Track-2 GUTT Supplemental
Domesticating wild microbes to understand toxin tolerance (PI)

Alaska INBRE (IDeA Network of Biomedical Research Excellence) *$18,481* *2021 – 2021*
Exceptional Request Award
Equipment purchase - purchase of Heidolph Tuttnauer 3850ELP Benchtop Sterilizer

Alaska INBRE (IDeA Network of Biomedical Research Excellence) *$149,978* *2021 – 2023*
Multi-Year Research Pilot Award
Microbial Mercury Cycling in a Changing Alaska: Influence of Permafrost Thaw and Wildfire (PI)

Biomedical Learning and Student Training (BLaST) program, UAF *$34,890* *2021 – 2023*
The Alaska Wild Berry Microbiome Project (PI)

Alaska Climate Adaptation Science Center (USGS) *$198,594* *2021 – 2023*
Alaska Berry Future: Planning for Changing Resources in an Altered Climate (Co-PI)

NSF Doctoral Dissertation Improvement Grant *$19,004* *2015 – 2017*
DISSERTATION RESEARCH: Metabolic Resource Partitioning: Scaling Microbial Physiology from Individual Activity to Ecosystem Function

Indiana Academy of Sciences Senior Research Grant *$2,200* *2014 – 2015*
Metabolic Fate of Terrestrial Carbon Resources: Anabolic vs. Catabolic Processes

Huron Mountain Wildlife Foundation Grant Renewal *$3,299* *2012 – 2014*
Browning of Freshwater Ecosystems: Will Terrestrial Carbon Loading Alter the Diversity and Function of Aquatic Microbial Communities?

Huron Mountain Wildlife Foundation Grant *$5,600* *2011 – 2012*
Browning of Freshwater Ecosystems: Will Terrestrial Carbon Loading Alter the Diversity and Function of Aquatic Microbial Communities?

PUBLICATIONS

In Review, In Revision, and/or Preprint

Peralta AL, **Muscarella ME**, Stucy A , Werba JA , McCoy MW (In Revision) Bacterial composition reflects fine-scale salinity changes while phylogenetic diversity exhibits a strong salt divide. bioRxiv preprint available, DOI: https://doi.org/10.1101/2021.09.14.460410

Muscarella ME, O'Dwyer JP (In Revision) Ecological insights from the evolutionary history of microbial innovations. bioRxiv preprint available, DOI: https://doi.org/10.1101/220939

PUBLICATIONS

In Press and Published

Weinfurther, KD, Stuckert, AMM, **Muscarella ME**, Peralta, AL, Summers, K (2023) Evidence for a Parabasalian Gut Symbiote in Egg-Feeding Poison Frog Tadpoles in Peru Evolutionary Biology, 1-10

Mhuireach G, Fahimipour AK, Vandegrift R, **Muscarella ME**, Hickey R, Bateman AC, Van Den Wymelenberg KG, Bohannan BJM (2022) Temporary establishment of bacteria from indoor plant leaves and soil on human skin Environmental Microbiome 17(1), 61

Rocca J, **Muscarella ME**, Ariane Peralta AL, Izabel-Shen D, Simonin M (2021) Guided by microbes: applying community coalescence principles for predictive microbiome engineering mSystems 6 (4), e00538-21

Shoemaker WR, Jones SE, **Muscarella ME**, Behringer MG, Lehmkuhl BK, Lennon, JT (2021) Microbial population dynamics and evolutionary outcomes under extreme energy-limitation PNAS 118(33), e2101691118

Peralta AL, Bledsoe RB, **Muscarella ME**, Huntemann M, Clum A, Foster B, Foster B, Roux S, Palaniappan K, Varghese N, Mukherjee S, Reddy TBK, Daum C, Copeland A, Chen IMA, Ivanova NN, Kyrpides NC, Del Rio TG, Eloe-Fadrosh EA (2020) Metagenomes from Experimental Hydrologic Manipulation of Restored Coastal Plain Wetland Soils (Tyrell County, North Carolina) Microbiology Resource Announcements 9 (41)

Muscarella ME, Howey XM, Lennon JT (2020) Trait-based approach to bacterial growth efficiency. Environmental Microbiology, 22(8), 3494-3504

Muscarella ME, O'Dwyer JP (2020) Species dynamics and interactions via metabolically informed consumer-resource models. Theoretical Ecology, 13(4), 503-518

Johnson WM, Alexander H, Bier RL, Miller DR, **Muscarella ME**, Pitz KJ, Smith H (2020) Auxotrophic interactions: A stabilizing attribute of aquatic microbial communities? FEMS Microbiology Ecology, 96(11), fiaa115

Locey KJ, **Muscarella ME**, Larsen ML, Bray SR, Jones SE, Lennon JT (2020) Dormancy dampens the microbial distance-decay relationship. Phil. Trans. R. Soc., 375(1798(, 20190243

Wisnoski NI, **Muscarella ME**, Larsen ML, Peralta AL, Lennon JT (2020) Metabolic insight into bacterial community assembly across ecosystem boundaries Ecology, 101(4):e02968

Muscarella ME, Boot CM, Broeckling CD, Lennon JT (2019) Resource heterogeneity structures aquatic bacterial communities. The ISME Journal, 13(9):2183–2195

Lennon JT, **Muscarella ME**, Placella SA, Lehmkuhl, BK (2018) How, When, and Where Relic DNA Affects Microbial Diversity. mBio, 9(3):e00637-18

Aanderud ZT, Saurey S, Ball BA, Wall DH, Barrett JE, **Muscarella ME**, Griffin NA, Virginia RA, Adams BJ (2018) Stoichiometric shifts in soil C:N:P promotes bacterial taxa dominance, maintains biodiversity, and deconstructs community assemblages. Frontiers in Microbiology, 9:1401

Long H, Sung W, Kucukyildirim S, Williams E, Miller S, Guo W, Patterson C, Gregory C, Strauss C, Stone C, Berne C, Kysela D, Shoemaker WR, **Muscarella ME**, Luo H, Lennon JT, Brun YV, Lynch M (2018) Evolutionary determinants of genome-wide nucleotide composition. Nature Ecology & Evolution, 2(2):237-240

Peralta AL, **Muscarella ME**, Mathews JW (2017) Lingering land use legacies after different wetland restoration strategies. Elementa: Science of the Anthropocene, 5:74

Kuo V, Shoemaker WR, **Muscarella ME**, Lennon JT (2017) Whole-genome sequence of the soil bacterium *Micrococcus* sp. KBS0714. Genome announcements, 5(32):e00697-17

Kelly PT, Bell T, Reisinger AJ, Spanbauer T, Bortolotti L, Brentrup J, Briseno-Avena C, Dong X, Flanagan A, Follett E, Grosse J, Guy-Haim T, Holgerson MA, Hovel R, Luo J, Millette N, Mine A, **Muscarella ME**, Oliver S, Smith H (2017) Ecological Dissertations in the Aquatic Sciences (Eco-DAS): An effective networking and professional development opportunity for early career aquatic scientists. Limnology and Oceanography Bulletin, 26(2):25-30

Guy-Haim T, Alexander H, Bell TW, Bier RL, Bortolotti LE, Briseno-Avena C, Dong X, Flanagan AM, Grosse J, Grossmann L, Hasnain S, Hovel R, Johnston CA, Miller DR, **Muscarella ME**, Noto AE, Reisinger AJ, Smith HJ, Stamieszkin K (2017) What are the type, direction, and strength of species, community, and ecosystem responses to warming in aquatic mesocosm studies and their dependency on experimental characteristics? A systematic review protocol. Environmental Evidence, 6(1):6

Muscarella ME, Jones SE, Lennon JT (2016) Species sorting along a subsidy gradient alters bacterial community stability. Ecology, 97(8):2034-2043

Shoemaker WR*, **Muscarella ME***, Lennon JT (2015) Genome sequence of the soil bacterium *Janthinobacterium* sp. KBS071. Genome Announcements, 3(3):e00689-15

Muscarella ME, Bird KC, Larsen ML, Placella SA, Lennon JT (2014) Phosphorus resource heterogeneity affects the structure and function of microbial food webs. Aquatic Microbial Ecology, 73(3):259-272

Lennon JT, Hamilton SK, **Muscarella ME**, Grandy AS, Wickings K, Jones SE (2013) A source of terrestrial organic carbon to investigate the browning of aquatic ecosystems. PLoS ONE, 8(10):e75771

Awong-Taylor J, Craven K, Griffiths L, Bass C, **Muscarella ME** (2008) Comparison of biochemical and molecular methods for the identification of bacterial isolates associated with failed loggerhead sea turtle eggs. Journal of Applied Microbiology, 104:1244-1251

Craven KS, Awong-Taylor J, Griffiths L, Bass C, **Muscarella ME** (2007) Identification of bacterial isolates from unhatched loggerhead (*Caretta caretta*) sea turtle eggs in Georgia, USA. Marine Turtle Newsletter, 115:9-11

(co-first authors)*

HONORS AND AWARDS

Peggy Cotter Award for Early Career Branch Members *2023*
American Society for Microbiology

Inclusive Excellence Award *2023*
UAF Nanook Diversity & Action Center
University of Alaska Fairbanks, AK

BLaST Scientist of the Month *2022*
Biomedical Learning and Student Training (BLaST) Program
University of Alaska Fairbanks, AK

Postdoctoral Recruitment Fellowship *2019 – 2020*
Université du Québec à Montréal, Montréal, QC

Teachers Ranked as Excellent *2018*
Integrative Biology, University of Illinois, Urbana, IL

Floyd Microbiology Summer Fellowship *2013 – 2014*
Department of Biology, Indiana University, Bloomington, IN

Floyd Microbiology Travel Award *2012*
Department of Biology, Indiana University, Bloomington, IN

University Distinguished Fellowship *2010*
Graduate School, Michigan State University, East Lansing, MI

Early Start Fellowship *2010*
College of Natural Sciences, Michigan State University, East Lansing, MI

Les Davenport Award *2008*
Biology Department, Armstrong State University. Savannah, GA

ASB Research Award in Microbiology *2008*
Presented at the 69th Annual Association of Southeastern Biologists Conference
Best Paper Presentation in the Area of Microbiology

Faculty Recognition Award *2007*
Biology Department, Armstrong State University. Savannah, GA

SYMPOSIA AND WORKING GROUPS

2023 Use-Inspired Research for Building Community-Oriented Regional STEM Ed Networks

2018 Microorganisms and Organic Carbon in the Marine Subsurface
Center for Dark Energy Biosphere Investigations, Knoxville, Tennessee

2016 Eco-DAS XII: Ecological Dissertations in the Aquatic Sciences, Honolulu, HI

2016 Predicting the Response of Host-associated Microbiomes to Disturbance
Santa Fe Institute Working Group, Santa Fe, NM

2016 Ramon Margalef Summer Colloquia
Microbes in a Changing World: Diversity and Biogeochemistry, Barcelona, Spain

WORKSHOPS

2023 NSF Use-Inspired Science Workshop, Boise State University
2022 Transdisciplinary Teaching Workshop, University of Alaska Fairbanks
2022 Grant Writing Workshop: NIH and NSF, AK INBRE, Zoom
2021 Genomes Underlying Toxin Tolerance, EPSCoR Track II Annual Workshop, Zoom
2018 JGI Microbial Genomics and Metagenomics, DOE Joint Genome Institute, Walnut Creek, CA
2013 Software Carpentry Workshop, Bloomington IN
2012 DOM Fluorescence Workshop, INSTAAR, Boulder CO
2010 Mothur Software Workshop, Detroit MI

SERVICE

Reviewer

Journals: *Aquatic Ecology, Aquatic Microbial Ecology, Ecosystems, Environmental Microbiology, Environmental Science & Technology, Frontiers in Terrestrial Microbiology, Global Change Biology, Limnology & Oceanography Letters, mBio, Microbial Ecology, Microbiome, mSphere, mSystems, Nature Communications, Nature Ecology & Evolution, Proceedings of the Royal Society B, Proteomics, Science of the Total Environment, The ISME Journal, Trends in Ecology and Evolution, Trends in Microbiology, Frontiers in Terrestrial Microbiology*

Books: *Processes in Microbial Ecology, Kirchman (2012)*

Editorial Board Member

The ISME Journal (2020 –)

Committee Member

University of Alaska Fairbanks: *Genomics Core Committee*

University of Alaska Fairbanks: *Graduate Admissions Committee*

University of Alaska Fairbanks: *Physiologist Search Committee (2022 – 2023)*

University of Alaska Fairbanks: *UAF Inclusive Excellence Taskforce (2021-2022)*

University of Illinois: *Research Scientist Search Committee*

Indiana University: *IU Biology GRW Transportation*

Michigan State University: *MMG Grad Committee*

Panelist

Negotiations, Postdoc Integration Team Organized Panel, Boise State University (2022)]

New Faculty Orientation: Faculty Panel, University of Alaska Fairbanks (2021)

Picture a Scientist Panel, University of Alaska Fairbanks (2021)

First-Gen STEM Panel, University of Alaska Fairbanks (2020)

Grant Review

2023 - National Science Foundation, Panelist

2022 - National Science Foundation, Adhoc Reviewer

2022 - National Science Foundation, Panelist

2022 - Swiss National Science Foundation, Adhoc Reviewer

2021 - National Science Foundation, Panelist

Judge

Interior Alaska Science Fair; Dan Glass Memorial Awards - AK ASM (2023)

Interior Alaska Science Fair; Dan Glass Memorial Awards - AK ASM (2022)

Anchorage Alaska Science and Engineering Fair; Best Microbiology - AK ASM (2022

Outreach

microBerry – K-12 Educational Outreach (University of Alaska Fairbanks)

Jim Holland Summer Enrichment Program (Indiana University): *Stream Health & Micro-Invertebrate Assessment* (2012 – 2016)

Wonderlab Science Museum (Bloomington, IN): *Good Microbes Exhibit* (2012 – 2014)

Women in STEM (Indiana University): *Stream Micro-Invertebrate Assessment* (2012)

Professional Society Leadership

Council Member, Ecological Society of America (2023 – Present)
Leadership, Microbial Ecology Section, Ecological Society of America (2018 – 2022)
Chair, AK Branch American Society for Microbiology (2021 – 2022)
Graduate Student Liaison for Microbial Ecology Section, Ecological Society of America (2013 – 2015)

Special Session Co-Organizer

Microbes as Tools to Solve Ecological Problems for All
Ecological Society of America Annual Meeting (2023)

Symposium Moderator

Microbial Community Coalescence: When Isolated Microbial Communities Collide
Ecological Society of America Annual Meeting (2021)
Turn and Face the Strain: Changing Signatures of Niche Processes in Disease and Community Diversity
Ecological Society of America Annual Meeting. Portland, OR (2017)

Conference Co-Organizer

2015 Midwest Ecology and Evolution Conference. Bloomington, IN

Course Development

Genes to Ecosystems (2023, University of Alaska Fairbanks)
Computational Skills for Biologists (2022, University of Alaska Fairbanks)
Evolution of Molecules and Cells (2018, University of Illinois)
Quantitative Biodiversity (2015, Indiana University)
repo: https://github.com/quantitativebiodiversity
website: http://documentup.com/QuantitativeBiodiversity/QuantitativeBiodiversity

PROFESSIONAL AFFILIATIONS

BNZ LTER
Ecological Society of America
American Society for Microbiology
Association for the Sciences of Limnology and Oceanography
Great Lakes Ecological Observatory Network

INVITED SEMINARS

2023 Department of Biological Sciences, University of Alaska Fairbanks, AK, USA

2023 Department of Biological Sciences, Boise State University, ID, USA

2019 Department of Biological Sciences, New Mexico State University, NM, USA

2019 Department of Ecology & Evolutionary Biology, University of Arizona, AZ, USA

2019 Département des Sciences Biologiques, Université du Québec à Montréal, QC, CA

2019 Department of Biology & Wildlife, University of Alaska Fairbanks, AK, USA

2018 Gosnell School of Life Sciences, Rochester Institute of Technology, NY, USA

2018 Division of Biology, Kansas State University, KS, USA

2018 Department of Ecology & Evolutionary Biology, University of Kansas, KS, USA

2015 Program in Ecology, Evolution, and Conservation Biology, University of Illinois, IL, USA

INVITED LECTURES

Muscarella ME (2021) Bacterial growth efficiency and the role of metabolic tradeoffs. Aquatic Microbiology Course, Stockholm University.

Muscarella ME (2017) Stochastic Models in Evolutionary Ecology. Theoretical Biology & Models Course (IB 494), University of Illinois at Urbana-Champaign.

CONTRIBUTED PRESENTATIONS

Muscarella ME (2023) Microbial growth efficiency as an adaptation to resource limitation but with carbon cycling implications. Ecological Society of America Annual Meeting, Portland, OR

Olson BK, Garhek MC, Lin E, Pender JM, **Muscarella ME** (2023) Changes in Anaerobic Cycles in the Boreal Forest. American Society for Microbiology Microbe Annual Meeting, Houston, TX

Stromecki AM, Ramirez R, Galla S, Magnússon KP, Nielsen O, Forbey J, **Muscarella ME** (2023) The Role of the Gut Microbiome in the Health and Population Dynamics of Icelandic Rock Ptarmigan (*Lagopus muta*). American Society for Microbiology Microbe Annual Meeting, Houston, TX

Muscarella ME (2021) Microbial community coalescence: When communities and ecosystems collide. Ecological Society of America Annual Meeting, Virtual

Wisnoski NI, **Muscarella ME**, Larsen ML, Peralta AL, Lennon JT (2021) Metabolic insight into bacterial community assembly across ecosystem boundaries. Ecological Society of America Annual Meeting, Virtual

Muscarella ME, del Giorgio, PA (2021) Metabolic tradeoffs in aquatic heterotrophic bacterial communities. Association for the Sciences Limnology and Oceanography Aquatic Sciences Meeting, Virtual

Muscarella ME, del Giorgio, PA (2020) Metabolic tradeoffs in aquatic heterotrophic bacterial communities. Ecological Society of America Annual Meeting, Virtual

Muscarella ME, Fahimipour, AK, O'Dwyer JP (2019) On sampling and sampling effort in microbial ecology. Ecological Society of America Annual Meeting, Knoxville, TN.

Peralta AL, Bledsoe R, **Muscarella ME** (2019) Consequences and considerations of multiple stressors on urban wetland microbiomes. Ecological Society of America Annual Meeting, Knoxville, TN.

Peralta AL, Stucy A, **Muscarella ME** (2018) Bacterial phylogeny-function relationships in freshwater ecosystems are particularly vulnerable to freshwater-brackish water intermediate environments. Annual Meeting of the North Carolina American Society for Microbiology Branch. Asheville, NC.

Wisnoski NI, **Muscarella ME**, Lennon JT (2018) Dispersal and dormancy across ecosystem boundaries: Bacterial diversity and function along a reservoir transect. Association for the Sciences of Limnology and Oceanography. Victoria, British Columbia.

Muscarella ME, O'Dwyer JP (2017) A Phylogenetic Framework for Trait Innovation and Selection in Microbial Communities. Ecological Society of America Annual Meeting, Portland OR.

Peralta AL, **Muscarella ME** (2017) How can we manage microbial functions to restore ecosystem services in human-dominated landscapes? Ecological Society of America Annual Meeting, Portland OR.

Locey KJ, Lennon JT, Larsen ML, **Muscarella ME**, Jones SE (2017) Spatiotemporal effects of microbial seed banks on community structure. Ecological Society of America Annual Meeting, Portland OR.

Muscarella ME, Lennon JT (2015) Bacterial growth efficiency: do consumer and resource diversity influence the fate of carbon in aquatic ecosystems? Ecological Society of America 100th Annual Meeting, Baltimore MD.

Muscarella ME, Locey KJ, Nevo E, Raz S, Lennon JT (2014) Microbial community assembly at Evolution Canyon: Does dormancy dilute the effects of dispersal and filtering? Ecological Society of America 99th Annual Meeting, Sacramento CA.

Muscarella ME, Bird KC, Larsen ML, Placella SA, Lennon JT (2014) Phosphorus resource heterogeneity affects the structure and function of microbial food webs. Association for the Sciences of Limnology and Oceanography, Portland OR.

Muscarella ME, Bird KC, Larsen ML, Placella SA, Lennon JT (2014) Phosphorus resource heterogeneity affects the structure and function of microbial food webs. Midwest Ecology and Evolution Conference, Dayton OH.

Muscarella ME, Jones SE, Lennon JT (2013) Species Sorting Along a Subsidy Gradient Affects Community Stability. Ecological Society of America 98th Annual Meeting, Minneapolis MN.

Muscarella ME, Jones SE, Lennon JT (2013) Life in brown waters: Aquatic bacteria respond to increased terrestrial carbon loading. Midwest Ecology and Evolution Conference, South Bend, IN.

Lennon JT, **Muscarella ME**, Jones SE (2013) Bacteria and browning: implications of terrestrial carbon subsidies for aquatic ecosystems. Association for the Sciences of Limnology and Oceanography, New Orleans, LA.

Muscarella ME, Jones SE, Lennon JT (2013) Life in brown waters: Aquatic bacterial responses to increased terrestrial carbon loading. Association for the Sciences of Limnology and Oceanography, New Orleans, LA

Muscarella ME, Jones SE, Lennon JT (2012) Life in brown waters: Aquatic bacteria respond to increased terrestrial carbon loading. LTER All Scientists Meeting, Estes Park, CO.

Booth MG, Gifford S, Doherty M, **Muscarella M**, and Moran MA (2010) Expression of two carbon metabolism genes identified thorough transcriptomic analysis of estuarine bacterial communities of Sapelo Island, GA, U.S.A. International Society of Microbial Ecology Conference, Seattle, WA.

Doherty M, Poretsky R, **Muscarella ME**, Moran MA, Booth MG (2009) Tracking Metabolism of an Important Terrestrial Carbon Source by Marine Bacterioplankton. Coastal and Estuarine Research Federation 20th Biennial Conference. Portland, OR.

Muscarella M, Awong-Taylor J, Zettler J (2009) The Inability of Pathogenic and Nonpathogenic Strains of Escherichia coli to Survive in Coastal Beach Sand. 2009 Annual Conference of the Southeastern Branch American Society for Microbiology. Savannah, GA.

Muscarella M, Awong-Taylor J (2008) Role of Curli Fibers in the Adhesion of *Escherichia coli* O157:H7 to Bean Sprouts. American Society for Microbiology 108th Annual Meeting. Boston, MA.

Muscarella M, Awong-Taylor J, Zettler J (2008) The Potential for Pathogenic and non-pathogenic *Escherichia coli* to Survive in Beach Sand from Tybee Island, GA. Association of Southeastern Biologists 69th Annual Meeting. Spartanburg, SC.

Muscarella M, Awong-Taylor J (2008) A Method to Compare the Effectiveness of Different Washes on Removal Rates of *E. coli* from Plant Roots. Southern Regional Honors Council 36th Annual Conference. Birmingham, Al.

Griffiths L, Bass C, **Muscarella M**, Awong-Taylor J, Craven K (2006) Using Traditional and Molecular Techniques to Determine if Microbial Contamination Plays a Role in Embryonic Death of Loggerhead Sea Turtle Eggs. Florida Academy of Sciences 70th Annual Meeting. Melbourne, Fl

ACADEMIC ADVISORS

Paul A. del Giorgio Université du Quebéc à Montréa (Postdoc)

James P. O'Dwyer University of Illinois (Postdoc)

Jay T. Lennon, Indiana University (Ph.D.)

Judy Awong-Taylor, Armstrong State University (B.S.)

MENTEES

Postdoctoral Fellows:
Bahareh Sorouri (*NSF PRFB; University of Alaska Fairbanks*; 2023 –)

Postmaster's Research Professionals:
Amanda Stromecki (*University of Alaska Fairbanks*; 2021 – 2023)

Graduate Students:
Kodi Haughn (*PhD in Biological Sciences; University of Alaska Fairbanks*; 2021 –)
Becca Olson (*MS in Biological Sciences; University of Alaska Fairbanks*; 2022 –)
Hannah Woody (*MS in Biological Sciences; University of Alaska Fairbanks*; 2022 –)
Amanda Stromecki (*PhD in Biological Sciences; University of Alaska Fairbanks*; 2023 –)

Undergraduate Students:
Maura Grahek (*University of Alaska Fairbanks; INBRE URA*; 2023 –)
Tracy Leithauser (*University of Alaska Fairbanks*; 2023 –)
Maria Beaulieu (*University of Massachusetts Amherst; BNZ LTER REU*; 2023 – 2023)
Michelle Ramirez (*University of Alaska Fairbanks; BlaST Scholar*; 2022 –)
Drew Shelton (*University of Alaska Fairbanks; URise Scholar*; 2022 –)
Aria Workman (*University of Alaska Fairbanks*; 2022 –)
Helen Sarrimonolis (*Oberlin College; GUTT REU Student*; 2022 – 2022)
Emma Lin (*Skidmore College; BNZ LTER REU Student*; 2022 – 2022)
Rya Berrigan (*University of Alaska Fairbanks*; 2022 – 2022)
Tyler Baker-Chapman (*University of Alaska Fairbanks; BlaST Scholar*; 2021 – 2023)
Julian Pender (*University of Alaska Fairbanks; INBRE URA*; 2021 – 2023)
Kaia Victorino (*University of Alaska Fairbanks; BNZ LTER REU Student*; 2021 – 2021)
Abby Jensen (*University of Alaska Fairbanks, URA*; 2021 – 2021)
Amelia Dell (*University of Alaska Fairbanks, URA*; 2021 – 2021)
Jill Jacobs (*University of Alaska Fairbanks, URA*; 2021 – 2021)
Belen Muniz (*University of Illinois*; 2017)
Mollie Carrison (*Indiana University*; 2015 – 2016)
Rachel Ferrill (*Transylvania University*; 2015)
Xia Meng Howey (*Indiana University*; 2012 – 2014)

High School Students:
Dakayla Calhoun (*Shortridge International Baccalaureate High School, Indianapolis, IN*; 2015)
Nick Nelson (*Bishop Noll Institute, Hammond, IN*; 2012)