

MARC PAUL VERHOUGSTRAETE

CURRICULUM VITAE

The University of Arizona, Mel and Enid Zuckerman College of Public Health
1295 N. Martin, Drachman Hall, Tucson, Arizona 85724
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CHRONOLOGY OF EDUCATION

- 2001-2005 Lansing Community College, Lansing, MI, Associates Degree: Natural Science – Magnum Cum Laude
- 2005-2007 Michigan State University, East Lansing, MI, College of Natural Science, Department of Zoology: B.S.: Environmental Biology and Zoology
- 2007-2012 Michigan State University, East Lansing, MI, College of Agriculture and Natural Resources, Department of Fisheries and Wildlife: Ph.D.
Advisor: Joan B. Rose
Dissertation title: Measuring microbial water quality responses to land and climate using fecal indicator bacteria and molecular source tracking in rivers and near-shore surface waters of Michigan.

CHRONOLOGY OF EMPLOYMENT

- 2005- 2010 Professional Assistant: State of Michigan, Department of Environmental Quality. Water Bureau, P.O. Box 30273, Lansing, Michigan 48909
- 2007- 2012 Research Assistant: Michigan State University, Department of Fisheries and Wildlife. 480 Wilson Road, East Lansing, MI 48824
- 2012- 2013 Post-doctoral Research Associate: University of North Carolina at Chapel Hill, Institute of Marine Sciences. 3431 Arendell Street, Morehead City, NC 28557
- 2013-2015 Post-doctoral Research Associate: The University of Arizona, College of Public Health. 1295 N. Martin, Tucson, AZ 85724
- 2015-2016 Assistant Professor – Career Track: The University of Arizona, College of Public Health. 1295 N. Martin, Tucson, AZ 85724
- 2016-Present Assistant Professor: The University of Arizona, College of Public Health. Co-Director of Environment, Exposure Science, and Risk Assessment Center. 1295 N. Martin, Tucson, AZ 85724
- 2018-Present Visiting scientist: Southern California Coastal Water Research Project. 3535 Harbor Blvd., Suite 110, Costa Mesa, CA 92626

HONORS AND AWARDS

- 2010 International travel award (Michigan State University)
- 2012 Travel grants (Montana Rural Drinking Water)

SERVICE/OUTREACH**Local/State/National Outreach**

- 2014-2017 Park-Euclid/7th Street & Arizona Avenue Water Quality Assurance Revolving Fund Site Community Advisory Board. Arizona Department of Environmental Quality. Committee Chair
- 2016-2018 Water Resources Research Center annual meeting student poster judge.
- 2016-2018 CONSERVE (COordinating Nontraditional Sustainable watER use in Variable climatEs), A Center of Excellence at the Nexus of Sustainable Water Reuse, Food, and Health. Extension Advisory Committee member
- 2018-2019 University of North Carolina Water Microbiology meeting. Advisory board
- 2018-2019 Arizona Health Education Association (AHEC) Scholar program. Faculty mentor

National/International*Manuscript Reviewer*

- Water Science and Technology: 2012, 2017
- North Pacific Research Board: 2013
- Encyclopedia of Agricultural, Food, and Biological Engineering: 2013
- Journal of Great Lakes Research: 2012, 2013, 2014, 2015, 2016, 2017
- Environmental Science and Technology: 2012, 2013, 2015, 2016, 2017
- Journal of Water and Health: 2012, 2016, 2018
- Environmental Monitoring and Assessment: 2012, 2016
- International Journal of Environmental Research and Public Health: 2015, 2016, 2017
- Current Environmental Engineering: 2016
- Critical Reviews in Environmental Science and Technology: 2016
- US Environmental Protection Agency – manuscript technical reviewer: 2017
- Journal of Environmental Management: 2018
- Water Research: 2018

Proposal Reviewer

- National Science Foundation: 2014
- USDA Critical Agricultural Research and Extension (CARE) grant program: 2017
- Rose Fellowship: 2017
- Maryland Sea Grant Graduate Research Fellowship: 2018
- Research, Discovery, and Innovation (RDI), Faculty seed grants, University of Arizona: 2017, 2018

Departmental Committees

- Peer review committee: 2016
- Sabbatical review committee (2 associate professors): 2016
- Graduate student admissions review: 2016, 2017, 2018

College Committees

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| 2009-2012 | Michigan State University, Department of Fisheries and Wildlife seminar committee |
| 2014 | Mel and Enid Zuckerman College of Public Health Graduate Research Poster Forum Judge |
| 2016 | Faculty mentoring development |
| 2016-2017 | Research Advisory Council |
| 2016-2019 | Mel and Enid Zuckerman College of Public Health Poster Forum committee. Faculty advisor |
| 2016-2019 | Faculty Mentoring evaluation committee |

Guest Lectures

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| 2014 | CPH 459 (Principles of Infectious Disease Epidemiology) |
| 2014 | CPH 609 (Evaluating Public Health Literature) |
| 2014 | CPH 585 (Fundamentals of Industrial and Environmental Health) |
| 2014 | CPH 603 (Applied Analysis of Environmental Data) |
| 2015 | EPID 479 (Infectious Disease Epidemiology) |
| 2015 | CPH 375 (Introduction to Environmental and Occupational Health) |
| 2016 | EPID 479 (Infectious Disease Epidemiology) |
| 2016 | CPH 575 (Environmental and Occupational Health) |
| 2016 | EPID 660 (Infectious Disease Epidemiology) |
| 2016 | CPH 400 (Contemporary Community Health Problems) |
| 2017 | PH 700D (Seminar in Public Health: Environmental Health, San Diego State University) |
| 2017 | EHS 696R (Environmental and Occupational Health seminar) |
| 2017-2018 | CPH 575 (Environmental and Occupational Health) |
| 2018 | HPS 559 (Special topics in public health) |

University Committees and Services

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| 2017, 2018 | RDI's Faculty seed grant proposal reviewer, University of Arizona |
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Professional Memberships

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| 2008-2010 | International Association of Great Lakes Research |
| 2004-2011 | Blue Lake-Cold Springs Lake Civic Association, Michigan |
| 2007-2012 | Michigan Branch of the American Society for Microbiology |
| 2008-2012 | Grand Traverse Watershed Beach Monitoring Stakeholders group |
| 2008-2012 | Michigan State University Fisheries and Wildlife Graduate Student Organization |
| 2007-2017 | American Society for Microbiology |
| 2009-Present | International Water Association |
| 2009-Present | Health Related Water Microbiology |
| 2007-Present | Great Lakes Beach Association |
| 2013-Present | University of Arizona Food Safety Consortium, member |
| 2014-Present | University of Arizona Environment, Exposure Science, and Risk Assessment Center, Co-Director |
| 2014-Present | University of Arizona One Health Consortium, member |
| 2016-Present | American Association for the Advancement of Science |
| 2017-Present | University of Arizona Public Safety Institute, member |

PUBLICATIONS/CREATIVE ACTIVITY

Chapters in Scholarly Books and Monographs

Verhougstraete, M.P., J. Sexton, and K. Reynolds. (2015). Recreational Water Exposure. In J. Bartrum. (Ed.). *Handbook for Water and Health*. EarthScan.

Refereed Journal Articles (accepted)

***Verhougstraete, M.P.**, M.N. Byappanahalli, R.L. Whitman, and J.B. Rose. (2010). *Cladophora* in the Great Lakes: Impacts on beach water quality and human health. *Water Sci. and Tech.* 62: 68-76.

<http://www.iwaponline.com/wst/06201/wst062010068.htm>

***Verhougstraete, M.P.** And J. Rose. (2014). Microbial investigations of water, sediment, and algae mats the mixed use watershed of Saginaw Bay, Michigan. *Journal of Great Lakes Research* 40: 75-82.

<http://www.sciencedirect.com/science/article/pii/S0380133013001718>

Verhougstraete, M.P., S. Brothers, W. Litaker, and R. Noble. (2015). Lessons learned from implementing a wet laboratory molecular training workshop for beach water quality monitoring. *PLOS ONE*. DOI: 10.1371/journal.pone.0121214

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0121214>

Lothrop, N., S. Wilkinson, **M.P. Verhougstraete**, A. Sugeng, M. Loh, W. Klimecki, and P. Beamer (2015). Home Water Treatment Habits and Effectiveness in a Rural Arizona Community. *Water*. Multidisciplinary Digital Publishing Institute. DOI:10.3390/w7031217

<http://www.mdpi.com/2073-4441/7/3/1217/htm>

***Verhougstraete, M.**, S. Martin, A. Kendall, D. Hyndman, and J. Rose. (2015). Microbial responses to land, physical, chemical, environmental, and hydrological factors. *PNAS* 112(33): 10419-10424.

<http://www.pnas.org/content/112/33/10419.full>

Lamparelli, C.C., K. Pogreba-Brown, **M. Verhougstraete**, M.I.Z. Sato, T. Wade, and J.N.S. Eisenberg. (2015). A prospective cohort study of risks associated with beaches in Brazil. *Water Research* 87: 59-68.

<http://www.sciencedirect.com/science/article/pii/S004313541530213X>

Verhougstraete, M. (2016). On Tap: Water Issues: Global Concerns and Global Issues. *Water Conditioning & Purification International*. Trade journal article peer reviewed by a technical advisory committee.

<http://www.wcponline.com/2016/01/15/on-tap-water-issues-global-concerns-and-global-issues/>

Verhougstraete, M. and K. Reynolds. (2016). Use of a portable air disinfecting system to remove seeded coliphage in hospital rooms. *American Journal of Infection Control* 44 (6) 714-715.

Lothrop N, Bright KR, Sexton J, Pearce-Walker J, Reynolds KA, **Verhougstraete M.P.** (2018). Optimal strategies for monitoring irrigation water quality. *Agric. Water Manag.* 2018;199:86-92. doi:10.1016/j.agwat.2017.12.018.

Reynolds, KA, **Verhougstraete, M.** (2018). On Tap: Developing predicative models to quantify future POU needs and benefits. *Water Conditioning & Purification International*. Trade journal article peer reviewed by a technical advisory committee: <http://www.wcponline.com/2018/10/15/developing-predictive-models-quantify-future-pou-needs-benefits/>

Jean Pierre Nshimiyimana, J.P., S.L. Martin, M. Flood, **M.P. Verhougstraete**, D.W. Hyndman, J.B. Rose. (2018). Regional Variations of Bovine and Porcine Fecal Pollution as a Function of Landscape, Nutrient, and Hydrological Factors. *Journal of Environmental Quality*. doi:10.2134/jeq2017.11.0438

Canales, R.A., A.M. Wilson, J.I. Pearce-Walker, **M.P. Verhougstraete**, K.A. Reynolds. (2018). Methods for Handling Left-Censored Data in Quantitative Microbial Risk Assessment. *Appl. Environ. Microbiol.*, AEM. 01203-18

Munoz-Gutierrez, K., Canales, R.A., Reynolds, K.A., **Verhougstraete, M.P.** (2018). Floor and environmental contamination during glove disposal. *Journal of Hospital Infections*. doi:10.1016/J.JHIN.2018.10.015

Alshammari, M., Reynolds, K.A., **Verhougstraete, M.P.**, O'Rourke, M.K. (2018). Comparison of Perceived and Observed Hand Hygiene Compliance in Healthcare Workers in MERS-CoV Endemic Regions. *Healthcare* 6, 122.

Verhougstraete, M. P., J.K. Gerald, C.P. Gerba, K.A. Reynolds. (2019). Cost-benefit of point-of-use devices for lead reduction. *Environ. Res.* **171**, 260–265.

Wilson, A.M., R.A. Canales, **M.P. Verhougstraete**, K.A. Reynolds. (Accepted). Validation of a Stochastic Discrete Event Model Predicting Virus Concentration on Nurse Hands. *Risk Analysis*.

* Indicates manuscript substantially based on work done as a graduate student

Technical Reports

Singh, S., **M.P. Verhougstraete**, and J.B. Rose. 2007. Investigation of water quality and sediment quality associated with the Muskegon County Wastewater Management System. <http://cws.msu.edu/projects/documents/MuskegonWWTPFinalReport.pdf>

Rose, J.B., **M.P. Verhougstraete**, S. Singh, and T. Shibata. 2007. Study of Silver Lake Water Quality. <http://cws.msu.edu/projects/documents/SilverLake2007FinalReport.pdf>

M.P. Verhougstraete and J.B. Rose. 2008. A new toolbox for testing Michigan waters. <http://cws.msu.edu/projects/documents/CommunitySummary.pdf>

M.P. Verhougstraete, S. Srinivasan, R. Ives, and J.B. Rose. 2008. Preliminary report for Pigeon River fish kill.

<http://cws.msu.edu/projects/documents/Fishkillpreliminaryreportfinal.pdf>

M.P. Verhougstraete and J.B. Rose. 2008. Investigation of water quality and sources associated with the Buck Creek Watershed.

<http://cws.msu.edu/projects/documents/BuckCreekFinalReport.pdf>

M.P. Verhougstraete and J.B. Rose. 2008. Barberry Drain at West Lake Preliminary Water Quality Testing. For West Lake Improvement Association.

<http://cws.msu.edu/projects/documents/WestLakereportFINAL.pdf>

M.P. Verhougstraete, S. Singh, and J.B. Rose. 2008. Investigation of water quality in the Coldwater River Watershed.

<http://cws.msu.edu/projects/documents/ColdwaterCreekFinalreport.pdf>

M.P. Verhougstraete, T. Shibata, and J.B. Rose. 2009. Background levels of viable bacteria and fungi in the indoor air and on surfaces in Ingham Regional Medical Center “*before and after*” the UVGI-HVAC installation. For Ingham Regional Medical Center.

<http://cws.msu.edu/projects/documents/UVGIfinalsummarymv2-2.pdf>

M.P. Verhougstraete, A. Aslan-Yilmaz, and J.B. Rose. 2009. Upper Peninsula Groundwater Sampling Menominee County, Michigan. For the Public Health Delta-Menominee Counties.

<http://cws.msu.edu/projects/documents/UPGroundwaterfinalreport.pdf>

M.P. Verhougstraete, E.A. Dreelin, and J.B. Rose. 2009. Investigation of Water Quality and Source Tracking at Whites Beach Arenac County, Michigan. For the Central Michigan District Health Department and the Michigan Department of Environmental Quality.

<http://cws.msu.edu/projects/documents/WhitesBeachFinal7-10-09.pdf>

M.P. Verhougstraete, E.A. Dreelin, and J.B. Rose. 2009. Investigation of Water Quality and Source Tracking at Bay City State Recreation Area Beach Bay County, Michigan. For the Bay County Health Department and the Michigan Department of Environmental Quality.

<http://cws.msu.edu/projects/documents/BayCityFinal7-10-09.pdf>

M.P. Verhougstraete, E.A. Dreelin, and J.B. Rose. 2009. Investigation of Water Quality and Source Tracking at Port Crescent State Park day use Beach Huron County, Michigan. For the Huron County Health Department and the Michigan Department of Environmental Quality.

<http://cws.msu.edu/projects/documents/PortCrescentFinal7-10-09.pdf>

M.P. Verhougstraete, E.A. Dreelin, and J.B. Rose. 2009. Investigation of Water Quality and Source Tracking at Caseville County Park Beach Huron County, Michigan. For the Huron County Health Department and the Michigan Department of Environmental Quality.

<http://cws.msu.edu/projects/documents/CasevilleFinal7-10-09.pdf>

M.P. Verhougstraete and J.B. Rose. 2009. Investigation of Water Quality and Source Tracking in Gull Lake Watershed, Michigan. For the Four Township Water Resources.

<http://cws.msu.edu/projects/documents/GullLakereportfinal.pdf>

M.P. Verhoughstraete and J.B. Rose. 2010. Investigation of Water Quality and Source Tracking at Grand Traverse Bay and Mitchell Creek Grand Traverse County, Michigan. For The Watershed Center Grand Traverse Bay and Sarah U'Ren.
<http://cws.msu.edu/projects/documents/TraverseCityReportFinal.pdf>

M.P. Verhoughstraete and K. Reynolds. 2014. Hospital Field Study of T1 Air Disinfectant Recirculator Efficacy Against Viral Tracers. For Aerobiotix, Inc. and Brent Lloyd and David Kirschman.

Lothrop, N., K. Bright, J. Sexton, K. Reynolds, **M.P. Verhoughstraete**. 2016. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. For Center for Produce Safety.

Verhoughstraete, M.P., K., Reynolds, A. Tamimi, and C. Gerba. 2016. Cost benefit of point-of-use devices in reduction of health risks from drinking water. For Water Quality Research Foundation.

Pogreba-Brown, K., S. Barnes, K. Bright, and **M. Verhoughstraete**. 2017 Produce safety risk assessment data gaps. For Arizona Department of Agriculture.

Pearce-Walker, J., **M. Verhoughstraete**, and K. Bright. 2017. Enteric viruses as new indicators of human and cattle fecal contamination of irrigation waters. For The Center for Produce Safety.

WORK IN PROGRESS

Refereed Journal Articles (Submitted or in preparation)

Pearce-Walker, J., D. Troup, P. De La Cruz, M. Weir, **M. Verhoughstraete**. (Submitted). Hand-to-fomite viral transfer based on dryness of microbial suspension solution. International Journal of Environmental Research and Public Health.

Pearce-Walker, J., **M. Verhoughstraete**, and K. Reynolds. (Submitted) Point of use water treatment filters as a tool for quantitative microbial risk assessment of drinking water. Journal of Water and Health

Troup, D., **M. Verhoughstraete**, K. Reynolds. (Submitted) Impact of a passive air purification unit on microbial contamination in a controlled chamber environment: A brief report. Journal of Infection Control

Kurgat, E., A. Norman, D. Quintanar, **M. Verhoughstraete**. (Submitted). A novel approach to quantify climate change effects on drinking water quality. Journal of Water and Health.

Verhoughstraete, M.P., K. Reynolds, J. Pearce-Walker, C. Gerba. (In preparation). Cost benefits of point-of-use devices to reduce waterborne diseases. Journal of Water and Health.

V. Madera-Garcia, M. Weir, P. Beamer, J. Werner, **M. Verhoughstraete**. (In preparation). Legionella is a Miner issue. Journal of Mining Safety.

Pearce-Walker, J., K. Bright, **M. Verhougstraete**. (In Preparation). Risk assessment of enteric viruses as new indicators of human and cattle fecal contamination of irrigation waters.

Verhougstraete, M.P., K. Progreba-Brown, C.C. Lamparelli, M.I.Z. Sato, T. Wade, and J.N.S. Eisenberg. (In preparation). A Quantitative Microbial Risk Assessment of Brazil beaches and comparison with USEPA and WHO recreational water quality guidelines. Environmental Health.

Cooksey, E., J. Pearce-Walker, and **Verhougstraete, M.P.**. (In preparation). A summary of surface water used for irrigation in the SW United States. Environmental Science: Processes & Impacts.

Grants and Contracts (Submitted or in preparation)

Co-Principal Investigator. Collaboration between Planktos Instruments, LLC and the University of Arizona to create a passive water quality monitoring instrument. USDA Small Business Innovation Research Program (SBIR) (\$100,000) 2017-2018. (Not funded)

Co-Principal Investigator. National molecular public health consortium. National Institute of Health (\$1,000,000) 2017-2020. (Not funded)

Co-Principal Investigator. Sewage Forensics for early detection of biological threats or source tracking. Department of Defense-DTRA (\$750,000) 2017-2020. (Not funded)

Co-principal investigator. Identification and evaluation of new viral indicators for agriculture water. US Department of Agriculture (\$500,000). 2017-2020. (Not funded)

Co-Investigator. The Impact of a Persistent Antimicrobial Silver Ion Textile Treatment on Patient Outcomes in a Hospital Setting. National Institutes of Health. (\$1,654,030) 2017-2020. (Not funded)

Co-Principal Investigator. Management of natural habitat adjacent to agricultural fields to reduce large mammal intrusions into produce fields. Center for Produce Safety (\$190,000) 2018-2019. (Not funded)

Co-Principal Investigator. Management of natural habitat adjacent to agricultural fields to reduce large mammal intrusions into produce fields. Center for Produce Safety (\$190,000) 2018-2019. (Not funded)

Primary-Investigator. A novel approach to trace listeria movement in a produce facility. Center for Produce Safety (\$88,382) 2018. (Not funded)

Co-Principal Investigator. Reducing Healthcare Acquired Infections: Optimization of Cleaning & Monitoring Practices Through Surface Sampling, Behavior Characterization, and Computational Modeling. Agency for Healthcare Research and Quality (\$2,500,000) 2018-2023. (Not funded)

Principal investigator. Cross-contamination of leafy greens from animal feces and irrigation. US Department of Agriculture (\$500,000). 2018-2021. (Not funded)

Principal investigator. Quenching the Need for Biocontrol Strategies in Beer Brewing. Brewers Association (\$40,000). 2017-2018 (Not Funded)

Principal investigator. The Caribbean Sea Expedition: Exploring human's effect on blue holes. The Simons Foundation. (\$200,000). (Not funded)

Principal investigator. Cross-contamination of leafy greens from animal feces and irrigation. Center for Produce Safety (\$233,000). 2018-2021. (Not funded)

Primary Investigator. Environmental investigations and risk assessment of heavy metals and radionuclides in the Rio Grande near Santa Fe, New Mexico. Amigos Bravos (\$20,000) 2017-2018. (Submitted-pending)

Principal investigator. Quantifying the occurrence and source of microbial water quality in Río Armería using a toolbox approach. Grupo Alta Divine Flavor: (\$200,000) (Submitted-pending)

Primary Investigator. Use of Predictive Models to Quantify Future POU Needs and Benefits. Water Quality Research Foundation (\$50,000) (Submitted-pending)

Cancer Center. Primary Investigator. Quantifying carcinogenic metals and microbe in Navajo Nation water (\$29,821). (Submitted-pending)

Primary Investigator. Navajo region drinking water: Metals, microbe, and corrective actions (\$27,929). (Submitted-pending)

Primary Investigator. Water quality assessment and community empowerment in rural Northern Navajo Nation. Center for Indigenous Environmental Health Research (\$15,206). (Submitted-pending)

Primary Investigator. Winchester Heights: An Enhanced Drinking Water Quality Assessment. Western Center for Agricultural Health and Safety (\$29,914). (Submitted-pending)

MEDIA

Nature, Mixed reviews for US Clean Water Act, 14 November 2012: <http://www.nature.com/news/mixed-reviews-for-us-clean-water-act-1.11809>

North Carolina Science Now- UNC-TV, Rapid Water Test, September 2013: <http://science.unctv.org/content/rapid-water-test>

Michigan State University, Septic tanks aren't keeping poo out of rivers and lakes, 3 August 2015: <http://msutoday.msu.edu/news/2015/septic-tanks-arent-keeping-poo-out-of-rivers-and-lakes/>

Water Online, Septic Tanks Aren't Keeping Poo Out Of Rivers And Lakes, 3 August 2015: <http://www.wateronline.com/doc/septic-tanks-aren-tkeeping-poo-rivers-lakes-0001>

Science Daily, Septic tanks aren't keeping feces out of rivers, lakes, 3 August 2015: <http://www.sciencedaily.com/releases/2015/08/150803154850.htm>

Laboratory Equipment, Septic Tanks Don't Help Rivers, Lakes Stay Clean, 4 August 2015: <http://www.laboratoryequipment.com/news/2015/08/septic-tanks-dont-help-rivers-lakes-stay-clean>

Infection Control Today, Septic Tanks Aren't Keeping Human Sewage Out of Rivers and Lakes, 5 August 2015: <http://www.infectioncontroltoday.com/news/2015/08/septic-tanks-arent-keeping-human-sewage-out-of-rivers-and-lakes.aspx>

University of Arizona, UA Public Health Researchers Work to Keep U.S. Food Crops Safe, 26 August 2015: <http://uahs.arizona.edu/news/ua-public-health-researchers-work-keep-us-food-crops-safe>

KNST Tucson, University of Arizona researchers help keep food safe, 09 September 2015

KJZZ Tucson, University of Arizona Study Will Help Produce Farmers Reduce *E. coli*, 10 September 2015: <http://science.kjzz.org/content/189765/university-arizona-study-will-help-produce-farmers-reduce-e-coli>

Great Lakes Echo, Septic tanks flush water quality down the tubes, 24 September 2015: <http://greatlakesecho.org/2015/09/24/septic-tanks-are-flushing-water-quality-down-the-tubes/>

Use of portable air disinfecting system to remove seeded coliphage in hospital rooms, 13 April 2016, Association of Schools & Programs of Public Health.

Irrigation Water – Keeping it Clean. 17 February 2017. Vegetable Growers News

CONFERENCE PRESENTATIONS

Colloquia Invited

Verhougstraete, M.P. and R.T. Noble. Ambient water quality in the Southeastern US: Trends and advancements in water quality management. November 12, 2012. 33rd Annual Society of Environmental Toxicology and Chemistry meeting, Long Beach, California, USA.

Martin, S., E. Luszcz, **M. Verhougstraete**, A. Kendall, and D. Hyndman. Estimating statewide septic system locations and linkages to pathogens. March 21, 2013. Michigan Environmental Health Association annual education conference, Rochester, Michigan, USA.

M. Verhougstraete, S. Martin, A. Kendall, D. Hyndman, and J. Rose. Microbial tipping points of *Escherichia coli* and human specific bacteria in Great Lakes river systems. May 19, 2014. Joint Aquatic Sciences Meeting, Portland, Oregon, USA.

M. Verhougstraete, K. Bright, K. Reynolds, C. Rock. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. June 23, 2015. Center for Produce Safety annual meeting, Atlanta, Georgia, USA.

M. Verhougstraete, S. Martin, A. Kendall, D. Hyndman, and J. Rose. Linking fecal bacteria in rivers to landscape, geochemical, and hydrologic factors and sources at the basin scale.

November 30, 2015. Michigan Department of Environmental Quality. Lansing, Michigan, USA.

M. Verhoughstraete, S. Martin, A. Kendall, D. Hyndman, and J. Rose. Linking fecal bacteria in rivers to landscape, geochemical, and hydrologic factors and sources at the basin scale. February 4, 2016. Arizona Department of Environmental Quality. Maricopa, Arizona, USA

M. Verhoughstraete. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. June 30, 2016. Center For Produce Safety annual meeting, Seattle, Washington, USA.

M. Verhoughstraete. Practical tips for effective water sampling. December 6, 2016. Washington State Fruit Tree Association annual meeting. Wenatchee, Washington, USA.

M. Verhoughstraete. Irrigation water knowledge gaps. December 13, 2017. Center for Produce Safety, Yuma, Arizona, USA

M. Verhoughstraete. Environmental Health and Justice. June 27, 2018. National Organization of State Office of Rural Health. Little Rock, Arkansas, USA

M. Verhoughstraete. Environmental Health and Justice in Arizona. July 26, 2018. Arizona State Office of Rural Health. Flagstaff, Arizona, USA

M. Verhoughstraete. Costs associated with POU's and thinking outside the box. May 24, 2018. University of North Carolina Water Microbiology. Chapel Hill, North Carolina, USA.

M. Verhoughstraete. Agriculture water concerns in the southwest United States. December 4, 2018. University of California Irvine agriculture extensions – Arid desert agriculture summit. Imperial, California, USA.

Colloquia Submitted

Shibata T., **M. Verhoughstraete**, and J. Rose. Background Levels of Viable Bacteria and Fungi in the Indoor Air and on Surfaces in a Hospital before a UVGI-HVAC Installation. *October 13, 2007*. Michigan Branch of the American Society for Microbiology fall meeting. Traverse City, Michigan, USA

Srinivasan, S., **M.P. Verhoughstraete**, and J.B. Rose. *S. Bacteroides*, a new alternative indicator. *April 12, 2008*. Michigan Branch of the American Society for Microbiology spring Meeting. Mt. Pleasant, Michigan, USA

McNinch, R.M, **Verhoughstraete, M.P.**, and J.B. Rose. Using Fecal Indicator, Source Tracking, and GIS Tools to Assess Fecal Contamination in Michigan's Waters. *May 20, 2008*. International Association of Great Lakes Research 51st Annual Conference on Great Lakes Research. Peterborough, Ontario, Canada

Verhoughstraete, M.P. and J.B. Rose. Saginaw Bay and *Escherichia Coli*. *September 5, 2008*. Saginaw Bay Coastal Initiative Speaker Series. Bay City, Michigan, USA

Verhougstraete, M.P. and J.B. Rose. Using a toolbox approach to investigate Cladophora, muck, sediment, and water around Saginaw Bay. *September 6, 2008*. Great Lakes Beach Association Annual meeting. Portage, Indiana, USA

Verhougstraete, M.P. and J.B. Rose. Water Quality and Pollution Characterization of Saginaw Bay, Michigan. *February 13, 2009*. Michigan State University Department of Fisheries and Wildlife Graduate Student Symposium. East Lansing, Michigan, USA

Verhougstraete, M.P. and J.B. Rose. Water Quality of Saginaw Bay. *March 12, 2009*. Huron County Water Quality Forum. Port Austin, Michigan, USA

Verhougstraete, M., S. Martin, A. Kendall, D. Hyndman, and J. Rose. A Biological Survey: Understanding Water Quality Using a Process Based Approach. *September 19, 2011*. 16th International Symposium on Health-Related Water Microbiology-International Water Association. Rotorua, New Zealand

Verhougstraete, M.P. and J.B. Rose. Water Quality and Fecal Contamination of Saginaw Bay, Michigan. *March 19, 2009*. Michigan Environmental Health Association. Traverse City, MI, USA

Verhougstraete, M.P. and J.B. Rose. Recreational water quality assessment of Saginaw Bay beaches using fecal indicator bacteria and source tracking methods on samples from shallow and deep waters, sediment, and muck. *May 19, 2009*. International Association of Great Lakes Research 52nd Annual Conference on Great Lakes Research. Toledo, Ohio, USA

Verhougstraete, M.P. and J.B. Rose. Using Fecal Indicator Bacteria And Source Tracking Markers During Spatial And Temporal Sampling Of Sediments, Swash Zone, Swimming Water, And Muck To Assess Saginaw Bay, Michigan, United States. *June 1, 2009*. 15th International Symposium on Health-Related Water Microbiology-International Water Association. Naxos, Greece

Verhougstraete, M.P. and J.B. Rose. The Muck and Human Health. *July 1, 2009*. Michigan Farm Bureau Regional Policy Development Meeting. Frankenmuth, Michigan, USA

Verhougstraete, M.P., J.B. Rose, and S. U'Ren. Healthy Beaches Program Grand Traverse Bay Region. *September 30, 2009*. 9th Annual Great Lakes Beach Association Joint Conference. Milwaukee, Wisconsin, USA

J.B. Rose and **M.P. Verhougstraete**. Source Tracking in the Saginaw Bay and Great Lakes Application. *October 26, 2009*. Fourth Annual Ottawa County Water Quality Forum. Grand Rapids, Michigan, USA

Verhougstraete, M.P. and J.B. Rose. Microbial and Molecular Survey of Grand Traverse Bay Watershed. *April 6, 2010*. Michigan Branch of the American Society for Microbiology spring meeting. Kalamazoo, Michigan, USA

Aslan, A. and **M. Verhougstraete**. Climate Change and Water Quality. *April 26, 2010*. Bioeconomy and Global Climate Change, Climate Change Vulnerabilities and Opportunities: Michigan and Beyond Symposium. East Lansing, Michigan, USA.

Verhougstraete, M.P. and J.B. Rose. A Water Quality Comparison between Grand Traverse Bay and Saginaw Bay, Michigan, United States. *September 20, 2010*. International Water Association World Water Congress and Exhibition. Montreal, Quebec, Canada

Verhougstraete, M.P. and J.B. Rose. A Water Quality Comparison between Grand Traverse Bay and Saginaw Bay, Michigan, United States. *October 9, 2010*. Michigan Branch of the American Society for Microbiology fall meeting. East Lansing, Michigan, USA

Verhougstraete, M.P. and J.B. Rose. A Water Quality Comparison between Grand Traverse Bay and Saginaw Bay, Michigan, United States. *October 20, 2010*. 10th Annual Great Lakes Beach Association Conference. Presque Isle, Pennsylvania, USA

Verhougstraete, M.P., Y. Huang, and J.B. Rose. Public Health Tipping Points for Water Quality. *April, 19, 2011*. NOAA and EPA Tipping Point Project meeting. Chicago, IL, USA

Verhougstraete, M.P. Public Health Issues of the 21st Century Workshop. *February 22, 2012*. 33rd Annual Montana Rural Water Systems, Great Falls, Montana, USA

Verhougstraete, M.P. and J.B. Rose. Saginaw Bay ‘muck’: Current understanding, research, and protective measures. *March 16, 2012*. 2012. Saginaw Bay Watershed Conference, Bay City, MI, USA

Verhougstraete, M.P. and J.B. Rose. Microbial responses to land, physical, chemical, environmental, and hydrological factors. *October 18, 2012*. 12th Annual Great Lakes Beach Association Conference. Mackinac Island, MI, USA

Froelich, D., R. Gonzalez, D. Blackwood, M. Greene, R. Guajardo, S. Brothers, **M. Verhougstraete**, R. Luettich, H. Paerl, J. Oliver, and R. Noble. Pathogenic *Vibrio* species in the Neuse River Estuary. *October 25, 2012*. Research Coordination Networks symposium, Oregon, USA.

B.A. Froelich, R.A. Gonzalez, A.D. Blackwood, R.P. Boyles, A.H. Snedecker, **M.P. Verhougstraete**, and R.T. Noble. Multi-year changes in *Vibrio* populations in the Neuse River Estuary of North Carolina, USA. *April 1, 2014*. *Vibrio* 2014 Conference, Edinburgh, Scotland.

D. Blackwood, S. Brothers, **M. Verhougstraete**, W. Litaker, and R. Noble. Training the Next Generation of Water Quality Professionals: Lessons Learned from Workshops on Rapid, qPCR-based Methods. *May 5, 2014*. 2014 Water Microbiology Conference, Raleigh, North Carolina, USA.

K. Lauer, **M. Verhougstraete**, D. Blackwood, and R. Noble. Quantitative analysis of fecal contamination in stormwater conveyance systems in Wrightsville Beach, NC. *May 5, 2014*. 2014 Water Microbiology Conference, Raleigh, North Carolina, USA.

M. Verhougstraete, K. Pogreba-Brown, C.C. Lamparelli, and J.N.S. Eisenberg. A prospective cohort study of risks associated with beaches in Brazil. *May 5, 2014*. 2014. Water Microbiology Conference, Raleigh, North Carolina, USA.

J. Viswasam, **M. Verhoughstraete**, R. Canales, A. Kendall, J. Rose. Investigating the links between precipitation, water quality, and GI illness. August 12, 2014. The University of Arizona Minority Health Disparities Program, Tucson, Arizona, USA.

J. Eisenberg, C. Lamparelli, M. Zanolli-Sato, K. Pogreba Brown, **M. Verhoughstraete**, and T. Wade. Recreational water risks in the tropics: A prospective cohort study of risks associated with beaches in Brazil. October 13, 2014. Water and Health Conference, Raleigh, North Carolina, USA.

M. Verhoughstraete, N. Lothrop, J. Pearce-Walker, J. Sexton, K. Reynolds, K. Bright. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. May 18, 2016. University of North Carolina Water Microbiology conference, Chapel Hill, North Carolina, USA.

D. Troup, K. Reynolds, **M. Verhoughstraete**. Bioaerosol Reduction with a Passive Air Treatment System in a Controlled Chamber. April 2017, Mel and Enid Zuckerman College of Public Health Research Poster forum. Tucson, Arizona, USA

M. Verhoughstraete, M. Weir, J. Miller. International Risk Consortium side event. May 2017. University of North Carolina Water Microbiology conference, Chapel Hill, North Carolina, USA.

M. Verhoughstraete. Suitability of *Escherichia coli* as an Indicator of Human Pathogens in Irrigation Water. June 2018, International Food Safety Conference.

Jean Pierre Nshimiyimana, J.P., S.L. Martin, M. Flood, **M.P. Verhoughstraete**, D.W. Hyndman, J.B. Rose. Regional Variations of Bovine and Porcine Fecal Pollution as a Function of Landscape, Nutrient, and Hydrological Factors. June 2018. International Association of Great Lakes Research, Toronto, CA

V. Madera-Garcia, P. Beamer, J. Werner, **M. Verhoughstraete**. Legionella is a Miner issue. May 20, 2018. University of North Carolina Water Microbiology conference, Chapel Hill, North Carolina, USA.

M. Verhoughstraete, K. Reynolds, C. Gerba. Cost benefits of point-of-use devices to reduce waterborne diseases. May 19, 2018. University of North Carolina Water Microbiology conference, Chapel Hill, North Carolina, USA.

M. Verhoughstraete. Suitability of *Escherichia coli* as an Indicator of Human Pathogens in Irrigation Water. May 18, 2018. University of North Carolina Water Microbiology conference, Chapel Hill, North Carolina, USA

Pearce-Walker, J., **M. Verhoughstraete**, J. Sexton, R. Canales, A. Wilson, C. Gerba, and K. Bright. Assessment of viral pathogens, their indicators, and the applicability of quantitative microbial risk assessment in irrigation waters. October 9, 2018. International Society for Food and Environmental Virology. Phoenix, Arizona, USA.

Courses instructed

Instructor. CPH 599. Independent Study – Jeannie Pearce-Walker. Summer 2016

Co-Instructor. CPH 597D. Rural Health Service Learning Institute. Summer 2016. 15 enrolled students

Instructor. CPH 491. Preceptorship – Gabriel Manicellis

Instructor. CPH 900. Research independent Study – Siyi Lei. Fall 2016

Instructor. CPH 375. Introduction to Environmental and Occupational Health. Fall 2016. 130 enrolled students.

Co-Instructor. CPH 696. Environmental and Occupational Health seminar. Fall 2016.

Instructor. CPH 597D. Rural Health Service Learning Institute. Summer 2017. 15 enrolled students

Co-Instructor. CPH 696. Environmental and Occupational Health seminar. Spring 2017.

Instructor. CPH 696. Environmental and Occupational Health seminar. Fall 2017.

Instructor. CPH 375. Introduction to Environmental and Occupational Health. Fall 2017. 160 enrolled students.

Instructor. CPH 375. Introduction to Environmental and Occupational Health. Fall 2018. 120 enrolled students.

Instructor. CPH 375. Introduction to Environmental and Occupational Health. Spring 2019. 92 enrolled students.

Instructor. CPH 696. Environmental and Occupational Health seminar. Spring 2018.

Instructor. CPH 597D. Rural Health Service Learning Institute. Summer 2019.

Seminar Invited

K. Pogreba-Brown and **M. Verhougstraete**. Large cohort study of illness associated with beach exposure in Brazil. *February 6, 2014*. The University of Arizona, College of Public Health, Epidemiological Seminar Series, Tucson, Arizona, USA.

M. Verhougstraete. Microbial water quality in the Great Lakes. *September 3, 2014*. The University of Arizona, College of Public Health, Environmental Health Sciences seminar series, Tucson, Arizona, USA.

M. Verhougstraete. Students for Sustainability Environmental Health Panel. November 1, 2016. The University of Arizona, Students for Sustainability, Tucson, Arizona, USA.

M. Verhougstraete. Current state of microbial research for produce safety. October 17, 2016. The University of Arizona, School of Animal Comparative Biomedical Sciences (ACBS), Tucson, Arizona, USA.

M. Verhougstraete. Environmental Health Panel. November 21, 2016. The University of Arizona, Students for Sustainability, Tucson, Arizona, USA

M. Verhougstraete. Science Café: Health risks of flooding and natural disasters. December 4, 2017. The University of Arizona, Southwest Environmental Health Sciences Center, Tucson, Arizona, USA.

Symposia organization

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| 2007 | Center for Water Sciences: Waterborne Pathogens Workshop Series |
| 2009 | Center for Water Sciences: Stormy Weather and Stormwater Impacts workshop series |
| 2008, 2009, 2011 | CAMRA (Center for Advancing Microbial Risk Assessment) Summer Institute |
| 2011-2012 | NOAA Sea Grant climate change workshop |
| 2012 | Montana Rural Water Systems annual conference: Our water; Our health |
| November 2013 | Molecular Training Facility Rapid Methods Assessment |
| March 2013 | Molecular Training Facility Rapid Methods Assessment |
| 2016-2018 | HITS (Healthcare Infection Transmission Systems). Steering committee |
| 2018 | Arizona State Office of Rural Health. Planning committee |
| 2018 | Quantitative Microbial Risk Assessment Interdisciplinary Innovative Institute |
| 2016-Present | Public Health Risk Assessment Consortium. Founding member |
| 2018-2019 | University of North Carolina Water Microbiology meeting. Advisory board |

Symposia participation

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| 2007 | Center for Advancing Microbial Risk Assessment Institute, East Lansing, Michigan, US |
| 2008 | Beach Health Steering Committee-USGS, Portage, Indiana, USA |
| 2009 | Multiple Stressors in Saginaw Bay: Navigating the Issues, Ann Arbor, Michigan, USA |
| 2010 | International Joint Commission experts meeting, Milwaukee, Wisconsin, USA |
| 2013 | Quantitative Microbial Risk Assessment Innovation Institute, Sao Paulo, Brazil |
| 2016 | Cochise County public health emergency preparedness infectious disease workshop, Sierra Vista, Arizona, USA |
| 2016 | Water Resources Research Center annual meeting, Tucson, Arizona, USA |
| 2017 | Water Resources Research Center annual meeting, Tucson, Arizona, USA |

Symposia speaker

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| 2008 | Saginaw Bay Coastal Initiative Speaker Series |
| 2009 | Huron County Water Quality Forum |
| 2009 | Ottawa County Water Quality Forum |

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| 2012 | Saginaw Bay Watershed Conference |
| 2018 | QMRA III Workshop |
| 2018 | National Organization of State Offices of Rural Health, Little Rock, Arkansas, USA |

AWARDED GRANTS

Federal

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|-----------|---|
| 2010-2012 | Co-Principal Investigator. Land use change and agricultural lands indicators and tipping points. Funded by: NOAA and EPA. Total cost: \$119,748; 50% effort |
| 2012-2013 | Co-Principal Investigator. Quantifying the impacts of projected climate changes on the Grand Traverse Bay region: An adaptive management framework. Funded by: NOAA Michigan Sea Grant. Total cost: \$106,613; 50% effort |
| 2008-2014 | Contributing investigator. Collaborative Research: Linkage of Bacterial Pathogens to Human infectious Disease in an Estuary Subjected to Extreme Climatic Events. Funded by: National Science Foundation. Total cost: \$1,541,139; 50% effort |
| 2015-2016 | Co-Principal Investigator. Responder Safety and Health. Funded by: Center for Disease Control and Prevention through the Arizona Department of Health Services under the Hospital Preparedness Program and Public Health Emergency Preparedness Cooperative Agreements. Total cost: \$240,000; 40% effort |
| 2018-2019 | Co-Primary Investigator. Quantitative Microbial Risk Assessment: A Modeling Method to Optimize Healthcare Associated Infection Reduction Nationally. Funded by: Center for Disease Control and Prevention (CDC). Total cost: \$510,000; 20% FTE |

State

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| 2008-2009 | Lead investigator. Screening level source tracking of <i>E. coli</i> and phosphorus in the Saginaw Bay watershed. Funded by: Michigan Department of Environmental Quality. Total cost: \$23,913; 20% effort |
| 2009 | Lead investigator. Beach monitoring in Grand Traverse Bay. Funded by: Michigan Department of Environmental Quality through the BEACH Act. Total cost: \$5,000; 10% effort |
| 2009-2011 | Co-Principal Investigator/Lead investigator. Assessment of water quality and health risk in Grand Traverse Bay Watershed. Funded by: Michigan Department of Environmental Quality. Total cost: \$31,955; 50% effort |

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| 2012-2013 | Co-investigator. Training Workshops at Molecular Training Facility in Eastern North Carolina. Funded by: North Carolina Biotechnology Center, Presidential Initiative Award. Total cost: \$40,000; 50% effort |
| 2014-2015 | Co-Principal Investigator. Spatial/Temporal Sampling of Irrigation Water. Funded by: Arizona Department of Agriculture – Specialty Crop Program. Total cost: \$60,000; 5% effort |
| 2015-2016 | Co-Principal Investigator. Enteric viruses as new indicators of human and cattle fecal contamination of irrigation waters. Funded by: Center for Produce Safety, University of California Davis. Total cost: \$221,340; 5% effort |
| 2015-2016 | Principal investigator. Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. Funded by: Center for Produce Safety, University of California Davis. Total cost: \$117,201; 5% effort |
| 2015 | Co-Principal Investigator. Equipment Grant Award. Funded by: University of Arizona, Water, Environment, and Energy Solutions at The University of Arizona. Total cost: \$16,407; 1% effort |
| 2015-2016 | Principal investigator. Determining Data Gaps in Risk Assessment for use in Produce Safety. Funded by: Arizona Department of Agriculture. Total cost: \$50,000; 15% effort |
| 2016 | Principal Investigator. HydroSphere enhancement for improved water quality monitoring. Funded by: Water, Environment, Energy Sustainability (WEES). Total cost: \$6,000; 0% effort |
| 2015-2017 | Principal investigator. Determining Data Gaps in Risk Assessment for use in Produce Safety. Funded by: Arizona Department of Agriculture. Total cost: \$50,000; 13% effort |
| 2016-2017 | Principal Investigator. Identifying new surrogates for irrigation water. Funded by: Arizona Department of Agriculture. Total cost: \$65,441; 10% effort |
| 2016-2017 | Co-Principal Investigator. Pathogen Transport to Produce via Irrigation. Funded by: Arizona Department of Agriculture. Total cost: \$60,000. 10% effort |
| 2016-2017 | Principal Investigator. A novel approach to quantify climate changes effects on drinking water quality. Funded by: University of Arizona. Total cost: \$8,955; 5% effort |
| 2017-2018 | Principal investigator. A Water Quality Assessment in a Farm Worker Community. Funded by: Western Center for Agricultural Health and Safety. Total cost: \$30,000; 1% FTE |

2018-2019 Co-Investigator. Investigation into PFAS occurrence in water and health outcomes. Funded by: Pima County, AZ. Total cost: \$30,000; 5% FTE

Industry

2014 Co-Principal Investigator. Hospital Field Study of T1 Air Disinfectant Recirculator Efficacy Against Viral Tracers. Funded by: Aerobiotix Inc. Total cost: \$23,427; 20% effort

2016 Co-Principal Investigator. Controlled Laboratory Chamber Study of Antimicrobial Efficacy over Long-term Use. Funded by: Knowles Foundation. Total cost: \$33,911; 25% effort

2016 Co-Principal Investigator. Impact of Safeguard on fecal bacterial load on humans and household fomites. Funded by: Procter & Gamble Co. Total cost: \$80,000; 20% effort

2016 Co-Principal Investigator. Cost benefits of point of use devices in reduction of health risks from drinking water. Funded by: Water Quality Association (WQA). Total cost: \$60,000; 15% effort

2017-2018 Principal investigator. PetAirapy: Controlled Laboratory Chamber Study of Antimicrobial Efficacy. Funded by: PetAirapy LLC. Total cost: \$33,000; 10% effort

2017-2018 Co-Investigator. Household POU Filters: Tools for Long-Term, Large Volume Monitoring of Tap Water Quality and Human Health Risks. Funded by: Water Quality Research Foundation. Total cost: \$50,000; 3% effort

Private Foundation

2007-2008 Lead investigator. Investigation of water quality in the Coldwater River Watershed. Funded by: Coldwater River Watershed Council. Total cost: \$3840; 5% effort

2008 Lead investigator. West Lake Improvement Association Barberry Drain at West Lake preliminary water quality testing. Funded by: West Lake Improvement Association. Total cost: \$1000; 5% effort

2008 Lead investigator. Investigation of water quality and sources associated with the Buck Creek Watershed. Funded by: City of Kentwood, Michigan. Total cost: \$4860; 10% effort

2009 Lead investigator. Improving Grand Traverse Bay water quality through Healthy Beaches campaign. Funded by: The Watershed Center Grand Traverse Bay. Total cost: \$15,600; 10% effort

2009-2010 Lead investigator. Investigation of water quality and source tracking in Gull Lake watershed, Kalamazoo County, Michigan. Funded by: Four Township Water Resources Council. Total cost: \$3790; 10% effort

LIST OF COLLABORATORS (LAST 5 YEARS)

Grants and Publications

Arora, M., The University of Arizona
Ashbolt, N., University of Alberta
Aslan, A., University of Georgia Southern
Bartholic, J., Michigan State University
Bartram, J., University of North Carolina
Bassett, J., John Bassett Consulting
Beamer, P.I., The University of Arizona
Blackwood, A.D., University of North Carolina – Chapel Hill
Briggs, S., State of Michigan Department of Environmental Quality
Bright, K., The University of Arizona
Brothers, S., University of North Carolina – Wilmington
Boyles, R.P., University of North Carolina – Chapel Hill
Bruni, A.C., Environmental Company of Sao Paulo State
Byappanahalli, M.N., United State Geological Survey, Lake
Canales, R., The University of Arizona
Carlo, L., The University of Arizona
Casanova, L., Georgia State University
Davey, A., University of Delaware
Dreelin, E.A., Michigan State University
Edwards, M., Virginia Polytechnic and State University
Eisenberg, J.N.S., The University of Michigan
Froelich, B.A., University of North Carolina – Chapel Hill
Gerba, C., The University of Arizona
Gonzalez, R.A., University of North Carolina – Chapel Hill
Granillo, B., The University of Arizona
Greene, C., NSF International
Haas, C., Drexel University
Hanrahan, I., Washington State Tree Fruit Associate
Hoffmann, M., Food and Drug Administration
Huang, Y., Michigan State University
Hyndman, D., Michigan State University
Ives, R., Michigan State University
Kahn-Rivadeneira, P., The University of Arizona
Kendall, A., Michigan State University
Klimecki, W., The University of Arizona
Lamparelli, C.C., Environmental Company of Sao Paulo State
Larson, Marilynn A., University of Nebraska Medical Center Department
Lauer, K., University of North Carolina – Chapel Hill

Litaker, W., National Oceanic and Atmospheric Administration
 Loh, M.M., Institute of Occupational Medicine
 Lothrop, N., The University of Arizona
 Lutz, E., The University of Arizona
 Martin, S., Michigan State University
 Medema, G., Delft University of Technology
 Meschke, J., University of Washington
 Miller, J., NSF International
 Munoz, K., University of Arizona
 Noble, R., University of North Carolina – Chapel Hill
 Ozevin, D., University of Illinois at Chicago
 Progreba-Brown, K., The University of Arizona
 Pruden, A., Virginia Polytechnic and State University
 Quintanar, D., Tucson Water
 Ravishankar, S., The University of Arizona
 Reynolds, K., The University of Arizona
 Rivadeneira, P., The University of Arizona
 Rock, C., The University of Arizona
 Roiko, A., Griffith University
 Rose, J., Michigan State University
 Sato, M.I.Z., Environmental Company of Sao Paulo State
 Sexton, J., The University of Arizona
 Snedeker, A.H., University of North Carolina – Chapel Hill
 Sugeng, A., The University of Arizona
 Viswasam, J., Georgia State University
 Wade, T., United States Environmental Protection Agency
 Weber, M., The University of Arizona
 Weir, M., The University of Ohio
 Whitman, R.L., United State Geological Survey
 Wilkinson, S.T., The University of Arizona
 Wilson, A., The University of Arizona

Student advising

The University of Arizona

PhD

| | |
|--------------|-----------------------|
| 2014-2015 | Steven Hadeed |
| 2016-2017 | Valerie Madera-Garcia |
| 2016-present | Elkana Kurgart |
| 2017-present | Modhi Alshammari |
| 2017-present | Daniel Troup |
| 2018-present | Emily Cooksey |

Masters of Science (MS)

| | |
|--------------|------------------|
| 2015 | Kyle Brown |
| 2015-2016 | Modhi Alshammari |
| 2016-2017 | Amanda Wilson |
| 2016-2017 | Daniel Troup |
| 2016-2018 | Kimberley Munoz |
| 2017-present | Jordan Siena |

Masters of Public Health (MPH)

| | |
|--------------|--------------------|
| 2016-2017 | Dametreea Carr |
| 2016-2017 | Siyi Lei |
| 2017-2018 | Claudia Diaz-Combs |
| 2017-2018 | David Contreras |
| 2017-2018 | Fernanda Garavito |
| 2017-2018 | Erik Ornelas |
| 2018-present | Kylie Boyd |
| 2018-present | Sarah Gruzio |
| 2018-present | Andrew Hermanski |

Independent studies

| | |
|------|----------------------|
| 2016 | Jennie Pearce-Walker |
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Undergraduate students

| | |
|------|-------------------|
| 2014 | Jonathan Viswasam |
| 2018 | Payton De La Cruz |

The University of North Carolina-Chapel Hill

| | |
|------|----------------------------|
| 2012 | Sara Posey (Undergraduate) |
| 2013 | Kellen Lauer (Masters) |

Michigan State University

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|------------------|--|
| 2008-2009 | Benjamin Schmidt (Masters) |
| 2008-2010 | Mustafa Mazher (Masters) |
| 2008, 2009, 2011 | Christian Beato Melendez (Undergraduate) |