

CURRICULUM VITAE

Ryan W. Jackwood, M.S.

(June 2017)

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EDUCATION

Doctor of Philosophy (*in progress*) - Biology, specialization in Bioremediation and Water Quality,
University of Toledo, Toledo, OH

Master of Science (2013) - Biology, specialization in Ecology, University of Toledo, Toledo, OH

Bachelor of Science (2011) - Biology, honors in research distinction, The Ohio State University,
Columbus, OH

Areas of Specialization

Environmental microbiology, viral genetics, bioremediation, environmental engineering, water quality treatments and analyses, R and Python programming languages, teaching biology

Professional Experience

2005 - 2009. Seasonal Research Internship, Department of Horticulture and Crop Sciences, The Ohio State University

2010 - 2011. Undergraduate Research Assistant, Veterinary Biosciences Department, The Ohio State University

2011 - 2013. Graduate Teaching Assistant, Department of Environmental Sciences, University of Toledo

2013 - 2014. Graduate Assistant at the Stranahan Arboretum, Department of Environmental Sciences, University of Toledo

2014 - Present. Graduate Research Assistant, Department of Environmental Sciences, University of Toledo

Professional and Honorary Organizations

Sigma Alpha Lambda - National Leadership and Honors Organization

Ohio Academy of Science

University of Toledo Graduate Student Association (GSA)

International Association for great Lakes Research (IAGLR)

Environmental Graduate Students (EGS) - Toledo Graduate Student Government, Vice-President

American Water Works Association (AWWA)

Professional Certification

SCUBA certified (PADI), Biosafety Level 2 (The Ohio State University and University of Toledo), IACUC certified in animal care and use during research

Scientific Publications

* indicates undergraduate honors thesis

** indicates M.S. thesis

*Jackwood, Ryan and Steven Krakowka (*advisor*). *Characterization of Torque Teno Virus by In Vitro Infection of Gnotobiotic Pigs: Torque Teno Virus the Cause of PAS?* Honors Research Theses from the College of Arts and Sciences. The Ohio State University (2011)

Sneller, C., Guttieri, M., Paul, P., Costa, J., & Jackwood, R. *Variation for resistance to kernel infection and toxin accumulation in winter wheat infected with Fusarium graminearum*. *Phytopathology*, 102(3), 306-314 (2012)

**Jackwood, Ryan and Daryl Dwyer (*advisor*), *Predicting Fate and Transport of Fecal Bacteria through Soils Using an Advection-Dispersion Model*. ProQuest Dissertation Publishing (2013)

Jackwood, Ryan and Daryl Dwyer, *Quantification of Load Reduction for Phosphorus and Escherichia coli Using a Two-Stage Treatment System*. (In Progress)

Jackwood, Ryan and Daryl Dwyer, *Modeling the Impacts of Wetland and Sedimentation Pond on Contaminant Loadings in the Wolf Creek Watershed* (In Progress)

Invited Scientific Presentations

2016, April 15th, *Improving Water Quality with Ecosystem Restoration*. Presentation to EPA Staff. Ohio EPA Northwest District Office, Bowling Green, OH.

2016, March 11th, *Improving Water Quality with Ecosystem Restoration*. Spring Forum on Environmental Health Sponsored by the Toledo-Lucas County Health Department. St. Luke's Hospital, Maumee, OH.

2015 *Restoration Projects to Reduce Phosphorus and E. coli Loadings into Lake Erie: From Concept to Implementation*. Spring Forum on Environmental Health Sponsored by the Toledo-Lucas County Health Department. St. Luke's Hospital, Maumee, OH.

Scientific Presentations and Posters

2016, July 20th, *Strategies for Improving Water Quality on a Watershed-Scale: Enhanced Wetland and Riparian Habitat (poster)*. American Water Works Association – Annual Conference and Exposition. McCormick Place Convention Center, Chicago, IL.

2015 *Restoration Projects to Reduce Phosphorus & Escherichia Coli Loadings into Lake Erie: From Concept to Implementation (presentation)*. American Water Works Association – Ohio Section Annual Conference. Cleveland Convention Center, Cleveland, OH.

2015 *Modeling the Effects of Remediation on Sediment and Nutrient Loading to Lake Erie from the Wolf Creek Watershed (poster)*. GSA North-Central Section Meeting. Madison, WI.

2015 *Restoration Projects to Reduce Phosphorus Loadings into Lake Erie: From Concept to Implementation (presentation)*. International Association for Great Lakes Research Annual Conference. University of Vermont, Burlington, Vt.

2015 *Restoration Projects to Reduce Phosphorus Loadings into Lake Erie: From Concept to Implementation (poster)*. Midwest Graduate Research Symposium. University of Toledo, Toledo, OH.

2014 *Natural Treatment Systems to Improve Nearshore Health and Reduce Nonpoint Source Pollution (poster)*. Binational Lake Erie Public Forum. Maumee Bay State Park, Oregon, OH.

2013 *Predicting Fate and Transport of Fecal Bacteria through Soils Using an Advection-Dispersion Model (presentation)*. M.S. Thesis Defense, University of Toledo, Toledo, OH.

2013 *Role of Retention Time and Soil Depth on Transport and Survival of Escherichia coli (presentation)*. National Nonpoint Source Monitoring Conference and Workshops. Wyndham Cleveland at Playhouse Square, Cleveland, OH.

2013 *Predicting the Roles of Soil Depth and Type on Transport of Escherichia coli and Enterococcus spp. Using an Advection Dispersion Model (poster)*. Ohio Academy of Science. University of Findlay, Findlay, OH.

2013 *Predicting the Roles of Soil Depth and Type on Transport of Escherichia coli and Enterococcus spp. Using an Advection Dispersion Model (poster)*. Midwest Graduate Research Symposium. University of Toledo, Toledo, OH.

2013 *Restoring Wetlands at Maumee Bay State Park Clean Water, Safe Beaches (poster)*. Earth Fest. University of Toledo, Toledo OH.

2012 *Predicting the Applicability of Microbial Filtration through Wetland Soil Using an Advection Dispersion Transport Model (presentation)*. M.S. Thesis Proposal, University of Toledo, Toledo, OH.

2011 *Characterization of Torque Teno Virus by In Vitro Infection of Gnotobiotic Pigs: Torque Teno Virus the Cause of PAS? (presentation)*. Undergraduate Thesis Defense, The Ohio State University, Columbus, OH.

2008 *Sources of variation for DON concentration in moderately resistant Soft Red Winter Wheat (presentation)*. Undergraduate Internship, Ohio Agriculture Research and Development Center, Wooster, OH.

Teaching

University of Toledo – Teaching Assistant

High School Level

Biology, Central Catholic High School (2013) - Guest Teacher

IB Biology Class, Notre Dame Academy. Stranahan Arboretum – Guest Lecturer/Field Trip leader

Freshman/Sophomore Level

Biodiversity, EEES - 2150 (2012, 2013, 2015) - Honors and Normal Sections

Environmental Problems Lab, EEES - 1140 (2011 - 2013)

Microbes in Society, EEES 1170 (2016 - 2017) - Guest Lecturer

Junior/Senior Level

Soil Ecology Lab, EEES 4260 (2013)

Environmental Microbiology, EEES 5510 (2013) - Guest Lecturer

Media Exposure

Toledo, OH. WTOL- 11 CBS. WTOL 11 Investigates: How clean is the water at Lake Erie beaches? (June 2014). <http://www.wtol.com/story/25938803/wtol-11-investigates-how-clean-is-the-water-at-lake-erie-beaches>

Toledo, OH. 13 ABC. Forecast Helps E. coli Swimming Forecasts (June 2016). http://www.13abc.com/content/news/Forecast-helps-E-Coli-swimming-forecasts-381284781.html?utm_medium=social&utm_source=facebook_13abc

Toledo, OH. The Blade. St. Ursula “Soil Savers” Finalists in Challenge (March 2017). <http://www.toledoblade.com/Education/2017/03/04/St-Ursula-Soil-Savers-finalists-in-challenge.html>

Toledo, OH. UTNews. UT RESEARCHERS REDUCING FERTILIZER RUNOFF IN LAKE ERIE TO HELP FIGHT HARMFUL ALGAL BLOOMS (Feb. 27th, 2017). http://utnews.utoledo.edu/index.php/02_27_2017/ut-researchers-reducing-fertilizer-runoff-in-lake-erie-to-help-fight-harmful-algal-blooms

Toledo, OH. The Blade. St. Ursula team wins for environmental idea (April 25th, 2017). <http://www.toledoblade.com/Education/2017/04/25/St-Ursula-team-wins-for-environmental-idea.html>

Seminars and Workshops

Environmental Education Council of Ohio Pre-Conference Forum. University of Toledo Lake Erie Center, Toledo, OH. Participated on the forum’s panel of experts regarding Lake Erie Issues (March 2014).

Fall/Winter Maumee AOC Summit. Partners for Clean Streams. Buehner Center at Oak Openings Preserve, Toledo, OH (Dec. 2013)

National Nonpoint Source Monitoring Conference and Workshops. Tetra Tech, Playhouse Square Cleveland, OH (Oct. 2013)

Restoration of Streams and Riparian Areas Workshop. Partners for Clean Streams and Army Corp of Engineers, University of Toledo (Aug. 2013)

Community Outreach

Volunteer, Judge at District Science Day. Ohio Academy of Science. University of Toledo, Toledo, OH (2012, 2016 - 2017)

Advisor, STEM students from St. Ursula Academy, Toledo, OH in the completion of Furthering Ohio's Carbon Initiative for Sequestration (FOCIS), Innovate 2 Mitigate (I2M), and Lexus Eco-Challenge projects (2014-2017)

Volunteer, Building Ohio's Sustainable Energy Future (BOSEF) – Biomass Group. University of Toledo (2013-2015)

Leader, outdoor science day for Grace Community Center, Stranahan Arboretum, Toledo, OH (2013)

Volunteer, Boy Scout Group, Doug Reinhart hosted a Camp Fire group, Stranahan Arboretum (2013)