

ADRIAN A. VASQUEZ
CURRICULUM VITAE

CONTACT INFORMATION

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INTERESTS

Environmental-based research related to human health. Integrative and comparative animal physiology. Inspire and encourage young scientists from marginalized populations to persist in the sciences using experiential research-based pedagogy.

ACADEMIC AFFILIATIONS (selected listing)

Department of Civil and Environmental Engineering, Wayne State University, Detroit, Michigan
Post-doctoral researcher. July 2019 – Present.

Great Lakes Water Authority Pilot Plant and Lake St. Clair Metropark Field Station, Detroit and Harrison Twp., Michigan
Laboratory Director. September 2017 – Present.

National Institute of Health ReBUILD Detroit, University of Detroit Mercy, Detroit, Michigan
Post-doctoral Teaching and Research Fellow. August 2017 - June 2019.

Junior Sciences and Humanities Symposium and Upward Bound, College of Education, Wayne State University, Detroit, Michigan
Co-Principal Investigator: “Promoting Junior Science and Humanities Symposium participation with Upward Bound”. July 2018 - July 2019.

National Institute of Health Initiative for Maximizing Student Diversity, School of Medicine, Wayne State University, Detroit, Michigan
Biology Instructor. Summer 2016 - Summer 2017.

Physiology Department, School of Medicine, Wayne State University, Detroit, Michigan.
Graduate Research Assistant. August 2015 - August 2017.

Belle Isle Aquarium, Detroit, Michigan.
Co-Instructor Aquatic Molecular Ecology. June 2015 - August 2015.

Physiology Department, School of Medicine, Wayne State University, Detroit, Michigan.
Research Assistant. January 2014 - July 2015.

Biological Sciences, Wayne State University, Detroit, Michigan.
Embryology Lab and Biology Lab Graduate Teaching Instructor. January 2013 - May 2013.

Department of Pediatric Cardiology, University of Michigan Medical School, Ann Arbor Michigan

Research Associate Laboratory Specialist. January 2007 - July 2007.

Michigan Head and Spine Institute Providence Hospital, Southfield, Michigan.

Research Assistant. September 2006 - December 2006.

Biological Sciences, Oakland University, Rochester, Michigan.

Upward Bound Science Instructor. Summer 2006.

Biological Sciences, Oakland University, Rochester, Michigan.

Graduate Research Assistant. July 2004 - May 2006.

EDUCATION

Cooperative Institute for Great Lakes Research Post doctoral Fellow, University of Michigan, Ann Arbor, Michigan. 2020

Post-Doctoral Researcher, Department of Civil and Environmental Engineering, Wayne State University, Detroit, Michigan. 2018 – Present.

National Institutes of Health Post-Doctoral Teaching and Research Fellow, College of Engineering and Sciences, University of Detroit Mercy, Detroit, Michigan. 2017 to 2019.

Ph. D in Physiology, Department of Physiology, School of Medicine, Wayne State University Detroit, Michigan. Mentor: Dr. Jeffrey Ram. Dissertation title: “The digestive composition and physiology of water mites”. 2017.

M.S. in Molecular and Developmental Biology, Department of Biological Sciences, Wayne State University, Detroit, Michigan. 2013.

M.S. in Cellular Biology, Department of Biological Sciences, Oakland University, Rochester, Michigan. 2006.

B.S. in Biology, Department of Biological Sciences, Oakland University, Rochester, Michigan. 2003.

A.A. in Biology and English Literature, Corozal Junior College, Belize, Central America. 2001.

PUBLICATIONS

A. A. Vasquez, V. Carmona-Galindo, M. S. Qazazi, X. N. Walker, J. L. Ram. 2020. Water mite assemblages reveal diverse genera, novel DNA barcodes and transitional periods of intermediate disturbance. *Experimental and Applied Acarology*. *In press*.

V. Carmona-Galindo, **A. A. Vasquez**, T. Carmona. 2019. A research incubator for environmental sustainability: An inquiry-based approach for exploring water innovation. *Submitted in American Chemical Society: Environmental Research Literacy: Classroom*,

Laboratory, and Beyond: 12/15/19.

M. Silbergleit, **A. A. Vasquez**, C. Miller, J. Sun, and I. Kato. 2019. Oral and intestinal bacterial exotoxins: potential linked to carcinogenesis. *Chapter 7 in Elsevier PMBTS 171 The Microbiome in health and disease: In press.*

A. A. Vasquez, J. L. Ram, M. S. Qazazi, J. Sun, I. Kato. 2018. Oral microbiome; Potential link to systemic disease and oral cancer. Book chapter in “Mechanisms underlying host-microbiome interactions in pathophysiology of human diseases”. American Physiological Society, Springer. Chapter 9, Pages: 195-246.

A. A. Vasquez, M.S. Qazazi, A. J. Failla, S. Rama, J. L. Ram. 2017. Molecular barcodes of water mites (Hydrachnidia) from the Toledo Harbor region of Western Lake Erie U.S.A. *International Journal of Acarology*. Vol: 43, Pages: 494-498.

N. J. Farley, **A. A. Vasquez**, R. Kik IV, S. R. David, A. S. Katailaha, Xavier N. Walker, J. L. Ram. 2017. Primer designs for identification and eDNA detection of gars (*Lepisosteidae*). *Transactions of the American Fisheries Society*. Vol: 147, Pages: 687-695.

A. A. Vasquez, P. L. Hudson, K. Keeler, P. M. Armenio, M. Fujimoto and J.L. Ram. 2016. *Eurytemora carolleeae* in the Laurentian Great Lakes revealed by phylogenetic and morphological analysis. *Journal of Great Lakes Research*. Vol: 42, Pages: 802-811.

I. Kato, **A. A. Vasquez**, G. Moyerbrailean, S. Land, Z. Diuric, J. Sun, H-S. Lin, J.L. Ram. 2016. Nutritional correlates of human oral microbiome. *Journal of the American College of Nutrition*. Vol: 36, Pages: 88-98.

I. Kato, **A. A. Vasquez**, G. Moyerbrailean, S. Land, J. Sun, H-S. Lin, J.L. Ram. 2016. Oral microbiome and history of smoking and colorectal cancer. *Journal of Epidemiological Research*. Vol: 2, Pages: 92-101.

A.J. Failla, **A.A. Vasquez**, P. Hudson, M. Fujimoto and J.L. Ram. 2016. Morphological identification and COI barcodes of adult flies help determine species identities of chironomid larvae (Diptera, Chironomidae). *Bulletin of Entomological Research*. Vol: 106, Pages: 34-46.

A.J. Failla, **A.A. Vasquez**, M. Fujimoto and J.L. Ram. 2015. Review: The ecological, economic and public health impacts of nuisance chironomids and their potential as aquatic invaders. *Aquatic Invasions*. Vol: 10, Pages: 1-15.

Chaudhry G.R., Fecek C., Lai M.M., Wu W., Chang M., **Vasquez A.**, Pasierb M., Trese M. 2009. Fate of Embryonic Stem Cell Derivatives Implanted into the Vitreous of a Slow Retinal Degenerative Mouse Model. *Stem Cells and Development*. Vol: 18, Pages: 247-258.

Hormoz Sheikh, Karen Zakharian, Ramiro Perez De La Torre, Christopher Facek, **Adrian Vasquez**, G. Rasul Chaudhry, David Svinarich, Mick J. Perez-Cruet. 2009. In vivo intervertebral disc regeneration using stem cell–derived chondroprogenitors. *Journal of Neurosurgery: Spine*. Vol: 10, Pages: 265-272.

Fecek C., Yao D., Kacorri A., **Vasquez A.**, Iqbal S., Sheikh H., Svinarich D., Perez-Cruet M., Chaudhry G.R. 2008. Chondrogenic derivatives of embryonic stem cells seeded into 3D Polycaprolactone scaffolds generated cartilage tissue in vivo. *Tissue Engineering: Part A*. Vol: 14, Pages: 1403-1413.

Yao D., Smith A.G., Nagarajan P., **Vasquez A.**, Dang L., Chaudhry G.R. 2005. Fabrication of polycaprolactone scaffolds using a sacrificial compression molding process. *Biomaterials Research B. J Biomed Mater Res Part B: Appl Biomaterials*. Vol: 77B, Pages: 287-295.

GRANTS

Army Educational Outreach Program Award for Promoting Junior Science and Humanities Symposium with Upward Bound. 2018. \$49,316.30.

Sharon L. Ram Aquatic Sciences Grant for research on water mites of Blue Heron Lagoon, Belle Isle, Detroit. 2016. \$1492.04.

AWARDS

Dr. Michael Wider Physiology Graduate Student Achievement Award for academic distinction, research accomplishment and career development. 2016-2017 Academic Year.

Marion I Barnhart Graduate Student Award for academic distinction and research progress. September 2016.

Travel Award for research trip to Belize and Mexico from the Office of the Vice President for Research, Wayne State University. 2015.

Research Excellence Award for Graduate Studies 2004-2006. Oakland University Center for Biomedical Research, Rochester, MI.

Recognized by International Students and Scholars of Oakland University for academic excellence April 2005. Oakland University, Rochester, MI.

International Students and Scholars Office Service Scholarship April 2003. Oakland University, Rochester, MI.

Provost Award for Undergraduate Student Research Scholar November 2002. Oakland University, Rochester, MI.

FELLOWSHIPS

Cooperative Institute for Great Lakes Research Post doctoral Fellow, University of Michigan, Ann Arbor, Michigan. 2020-Present.

National Institute of Health ReBUILD Detroit Post-doctoral Training Fellowship, University of Detroit Mercy. 2017-2019.

National Institute of Health Initiative for Maximizing Student Diversity (IMSD) Graduate Research Assistantship. Wayne State University. 2015-2017.

Enhancement Graduate Research Assistantship Wayne State University. 2012.

Terrestrial and marine fellowship by Programme for Belize. Belize, Central America. 1995.

INVITED TALKS

Phytoplankton community diversity from the Detroit River. Podium talk at the Great Lakes Water Authority and Wayne State University joint research symposium. Water Works drinking water treatment plant, Detroit, MI. November 12th 2019.

Digestive physiology of water mites: Are you what you eat in the lab? Invited seminar speaker at Central Michigan University. November 7th 2019.

Applying Course-Based Research Experiences to Explore Novel Strategies In Water Sustainability. Great Lakes Bioneers Detroit Conference. University of Detroit Mercy. Oct. 25th to 26th 2019.

“Biodiversity, digestive physiology and ecosystem services of water mites from Belle Isle” at Water at Wayne Seminar Series Belle Isle Nature Zoo, Detroit, MI. October 22nd 2019.

Global Learning and Observations to Benefit the Environment community presentation on “The effect of water mites on Dipterans of human pathological importance in metro Detroit” at Detroit, MI. July 16th 2019.

International Association of Great Lakes Conference Copepod Workshop at Brockport College, Brockport NY. June 10th, 2019.

Albion College on: "Barcoding begets Biodiversity: Tales from Belize to the Laurentian Great Lakes". February 28th 2019.

ReBUILD Detroit Science Presenter for Summer Enrichment Program and Research Day Symposium at Wayne State University. 2018.

Cesar Chavez Academy STEAM Festival September 27th 2018. Invited presenter to showcase science research innovative pedagogy with elementary and high school students from Detroit.

Career Panel for Belle Isle Summer Academy part of the National Science Foundation program to increase STEM career choices for public school students of Detroit. 2018. Belle Isle Aquarium, Detroit Michigan.

Aquatic Research and Public Education at the Lake St. Clair Metropark Research Field Station. 2018. Great Lakes Water Authority Symposium. Detroit, Michigan.

Research by Healthy Urban Waters. 2017. Global & Urban Health & Equity Program (GLUE), Wayne State University School of Medicine. Detroit, Michigan.

Ácaros de Agua, copépodos y mosquitos: Usando biología molecular para entender sustentabilidad natural. 2017. CONIA 2017, Universidad de Centro América, Antiguo Cuscatlán, El Salvador, Central America.

Changes in oral microbiome and its potential impact on human disease. 2017. University of Arizona College of Medicine-Phoenix. Phoenix, Arizona.

Microscopic Biodiversity of the Great Lakes Zooplankton. 2016. Michigan State University Science Festival, Belle Isle Aquarium, Detroit, Michigan.

A primer on research-driven science limitations and opportunities in Belize - Introducing a New Era of Research in Belize. 2015. Corozal Junior College, Corozal, Belize, Central America.

Retos, soluciones, e iniciativas futuras sobre la evaluación de la biodiversidad de zooplancton y bentos. 2015. ECOSUR Chetumal, Quintana Roo, México.

"It's a Zoo out there!" Biodiversity of Great Lakes Zooplankton. 2015. Belle Isle Aquarium, Detroit, Michigan.

PRESENTATIONS

“Phytoplankton community diversity from the Detroit River”. State of the Strait Annual Meeting. November 19th 2019. University of Windsor, Windsor, Canada.

“The effect of water mites on mosquitoes in metro Detroit”. Michigan Physiological Meeting 6th Annual Meeting. June 27 to 28th 2019. Central Michigan University, Mt. Pleasant, Michigan.

Research and Education at the HUW Lake St. Clair Metropark Field Laboratory. Wayne State University “A Dip in the Water” May 20th 2019.

Using science based experiences and research to increase under-represented Detroit student participation in a regional science symposium. Wayne State University Graduate and Post-doctoral Symposium March 5th 2019, Detroit Michigan.

Predator-prey interactions of water mites from the Laurentian Great Lakes are revealed by next generation sequencing, classic taxonomy and DNA barcoding. 2018. Society for Freshwater Science Annual Meeting, Detroit, Michigan.

Molecular gut contents of water mites from Belle Isle’s Blue Heron Lagoon, Detroit Michigan. 2017. International Association for Great Lakes Research, Detroit, Michigan.

Biogeography of *Eurytemora carolleeae* in the Great Lakes revealed by phylogeny and morphology. 2016. International Association for Great Lakes Research, Guelph, Ontario Canada.

Genetic diversity of Water Mites in Western Lake Erie. 2016. International Association for Great Lakes Research, Guelph, Ontario Canada.

Genetic diversity of Water Mites in Western Lake Erie. 2016. Michigan Physiological Society, Wayne State University, Detroit, Michigan.

SERVICE

Junior Science and Humanities Symposium Board of Advisors. 2019 to Present.

Natural Resource Career Panel for National Science Foundation program Increasing Student interest and participation in Science and Science Careers at the Belle Isle Aquarium, Detroit. 2019.

Referee *Integrative Zoology* 2019.

Science, Technology and Race Learning Community panel on Race at University of Detroit Mercy 2019.

Junior Science and Humanities Symposium judge 2018.

International Association for Great Lakes Research poster judge 2017.

Panelist for Global Urban Health Equity workshop on Culture and Health in Detroit, MI. 2017.

Volunteer 13th International Congress of Invertebrate Reproduction and Development 2013.

FACULTY DEVELOPMENT

The Association of College and University Educators and the American Council on Education Certificate in Effective College Instruction. University of Detroit Mercy 2018.

National Research Mentoring Network Culturally Aware Mentoring Workshop at Detroit, Michigan Spring 2018.

Understanding Power, Culture and Difference professional development workshop at University of Detroit Mercy 2018.

RESEARCH TRAINING

NSF & NIH Grant writing workshops by AtKisson Training Group Winter 2019.

IAGLR Zooplankton workshop at Brockport College, NY 2019.

60th Acarology Summer Workshop at Ohio State University 2017.

LANGUAGE SKILLS

Fluent in Spanish.

REFERENCES

Provided upon request.