

Exponent®
Engineering & Scientific Consulting

Alex Neal, Ph.D.

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Professional Profile

Dr. Neal is a Scientist in Exponent's Ecological and Biological Sciences practice based in Bellevue, WA. She has experience in biology, ecology, and ecotoxicology. In her academic background, Dr. Neal's work focused on assessing the impacts of sublethal concentrations of pharmaceuticals on the behavior and physiology of aquatic organisms. Additionally, her research utilized novel experimental methods to investigate the role of fluid flow in shaping chemical exposure paradigms. This work incorporated principles of fluid dynamics with toxicology to more comprehensively understand chemical exposure in flowing aquatic habitats, where distribution of chemicals is driven by turbulent mixing. Most recently, Dr. Neal has completed a Marine Policy fellowship with the National Oceanic and Atmospheric Administration where she gained experience in analyzing qualitative social science data and providing actionable recommendations to leadership. Outside of academia, Dr. Neal has extensive experience in customer service and project management across various industries.

Academic Credentials & Professional Honors

Ph.D., Biological Sciences, Bowling Green State University, 2022

M.S., Biology, Bowling Green State University, 2016

B.S., Biology, University of Dayton, 2013

John A. Knauss Marine Policy Fellowship, National Oceanic and Atmospheric Administration, 2023-2024

NSF Research Experience for Undergraduates (REU) in Aquatic Ecology, Auburn University, 2012

Prior Experience

Graduate Research and Teaching Assistant, Bowling Green State University, 2019-2022; 2014-2017

Research Technician, Auburn University, 2013

Aquatic Ecology Research Technician, University of Dayton, 2011-2013

Professional Affiliations

Society of Environmental Toxicology and Chemistry (SETAC); 2023-present

Society for Integrative and Comparative Biology (SICB); 2014-2017

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Publications

Neal, A. E., & Moore, P. A. (2017). Mimicking natural systems: changes in behavior as a result of dynamic exposure to naproxen. Ecotoxicology and environmental safety, 135, 347-357.

Presentations

Neal, A.E., Moore, P.A. Altering duration of exposure to atrazine impacts aggressive behavior in crayfish. Society for Integrative and Comparative Biology Annual Meeting. New Orleans, LA, 2017

Neal, A.E., Moore, P.A. Static versus dynamic exposure assays: How are crayfish impacted by realistic exposure paradigms. Society for Integrative and Comparative Biology Annual Meeting. Portland, OR 2016

Neal, A.E., Gascho-Landis, A.M., Hart, M.A., Stoeckel, J.A. Increased turbidity does not decrease the ability of a mantle displaying mussel to transfer glochidia to visual fish hosts. Poster presentation. Freshwater Molluscan Conservation Society Symposium: Species Recovery and Restoration- from Concept to Implementation. Guntersville, AL, 2013

Project Experience

Conducted both field and laboratory research to assess the effects of sublethal concentrations of pharmaceutical products on the behavior of aquatic organisms.

Assessed the role of turbulence on shaping chemical exposure paradigms within flowing aquatic habitats, including comparisons to traditional toxicological methods of assessing toxicity from acute exposure. Utilized novel experimental methodology to create continuous, flow-through exposure arenas.

Investigated the roles of chemical concentration, exposure frequency, and exposure duration within dynamic chemical exposures on the effects of behavior and physiology of aquatic organisms following acute chemical exposure to pharmaceutical pollution.

Led a project focused on evaluation of a federal social science research portfolio and capacity for portfolio growth. Provided actionable recommendations to leadership.

Evaluated federal position descriptions in order to provide organizational recommendations to improve efficiency related to hiring practices.

Reviewed grant proposals for competitive federal funding.