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Engineering & Scientific Consulting

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Professional Profile

Jonathan Behrens, Ph.D., is a regulatory scientist at Exponent with more than 10 years of experience supporting environmental assessment and regulatory decision-making. He helps clients navigate pesticide registration, regulatory compliance, and environmental risk assessment challenges, drawing on expertise in environmental fate and transport, ecotoxicology, water quality, PFAS and other emerging contaminants, and environmental data analytics.

Dr. Behrens supports clients by evaluating environmental fate, exposure, ecotoxicology, and water quality data to inform product registrations under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and related state and federal programs. He also supports clients with other regulatory submissions, risk assessments, and responses to regulatory agency inquiries. His expertise includes environmental fate and transport, per- and polyfluoroalkyl substances (PFAS) and other emerging contaminants, ecological risk assessment, water quality assessment, contaminant monitoring, and watershed-scale environmental modeling. He applies hydrologic and environmental modeling approaches to evaluate contaminant transport, exposure pathways, and potential environmental impacts across aquatic and terrestrial systems.

His experience spans study design, field investigations, laboratory research, and data interpretation involving chemical, biological, toxicological, and ecological endpoints. Dr. Behrens has designed and conducted environmental studies evaluating contaminant occurrence, ecological effects, and environmental processes, and has expertise in analytical chemistry and the quantitative measurement of organic contaminants and metals using techniques including ICP-MS, HPLC-MS/MS, and ecotoxicological assays.

Dr. Behrens applies statistical analysis, environmental modeling, and data visualization tools including R, R Shiny, Python, and ArcGIS to analyze environmental monitoring programs, regulatory datasets, and complex scientific investigations. He has extensive experience managing large environmental datasets and integrating multiple lines of evidence to support environmental decision-making and regulatory compliance objectives.

Prior to joining Exponent, Dr. Behrens was a postdoctoral researcher at Oak Ridge National Laboratory and earned his PhD in Ecology from Duke University. His research focused on PFAS and other emerging contaminants, integrating environmental chemistry, ecotoxicology, hydrology, and watershed science to better understand environmental exposures and ecological impacts. He has authored peer-reviewed publications addressing water quality, emerging contaminants, ecotoxicology, environmental modeling, and ecosystem processes.

In addition to his scientific research experience, Dr. Behrens has worked at the intersection of science and policy. He has collaborated with researchers, resource managers, and government agencies to communicate complex technical findings to regulators and decision-makers. As a fellow at the Science

and Technology Policy Institute, he contributed to analyses and reports supporting the White House Office of Science and Technology Policy and the National Science and Technology Council. This experience enables him to translate complex scientific information into practical solutions for regulatory and environmental challenges.

Academic Credentials & Professional Honors

Ph.D., Ecology, Duke University, 2024

M.S., Ecology, Duke University, 2022

S.B., Chemistry, University of Chicago, 2016

Prior Experience

Scientist, Exponent, 2026-present

Postdoctoral Researcher, Oak Ridge National Laboratory, 2024-2026

Research and Teaching Assistant, Duke University, 2019-2024

Science Policy Analyst, FYI Science Policy News, 2018-2019

Science Policy Fellow, Science and Technology Policy Institute, 2016-2018

Public Engagement Intern, Environmental Protection Agency, 2014

Professional Affiliations

American Geophysical Union (AGU)

Society for Environmental Toxicology and Chemistry (SETAC)

Society for Freshwater Science (SFS)

Household and Consumer Products Association (HCPA)

Publications

Behrens JR, Joyce A, Kolpin D, Jayasundara N, Barbo N, Bernhardt E. [Integrating contaminant source indicators, water quality measures, and ecotoxicity to characterize contaminant mixtures and per- and polyfluoroalkyl substance \(PFAS\) variability in an urban watershed](#). Environmental Science & Technology 2025; 59(27):13958–13969.

Behrens JR, Bernhardt ES. [Community structure and loading together determine aquatic to terrestrial metal subsidies in urban and forested streams](#). Freshwater Science, Urban Stream Ecology Special Issue 2025; 44(4).

Rumschlag S, Gallagher B, Hill R, Schäfer R, Schmidt T, Woods T, Kopp D, Dumelle M, Rohr J, De Laender F, Hoffman J, Behrens JR, Lepak R, Jones D, Mahon M. [Diverging fish biodiversity trends in cold and warm rivers and streams](#). Nature 2025; 647:656–662.

Hatt B, Athapaththu C, Behrens JR, Boer S, Burns M, Burrows R, de Jong R, Elsner C, Grey V, Imberger M, Williams B, Coleman R. [Practical pathways for protecting headwater streams in urbanizing areas](#). Freshwater Science 2025; 44(4).

Mianecki A, Behrens JR, Kolpin D, Hemphill G, Kapoor K, LeFevre G. [From water to web: trophic transfer of neonicotinoids from a wastewater effluent-dominated stream to riparian spiders](#). ACS Environmental Au 2025; 5(5):457–467.

Rumschlag S, Mahon M, Jones D, Battaglin W, Behrens JR, Bernhardt E, Bradley P, Brown E, De Laender F, Hill R, Kunz S, Lee S, Rosi E, Schäfer R, Schmidt T, Simonin M, Smalling K, Voss K, Rohr J. [Density declines, richness increases, and composition shifts in stream macroinvertebrates](#). Science Advances 2023; 9(18).

Behrens JR, Lal B. [Exploring trends in the global small satellite ecosystem](#). New Space 7 2019; 7(3):126–136.

Peer Reviews

Reviewer for Freshwater Science and Elementa.