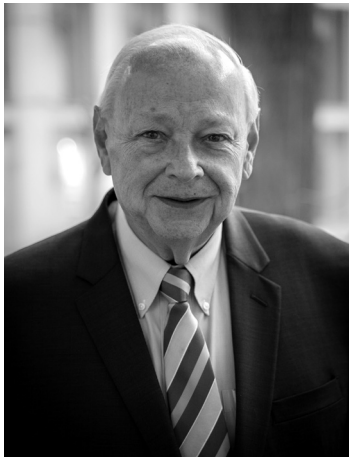
About Richard Moriarty



Carnegie Museum of Natural History is saddened by the recent passing of our great friend, Dr. Richard Moriarty. His deep commitment to the museum made possible the Carnegie Discoverers, which he helped found in 2006 and served as chair, and the R.W. Moriarty Science Seminars program that launched in 2010.

Dr. Richard Moriarty was a pediatrician, a former associate professor of pediatrics at the University of Pittsburgh School of Medicine, and a vibrant member of Pittsburgh's medical community. He advanced knowledge in the fields of pediatrics and toxicology, contributing more than 20 journal articles with the fundamental goal of reducing childhood fatalities due to poisoning.

Moriarty founded the Pittsburgh Poison Center—nationally known for the development of the Mr. Yuk poison warning symbol—and the National Poison Center Network that both fostered the development of and supported existing poison centers nationally.

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The R.W. Moriarty Science Seminars

Exploring Nature, Culture, and the Future of Life on Earth

Emily Elliott, PhD

University of Pittsburgh

"Our Changing Ohio River: Climate, Water Quality, and Harmful Algal Blooms"

Monday, September 25, 2023 | Noon

The 158th Seminar in a continuing series

Abstract:

The Ohio River basin is not only vast, but its waterways are a vital economic, ecological, and recreational resource for the 15 states within basin boundaries. Yet, a half-century after the Clean Water Act, major challenges remain to make the Ohio River fishable, swimmable, and drinkable. For example, in 2015 and 2019, unprecedented blooms of the toxin-producing harmful algal bloom, *Microcystis aeruginosa,* extended along 600 and 300 miles of the mainstem Ohio River, respectively. Given the unusual nature of these extensive blooms and the potential impacts to human and ecological health, it is imperative to understand factors contributing to bloom formation. I will highlight ecological, hydrological, and climatic changes in the Ohio River over the past 40 years and explore how these factors may be interacting to fundamentally change the ecology and biogeochemistry of the Ohio River. Long-term trends in flow and two key nutrients that contribute to algal bloom proliferation (nitrogen, phosphorous) are evaluated using a U.S. Geological Survey model called *Weighted Regressions on Time, Discharge, and Season* (WRTDS). Our model results are placed in the context of current river management strategies, efforts to curb nutrient pollution, and a basin-wide push for federal designation as a restoration target.

Biography:

Dr. Emily M. Elliott is a professor of ecosystem ecology in the Department of Geology & Environmental Science at the University of Pittsburgh. Her research group examines the tight coupling between human activities and nutrient distributions in atmosphere, terrestrial, and aquatic systems across spatial scales using stable isotope biogeochemistry. Her research group has advanced knowledge by developing and applying novel stable isotope techniques to challenging questions regarding the impact of human activities on nitrogen and phosphorous distributions and dynamics. Her research approach is multi-faceted and transdisciplinary, pulling from the fields of biogeochemistry, isotope geochemistry, atmospheric chemistry, hydrology, aquatic and terrestrial ecology, and geography.

Dr. Emily Elliott is Co-founder and Director Emeritus of the Pittsburgh Water Collaboratory* that bridges efforts in water research, governance, and action at the University of Pittsburgh. She is trained as a Science Ambassador through the National Academies of Sciences “Science & Engineering Ambassador Program” and the 2018 recipient of the American Geophysical Union’s Sulzman Award for Excellence in Education and Mentoring. She is passionate about the importance of interdisciplinary geosciences for addressing sustainability challenges, advancing diversity and inclusion in the geosciences, community-engaged research, and science communication. She is currently a Research Fellow at the Carnegie Museum of Natural History where she is spending her sabbatical until January 2024.

* https://www.water.pitt.edu/