

Joan B. Rose

Homer Nowlin Chair in Water Research, Dept of Fisheries and Wildlife at Michigan State University
East Lansing, MI, US

Expert in water microbiology, water quality and public health safety

Biography

Every drop of water matters to Dr. Joan Rose and her research team who she calls “water detectives.” Joan is an international authority on water microbiology, water quality, and public health safety, and she co-directs both MSU’s Center for Advancing Microbial Risk Assessment (CAMRA) and its Center for Water Sciences (CWS).

Joan, together with her water detectives, are developing new genetic analytics to study waterborne health threats. Water quality studies today tend to focus on the indicators of pathogens, but Joan’s work targets actual threat agents such as viruses, mapping water quality and health risks in waterways throughout the world.

Joan is a pioneer in the emerging science of viral metagenomics – sequencing virus DNA in water sources, discharges and shipping ballast using next-generation high-throughput technology. Such technology promises to significantly improve methods protect water and food supplies, and Joan now is applying it to assess the safety of fresh produce.

Her global activity includes investigation of waterborne disease outbreaks and the study of water supplies, treatment, and reclamation. Her applied research interests include study of microbial pathogens in recreational waters and climatic factors impacting water quality.

Industry Expertise

Environmental Services, Research, Writing and Editing, Education/Learning

Areas of Expertise

Quantitative Microbial Risk Assessment, Public Health Water Microbiology, Environmental Virology, Environmental Parasitology, Drinking Water Treatment and Disinfection , Wastewater Treatment and Reuse, Water Pollution Microbiology, Mycology, Food Microbiology

Affiliations

International Water Association: Fellow, U.S. Environmental Protection Agency’s Great Lakes Advisory Board

Education

University of Arizona
Ph.D. Microbiology

University of Wyoming
M.S. Microbiology

University of Arizona
B.S. Microbiology

Accomplishments

Appointed to the National Research Council

Appointed by the National Academies Board on Environmental Studies and Toxicology

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