

# VISION SCIENCE RESEARCH SEMINAR 2022-2023's LARKWORTHY MEMORIAL LECTURE

## A journey from fishes to viruses: Development of SARS-CoV-2 wastewater surveillance to support public health action



### Prof. Mark R. Servos

Canada Research Chair in Water Quality Protection,  
University of Waterloo, Canada

**Wednesday, April 18 | 5:30 pm**

**Venue: OPT 347**

**ABSTRACT** The COVID-19 pandemic highlighted the potential to monitor SARS-CoV-2 viral fragments in wastewater using basic molecular biology techniques, similar to those used to study wastewater impacts on fish in the Grand River. Scientists at the University of Waterloo applied environmental science techniques to develop a potential surveillance program for public health officials. With the help of partners, they established a program in several Ontario communities, including the Region of Waterloo, to track community spread of the virus. Regular sampling of wastewater treatment plant influent showed that wastewater-based surveillance is a useful tool to predict early trends in hospitalizations across Ontario, especially during the massive Omicron wave. The success of this program demonstrates the remarkable and unexpected journey of science.

**BIOGRAPHY** Mark R. Servos, the Canada Research Chair in Water Quality Protection at the University of Waterloo, focuses his research on understanding the impact of emerging threats to water resources, with a particular emphasis on the Grand River's ecology. He works globally to improve frameworks for assessing environmental impacts and formulating remedial actions to address cumulative effects in watersheds. Mark is committed to experiential learning and has led several programs and workshops for students to experience the complexities of watershed management. During the pandemic, he shifted his research focus to the development and deployment of wastewater-based surveillance for SARS-CoV-2. In his free time, he enjoys fishing and studying local history.

#### Contact for Vision Science Seminar Series:

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