SPEAKER BIOGRAPHIES AND PRESENTATION SUMMARIES



Dr. Satinder Brar
Professor, York University

Bio: Dr. Brar is an internationally recognized expert in environmental engineering, serving as the James and Joanne Love Chair and Director of the One WATER Institute at York University. Her research centers on waste valorization and the removal of emerging contaminants from water. She received the Grand Prize for University Research from AAEES and is an elected member of both the European Academy of Sciences and the Royal Society of Canada.
Presentation Summary: Dr. Brar will present on her group's ongoing research addressing the removal of contaminants of emerging concern—such as antibiotics, PFAS, and microplastics—from water and wastewater using advanced oxidation, biological, and hybrid treatment processes. She will also explore innovative strategies for converting waste into high-value bioproducts, including enzymes, that can be used in environmental bioremediation.



Dr. Ali Asgary
Professor, York University

Bio: Dr. Asgary is a professor at York University and co-founder of the Disaster and Emergency Management programs. He leads CIFAL York and the ADERSIM Lab, where his work focuses on the use of emerging technologies—such as AI, virtual reality, UAVs, and simulation—for disaster and emergency management. His research explores the modeling of events like floods and earthquakes, particularly their impacts on water systems and infrastructure.
Presentation Summary: Dr. Asgary will introduce the Swan Lake Citizen Science Lab, a community-driven initiative launched in 2024 that combines environmental monitoring with public engagement. Using advanced tools like drones, AI, VR, and GIS, the lab empowers local residents and researchers to collaborate on real-time water and environmental assessment around an urban lake in Markham, Ontario. The presentation will highlight the lab’s innovative framework, early outcomes, and potential as a scalable model for urban citizen science.



Dr. Sapna Sharma
Professor, York University

Bio: Dr. Sharma is a Professor in the Department of Biology at York University and serves as the York Research Chair in Global Change Biology. She is the inaugural Director of the UNITAR Global Water Academy and is internationally recognized for her work on the effects of climate change on lakes. Her research focuses on ice loss, warming water temperatures, and shifting aquatic ecosystems. Dr. Sharma’s achievements have earned her induction into the Royal Society of Canada’s College, the King Charles Coronation Medal, and recognition as one of Canada’s Top 10 Women Water Scientists.
Presentation Summary: Dr. Sharma will present on the accelerating impacts of climate change on lakes, particularly those with seasonal ice cover. She will discuss trends in ice loss, earlier stratification, and the rising risks of harmful algal blooms. Her presentation underscores the urgent need for greenhouse gas mitigation to protect the ecological and societal services provided by freshwater ecosystems.



Dr. Stephanie Gora
Assistant Professor, York University

Bio: Dr. Gora leads the Safe and Sustainable Water Research Group at York University, where she also teaches courses in water resources engineering and treatment process design. Her research focuses on light-based technologies such as UV, advanced oxidation, and photocatalysis for drinking water and wastewater treatment. She is especially committed to developing sustainable water solutions for small and underserved communities, including those in Inuit Nunangat. Dr. Gora holds a PhD from the University of Toronto and is a licensed professional engineer in Nova Scotia and Ontario.
Presentation Summary: Dr. Gora will present on emerging applications of UV technology in urban water management, including the use of UV LEDs, biofilm control, advanced oxidation, and decentralized UV systems for improving water safety in distribution networks.



Dr. Ali Doostmohammadi
Senior Research Scientist, York University

Bio: Dr. Doostmohammadi is a Senior Research Scientist and Adjunct Professor at York University with a Ph.D. in Biomaterials. His expertise spans advanced materials, molecularly imprinted polymers, microfluidic systems, and biosensor technologies. His research focuses on developing innovative, field-ready sensors for rapid detection of biological and chemical contaminants in water, aiming to safeguard public health and support environmental sustainability.
Presentation Summary: Dr. Doostmohammadi will present microfluidic sensors designed for detecting various chemicals and pathogens in drinking and environmental water. His talk will cover sensor design, functionality, and real-world applications, emphasizing their sensitivity, specificity, and practical relevance for water quality monitoring.