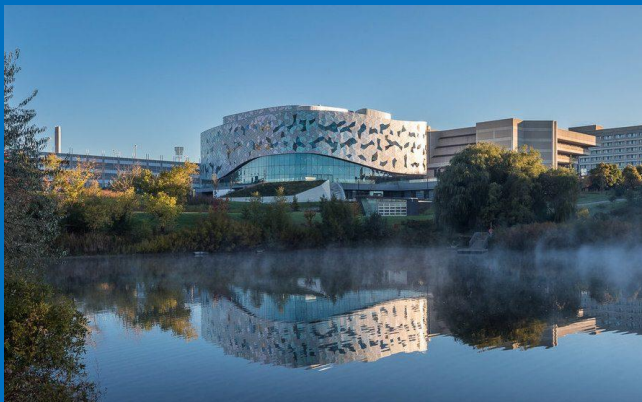


One WATER Institute

NEWSLETTER

ISSUE 3
MAY-JUNE 2025



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Where Water meets Innovations

Message from the Director

At One WATER Institute, we continue to build momentum in fostering interdisciplinary research, strategic partnerships, and community engagement. Over the past months, we've seen this vision come to life through a series of impactful initiatives, our Seminar Series has brought cutting-edge research to the forefront, including recent talks on Arctic drinking water and UV biofilm control; the Behind the Lab Bench feature has offered an inside look into the daily innovations taking place across our labs; and our active involvement in the York Region Science and Technology Fair showcased our commitment to outreach and education.

This third issue also introduces a new opportunity to help shape our collective future. We invite you to participate in a faculty survey focused on research grant engagement and the integration of One WATER into proposal development. Your feedback will be invaluable in guiding the resources, support, and collaborations we cultivate going forward.



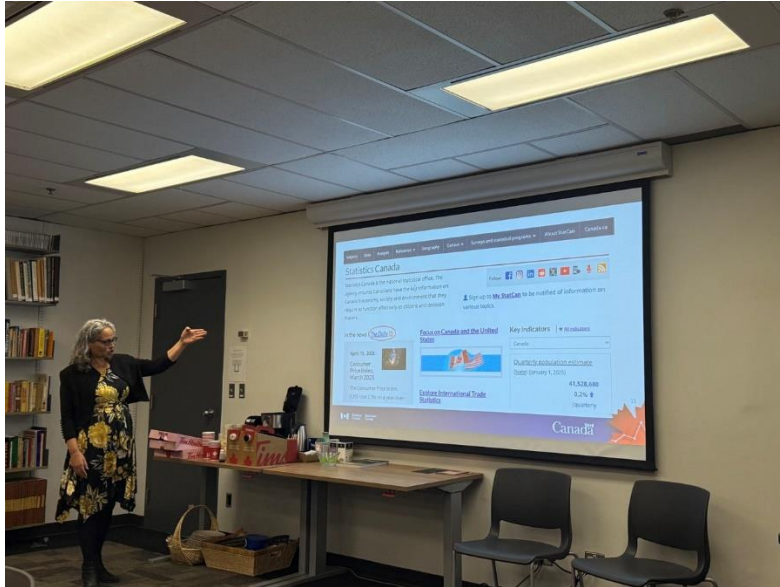
Dr. Satinder Kaur Brar
Director of One WATER

PREVIOUS EVENTS

One WATER Seminar Series: Unlocking StatCan Resources for Water Research

On May 1st, 2025, the One WATER Institute welcomed Amanda Colina, Data Ambassador at Statistics Canada, for a seminar titled "Data and Training Resources Available to Water Researchers and Professionals Through Statistics Canada." Held at 314 York Lanes, the session provided an engaging overview of StatCan's online tools and training resources tailored for the water sector. Amanda shared strategies for navigating key platforms such as The Daily and "Search by Subject," and introduced attendees to free webinars, data literacy resources, and workshops. The seminar equipped participants with practical skills to enhance their research and professional development using trusted national data. Here are some highlights from the session!

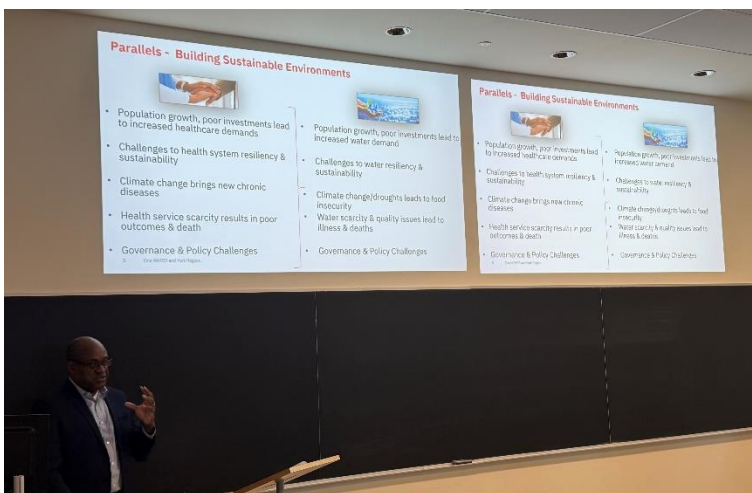




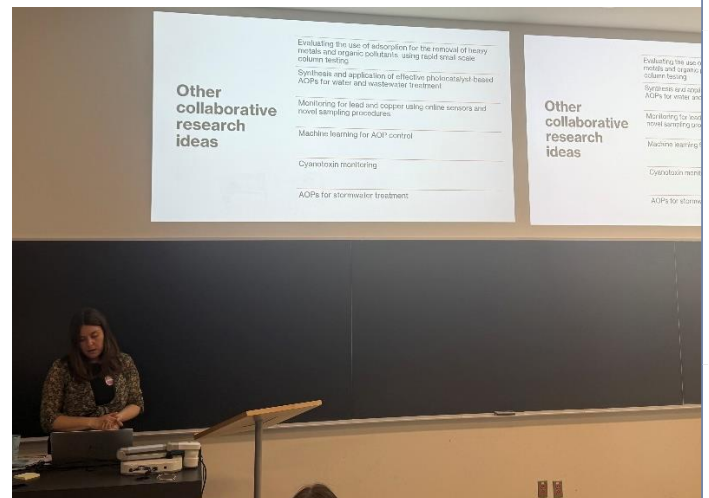
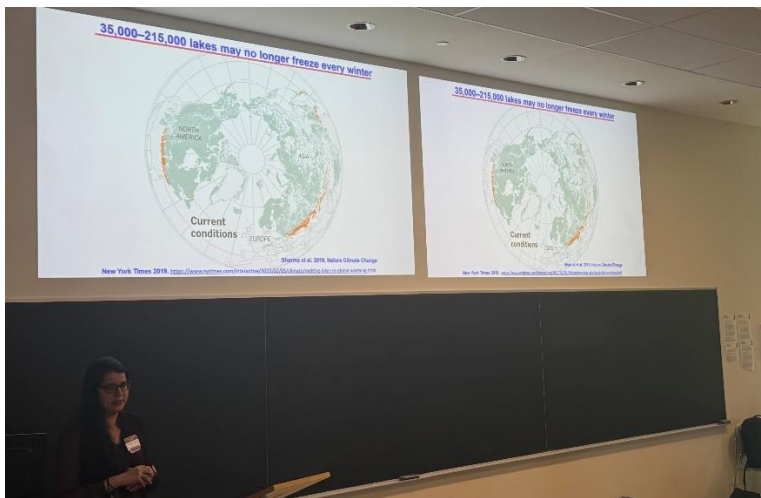
York One WATER Day: Advancing Partnerships for Regional Water Sustainability

On May 13, 2025, the One WATER Institute and York Region co-hosted York One WATER Day, a collaborative event held at York University to advance partnerships in water sustainability research and practice. The event brought together faculty researchers, graduate students, and municipal professionals for a full day of presentations, dialogue, and strategic planning.

The program opened with remarks from Ms. Courtney Cole (Office of the Vice-President Research & Innovation), Ms. Jennifer Khemai (Manager, Research and Data Analysis, York Region), and Dr. Satinder K. Brar (Director, One WATER), who emphasized the critical role of academic-municipal collaboration in addressing today's complex water challenges. They highlighted York's expanding research capacity and the importance of sustained cross-sector dialogue to co-develop data-driven, implementable solutions.



The morning featured faculty research presentations that demonstrated York's expertise across a wide range of water-related fields. Topics included the detection and treatment of emerging contaminants, such as PFAS and pharmaceuticals, climate-driven stress on lakes and urban flood infrastructure, and the development of real-time monitoring tools using sensors and AI. Dr. Satinder Brar shared advancements in enzymatic and oxidation-based processes for contaminant removal. Dr. Sapna Sharma discussed global lake responses to warming and pollution, while Dr. Ali Asgary presented smart flood mapping tools based on citizen science. Other presentations introduced UV-LED systems for water disinfection, biosensors for trace contaminant detection, and nutrient and energy recovery from wastewater streams. These projects illustrated the alignment of York's research strengths with York Region's operational priorities.



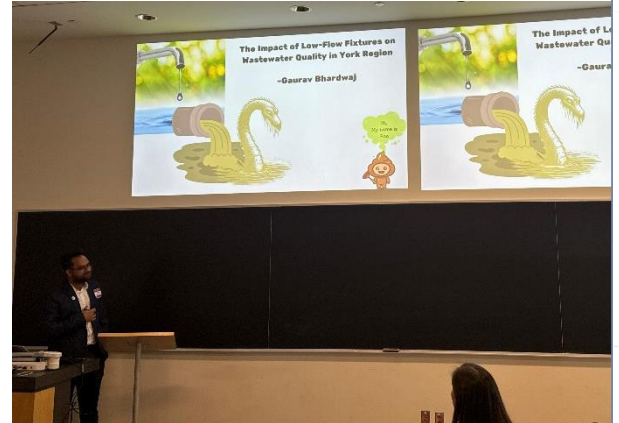
Following the presentations, a dedicated roundtable brought together York Region staff and One WATER researchers to discuss 11 interdisciplinary research clusters. These clusters were strategically developed to address municipal needs, ranging from watershed health and flood modeling to biosolids management, UV disinfection, and subsurface gas migration. Researchers from groups such as the Urban River Justice Lab, Sharma Lab, Environmental HydroDynamics Group, ACUTE Microfluidics, and the Contaminant Hydrogeology Group shared project insights, explored collaborative pathways, and identified opportunities for joint proposals and pilot implementation.



A student research challenge added further energy to the event, with three finalists presenting innovative ideas targeting regional water issues. Khyati Joshi received first place, Anastasiia Bolshakova earned second place, and Gaurav Bhardwaj placed third. These student-led solutions highlighted the next generation of talent contributing to water sustainability.

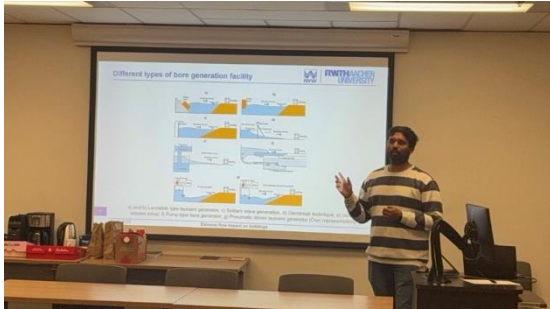
The day concluded with lab tours, allowing York Region staff to see firsthand the instrumentation, facilities, and ongoing experiments across several research labs. These visits reinforced the depth of York's capabilities and sparked new ideas for technical collaboration. Key outcomes from the event included plans to hold a follow-up session within six months, shared interest in pursuing joint research proposals, and strengthened alignment between academic research and regional water

The success of York One WATER Day underscores the value of long-term, co-developed partnerships in shaping resilient, sustainable, and science-informed water management strategies. It marked an important step toward deeper integration of research with municipal planning and set the stage for continued collaboration between York University and York Region.



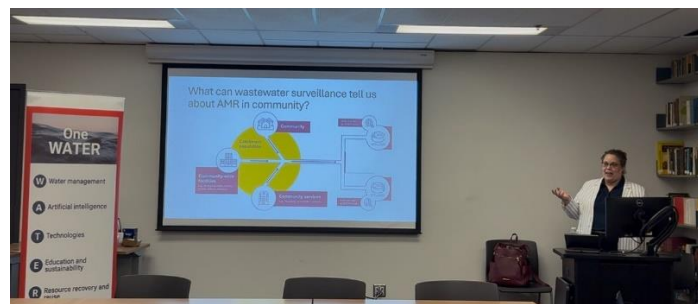
One WATER Seminar Series: Extreme Flow Impacts on Infrastructure

On May 30, 2025, One WATER hosted a seminar featuring Dr. Harish Selvam, postdoctoral researcher at RWTH Aachen University, on Extreme Flow Impacts on Buildings. Dr. Selvam presented experimental and numerical insights into tsunami force reduction and shared field observations from the 2021 Ahr Valley flood in Germany. The talk explored the role of seawalls, vegetation, and building resilience against tsunamis and flash floods, offering a comparative view of engineered and nature-based mitigation strategies. The event attracted strong interest from faculty and students, highlighting growing engagement with climate-resilient infrastructure research.



One WATER Seminar Series: Wastewater Surveillance for AMR Detection

On June 26, 2025, One WATER hosted a seminar with Dr. Sarah Jane Payne from Queen's University on Tackling the Growing Antimicrobial Resistance (AMR) Threat Using a One Health Approach. Dr. Payne discussed the global rise of AMR and the critical role wastewater treatment plants play in its detection and mitigation. Drawing on her work with the Ontario Wastewater Surveillance Initiative, she shared insights into using qPCR assays to monitor antibiotic resistance genes in community wastewater. Her presentation emphasized the integration of human, animal, and environmental health to inform infection control strategies through wastewater-based surveillance.



Breaking Boundaries in Research: Dr. Sapna Sharma Named One WATER's Second Researcher of the Month!

In this special One WATER Institute feature, we are proud to recognize **Dr. Sapna Sharma** as our May Researcher of the Month. Dr. Sharma is a Professor in the Department of Biology at York University and holds the prestigious title of York Research Chair in Global Change Biology. She also serves as the Inaugural Director of the UNITAR Global Water Academy, a global platform for advancing water education, governance, and sustainability.

Dr. Sharma's research is internationally acclaimed for its contributions to understanding how climate change is transforming freshwater ecosystems. Her work focuses on the profound changes occurring in lakes around the world, including accelerating ice loss, rising water temperatures, declining water quality, and shifts in aquatic biodiversity and fish distributions. Through a combination of long-term data analysis and interdisciplinary collaboration, Dr. Sharma provides critical insights into the future of global freshwater systems in a warming world.

Her scientific achievements have been widely recognized. She is a Fellow of the Royal Society of Canada – College of New Scholars, Artists and Scientists, a recipient of the King Charles III Coronation Medal, and has been named among Canada's Top 10 Women Water Scientists. Beyond her academic impact, Dr. Sharma is a passionate advocate for science communication, equity, and mentorship, inspiring the next generation of researchers to take action on pressing environmental challenges.

Watch the full interview with Dr. Sharma on our YouTube channel:

<https://www.youtube.com/watch?v=jYtRaaH6G-4&t=6s>



Dr. Sapna Sharma,
Professor of Biology, York University

✨ Emerging Scholar of the Month – June 2025

The One WATER Institute is proud to feature Aman Basu as our June Emerging Scholar of the Month. Aman is a dedicated researcher whose academic journey is rooted in a deep connection to both nature and society—an outlook shaped by his early education in a unique, nature-based school founded by Nobel laureate Rabindranath Tagore in rural India. This formative experience, where classes were held under trees and the curriculum followed nature's rhythms, inspired Aman's lifelong curiosity about the interdependence of ecological and social systems.

Aman's research is deeply interdisciplinary, exploring the feedbacks between human society and environmental systems. His work focuses on understanding the mechanisms through which social behaviors, governance structures, and cultural practices influence ecological resilience—and vice versa. By combining insights from political ecology, environmental science, and system dynamics, Aman aims to bridge the



Aman Basu
PhD Student

persistent gap between natural and social sciences in addressing today's most urgent sustainability challenges.

With a growing portfolio of international publications, Aman continues to contribute to cutting-edge environmental research. His ability to integrate diverse fields and his commitment to social-ecological resilience make him a rising voice in global environmental scholarship.

Watch his full feature here: <https://youtu.be/nziDvKAdG-U>




News

Safe Water Research in the North: Highlights from Dr. Stephanie Gora's Team

This past month, **Dr. Stephanie Gora** and her research team were featured in a new [York University promotional video](#) showcasing their impactful work in advancing safe and sustainable drinking water technologies. The video highlights the importance of community-driven research and the university's role in tackling global water challenges.

In early June, Dr. Gora and graduate researcher **Caroline Duncan** visited **Cambridge Bay, Nunavut**, where Caroline has been conducting fieldwork on water safety in Arctic communities. Their visit was documented in a reflective [blog post for DIGHR](#), where Caroline shares her experience, the importance of community engagement, and the support she received from the Dahdaleh Institute for Global Health Research.

Several members of the Safe Water Optimization team also presented at national conferences:

-  **Caroline Duncan** presented her work at **CSCE 2025**, representing Arctic water research with excellence. [View post](#)
-  **Ammar Mahgoub** also presented work from the Safe Water team at CSCE. [View post](#)
-  **Yeuhyun (Kevin) Kim** shared his research at the **Canadian Society for Chemistry (CSC) Conference**. [View post](#)

To learn more about their ongoing work improving drinking water safety in the North, read the recent [feature story in York U News](#).



Career Opportunities in Water and Wastewater – Apply Now!

Looking to advance your career in the water sector? Explore these exciting job opportunities from across Canada. Deadlines extend **beyond July 15, 2025**, so there's still time to apply!

◆ Compliance Coordinator

Northern Waterworks Inc.

📍 Ontario (various locations)

📅 **Deadline: July 22, 2025**

Join a rapidly growing organization providing premium water and wastewater services to municipal, First Nation, and corporate clients. The Compliance Coordinator will support regulatory adherence, policy development, and quality system maintenance.

🔗 [Learn more](#)

◆ Intermediate Operator, Drinking Water Distribution (DWD)

City of Calgary

📍 Calgary, Alberta

📅 **Deadline: July 21, 2025**

Take on a supervisory role in maintaining Calgary's drinking water systems. Ideal for experienced operators who can mentor junior staff and ensure efficient, safe service delivery.

🔗 [Learn more](#)

◆ Drinking Water Distribution Operations Maintenance Technician

City of Calgary

📍 Calgary, Alberta

📅 **Deadline: July 22, 2025**

Be the first point of contact for water quality inquiries and help maintain Calgary's public water standards through detailed troubleshooting and technical support.

🔗 [Learn more](#)

◆ Water Distribution Operator

City of Guelph

📍 Guelph, Ontario

📅 **Deadline: December 31, 2025**

Work alongside a dynamic operations team to maintain a Class IV Water Distribution System. Open to candidates with OIT or higher certification.

🔗 [Learn more](#)

😊 **WATERTOON – Where Science Meets a Smile, One Splash at a Time**



Stay Connected with One WATER Institute!

We're excited to announce the launch of the **One WATER Institute YouTube Channel!** Stay tuned for **seminar recordings, research highlights, expert interviews, and behind-the-scenes insights** into cutting-edge water research. **Subscribe now** and be the first to explore the latest innovations in water quality and sustainability!

 **Subscribe now:** [One WATER Institute YouTube Channel](#)

 **Have news, research updates, or achievements to share? We'd love to feature your work in the next edition of our newsletter! Send your submissions to onewater@yorku.ca.**

Let's keep the **One WATER** community growing!