

# CANADIAN ASSOCIATION ON WATER QUALITY

## 2022 ANNUAL REPORT

---

The Canadian Association on Water Quality (CAWQ) is a non-governmental, non-profit organization for scientists, engineers, technologists, administrators, practitioners, and students engaged in or interested in research on water quality or on the control or treatment of water pollution. The CAWQ was officially incorporated in the province of Ontario in 1992. Federal incorporation as a not-for-profit corporation was completed in 2012.

In 2021, the Association had 148 memberships, representing private, government and university sectors. These memberships were broken down as follows: 17 individual CAWQ, 2 CAWQ Retired, 27 Individual joint CAWQ and IWA (our parent organization), 76 Young Water Professionals (less than 35 years of age) CAWQ, 2 Retired Joint CAWQ and IWA, 22 Joint CAWQ-IWA Young Water Professionals and 2 Sustaining Members.

The mission of the Canadian Association on Water Quality (CAWQ) is to foster a nationwide network of people who are dedicated to the preservation and enhancement of water quality through research and development, education and the dissemination of knowledge.

### WATER QUALITY RESEARCH JOURNAL

The Water Quality Research Journal (WQRJ) has been published continuously for over 57 years, which makes it one of the oldest peer-reviewed journals in the field, publishing in English and in French. Starting as proceedings of the annual conference of the CAWQ, the WQRJ has evolved into a quarterly journal which attracts high-level papers from Canada and abroad. In January 2017, the name of the journal changed from *Water Quality Research Journal of Canada* to *Water Quality Research Journal*. It is now indexed/abstracted in: Applied Science & Technology Abstracts, Applied Science & Technology Index, ASFA Indexing, BIOSIS, CAB International, Cambridge Scientific Abstracts, Chemical Abstracts Services, Current Contents, Agriculture, Biology & Environmental Sciences, ISI, Elsevier GeoAbstracts, Engineering Information Inc., and the International Academy at Santa Barbara. The WQRJ has been published by IWA Publishing (IWAP) since 2011 and was provided as a membership service to members of the CAWQ. The new publishing arrangements have led to faster turnaround times (review and publication), increased impact factor and wider international exposure. The WQRJ is now well positioned to be the natural publication route for all CAWQ-hosted conferences.

Starting in 2021, new articles in this journal are published Open Access with no publication charges. Every researcher and practitioner in every country around the world will be able to read them. This is possible because the journal is moving to an innovative new model called Subscribe To Open (S2O). This should increase the visibility of the papers published in the journal, leading to more citations and an increased impact factor, and make it thus more attractive for researchers to submit their research work, which will allow further increasing the impact factor as better manuscripts will be submitted.

Dr. Peter Vanrolleghem of Université Laval (Québec City) and Dr. Arash Zamyadi of Water Research Australia Limited are joint Editors of the WQRJ. They are assisted by Emma Gulseven, IWAP.

The journal scope has now been revised to:

- Impact of current and emerging contaminants on aquatic ecosystems
- Aquatic ecology (ecohydrology and ecohydraulics, invasive species, biodiversity, and aquatic species at risk)
- Conservation and protection of aquatic environments
- Responsible resource development and water quality (mining, forestry, hydropower, oil and gas)
- Drinking water, wastewater and stormwater treatment technologies and strategies
- Impacts and solutions of diffuse pollution (urban and agricultural run-off) on water quality
- Industrial water quality
- Used water: Reuse and resource recovery
- equality (management, remediation, fracking, legacy contaminants)
- Assessment of surface and subsurface water quality
- Regulations, economics, strategies and policies related to water quality
- Social science issues in relation to water quality
- Water quality in remote areas
- Water quality in cold climates

A total of 20 papers in Volume 57 of the WQRJ were published in 2022 and distributed to CAWQ and international members.

The abstracts for each paper published as well as authors' instructions, scope of the Journal, subscription and membership information can be accessed on the Journal's web site (see [www.cawq.ca](http://www.cawq.ca) or [www.acqe.ca](http://www.acqe.ca)). Full issues and all individual articles published in volumes 1 to 56 can be downloaded for free online from <https://iwaponline.com/wqrj>. For more information about the WQRJ, please refer to the Annual Report produced by the Editors. This report can be viewed on the website at [www.cawq.ca](http://www.cawq.ca).

## THE CAWQ WEBSITE

On-line membership, journal, and symposium payments are available through the CAWQ website, which was significantly upgraded in 2011 and went on-line in December 2011 (statistics on web site use are monitored to tune information delivery – weekly about 200 website visitor sessions occur, with a peak at the time of the Central Canadian Symposium). A secure connection is now available for credit card information to be sent via the site. Please visit the site at [www.cawq.ca](http://www.cawq.ca) or [www.acqe.ca](http://www.acqe.ca).

## ORGANIZATION OF SYMPOSIA

CAWQ organizes annual regional symposia on water quality research, providing a venue for the presentation of recent research results and the opportunity for the exchange of information and networking. Presenters at the symposia are encouraged to submit their work for peer review and

publication in the *Water Quality Research Journal of Canada*. Some details about these conferences include:

- The 57<sup>th</sup> *Central Canadian Symposium on Water Quality Research* was held at York University on April 4 and 5, 2022. This symposium was chaired by Ahmed Eldyasti.
- The 8<sup>th</sup> *Water and Environment Student Talks (WEST)* was held at UBC in Vancouver, BC from June 8 to 10, 2022. This symposium was co-chaired by Karl Zimmermann (PhD candidate in Chemical and Biological Engineering at UBC) and Sifat Kalam (PhD candidate in Civil Engineering at UBC).
- The 2022 Atlantic Canadian Symposium on Water Quality was held in Charlottetown, PEI as a hybrid event from August 23 to 26, 2022. This symposium was chaired by Bing Chen.
- The 36<sup>th</sup> *Eastern Canadian Symposium on Water Quality Research* was held on November 4, 2022 at INRS-ETE in Quebec City. This symposium was chaired by Dr Patrick Drogui and co-chaired by Peter Vanrolleghem.

The CAWQ sponsors a competition for the “best presentation” of a research paper made by a student at each of the regional symposia. Historically only one prize was awarded. Starting in 2012 two awards are issued at each symposium, and Young Professionals (under age 35) were also made eligible for the award. The winners receive the Philip H. Jones Award, which was established in honour of a founding member of the association. The Award winners receive a certificate, a cash prize of \$300 for first place and \$200 for second place, a one-year joint membership in CAWQ and IWA, one-year subscriptions to the *Water Quality Research Journal* and *Water 21*, a mention of their name in an issue of the journal and on the website, and a formal invitation to submit their work for peer review and eventual publication in the WQRJ. The following students were presented the Philip H. Jones Award at symposia held in 2022:

- Keval Vejani, 1<sup>st</sup> Place, Ryerson University, 57<sup>th</sup> Central Canadian Symposium on Water Quality Research, April 4-5, 2022
- Basem Zakaria, 2<sup>nd</sup> Place, University of Alberta, 57<sup>th</sup> Central Canadian Symposium on Water Quality Research, April 4-5, 2022
- Eric Fries, 1<sup>st</sup> Place - One Slide 3-min Presentation, Ryerson University, 57<sup>th</sup> Central Canadian Symposium on Water Quality Research, April 4-5, 2022
- Shraddha Chavan, 2<sup>nd</sup> Place - One Slide 3-min Presentation, INRS, 57<sup>th</sup> Central Canadian Symposium on Water Quality Research, April 4-5, 2022
- Xuan Lin, 1<sup>st</sup> Place, University of British Columbia, 8<sup>th</sup> *Water and Environment Student Talks (WEST)* from June 8 to 10, 2022
- Sam Anderson, 2<sup>nd</sup> Place, University of British Columbia, 8<sup>th</sup> *Water and Environment Student Talks (WEST)* from June 8 to 10, 2022
- Victoria Rilstone, 1<sup>st</sup> Place, Queen’s University, 2022 *Atlantic Canadian Symposium on Water Quality*, August 23 to 26, 2022

- Jonah Toth, 2<sup>nd</sup> Place, McGill University, *2022 Atlantic Canadian Symposium on Water Quality*, August 23 to 26, 2022
- Emma Wells, 2<sup>nd</sup> Place, Memorial University, *2022 Atlantic Canadian Symposium on Water Quality*, August 23 to 26, 2022
- Gita Bennani, 1<sup>st</sup> Place, INRS-ETE, *36<sup>th</sup> Eastern Canadian Symposium on Water Quality Research* was held on November 4, 2022
- Andres Felipe Ardila Jimenez, 2<sup>nd</sup> Place, Université Laval, *36<sup>th</sup> Eastern Canadian Symposium on Water Quality Research* was held on November 4, 2022
- Ana Gisell Pazmino Sosa, 2<sup>nd</sup> Place, INRS-ETE, *36<sup>th</sup> Eastern Canadian Symposium on Water Quality Research* was held on November 4, 2022

## SUPPORT OF STUDENTS

As part of its mandate, the Association provides assistance and encouragement to students in the water quality and water pollution fields. Students are encouraged to join CAWQ in the Young Water Professionals (less than 35 years of age) membership category. This includes significant reductions in CAWQ membership fees (by approximately 75% of the regular fee) and in symposia registration fees as well as the awarding of the Philip H. Jones Awards for the “best student presentations” at each of the regional symposia, as mentioned above.

## INTERNATIONAL ACTIVITIES

A joint CAWQ-IWA membership is available to CAWQ members. The joint membership fees represent a saving of up to 10% over membership of CAWQ and IWA purchased separately. In addition, joint CAWQ-IWA members may subscribe to any, or all, of the IWA journals which are available in print or electronic format. Please refer to "IWAPonline" for a complete list of the 14 online Open Access journals and the Water Reference Library for books and reports. These include the following:

- *Water Quality Research Journal* — The journal is a forum for original research dealing with the aquatic environment and should report new and significant findings that advance the understanding of the field. Critical review articles are especially encouraged.
- *Water Science & Technology* — This journal publishes peer-reviewed papers on all aspects of the science and technology of wastewater treatment and water quality management worldwide.
- *Water Practice & Technology* - The journal presents papers on all practical aspects of water and wastewater treatment and management throughout the water cycle.
- *Water Science & Technology: Water Supply* — This journal publishes peer-reviewed papers on all aspects of water supply.
- *Journal of Hydroinformatics* — A peer-reviewed journal devoted to the application of information technology in the widest sense to problems of the aquatic environment. It

promotes Hydroinformatics as a cross-disciplinary field of study, combining technological, human-sociological and more general environmental interests, including an ethical perspective.

- *Journal of Water Supply & Technology (Aqua)* — This journal publishes peer-reviewed scientific and technical, review, and practical papers dealing with research and development in water supply technology and management covering the complete water cycle.
- *Journal of Water & Health* — A peer-reviewed journal devoted to the dissemination of information on the health implications and control of waterborne microorganisms and chemical substances in the broadest sense for developing and developed countries worldwide.
- *Journal of Water and Climate Change* — This journal publishes novel peer-reviewed research and practitioner papers on all aspects of water science, technology, management and innovation in response to climate change, with emphasis on reduction of energy usage. Review papers are particularly encouraged.
- *Hydrology Research* — This journal publishes articles within hydrology in its widest sense, with an emphasis on water quantity and quality aspects of the hydrological cycle.
- *Journal of Water, Sanitation and Hygiene for Development* — A peer-reviewed journal devoted to the dissemination of high-quality information on the science, policy and practice of drinking-water supply, sanitation and hygiene at local, national and international levels.
- *Water Policy* - This official journal of the World Water Council publishes reviews, research papers and progress reports in, among others, the following areas: financial, diplomatic, organizational, legal, administrative and research; organized by country, region or river basin.
- *H<sub>2</sub>Open Journal* - A journal that publishes original, peer-reviewed, internationally relevant articles covering all aspects of 21<sup>st</sup> century water research.
- *Blue-Green Systems* – This journal, launched in 2019, brings together cutting edge research on sustainable, energy efficient and environmentally responsible water use in cities and their regions, including innovative approaches such as Sponge Cities, Low Impact Development, Nature Based Solutions and Water Sensitive Urban Design.
- *Water Reuse* - -A journal that focuses on all aspects of the treatment and use of non-conventional water resources.

In association with Elsevier

- *Water Research* — This journal publishes refereed, original research papers on all aspects of the science and technology of water quality and its management worldwide.
- *Water Research X* – This is the gold open access partner title to Water Research.
- *Water Resources and Economics* - This journal addresses the financial and economic

dimensions affecting the use of water resources, be it water extraction, pollution or allocation, across different economic sectors like agriculture, energy, industry and urban water supply as well as between local, regional and transboundary river basins.

- *Water Resources and Industry* - This journal aims to move research to innovation by focusing on the role industry plays in the exploitation, management and treatment of water resources.

## INITIATIVES

The IWA was founded in 1998 by the amalgamation of the International Association on Water Quality (IAWQ) and the International Water Services Association (IWSA) to form the new International Water Association (IWA), with interests and responsibilities being similar to those of its two founding organizations. Before the merger, the CAWQ served as the Canadian National Committee (CNC) of the IAWQ and represented Canada on the IAWQ Governing Board. From 1998 to 2007, the CAWQ was the sole member of the CNC.

The Canadian Water and Wastewater Association (CWWA) is a national association with members from the water services sector, municipalities and regional organizations. This association shares with the CAWQ the common objectives of advancing and implementing knowledge for the provision of safe drinking water and the environmentally sound management of wastewater. After discussions between the CAWQ and CWWA, it was felt that the complementary objectives of the two organizations would be enhanced by establishing a framework for their collaboration. As a result, since 2007, the CWWA and the CAWQ have agreed to become partners of the CNC-IWA to better participate in the activities and promotion of the IWA.

In order to improve its ability to represent the interests and views of its members and other stakeholders across Canada, the CAWQ undertook the following initiatives in 2014:

- The 2014 to 2018 Strategic Plan was developed and approved by the Board of Directors. The plan is available for review on the CAWQ/ACQE website [www.cawq.ca](http://www.cawq.ca).
- Collaborative efforts continue with regional associations such as the Atlantic Canada Water and Wastewater Association, the Water Environment Association of Ontario, the Ontario Water Works Association, British Columbia Water and Waste Association, Réseau Environnement, to create opportunities for all organizations and to raise the profile of the CAWQ.
- Members of the CAWQ were actively engaged in a national effort to develop an agenda on water research priorities in Canada.
- Sponsorship support was provided for international and national specialty conferences related to water quality in Canada.
- Vision and supporting documents of the CAWQ were reviewed and revised.

## REVENUE

The CAWQ has implemented a policy that requires students, who are by design significant participants in all CAWQ symposia, to become paid members of the CAWQ in the Young Water Professional membership category for the year as part of their symposium registration fee. This is targeted to increase student membership in the CAWQ with the goal being to retain higher numbers of them as members after they graduate. Young Water Professional members of CAWQ have electronic access to the journal.

The Canadian National Committee (CNC) of IWA (CWWA is the equal joint member of CNC) drafted a letter to IWA requesting that:

- IWA levy a \$20 fee on all Canadian individual IWA memberships and remit those funds to CNC;
- IWA levy a \$40 fee on all Canadian corporate memberships and remit those funds to CNC;
- IWA request that organizers of IWA events in Canada be asked to voluntarily place a levy of \$5 per delegate on all registrations and remit those funds to CNC.

## GOVERNANCE & ADMINISTRATION

The Board of Directors of the CAWQ is comprised of the Executive Committee and Regional Directors, as shown below. All individuals are volunteers and are appointed to these positions as per the Bylaws of the CAWQ. These bylaws can be found on the CAWQ website.

Ms. Janet McAvella is warmly thanked for her much appreciated services as Administrative and Membership Officer from 2012 to April 2022. She was replaced in this role by Mr. Brad Cutler who also continues to manage the CAWQ website. Financial administrative services are provided by Ms. Marilyn Crawford who worked for XCG Consultants Ltd., Kitchener, Ontario and continues to fulfil this duty. The CAWQ is sincerely grateful to Ms. McAvella, Ms. Crawford and Mr. Cutler for their invaluable assistance and support.

**CANADIAN ASSOCIATION ON WATER QUALITY  
EXECUTIVE COMMITTEE AND  
BOARD OF DIRECTORS  
2021-2023  
March 14, 2023  
EXECUTIVE COMMITTEE**

Dr Elsayed Elbeshbishy Department of Civil Engineering Ryerson University 350 Victoria St Toronto, ON M5B 2K3	<b>President-</b> Tel: (416) 979-5000 ext. 7618 elsayed.elbeshbishy@ryerson.ca
<i>(vacant)</i>	<b>President-Elect</b>
Mr Mike Lywood Wood 14 Queens Court St Catharines, ON L2T 2A9	<b>Past-President</b> Tel: 905 380 7155 lywoodm@vaxxine.com
Dr Pierre Bérubé Department of Civil Engineering University of British Columbia 6250 Applied Science Lane Vancouver, BC V6T 1Z4	<b>Vice-President (Pacific)</b> Tel: 604-822-5665 berube@civil.ubc.ca
Dr Jan Oleszkiewicz Department of Civil Engineering University of Manitoba 15 Gillson St Winnipeg, MB R3T 5V6	<b>Vice-President (Western)</b> Tel: 204-474-8722 jan.oleszkiewicz@umanitoba.ca
Dr Banu Ormeci Department of Civil and Environmental Engineering Carleton University 1125 Colonel By Drive Ottawa, ON K1S 5B6	<b>Vice-President (Central)</b> Tel: 613-520-2600 ext. 4144 banu.ormeci@carleton.ca
Dr Peter A. Vanrolleghem Département de génie civil et de génie des eaux Pavillon Pouliot, Université Laval 1065, avenue de la Médecine Québec, QC G1V 0A6	<b>Vice-President (Eastern)</b> Tel: 418-656-5085 peter.vanrolleghem@gci.ulaval.ca
Dr Bing Chen Department of Civil Engineering Memorial University 240 Prince Phillip Drive St. John's, NL A1B 3X5	<b>Vice-President (Atlantic)</b> Tel: 709-864-8958 bchen@mun.ca
Dr Yves Comeau Department of Civil, Geological and Mining Engineering Polytechnique Montreal P.O. Box 6079, Station Centre-ville Montreal, QC H3C 3A7	<b>Secretary</b> Tel: 514-340-4711 ext. 3728 yves.comeau@polymtl.ca
Dr Hubert Cabana Département de génie civil Université de Sherbrooke Sherbrooke, QC J1K 2R1	<b>Treasurer</b> Tel: 819-821-8000 ext. 65457 hubert.cabana@usherbrooke.ca
Dr Farokh Laqa Kakar Environmental Engineering, Civil Engineering Dept. Ryerson University, Office MON 318 341 Church Street Toronto, ON M5E 1R9	<b>IWA-YWP Chair</b> Tel: 647-778-6632 farokhlaqa.kakar@ryerson.ca

Gamze KIRIM Département de génie civil et de génie des eaux Pavillon Adrien-Pouliot, Université Laval 1065, avenue de la Médecine Québec, QC G1V 0A6	<b>IWA-YWP Co-Chair</b> Tel.: 418 808-7118 gamze.kirim.1@ulaval.ca
--	--

#### DIRECTORS AND OTHER BOARD MEMBERS

Dr Caetano Dorea Department of Civil Engineering University of Victoria P.O. Box 1700, Station CSC Victoria, BC V8W 2Y2	<b>Regional Director (Pacific)</b> Tel: 250-472-4844 caetanodorea@uvic.ca
Dr Ryan Ziels Department of Civil Engineering The University of British Columbia 6250 Applied Science Lane Vancouver, BC V6T 1Z4	<b>Regional Director (Pacific)</b> Tel: 604-827-5211 rziels@civil.ubc.ca
Dr Bipro Dhar Civil and Environmental Engineering University of Alberta 9211-116 Street NW, Edmonton, AB T6G 1H9	<b>Regional Director (Western)</b> Tel.: 780-248-1923 bipro@ualberta.ca
Dr Klas Ohman Associated Engineering 400-600 Crowfoot Crescent NW Calgary AB T3G 0B4	<b>Regional Director (Western)</b> Tel: 403-208-7453 Cell.: 403803-4235 ohmank@ae.ca
Dr Stephanie Gora Department of Civil Engineering York University 4700 Keele Street Toronto, ON M3J 1P3	<b>Regional Director (Central)</b> Tel: 416-689-2439 stephanie.gora@lassonde.yorku.ca
Dr Stéphanie Guilherme Department of Civil Engineering University of Ottawa 800 King Edward Ave. Ottawa, ON K1N 6N5	<b>Regional Director (Central)</b> Tel: 613-562-5800 ext. 6776 stephanie.guilherme@uottawa.ca
Dr Patrick Drogui Centre - Eau Terre Environnement, INRS-ETE 490, rue de la Couronne Québec (Québec) G1K 9A9	<b>Regional Director (Eastern)</b> Tel: 418-654-3119 patrick.drogui@ete.inrs.ca
Dr Rajesh D. Tyagi INRS-Eau, Université du Québec 490, rue de la Couronne Quebec, QC G1K 9A9	<b>Regional Director (Eastern)</b> Tel: 418-265-0415 rdt936@gmail.com
Dr Kripa S. Singh Head Hall B-6 Department of Civil Engineering University of New Brunswick, P.O. Box 4400 Fredericton, Fredericton, NB E3B 5A3	<b>Regional Director (Atlantic)</b> Tel: 506-453-5108 singhk@unb.ca
Dr Baiyu (Helen) Zhang Department of Civil Engineering Memorial University of Newfoundland 240 Prince Phillip Drive St. John's, NL A1B 3X5	<b>Regional Director (Atlantic)</b> Tel: 709-864-3301 bzhang@mun.ca

### EDITORS AND OFFICERS

Dr Peter A. Vanrolleghem Département de génie civil et de génie des eaux Pavillon Pouliot Université Laval Québec, QC G1V 0A6	<b>Editor - <i>Water Quality Research Journal</i></b> Tel: 418-656-5085 <a href="mailto:peter.vanrolleghem@gci.ulaval.ca">peter.vanrolleghem@gci.ulaval.ca</a>
Dr Arash Zamyadi Department of Civil Engineering Monash University Melbourne, Australia	<b>Editor - <i>Water Quality Research Journal</i></b> Tel: +61 437 731 414 <a href="mailto:arash.zamyadi@monash.edu">arash.zamyadi@monash.edu</a>
Mr Brad Cutler Burlington, ON	<b>Subscription and Membership Officer and CAWQ Webmaster</b> Tel: 1-833-H2OQUAL (1-833-426-7825) <a href="mailto:webmaster@cawq.ca">webmaster@cawq.ca</a>