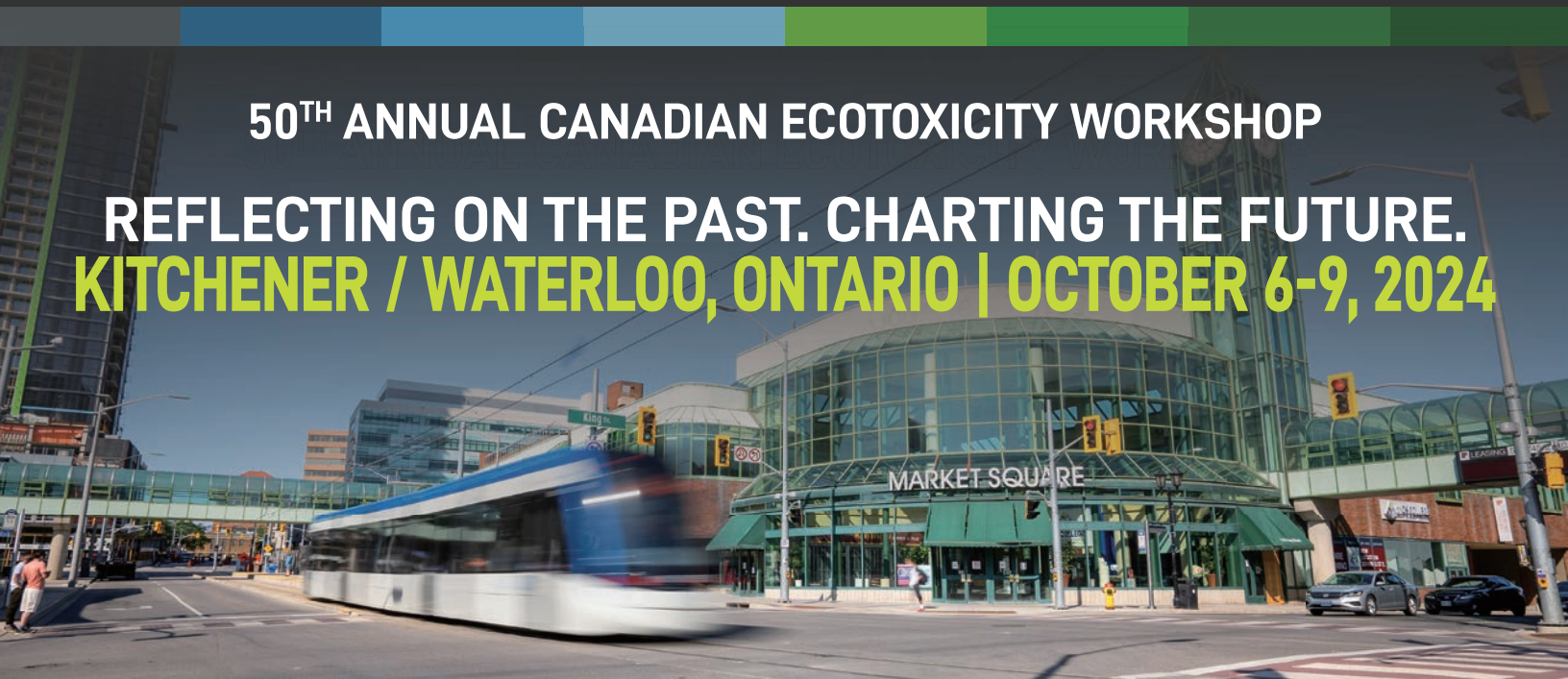


50 YEARS

50TH ANNUAL CANADIAN ECOTOXICITY WORKSHOP

REFLECTING ON THE PAST. CHARTING THE FUTURE.
KITCHENER / WATERLOO, ONTARIO | OCTOBER 6-9, 2024



WELCOME TO THE REGION OF WATERLOO

Waterloo Region provides the perfect balance between new and old, rural and urban, nature and technology, classical and contemporary, tranquility and adventure. You have also arrived during the 56th annual Kitchener-Waterloo Oktoberfest, this year between Sept 27th-Oct 19th. Based on the original German Oktoberfest, it is billed as Canada's Greatest Bavarian Festival and is the second-largest Oktoberfest in the world outside of Germany!

Aside from raising a stein of beer, there is plenty to do in the region, including the famous St. Jacobs Market, which is open Thursdays and Saturdays in the morning. Most of the other establishments in the area including the St. Jacobs Outlet Mall and Market Road Antiques are open 7 days a week.

Closer to the Crowne Plaza, you can find the Kitchener Museum, the K-W Art Gallery, the Centre In the Square concert venue, and the Kitchener Market all within walking distance. A brief ION ride (the light rail transit system) will take you to downtown Waterloo, the two universities (University of Waterloo & Wilfrid Laurier University) and the Canadian Clay and Glass Museum.

With plenty to see and do, and numerous restaurants and shops within walking distance from the Crowne Plaza, you will have an abundance of options if you are looking for a little down time from the workshop!



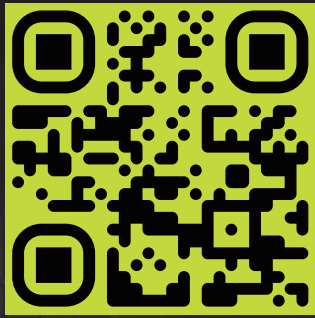
CANADIAN
ECOTOXICITY
WORKSHOP
KITCHENER-WATERLOO 2024



Explore the
Region of Waterloo
explorewaterloo.ca



NAVIGATION



**Visit the CEW
website for the
latest workshop
information**
ecotoxcan.ca

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LAND ACKNOWLEDGMENT

We acknowledge that the land on which we live, work, learn, play, and call Kitchener-Waterloo, is the traditional territory of the Anishinaabeg, Haudenosaunee, and Neutral (Attawandaron or Chonnonton) peoples. This territory is covered by the Upper Canada Land Surrenders, including the Haldimand Treaty of 1784. This treaty recognized the six miles on either side of the Grand River as treaty territory of the Six Nations of the Grand River but was followed by a series of land disputes and broken promises.

As we gather to reflect on 50 years of CEW and consider the future of environmental toxicology, let us also commit to actively contributing to reconciliation efforts. We wish to take a moment to reflect on the lands that we have had the honour and privilege to call home. May we educate ourselves, acknowledge the harm our ancestors have done, correct the wrongs, and strive to do better through meaningful engagement with all peoples, ensuring everyone has a place at the table.

At CEW we are trying to take steps to encourage awareness and promote reconciliation with First Nations, Inuit, and Métis. We hope the history and wisdom shared during the Blanket Exercise and Indigenous Engagement and Awareness short course offered this year will encourage us to become better informed and more empathetic.

Beyond this week, we encourage you to take time in your daily life and work to respect and honour Indigenous peoples as the original caretakers of this land, develop meaningful relationships with communities, and use two-eyed seeing to weave Indigenous knowledge with Western science. Finally, let us all recognize our responsibility to serve as stewards for the environment, and consider the impact our actions may have on the next 7 generations.

THANK YOU TO OUR SPONSORS

This workshop would not be possible without the generous contributions of our sponsors, year after year. If you see them around at the workshop, be sure to thank them!

PLATINUM Sponsors



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire



GOLD Sponsors



BRONZE Sponsors



MESSAGE FROM THE CO-CHAIRS



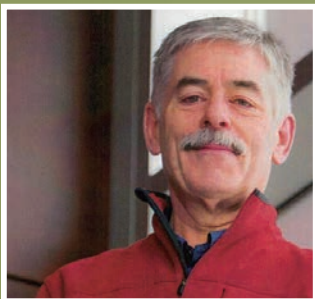
SARAH Crawford
Syngenta Canada



PAUL Craig
University of Waterloo



BEVERLEY Hale
University of Guelph



JIM McGEER
Wilfrid Laurier University

We are thrilled to welcome you to the 50th annual Canadian Ecotoxicity Workshop (CEW), celebrating a momentous milestone for our field. As we reflect on five decades of ecotoxicology research, from its humble beginnings as the Aquatic Toxicity Workshop (ATW), we honour the visionaries who paved the way and shaped our understanding of our multidisciplinary field and look forward to welcoming those that will define the future.

This year's theme, **“Celebrating 50 Years of Ecotoxicity Research: Reflecting on the Past, Charting the Future”**, encapsulates the essence of our gathering. We will look back on the pioneering work that laid the foundation for our field, honouring the visionaries who dared to ask difficult questions and push the boundaries of knowledge. At the same time, we will chart the course for the future, exploring emerging challenges, innovative technologies, and collaborative approaches that will shape the next era of ecotoxicology research.

Our scientific program promises engaging sessions and workshops, thanks to the efforts of our scientific committee and session chairs. The diverse range of sessions and workshops will showcase cutting-edge research, foster interdisciplinary collaborations, and provide a platform for lively discussions on pressing environmental issues. We are particularly excited to kick off this year's program with an extraordinary 50th anniversary plenary series, covering topics from the evolution of CEW and standardized toxicity methods to environmental monitoring, public policy, animal testing reduction, field assessments, and marine ecotoxicology.

CEW is renowned for its student program, and this year's edition promises to be exceptional. We extend our gratitude to the dedicated Graduate Student Advisors and team responsible for organizing this invaluable opportunity for our future ecotoxicologists.

No CEW would be complete without our famous social program, including the highlight of the workshop – Tuesday's evening banquet with food, trivia, entertainment and dancing. This year, we also have a special treat in store – the 50th anniversary celebration booth. Be sure to stop by and add your memories to this commemorative experience.

On behalf of the co-chairs, we extend our sincere gratitude to our sponsors, exhibitors, volunteers, presenters and attendees whose unwavering support has made this event possible. Your contributions are invaluable in sustaining and advancing the vital work of ecotoxicology research. As a non-profit organization run by volunteers, CEW's success is a testament to the dedication and commitment of our community. We extend our heartfelt gratitude to our amazing team of organizing committee members, board members, excellent graduate student advisors, and the special 50th anniversary subcommittee, whose tireless efforts have made this unforgettable celebration possible.

**Welcome to the 50th Canadian Ecotoxicity Workshop!
Let the celebrations begin!**



As we embark on this exciting journey, let us embrace the innovation, collaboration, and environmental stewardship that has defined our field. Together, we will celebrate our achievements, learn from our experiences, and chart a course towards a more sustainable and resilient future. So, whether you're a first-time attendee or a seasoned veteran celebrating your 50th CEW, we hope you embrace the camaraderie and sense of community that defines our ecotoxicology family.



LESLEY Novak
Nautilus Environmental
Sponsorship



GUY Gilron
Borealis Environmental
Consulting Inc.
Sponsorship



KARYN Robichaud
University of Waterloo
Sponsorship



JENNI Velichka
Kilgour & Associates
Sponsorship



GERALD Tetreault
Environment and Climate
Change Canada
Scientific Committee



ERIN Leonard
Wilfrid Laurier University
Scientific Committee



ÈVE Gilroy
Environment and Climate
Change Canada
EDI Champion



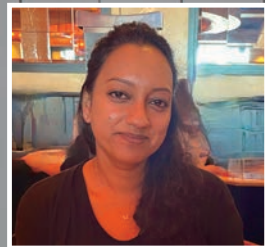
CAROLYN Martinko
Environment and Climate
Change Canada
*EDI Champion,
Scientific Committee*



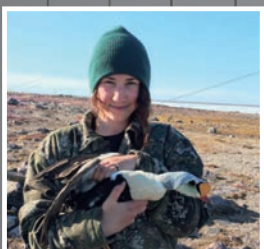
RYAN Prosser
University of Guelph
CEW Website



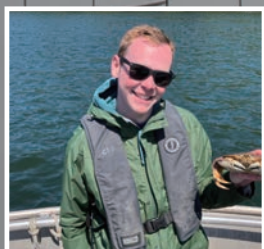
TYLER Black
University of Guelph
Graphics



YAMINI Gopalapillai
International Copper Association
Student Judging



REYD Smith
Carleton University
Graduate Student Advisor



CONNOR Stewart
University of Alberta
Graduate Student Advisor



ESSENTIAL INFO

Have questions?

Ask an Organizing Committee member or visit the Registration Desk, open at the following times:

SUNDAY
08:00 - 19:00

MONDAY
07:00 - 17:30

TUESDAY
07:30 - 19:00

WEDNESDAY
08:00 - 12:30

The Registration Desk is located in the Second Floor Lobby of the Crowne Plaza.

FOR ALL EMERGENCIES, PLEASE DIAL 9-1-1.

→ **PLEASE WEAR YOUR NAME BADGE** throughout the workshop

→ **REMEMBER TO MUTE OR TURN OFF CELL PHONES** during the plenary and all scientific sessions

→ **PROOF OF REGISTRATION/TICKETS** for the CEW Banquet are required. Don't forget them!

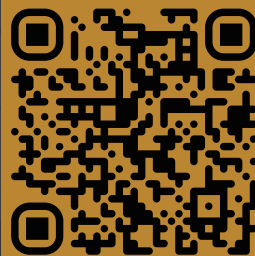
→ **SMOKING AND VAPING ARE PROHIBITED** in all indoor spaces.

COVID NOTES

Masks are not required; however, CEW maintains a mask-friendly atmosphere. CEW is hosted in accordance with all current public health regulations and guidelines set by the Province of Ontario and under the jurisdiction of Region of Waterloo Public Health.

PHOTO CONSENT

CEW is a memorable event, and we are planning on having a photographer capture some great CEW moments. As a default, we assume that you consent to having your photo taken and used for CEW purposes (e.g., website promotion). If you do not consent to having your photo taken, please inform the photographer directly and they will be sure not to take your photo.



**Parking info,
directions, and more**

ecotoxcan.ca/general-workshop-info

PRESENTING A PLATFORM?

- Presentations must be uploaded to the computer in your presentation room at least **20 MINUTES BEFORE** the sessions begins.
- Presenting in the morning? Upload presentations to the computer **THE NIGHT BEFORE.**
- Upon arrival to your session, please identify yourself to the Session Chair(s) before it begins.

PRESENTING A POSTER?

- Each poster has a unique number in the program book that corresponds to a poster board in the poster room (**Viking Suites**).
- Posters should be set up between **07:00 AND 08:00 ON YOUR ASSIGNED DAY.**
- Please remove your posters **BY 21:00 THAT DAY.**
- Please be present at your posters during the poster socials on Monday and/or Tuesday. This is especially important for students being judged as part of the poster competitions.

Please be respectful of presenters who have indicated they do not wish for the content of their presentations (poster and platform) to be photographed with the inclusion of the symbol on the right in their presentations:



VISIT OUR EXHIBITORS

Located in the Lobby of the Crowne Plaza, our exhibitors will be around **MONDAY AND TUESDAY** of the workshop.



STUDENT PROGRAM

Hello students,

On behalf of the CEW Student Program Subcommittee, we are happy to welcome all students to the 50th annual Canadian Ecotoxicity Workshop! We are looking forward to seeing new and familiar faces in Kitchener-Waterloo for CEW 2024. If this is your first time attending CEW, we encourage you (and all our members) to participate in all of the great activities offered this year, and to ask returning students or other attendees questions at any time during the workshop. You will soon discover that our members here at CEW are very open, supportive, and welcoming to all. Whether it be expanding your current professional network or building personal relationships, the connections made at CEW are invaluable. The CEW Student Program is well known for its emphasis on student development and networking opportunities, and this year is no exception! We are excited to debut the new Student Outreach Competition this year, which will showcase the diverse talent that students have when communicating their research.

If you have already signed up for events with the Student Program, you would have been contacted via email before CEW began. If you haven't signed up for the student events, please feel free to join us for any "Drop In" activities or consider attending these events with us next year! On the next page is a list of events scheduled for this week. You can find more information about the student events on our website, or you can reach out to us via email or come say hi to us at the workshop! Importantly, organising the student events would not have been possible without the help of our wonderful student volunteers. Please say hi to the amazing Student Program Subcommittee members during the workshop!

- REYD AND CONNOR
2024 Graduate Student Advisors

2024-2025 GRADUATE STUDENT ADVISORS



REYD Smith

Carleton University

reydsmith@cmail.carleton.ca



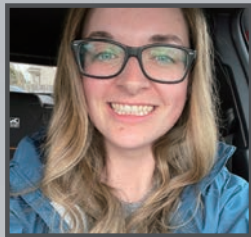
CONNOR Stewart

University of Alberta

cbs1@ualberta.ca



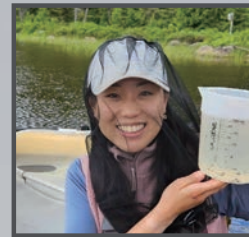
SOFIA Ahmed
Simon Fraser University



HANNAH Thibault
University of Waterloo



KARYN Robichaud
University of Waterloo



JIHYUN OLIVIA Kim
Queen's University



BLAKE Hunnie
University of Saskatchewan



IMMANUELA Ezugba
University of Saskatchewan



SYDNEY Pedari
Carleton University



ASHLEY Canete
Queen's University



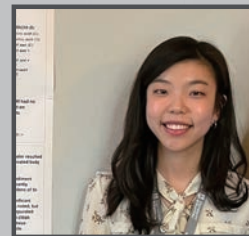
CLAIRE Kilgour
University of British Columbia



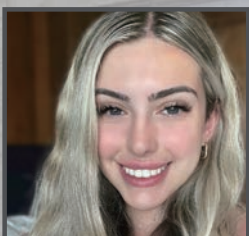
SIENNA Overduin
University of Alberta



MINH Duong
Trent University



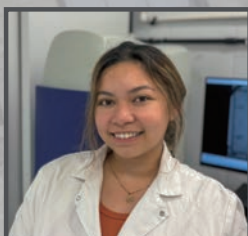
SUNNY Choi
University of Alberta



FIANA Spahiu
Western University



ELISE Michon
Western University



JULEANNE Flores
University of Saskatchewan

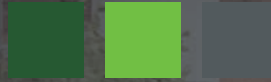
Interested in joining the student program sub-committee?
Chat with the Graduate Student Advisors or one of the student sub-committee members to learn more about the different roles and responsibilities.



STUDENT MENTOR NETWORKING EVENT

Sunday, Oct. 6th | 17:00
Grand Ballroom

Join us on Sunday to meet fellow attendees and professionals from academic, industry, and government backgrounds! During this networking event, mentors and mentees will be seated such that mentees rotate to new tables every fifteen minutes. Each “table” will have some suggested questions covering a wide range of topics including, but not limited to, job/postdoc search tips, work/life balance, early career advice, science communication and media, and equality, diversity, and inclusivity in science that the seated parties can discuss. This is a great opportunity to identify mentors that you would like to get to know over the course of the workshop. Light snacks and beverages will be served.



STUDENT MENTOR LUNCH

Tuesday, Oct. 8th | 12:00
Grand Ballroom



The Tuesday Student-Mentor lunch provides another opportunity for students to meet and discuss career options or advice with mentors from different career sectors (e.g., academia, government, and industry) with fewer workshop distractions. The event will consist of mentees being assigned to mentor tables, with each table being given ice breaker questions to facilitate conversation. Once you grab lunch, please join in this great opportunity for casual conversations with mentors and fellow students to create and develop new connections!





POSTER & PLATFORM COMPETITIONS

Great research and hard work should be rewarded, and that's why we have awards for best platform and poster presentations. The purpose of this competition is to encourage students to present their research in a supportive public forum, such that they may benefit from feedback on their research and enhance their communication skills. Each student will be evaluated by at least two judges, and the Student Awards Ceremony will take place during the last day of the workshop on Wednesday.

(Note: pre-registration required at time of abstract submission)



STUDENT OUTREACH COMPETITION

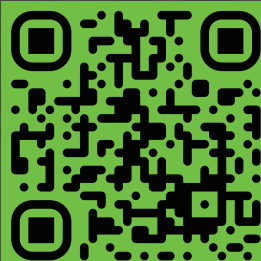
The TikTOX, Meme, and Tweet Your Thesis Competitions have received a makeover! We're excited to showcase diverse student creativity and talent in our new Student Outreach Competition. Whether it's poetry, photography, beading, painting, song, video, or memes, as long as it can be mounted to a poster board (with QR codes as an option), we'll be displaying it this week during the workshop.

Attendees will vote for their favourite, so please check out the student submissions and vote for your favourite using the ballot in your name tag!

PHOTO BOOTH



We are excited to offer a complimentary headshot photography booth for students at this year's workshop! First impressions can be very important, and as many of you are approaching the transition from graduate studies to professional careers, having a polished, high-quality headshot is helpful for your LinkedIn profiles, CVs, fellowship applications, and networking opportunities. Today's career market demands a strong online presence. What better way to boost your portfolio than showing off a charismatic smile or a stoic face to show others that you mean business! Let's impress our future employers together by showcasing our utmost confidence in both the caliber of research we perform, as well as our overall professionalism!



Learn more about
the student program

ecotoxcan.ca/student-program

INTRO TO STREAM SAMPLING METHODS



This short workshop will provide a hands-on introduction to a number of stream sampling methods.

Instructed by:

Ryan Prosser, University of Guelph | Mark Servos, University of Waterloo | Gerald Tetreault, ECCC | Paul Sibley, University of Guelph | Mike White, EcoReg Solutions | Carolyn Brown, EcoReg Solutions | Kevin Morey, University of Guelph | Lenka Trivett, University of Guelph | Leslie Bragg, University of Waterloo | Rachel Dawes, University of Waterloo

Sunday Oct. 6th | 09:00 - 15:00

INDIGENOUS ENGAGEMENT & AWARENESS



This training will teach participants about the personal and professional paths to respecting the Knowledge Systems and rights of Indigenous Peoples, and some best practices for developing and maintaining meaningful and long-term relationships with communities.

Instructed by:

Patricia Wilson & Aaron Michon, 4 Directions of Conservation

Sunday Oct. 6th, 09:00 - 12:00 | Viking Suite C

BLANKET EXERCISE



The Blanket Exercise is based on using Indigenous methodologies and the goal is to build understanding about our shared history as Indigenous and non-Indigenous peoples in Canada by walking through pre-contact, treaty-making, colonization and resistance.

Instructed by:

Marjorie Paleshi & Henriette Thompson, Kairos Canada

Sunday Oct. 6th, 14:00 - 16:00 | Viking Suites A+B

INTERACTIVE WORKSHOP RETHINKING RESEARCH ASSESSMENT



Through a combination of lectures and interactive discussion, this workshop will guide researchers through the fundamentals of high-quality peer review, while also delving into concepts of Open Research, systemic bias in research and peer review and considerations for Community Engaged Research.

Instructed by:

Hilary Belleville, Canadian Science Publishing
Sarah Marteinson, Fisheries and Oceans Canada

Tuesday Oct. 8th, 13:30 - 15:00 | Kitchener Suite 4

WORKSHOPS & PROGRAM EVENTS



SOCIAL EVENTS



OPENING RECEPTION

Sunday Oct. 6th, 19:00
Grand Ballroom

Kick off CEW 2024 with us at our welcome reception. Light refreshments will be available.



POSTER SOCIALS

Monday Oct. 7th, 17:00
Tuesday Oct. 8th, 17:00
Viking Suites

View posters, chat with poster presenters, and mingle during one of two poster socials. Light refreshments will be available.



CEW 2024 BANQUET PRE-PURCHASE REQUIRED

Tuesday Oct. 8th, 19:00
Grand Ballroom

Service starts at 19:30

The Banquet is the highlight for many CEW attendees. Join us for an evening full of good food, great conversations, and entertainment. Dinner will be a sit down plated dinner at the Crowne Plaza, followed by entertainment. Bring your dancing shoes!
Featuring: the Dave Murphy Band



CARRIE Rickwood
Natural Resources Canada
President, Chair



LISA Taylor
Nautilus Environmental
Vice-President, Vice-Chair



JULIE Anderson
Health Canada
Treasurer



NATACHA Hogan
University of Saskatchewan
Awards, Vice-Communications



BONNIE Lo
Simon Fraser University
Graduate Student Liaison



RYAN Prosser
University of Guelph
Board Member

CEW BOARD OF DIRECTORS

The BOD oversees the management of the activities and affairs of CEW and provides guidance to the local Organizing Committee co-chairs. The Board's activities are primarily administrative in nature and include financial management, ensuring compliance with government filing requirements, providing continuity across annual workshops, and more.

JOIN THE BOARD

Email us or visit our website for more details on how to get involved.

ORGANIZE A CEW

Reach out to a BOD member if you're interested in hosting a workshop!



Learn more about the BOD, operations, and more

ecotoxcan.ca/cew-corporate-home

50 YEARS

It is with great pleasure and deep appreciation that we welcome you to the 50th anniversary of the Canadian Ecotoxicity Workshop (formerly Aquatic Toxicity Workshop). This milestone not only marks half a century of exceptional scientific advancement and collaboration but also serves as a testament to the enduring spirit of inquiry and continuous evolution in our field. We extend our deepest gratitude to the Kitchener-Waterloo Organizing Committee and the 50th Anniversary Celebration Subcommittee whose dedication and hard work have made this special celebration possible. Here's to a memorable workshop and to continuing our journey of scientific exploration and excellence together.

Contact Us: info@ecotoxcan.ca

Outstanding Contribution Awards



DR. PAUL SIBLEY

School of Environmental Sciences, University of Guelph

Paul's research interests focus on issues of water quality and its management, including understanding the effects of anthropogenic stressors in agricultural, boreal, and Arctic landscapes; risk assessment of novel, priority, and emerging compounds; stressor interactions and their cumulative effects; and understanding risk perception and communicating risk. He has trained over 90 graduate and undergraduate thesis-based students. He has served on numerous professional committees and panels, helped to organize several conferences and workshops (including CEW Guelph), and served as president of two professional societies (SETAC and IAGLR). He has published ~160 papers and book chapters.



DR. MARK SERVOS

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

Mark is an ecotoxicologist who actively promotes solutions for environmental protection and remediation. With >30 years of experience in government and academia, Mark has advanced environmental risk assessment and management of contaminants in a variety of industrial sectors, including municipal wastewaters. During the recent pandemic he pivoted his research to conduct surveillance of SARS-CoV-2 and its variants in wastewater to inform public health action. His commitment to interdisciplinary experiential learning has influenced many young scientists across Canada.

Dr. Richard Playle Award for Outstanding Thesis

These awards (one each at the BSc and MSc levels) were established by the Aquatic Toxicity Workshop (ATW), the precursor to CEW, in memory of Dr. Richard Colin Playle, a Professor of Biology at Wilfrid Laurier University from 1992 to 2005, who was an enthusiastic supporter of ATW and whose original insight spawned what was essentially a new area of research in aquatic toxicology: Biotic Ligand Modeling.



MSc AWARD



MATTHEW SCHULTZ

University of Saskatchewan

Towards high throughput determination of biotransformation rates of chemical mixtures using isolated perfused trout livers

BSc AWARD



KAILEY CARRIÈRE

University of Manitoba

Impacts of freshwater salinization on zooplankton communities in shallow wetland mesocosms

SUNDAY Schedule at a Glance

	LOBBY	VIKING SUITES	GRAND BALLROOM
08:00	Registration Desk open (08:00 - 19:00) Lobby		
09:00	Short Course Introduction to Steam Sampling Methods <i>Transportation provided from Crowne Plaza and lunch provided on-site.</i> <i>Details to be sent to registrants.</i>	Short Course Indigenous Engagement and Awareness <i>Details to be sent to registrants.</i>	
10:00			
11:00			
12:00			
13:00			
14:00		Program Event Blanket Exercise	
15:00			
16:00			
17:00			Student / Mentor Networking Event (ends at 18:30)
18:00			
19:00			Opening Reception
20:00			
21:00			
22:00	End of Sunday Program		

07:00					Registration Desk open (closes at 17:30) Lobby Poster set-up (ends at 08:00) Viking Suites												
08:00					Welcome & Opening Remarks												
08:15					Special 50th ATW/CEW Anniversary Celebration Plenary Session Grand Ballroom <i>Gordon Craig (G.R. Craig & Associates), Kelly Munkittrick (University of Calgary), Guy Gilron (Borealis Environmental Consulting Inc.)</i>												
09:30					Refreshment Break Lobby												
10:00					Special 50th ATW/CEW Anniversary Celebration Plenary Session Grand Ballroom <i>Gordon Craig (G.R. Craig & Associates), Kelly Munkittrick (University of Calgary), Guy Gilron (Borealis Environmental Consulting Inc.)</i>												
12:00					Lunch Grand Ballroom Plenary Speaker: Dr. Emily Choy Grand Ballroom												
GRAND BALLROOM		KITCHENER SUITE 1+2		KITCHENER SUITE 3		KITCHENER SUITE 4											
14:15									Concurrent Sessions Start								
6PPD-quinone and other TRWP-derived contaminants: analytical methods, environmental occurrence, and toxicity <i>Sarah Marteinson (DFO), Markus Brinkmann (University of Saskatchewan), Rebecca Dalton (ECCC)</i>			Ecotoxicological impact of critical and strategic minerals on aquatic and terrestrial ecosystems <i>Kristin Mueller (MELCCFP), Beverley Hale (University of Guelph), Maikel Rosabal (UQAM), Tereza Dan (Stantec)</i>			Radionuclides in the environment <i>Flavie Desreac (INRS), Claude Fortin (INRS), Lena Guimard (INRS), David Janz (University of Saskatchewan), Samantha Longo (Canadian Nuclear Safety Commission), Marilyne Stuart (Canadian Nuclear Laboratories)</i>			Emerging Contaminants and Biosolids: Characterization, Quantification, and Assessment of Risk <i>Nicholas Letwin (University of Guelph), Sarah Gewurtz (ECCC)</i>								
15:30									Refreshment Break Lobby								
16:00			6PPD-quinone and other TRWP-derived contaminants: analytical methods, environmental occurrence, and toxicity continued			Ecotoxicological impact of critical and strategic minerals on aquatic and terrestrial ecosystems continued			Radionuclides in the environment continued			Applications of Emerging Technologies in Aquatic Environmental Assessment and Management <i>Kate Mill (KCM Environmental), Sean Engelking (Azimuth)</i>					
17:00									Poster Social Viking Suites								
19:00									End of Monday Program								

TUESDAY Schedule at a Glance

	GRAND BALLROOM	KITCHENER SUITE 1+2	KITCHENER SUITE 3	KITCHENER SUITE 4
07:00	Poster set-up (ends at 08:00) Viking Suites			
07:30	Registration Desk open (closes at 19:00) Lobby			
08:00	Concurrent Sessions Start			
	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments <i>Nicholas Letwin (University of Guelph), Yaryna Kudla (University of Guelph), Ryan Prosser (University of Guelph)</i>	Method development and application: Novel approaches and applying environmental relevance to standardized aquatic toxicity testing <i>Carolyn Martinko (ECCC), Leana Van der Vliet (ECCC), Aaron Boyd (University of Alberta), Tamzin Blewett (University of Alberta)</i>	Mining and the Environment <i>Charles Dumaresq (Mining Association of Canada), Kelly Wells (CanNorth)</i>	General Ecotoxicology: Soil, Sediment, Water, Air, and Biota <i>Stacey Robinson (Environment and Climate Change Canada), Allison Dunn (Environment and Climate Change Canada)</i>
09:30	Refreshment Break Lobby			
10:00	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments <i>continued</i>	Method development and application: Novel approaches and applying environmental relevance to standardized aquatic toxicity testing <i>continued</i>	Mining and the Environment <i>continued</i>	General Ecotoxicology: Soil, Sediment, Water, Air, and Biota <i>continued</i>
11:30	Playle Award Presentations Grand Ballroom			
12:00	Lunch and Student-Mentor Networking Grand Ballroom			
13:30	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments <i>continued</i>	Environmental DNA (eDNA): Research and applications to assess biodiversity and supporting aquatic ecosystem health management <i>Gerald Tetreault (ECCC), Louie Lopez (University of Victoria)</i>	Latest advances in fate and effects of metals in the natural environment <i>Anne Cremazy (INRS-ETE), Yamini Gopalapillai (International Copper Association), Erin Leonard (Wilfrid Laurier University), Connor Stewart (University of Alberta)</i>	<i>Interactive Workshop (drop-in): Rethinking research assessment – how can we ensure quality peer review and maximize societal impact</i>
15:00	Refreshment Break Lobby			
15:30	Enhancing Pesticide Risk Assessment: Integrating Field Data and Modeling <i>Pria Mahabir (Syngenta Canada), Ryan Prosser (University of Guelph), Adrienne Bartlett (Environment and Climate Change Canada)</i>	Environmental DNA (eDNA): Research and applications to assess biodiversity and supporting aquatic ecosystem health management <i>continued</i>	Latest advances in fate and effects of metals in the natural environment <i>continued</i>	
17:00	Poster Social Viking Suites			
19:00	CEW 50th Anniversary Banquet Grand Ballroom Service starts at 19:30 Trivia and Dancing Ends at midnight			
00:00	End of Tuesday Program			

	GRAND BALLROOM	KITCHENER SUITE 1+2	KITCHENER SUITE 3
08:30	Registration Desk open (closes at 12:30) Lobby		
	Concurrent Sessions Start		
09:00	The Past, Present, and Future of Wastewater Effluent Ecotoxicology <i>Jose Luis Rodriguez Gil (IISD-ELA), Ryan Prosser (University of Guelph)</i>	Pollution's power play: The effects of temperature and contaminants on aquatic species <i>Karyn Robichaud (University of Waterloo), Andrew Thompson (McMaster University), Paul Craig (University of Waterloo), Joanna Wilson (McMaster University)</i>	Advancing Wildlife Ecotoxicology through Traditional and Emerging Approaches <i>Jessica Head (McGill University), Natacha Hogan (University of Saskatchewan), Christina Petalas (McGill University)</i>
10:30	Refreshment Break Lobby		
11:00	The Past, Present, and Future of Wastewater Effluent Ecotoxicology continued	Life on the Coast: Assessing the Effects of Environmental Contaminants on Coastal Organisms <i>Davide Asnicar (Huntsman Marine Science Centre), Danielle Philibert (Huntsman Marine Science Centre)</i>	Advancing Wildlife Ecotoxicology through Traditional and Emerging Approaches continued
12:15	Lunch Grand Ballroom CEW Outstanding Contribution Awards, Student Competition and Presentation Awards, and AGM Grand Ballroom		
15:15	End of CEW 2024		



**CANADIAN
ECOTOXICITY
WORKSHOP**
KITCHENER-WATERLOO 2024

50 YEARS OF CEW

ANNIVERSARY CELEBRATION

Monday Oct. 7th, 08:00
Grand Ballroom

08:00 - 08:15 Welcome & Opening Remarks

CEW 2024 Co-Chairs:
Sarah Crawford, Syngenta Canada
Paul Craig, University of Waterloo
Beverley Hale, University of Guelph
Jim McGeer, Wilfrid Laurier University

08:15 - 09:30 Plenary Sessions

50 Years of CEW: How we got here - where we go
Gordon Craig, G.R. Craig & Associates
Carrie Rickwood, Natural Resources Canada/CEW President

Standardized toxicity methods for regulatory applications:
A brief history and the future
Rick Scroggins, Environment and Climate Change Canada
Leana Van der Vliet, Environment and Climate Change Canada

Evolution of environmental monitoring studies presented at CEW:
Past trends and future tools
Kelly Munkittrick, University of Calgary
Jessica Kidd, University of Waterloo
Heidi Sawnsen, Wilfrid Laurier University

09:30 - 10:00 Refreshment Break | Lobby

10:00 - 12:00 Plenary Sessions Continued

Microbiotests to genomics: Reduction in animal testing
Guy Gilron, Borealis Environmental Consulting Inc.
Denina Simmons, Ontario Tech University

Reflecting on the last 50 years of society and environmental contaminants:
Evolution of science, technology, and public policy
Mark Servos, University of Waterloo
Trudy Watson-Leung, Ontario Ministry of the Environment, Conservation and Parks

Population and community responses in ecotoxicology:
How have field assessments changed and where are they going?
Karen Kidd, McMaster University
Milena Esser, University of Saskatchewan
Stephanie Graves, McMaster University

Health of the ocean:
The intersection of marine ecotoxicology and human health research in an era of climate change
Peter Wells, Dalhousie University
Mike Depledge, University of Exeter

12:00 - 13:00 Lunch | Grand Ballroom



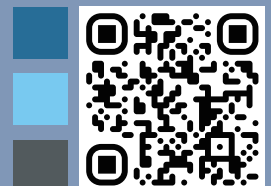
**CANADIAN
ECOTOXICITY
WORKSHOP**



fuselight
creative

50 Years of CEW: Reflecting on the Past, Shaping the Future

We are excited to welcome Fuselight Creative to our Monday CEW 50th Anniversary Celebration. Fuselight seeks to find stories in complex systems, dialogue, and ideas. Using graphical recording, they will be capturing the CEW anniversary plenary and the CEW 50 workshop. Be sure to check out their work during the workshop!



learn more at
thefuselight.com



Dr. Emily Choy is an Assistant Professor in the Department of Biology at McMaster University. Dr. Choy's research focuses on the direct and indirect effects of climate change and contaminants on Arctic seabirds and avian aerial insectivores. Dr. Choy completed her PDF research at McGill University, studying the effects of Arctic change on the foraging energetics and heat tolerance of thick-billed murres on Coats Island in Nunavut. She completed her PhD at the University of Manitoba on beluga whales as sentinels of environmental change in the Beaufort Sea ecosystem in partnership with Inuvialuit communities in the Northwest Territories. She is the recipient of the 2023 Early Career Researcher Award from the Society of Canadian Ornithologists and several fellowships including the L'Oreal-UNESCO Women in Science PDF, Garfield-Weston Award for Northern Research, and an NSERC PDF. Dr. Choy was a scientist on the Victoria Strait expedition and a recipient of the Erebus Medal. She is an Associate Editor for Marine Ornithology and an Explorer-in-Residence for the Royal Canadian Geographical Society.



Photo | Douglas Noblet

CEW 2024 PLENARY

The direct and indirect effects of climate change and pollutants on Arctic seabirds

Monday Oct. 7th, 13:00
Grand Ballroom

DR. EMILY CHOY

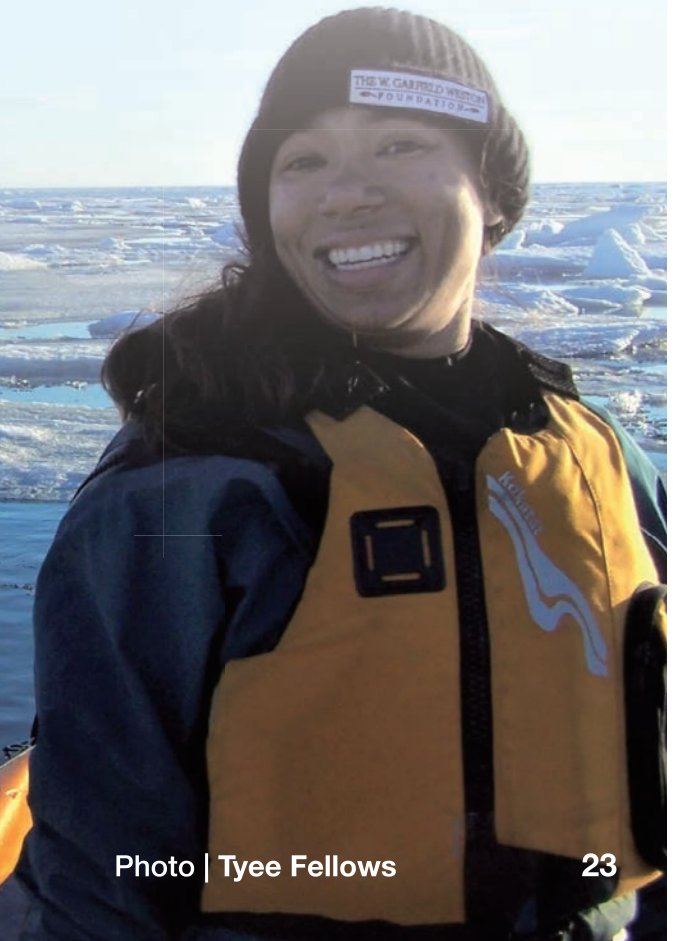


Photo | Tye Fellows

MONDAY AFTERNOON Platform Presentations

	GRAND BALLROOM	KITCHENER SUITE 1 + 2	KITCHENER SUITE 3	KITCHENER SUITE 4
	6PPD-quinone and other TRWP-derived Contaminants	Ecotoxicological impact of critical and strategic minerals on aquatic and terrestrial ecosystems	Radionuclides in the environment	Emerging Contaminants and Biosolids: Characterization, Quantification, and Assessment of Risk
14:15	1. A Rapid Analytical Method for Measuring PPDs and PPD-Qs in Water Samples LINNA XIE , University of Toronto	10. Evaluation of the toxicity of two platinum group metals (palladium, platinum) individually and in mixtures on <i>Chironomus riparius</i> and <i>Hyallella azteca</i> ALICE CARLE , Université du Québec à Montréal	19. Monitoring and quantification of naturally occurring radioactivity in rare earth bearing-ore processing MÉLODIE BONIN , Laval University	27. Fate of PFAS in sludge handling trains at two Canadian wastewater treatment plants WAYNE PARKER , University of Waterloo
14:30	2. Investigating alternative environmental sources of the toxic tire-derived chemical 6PPD-quinone LELAND BRYSHUN , University of Saskatchewan	11. Fate, distribution, bioaccumulation potential, and risk assessment of rare earth elements (REEs) in aquatic ecosystems post-exposure to REE-coagulants ASHLYN KERNAGHAN , Trent University	20. Regional information and monitoring network related to nuclear activities in the Ottawa River watershed (RIMNet) COURTNEY ROBICHAUD , Canadian Nuclear Safety Commission	28. PFAS and PPCPs in Canadian biosolids: results of 12 years of monitoring by Environment and Climate Change Canada SARAH GEWURTZ , Environment and Climate Change Canada
14:45	3. Unraveling the Mechanism and Species Sensitivity Differences in 6PPD-Quinone Toxicity by Using Whole Transcriptome Analysis in Four Fish Species JUNYI LIN , University of Saskatchewan	12. Aquatic Geochemistry of Critical Elements in Ontario Rivers DAVID BOETTCHER , Trent University	21. Analysis of radium-226 in environmental samples from uranium tailing management lakes by mass spectrometry LAURIE MARTIN , Laval University	29. Assessing the Microplastic Content of Biosolid-Amended Agricultural Fields NICHOLAS LETWIN , University of Guelph
15:00	4. Metabolomic changes in juvenile coho and Chinook salmon exposed to the vehicle tire associated chemical 6PPD-Quinone BONNIE LO , Simon Fraser University	13. Toxicity of three Rare Earth Elements (La, Gd, Y) in single and binary mixture exposures to two benthic organisms MARIE LEFRANC , Université du Québec à Montréal	22. Deriving toxicity thresholds for three fish species exposed to radium (226Ra) from fertilization to swim-up DAVID JANZ , University of Saskatchewan	30. Characterization of Microplastics Within Earthworms (<i>Lumbricus terrestris</i>) from Biosolid-Amended Fields RYAN PROSSER , University of Guelph
15:15	5. Sub-chronic and acute toxicity of 6PPD-quinone in early life stages of lake trout (<i>Salvelinus namaycush</i>) CATHERINE ROBERTS , University of Saskatchewan	14. Critical and strategic metals within cells: handling strategies by aquatic invertebrates and fish MAIKEL ROSABAL , Université du Québec à Montréal	23. Fate of radium-226 in aquatic toxicity tests CATHERINE PROULX , University of Ottawa, Kilgour & Associates	31. Characterization of Microplastics found in Agricultural Soils Amended with Municipal Compost STEPHEN SUMARY , University of Guelph
15:30 - Refreshment Break Lobby				
	6PPD-quinone and other TRWP-derived Contaminants	Ecotoxicological impact of critical and strategic minerals on aquatic and terrestrial ecosystems	Radionuclides in the environment	Applications of Emerging Technologies in Aquatic Environmental Assessment and Management
116:00	6. First assessment of the ecotoxicological effects of the tire antioxidant 6PPD on early life stages of largemouth bass (<i>Micropterus salmoides</i>) KATRYNA SEABROOK , Queen's University	15. Assessment of agricultural soil geochemistry and rare earth element concentrations across farm and production types in Southern Ontario RUBY WETZL , Trent University	24. Characterization of radium-226 fate in the green alga <i>Chlamydomonas reinhardtii</i> FLAVIE DESREAC , INRS-ETE	32. Applications of emerging technologies, a case study on benchmarks for emerging contaminants AYLA PEARSON , Poisson Consulting
16:15	7. 6PPD-quinone induces developmental cardiotoxicity in fathead minnows (<i>Pimephales promelas</i>) following microinjection KATHERINE ANDERSON-BAIN , University of Lethbridge	16. The distribution of rare earth elements in rice plants MINH DUONG , Trent University	25. Radium-226 toxicity to the early life stages of the great pond snail <i>Lymnaea stagnalis</i> LÉNA GUIMARD , INRS	33. A novel approach to developing water quality guidelines for polycyclic aromatic hydrocarbons (PAHs) ALLISON DUNN , Environment and Climate Change Canada
16:30	8. Time-course of physiological and histological changes in Brook trout (<i>Salvelinus fontinalis</i>) during exposure to lethal concentrations of 6PPD-quinone DANIELLE PHILIBERT , Huntsman Marine Science Centre	17. Growth inhibition of Boreal plants exposed to palladium (Pd) KRISTIN MUELLER , MELCCFP	26. Chronic radium-226 toxicity to the aquatic invertebrates <i>Daphnia magna</i> and <i>Chironomus dilutus</i> larvae CHARLOTTE LACROIX-DURAND , University of Saskatchewan	34. Using in silico tools to predict ecological risks of PFAS to aquatic species ANDREY MASSARSKY , Stantec
16:45	9. Synergistic Toxicity of Zinc and 6PPD-Quinone Towards Rainbow Trout (<i>Oncorhynchus mykiss</i>) JILLIAN SIMS , University of Alberta	18. Method for determination of Li toxicity to boreal plants in soil BEVERLEY HALE , University of Guelph	DISCUSSION	35. Responsible use of generative AI for environmental professionals KATE MILL , KCM Environmental

6PPD-QUINONE AND OTHER TRWP-DERIVED CONTAMINANTS: ANALYTICAL METHODS, ENVIRONMENTAL OCCURRENCE, AND TOXICITY

P1	Investigating age-specific toxicities of 6PPD to largemouth bass (<i>Micropterus nigricans</i>) in an outdoor microcosm experiment ASHLEY CANETÉ , Queen's University	P2	Assessing transepithelial electrical resistance (TEER) in rainbow trout RTgill-W1 and Atlantic salmon ASG-10 gill cells exposed to 6PPD-quinone CHANTEL DE LANGE , University of Saskatchewan
P3	Tire-additive transformation product 6PPD-quinone in Lake Ontario urban watersheds and receiving waters – hazard considerations PAUL HELM , Ontario Ministry of the Environment, Conservation and Parks	P4	State of knowledge of 6PPD-quinone in Canada: A comprehensive review JASON DURANTE , Dillon Consulting
P5	Xenometabolome of Early-Life Stage Salmonids Exposed to 6PPD-Quinone MARKUS BRINKMANN , University of Saskatchewan	P6	Interlaboratory study on analytical methods for aqueous 6PPD-quinone: on the path towards comparability – an update SARAH MARTEINSON , Fisheries and Oceans Canada

ECOTOXICOLOGICAL IMPACT OF CRITICAL AND STRATEGIC MINERALS ON AQUATIC AND TERRESTRIAL ECOSYSTEMS

APPLICATIONS OF EMERGING TECHNOLOGIES IN AQUATIC ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

P7	Assessment of platinum and palladium toxicity for three freshwater organisms JULIEN MICHAUD-VALCOURT , INRS-ETE	P8	Refining risk assessments with EAS-E Suite: a case study from Health Canada's New Substances Program CLAIRE PINSONNAULT , Health Canada
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APPLICATIONS OF EMERGING TECHNOLOGIES IN AQUATIC ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

P9	Non-targeted chemical examination of water and sediment extracts collected from an industrial and municipal effluent-driven wetland complex in Alberta BLAKE HUNNIE , University of Saskatchewan	P10	The effects of benzalkonium chloride on freshwater zooplankton in a mesocosm experiment CLAIRE ESTEY , McMaster University
P11	Assessing the reproductive status of fathead minnows (<i>Pimephales promelas</i>) exposed to Frank Lake, AB, Canada effluent as a bio-indicator of ecosystem RAYEN MORALES URRUTIA , University of Lethbridge	P12	Investigating the Behavioral Response of Freshwater Mussels to Venlafaxine Exposure SALAR GAEINI , University of Guelph

LIFE ON THE COAST: ASSESSING THE EFFECTS OF ENVIRONMENTAL CONTAMINANTS ON COASTAL ORGANISMS

POLLUTION'S POWER PLAY: THE EFFECTS OF TEMPERATURE AND CONTAMINANTS ON AQUATIC SPECIES

P13	Assessing the impacts of individual aromatic compounds on Pacific purple sea urchin behaviour and fertilization success ANA STRBAC , University of Guelph	P14	Metformin does not impact larvae adapting to food by mouth and appears to not act as a glucose modulator in zebrafish ANDREW THOMPSON , McMaster University
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ADVANCING WILDLIFE ECOTOXICOLOGY THROUGH TRADITIONAL AND EMERGING APPROACHES

P15	Application of Avian In Vitro Substrate Depletino Assays to Study Biotransformation of Organic Chemicals MATTHEW SCHULTZ , University of Saskatchewan	P16	Road salt exposure during early development has similar impacts on rainbow trout (<i>Oncorhynchus mykiss</i>) and coho salmon (<i>Oncorhynchus kisutch</i>) CARLEY WINTER , University of British Columbia
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LATE-BREAKING POSTERS

P17	Optimization of the RTgill-W1 assay for commercial and regulatory applications JACK SALOLE , Nautilus Environmental/McMaster University	P18	One fish, two fish, how many more fish?: Minimum sample sizes required to detect annual differences in microplastic ingestion by Arctic char RIKKI CLARK , Acadia University
P19	Sublethal toxicity testing: examining Ontario effluent impacts on growth and reproduction TRUDY WATSON-LEUNG , Ontario Ministry of the Environment, Conservation and Parks	P20	The effects of climate changes on non-model organism <i>Branchionus plicatilis</i> AMELIE GUITARD , Université Sainte-Anne
P21	Fate and transport of experimentally added microplastics in the water column of a whole lake FRANCIS NUAMAH , University of Toronto	P22	Comparing tissue-specific gene expression changes following benzalkonium chlorides (BACs) exposure in rainbow trout (<i>Oncorhynchus mykiss</i>) EVAN KOHLMAN , University of Saskatchewan
P23	Additive nitrate and phosphate toxicity impairs habitat water quality for the Mexican salamander <i>Ambystoma dumerilii</i> GORDON CRAIG , G.R. Craig & Associates	P24	Sensitive transcriptomic biomonitoring of wood frogs exposed to diluted bitumen and remediation in Canadian freshwater lakes ANITA THAMBIRAJAH , University of Victoria
P25	Transcriptomic analyses of hepatotoxicity and immunotoxicity induced by oral exposure to contaminated groundwater mixture in male and female sprague BRIGHT BOAMAH , University of Saskatchewan	P26	Plastic exposure in relation to breeding stage and diet in an urbanized gull species SOFIA HIGGS , McGill University
P27	Temperature-dependent metabolism of invasive early round goby juveniles (<i>Neogobius melanostomus</i>) HUNTER HERRON , McMaster University		

TUESDAY MORNING Platform Presentations

	GRAND BALLROOM	KITCHENER SUITE 1 + 2	KITCHENER SUITE 3	KITCHENER SUITE 4
	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments	Method Development and Application: Novel Approaches and Applying Environmental Relevance [...]	Mining and the Environment	General Ecotoxicology: Soil, Sediment, Water, Air, and Biota
08:00	36. Investigating wastewater treatment facilities as a source of microplastics to aquatic food webs COLLEEN WARDLAW , McMaster University	59. The application of rainbow trout acute lethality test variants for effluent discharge compliance MARRIAH GREY , Bureau Veritas	82. Investigating the linkage between biological activity and changes to selenium speciation in mine sedimentation ponds CLAIRE DETERING , WSP	106. Contaminants and nutrients in fishes along a large, dammed river: Do benefits outweigh risks? JENNI VELICHKA , Kilgour & Associates Ltd.
08:15	37. Microplastics composition and loadings to Lake Ontario from an urban creek RAZEGHEH AKHBARIZADEH , University of Toronto	60. Reducing fish use: Impacts of rainbow trout control sharing in commercial laboratories in Canada CAROLYN MARTINKO , Environment and Climate Change Canada	83. Characterization of selenate (SeVI) uptake rates in natural periphyton communities from anthropogenically influenced lotic systems WILLIAM MUZYKA , University of Saskatchewan	107. Simultaneous analysis of drugs of abuse in fish tissue: Extraction optimization DIANA CARDENAS-SORACA , University of Waterloo
08:30	38. Microplastics contamination in Pelagic Fish and Surface Water from the St. Lawrence River and Estuary, Canada ELISA MICHON , ISMER-UQAR	61. The use of the EcoToxChip test system for regulatory decision-making: A case study with a 24-hour transcriptomic rainbow trout assay REBECCA DALTON , Environment and Climate Change Canada	84. Advancing mine dust monitoring and characterization techniques CARRIE RICKWOOD , Natural Resources Canada	108. Development of the optimal extraction method of chiral pharmaceuticals from rainbow darter and application to an in-lab bioaccumulation exposure SARAH KOWALCZYK , University of Waterloo
08:45	39. Assessing Microplastic Contamination in Benthic Fish from the St. Lawrence Estuary: Occurrence, Spatial Distribution, and Ecological Risk Assessment A.H.M. ENAMUL KABIR , York University	62. Replacing in vivo acute wastewater toxicity testing with the RTgill-W1 cell line JACK SALOLE , Nautilus Environmental/ McMaster University	85. Mine-related modifications of a small Canadian sub-Arctic lake – changes in lake water chemistry due to the flooding of tundra DARCIE BLACKALL , WSP Canada	109. Identifying developmental windows of sensitivity to diluted bitumen exposure in sockeye salmon (<i>Oncorhynchus nerka</i>) DERIN CALIK , University of Guelph
09:00	40. Can we monitor aquatic microplastics from above? A review of remote sensing techniques and a pilot project using a drone SARAH MARTEINSON , Fisheries and Oceans Canada.	63. Development of a mummichog (<i>Fundulus heteroclitus</i>) Early-Life Stage Bioassay as an alternative to adult fish field studies in Environmental Effects Monitoring for Pulp and Paper mills in Canada TIM VICKERS , Stantec Consulting	86. Analysis of petroleum hydrocarbons in oil sands mine waters TAMMY ROSNER , Four Elements Consulting Ltd.	110. A model naphthenic acid reduces oxidative phosphorylation through selective impacts on complex activity ZAHRA KALVANI , University of Prince Edward Island
09:15	41. Life in Plastic, is it Fantastic? Assessing Microplastics Toxicity and Accumulation in Freshwater Benthic Macroinvertebrates QUINN ALLAMBY , McMaster University	64. The effects of neurochemical manipulation on the behaviour of <i>Capitella teleta</i> MAXWELL HENDERSHOT , McMaster University	87. Assessment of polymer-treated tailings from a pilot-scale pit lake in the Alberta Oil Sands Region IMMANUELA EZUGBA , University Of Saskatchewan	111. The Life-stage Effects of Metformin Exposure in Zebrafish FIANA SPAHIU , Western University
09:30 - Refreshment Break Lobby				
10:00	42. Microplastics and mesocosms: investigating the effects of MPs on invertebrate communities EMILIE MONTREUIL STRUB , University of Waterloo	65. Development of a behaviour assay in the freshwater snail, <i>Planorbella pilsbryi</i> : assessing the effects of selective serotonin reuptake inhibitors ÈVE GILROY , Environment and Climate Change Canada	88. Do we have the right tools in our toolkit? Insights into the complexity of designing aquatic effects monitoring programs from Canada's North TAMARA DARWISH , WSP	112. Developing site specific quality management objectives for a stormwater management pond based on biological and chemical monitoring MELISSA WHITFIELD ASLUND , Stantec
10:15	43. Subtle effects of microplastics on zooplankton and emerging insect abundances in a littoral limnocorral experiment Yael LEWIS , Queen's University	66. The need for alternatives to field-based studies in Environmental Effects Monitoring for Pulp and Paper mills in Canada TIM VICKERS , Stantec Consulting	89. Scientific monitoring and traditional knowledge: transparency, equivalency and the rattlin' worm RAINIE SHARPE , WSP Canada Inc.	113. Diesel fuel weathering and subsequent aquatic toxicity within a freshwater mesocosm SCOTT HEPDITCH , INRS
10:30	44. Assessing effects of microplastics on microbial communities in outdoor mesocosms RACHEL MCNAMEE , University of Waterloo	67. Sunscreens are better together: understanding the differences in whole sunscreen mixture toxicity in <i>Daphnia magna</i> compared to isolated UVF toxicity SIDNEY MARTIN , University of Alberta	90. Hair screening tool: detection of elevated exposure to copper in wildlife and humans JENNIE CHRISTENSEN , TrichAnalytics Inc.	114. Altered Ecosystems: The Role of Pesticides in Ant-Aphid Dynamics SPERANZA MARTIN , University of Guelph

TUESDAY MORNING/AFTERNOON Platform Presentations

	GRAND BALLROOM	KITCHENER SUITE 1 + 2	KITCHENER SUITE 3	KITCHENER SUITE 4
	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments	Method Development and Application: Novel Approaches and Applying Environmental Relevance [...]	Mining and the Environment	General Ecotoxicology: Soil, Sediment, Water, Air, and Biota
10:45	45. The effects of microplastics on the growth, development, and body condition of wood frogs (<i>Rana sylvatica</i>) across a gradient of concentrations SAM GENE , Queen's University	68. Effects of repeated pulsed exposures of road salt on early life-stage coho salmon CLARE KILGOUR , University of British Columbia	91. A Nisga'a Nation-led water quality monitoring program in the Nass Area ALLISON SCHEIN , LGL Limited	115. Variable effects of forestry on mercury biomagnification pre-and post- harvest in Boreal headwater stream food webs CELINE LAJOIE , McMaster University
11:00	46. Quantifying responses of American toad tadpoles to microplastics in a freshwater lake using in-situ assays JIHYUN KIM , Queen's University	69. Photomodification Of Low-sulfur-fuel-oils: Investigations of Toxic Effects (POLITE) BENJAMIN DE JOURDAN , Huntsman Marine Science Centre	92. Peat-based soil amendments enhance vegetation recovery of mining-affected areas JIAOJIAO DIAO , University of Guelph	116. Toxicity of Granular Bayluscide® to Adult Washboard Mussels (<i>Megaloniaias nervosa</i>) OLIVIA COFFIELD , University of Guelph
11:15	DISCUSSION	70. Testing the applicability of standardized laboratory tests to natural environments by investigating UV filter toxicity to <i>Daphnia</i> AARON BOYD , University of Alberta	93. Sources and fate of inorganic and organic selenium species in a mine-affected watershed ADRIAN DE BRUYN , ADEPT Environmental Sciences Ltd.	117. RNA-Seq analysis of human lung cells (BEAS-2B) exposed to retene FRANCISCO SILVA , University of Saskatchewan
11:30	PLAYLE AWARD PRESENTATIONS GRAND BALLROOM Impact of freshwater salinization on zooplankton communities in shallow wetland mesocosms KAILEY CARRIÈRE , University of Manitoba Towards high throughput determination of biotransformation rates of chemical mixtures using isolated perfused trout livers MATTHEW SCHULTZ , University of Saskatchewan			
12:00 - Lunch and Student-Mentor Networking Grand Ballroom				
	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments	Environmental DNA (eDNA)	Latest advances in fate and effects of metals in the natural environment	Interactive workshop <i>(open to all; no prior registration required)</i>
13:30	47. The Fate of Ingested Biofouled Polyethylene Foam by Giant American Millipedes (<i>Narceus americanus</i>) AARON FAIRWEATHER , University of Guelph	71. A comparison of environmental DNA metabarcoding and five conventional methods ERIC BONK , University of Guelph	94. Study of nickel toxicity on phytoplankton of the Arctic Ocean KARIMA HADRIA GONDRI , INRS-ETE	Rethinking research assessment – how can we ensure quality peer review and maximize societal impact HILARY BELLEVILLE , Canadian Science Publishing) SARAH MARTEINSON , Fisheries and Oceans Canada)
13:45	48. Assessing the Accumulation of Microplastics within Earthworms (<i>Eisenia fetida</i>) using Traditional Bioaccumulation Testing and X-Ray Microtomography NICHOLAS LETWIN , University of Guelph	72. Effects of assay selection, sequencing depth, and PCR stochasticity on detected Grand River amphibian communities using eDNA metabarcoding NATHANAEL HARPER , University of Waterloo	95. Effect of pH on metal bioaccumulation in freshwater biofilms FRÉDÉRIQUE WARREN , INRS	
14:00	49. Zooming in on the interactions between microplastics and terrestrial organisms FANNY MONTEIL-RIVERA , National Research Council	73. Optimizing eDNA protocols for a fish biodiversity assessment in a cold freshwater habitat HEATHER VEILLEUX , Ecometrix	96. Reproductive effects of arsenic-contaminated natural diet in zebrafish (<i>Danio rerio</i>) during chronic exposure SRAVAN KUMAR PUTNALA , University of Saskatchewan	

TUESDAY AFTERNOON Platform Presentations

	GRAND BALLROOM	KITCHENER SUITE 1 + 2	KITCHENER SUITE 3	KITCHENER SUITE 4
	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments	Environmental DNA (eDNA)	Latest advances in fate and effects of metals in the natural environment	Interactive workshop <i>(open to all; no prior registration required)</i>
14:15	50. Do microplastics originating from biodegradable plastic mulch adsorb more organic contaminants when they are weathered? LIAM O'HARA , University of Guelph	74. Environmental DNA as a tool to detect phylogenetic lineages of Arctic grayling (<i>Thymallus arcticus</i>) MELISSA MISUTKA , University of Alberta	97. Exposure to metals induces behavioral changes in fathead minnows (<i>Pimephales promelas</i>) without affecting the hypoxic ventilatory response NATALIE NYKAMP , Wilfrid Laurier University	Rethinking research assessment – how can we ensure quality peer review and maximize societal impact HILARY BELLEVILLE , Canadian Science Publishing) SARAH MARTEINSON , Fisheries and Oceans Canada)
14:30	51. Shape matters: exploring the impact of microplastic polymers on soil carbon cycling dynamics using stable carbon isotopes SERRA-WILLOW BUCHANAN , University of Guelph	75. Differences in detection of fish presence between environmental DNA and conventional fish capture methods as it pertains to mine development KELLY MACDONALD , Stantec	98. Does temperature modify the accumulation of metals and olfactory-mediated behaviours in salmonids? ANDREW THOMPSON , McMaster University	
14:45	52. Leveraging organismal traits to predict microplastics environmental concentrations within the context of quantitative risk assessment DANIELLE PHILIBERT , Huntsman Marine Science Centre	76. Biomonitoring of the endangered reidside dace (<i>Clinostomus elongatus</i>) over a 10-year period in Southern Ontario using environmental DNA LENKA TRIVETT , University of Guelph	99. The acute osmoregulatory effects of copper on <i>Apistogramma agassizii</i> , in Rio Negro blackwater and Rio Solimoes whitewater at circumneutral and acidic CAROLYN MORRIS , University of British Columbia	
15:00 - Refreshment Break Lobby				
	Enhancing Pesticide Risk Assessment: Integrating Field Data and Modeling	Environmental DNA (eDNA)	Latest advances in fate and effects of metals in the natural environment	
15:30	53. Pesticides in Manitoba streams, rivers, and lakes: 2015 to 2021 ANDREW BURTON , Manitoba Environment and Climate Change	77. Maximizing eDNA quantification: the essential impact of sample clean-up for accurate gene copy estimation ALI MIRABZADEH-ARDAKANI , Bureau Veritas	100. Assessing the multigenerational toxicity of lead from fishing gear to the freshwater snail, <i>Planorbella pilsbryi</i> SABRINA ST-HILAIRE , Wilfrid Laurier University	
15:45	54. The Sorbed, the Degraded, and the Unprocessed; Three Validated Pesticide Extraction Methods for Biomixture of a Manitoban Biobed PHOENIX NAKAGAWA , University of Manitoba	78. Comparative analysis of eDNA barcoding and conventional monitoring methods to detect amphibians in southern Ontario vernal pools CAILYN ZAMORA , University of Waterloo	101. Investigating the potential toxicity of copper nanoparticles from agricultural run-off on <i>Daphnia magna</i> FLEUR ISSAC , University of Alberta	
16:00	55. Using algal biofilms to monitor pesticide contamination in agricultural streams LAURA MALBEZIN , INRS-ETE	79. Application of molecular tools to monitor health, abundance, and distribution of spawning oolichan (<i>Thaleichthys pacificus</i>) MICHAEL ALLISON , University of Victoria	102. Sublethal effects of rare earth elements (REEs), Nd, Pr, Y in <i>Daphnia magna</i> CELINE DO , Wilfrid Laurier University	
16:15	56. Pesticide presence in stream water, suspended sediment and periphyton is strongly linked to upstream catchment land use and crop type MOIRA IJZERMAN , University of Guelph	80. Assessing soil microbiota adaptations to brine disturbance using prokaryotic and eukaryotic eDNA Sequencing ELIZABETH HAACK , Ecometrix	103. Understanding the environmental mobility and potential toxicity of elements associated with Nb tailings CARRIE RICKWOOD , Natural Resources Canada	
16:30	57. Bioaccumulation and Physiological Effects of a Common Pesticide Mix on Pond Snails (<i>Lymnaea stagnalis</i>) JARED SPARR , Bishop's University	81. Unveiling a Century of Change in Lake Eukaryotic Communities: Insights from Sedimentary DNA and Indigenous Knowledge MARK LOUIE LOPEZ , University of Victoria	104. Evidence of eutrophication as a cumulative environmental impact problem for watersheds across Northern Ontario DEAN FITZGERALD , Integrated Ecosystem Solutions	
16:45	58. Using transcriptomics and early life stage bioassays to generate hazard data for pesticides in endangered fishes JESSICA HEAD , McGill University	DISCUSSION	105. Refining ecological risk assessment using multilevel concentration-response models: a case study on effects of copper to salmonids SEAN ENGELKING , Azimuth Consulting Group	

EXPOSURE, EFFECTS, AND MANAGEMENT OF MICROPLASTIC POLLUTION IN TERRESTRIAL AND AQUATIC ENVIRONMENTS

P28	Navigating Microplastic-Biota Interactions: Uptake and Bioaccumulation in <i>Hyaella azteca</i> in a Recirculating Open Channel Flume A.H.M. ENAMUL KABIR , York University	P29	Streamlining plastic reclamation using microbial degradation and Raman spectroscopy SYDNEY PEDARI , Carleton University
P30	The fate of microplastics in an adult freshwater mussel: from ingestion to excretion YARYNA KUDLA , University of Guelph	P31	Exposure, Effects, and Management of Microplastic Pollution in Terrestrial and Aquatic Environments CHRISTOPHER MUSGRAVE , University of Guelph

ENHANCING PESTICIDE RISK ASSESSMENT: INTEGRATING FIELD DATA AND MODELING

P32	From risk assessment to laboratory testing, a sediment toxicity study in the Northwest Territories ELENA LEGRAND , Stantec Consulting Ltd.		
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METHOD DEVELOPMENT AND APPLICATION: NOVEL APPROACHES AND APPLYING ENVIRONMENTAL RELEVANCE TO STANDARDIZED AQUATIC [...]

P33	C-sniff: Cultured <i>Rana</i> [Lithobates] catesbeiana tadpole olfactory epithelium is a sensitive system for detecting thyroid hormone induction and disruption EMMA FIELD , University of Victoria	P34	Protect Your Metal and the Environment: Assessing the Ecotoxicity of an N-Heterocyclic Carbene Species in Brown Flatworms FIANA SPAHIU , Western University
P35	An improved method to assess growth rates of freshwater diatom <i>Navicula pelliculosa</i> for mayfly toxicity testing JACOB GAWRONSKI , University of Guelph	P36	Using Transcriptomic Point-of-Departures to Compare Sensitivity Across Fish Species JESSICA HEAD , McGill University
P37	Establishing rainbow trout (<i>Oncorhynchus mykiss</i>) as a neurotoxicity model for screening environmental contaminants JULEANNE FLORES , University of Saskatchewan	P38	Ceriodaphnia dubia inter-laboratory results with naphthenic acid mixture LEANA VAN DER VLIET , Environment and Climate Change Canada
P39	Does sociality matter? Assessing the influence of social context on physiology and toxicology SIENNA OVERDUIN , University of Alberta	P40	Investigating the mechanism of intragenerational oocyte maturation inhibition in Japanese medaka exposed to (TBCO) via maternal transfer SODIQ OLAWOORE , University of Lethbridge
P41	Chronic toxicity and bioaccumulation of trace elements in daphnids exposed to water and sediment from an oil-sands tailings pit lake SUNNY CHOI , University of Alberta		

ENVIRONMENTAL DNA (eDNA)

P42	Assessing the performance of environmental DNA (eDNA) to estimate the presence of white sucker (<i>Catostomus commersonii</i>) during a spring spawning survey in a northern Alberta tributary GERALD TETREAULT , Environment and Climate Change Canada	P43	Appropriateness of sampling media to detect eDNA and assess fish diversity in a small stream GERALD TETREAULT , Environment and Climate Change Canada
P44	Addressing community concerns surrounding char populations (<i>Salvelinus alpinus</i> and <i>Salvelinus malma</i>) near Kugluktuk, Nunavut, using environmental DNA HANNAH THIBAUT , University of Waterloo	P45	Environmental DNA metabarcoding for biodiversity characterization of a harmful algal bloom KATHLEEN NOLAN , University of Guelph
P46	Statistical workflow for environmental DNA cross-assay comparison: A use-case example with threatened Oolichan (<i>Thaleichthys pacificus</i>) MICHAEL ALLISON , University of Victoria	P47	Monitoring native lamprey populations with environmental DNA (eDNA) to inform lampricide application NATHAN ZEINSTR , University of Guelph
P48	Application of a multiplex eDNA barcoding assay to detect brown trout (<i>Salmo trutta</i>) and rainbow trout (<i>Oncorhynchus mykiss</i>) in remote Karukinka Natural Park, Tierra Del Fuego Island, Chile RACHEL DAWE , University of Waterloo		

MINING AND THE ENVIRONMENT

P49	Efficacy of Clearflow treatment technologies in treatment of coal mine effluent ERIC VANDENBERG , University of Alberta	P50	Weight of evidence approach as an integration tool for a small Canadian sub-Arctic lake SARAH CALBICK , WSP Canada Inc
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LATEST ADVANCES IN FATE AND EFFECTS OF METALS IN THE NATURAL ENVIRONMENT

P51	Subcellular fate of metals, alone and in mixtures, in the unicellular alga <i>Chlamydomonas reinhardtii</i> HEIDI FORTIN , INRS	P52	Copper speciation, bioavailability and toxicity to local fish in the mixing zone of the Rio Negro and Rio Solimões along the Amazon River OCEANE HOURTANE , INRS
P53	The influence of organic carbon on mercury food web dynamics in remote Patagonian ecosystems STEPHANIE GRAVES , McMaster University		

GENERAL ECOTOXICOLOGY: SOIL, SEDIMENT, WATER, AIR, AND BIOTA

P54	Identifying neurotoxic effects of chemical warfare agents and their transformation products in the zebrafish model ALICIA LAMB , University of Saskatchewan	P55	Ecotoxicity assessment of colored smokes and their dye ingredients FANNY MONTEIL-RIVERA , National Research Council
P56	Development of an enantioselective LC-MS/MS method for the separation and quantification of o-desmethylvenlafaxine and tramadol in fish tissue RASHNE VAKHARIA , University of Waterloo	P57	Integrated Chemical Mixtures Project REBECCA DALTON , Environment and Climate Change Canada
P58	Perfluoroalkyl Acids in crayfish, snails and water upstream and downstream of airports and wastewater treatment plants in Ontario SHANE DE SOLLA , Environment and Climate Change Canada	P59	A proposed mechanism to explain how niclosamide synergistically interacts with TFM to increase lampricide toxicity in sea lamprey (<i>Petromyzon marinus</i>) DEJANA MITROVIC , University of Waterloo
P60	Investigation of air and thermal flows, and energy efficiency between a conventional (CE) and enhanced entrance (EE) design BRYN MAGEE , Trent University	P61	Elemental composition of foraged foods in Sudbury-Manitoulin District, Ontario MACKENZIE HOBBS , Laurentian University

WEDNESDAY Platform Presentations

	GRAND BALLROOM	KITCHENER SUITE 1 + 2	KITCHENER SUITE 3
	The Past, Present, and Future of Wastewater Effluent Ecotoxicology	Pollution's power play: The effects of temperature and contaminants on aquatic species	Advancing Wildlife Ecotoxicology through Traditional and Emerging Approaches
09:00	118. Assessing the neurotoxic effects of benzalkonium chlorides (BACs) in early-life stage zebrafish (<i>Danio rerio</i>) JULEANNE FLORES , University of Saskatchewan	129. Venlafaxine and elevated temperatures impact liver mitochondrial function in Nile tilapia KARYN ROBICHAUD , University of Waterloo	140. Leveraging the strengths of community science data to investigate drivers of productivity declines in Common Loons KRISTIN BIANCHINI , Acadia University/Ecometrix
09:15	119. Evaluating the effects of benzalkonium chlorides (BAC) exposure on early-life stage and juvenile rainbow trout (<i>Oncorhynchus mykiss</i>) EVAN KOHLMAN , University of Saskatchewan	130. The effect of temperature on the nocturnal behaviour of yellow perch (<i>Perca flavescens</i>) MELLISSA EASWARAMOORTHY , McMaster University	141. Spatially Mapping Plastic-Related Contaminants In Breeding Herring Gull Colonies Across The St. Lawrence System CHRISTINA PETALAS , McGill University
09:30	120. Comparative sensitivity of early-life stages of three Canadian freshwater fish species to antimicrobial compounds MAWULI AMEKOR , University of Saskatchewan	131. Higher temperatures increase mummichog (<i>Fundulus heteroclitus</i>) growth: Effects on the GH-IGF1 pathway when temperature is combined with NH ₄ Cl or EE2 OLENA KUNTYJ , Wilfrid Laurier University	142. Oil exposure patterns and diet in seabirds following a diesel spill in Nunatsiavut, Canada REYD DUPUIS-SMITH , Carleton University/Environment and Climate Change Canada
09:45	121. Multi-generational effects of naphthenic acids isolated from oil sands process-affected water effluent on <i>Daphnia magna</i> JENELLE McCUAIG , University of Alberta	132. Modulation of mitochondrial bioenergetics and reactive oxygen species production by binary mixtures of copper, cadmium, and zinc in permeabilized fish PIUS TETTEH , University of Prince Edward Island	143. Effects of sulfolane exposure on early life stage wood frogs (<i>Lithobates sylvanicus</i>) AMANDA RESIDE , University of Guelph
10:00	122. Assessment of cytotoxicity and endocrine disruption potential of water samples from the Frank Lake wetland complex ZI YANG , University of Saskatchewan	133. You're hot then you're cold: Diel thermal fluctuations during development alter microRNA expression and performance in zebrafish JAYCELYN CAKLEC , University of Waterloo	144. Northern leopard frog (<i>Rana pipiens</i>) apical and metabolomic responses to plastic and rubber additives STACEY ROBINSON , Environment and Climate Change Canada
10:15	123. Fate of pharmaceuticals in aquatic-riparian food webs at sites receiving municipal wastewater discharges JOHN FAST , McMaster University	134. Climate impacts on cadmium concentrations in marine bird species from the Canadian Arctic KRISTIN BIANCHINI , Acadia University/Ecometrix	145. Sex-specific gene expression responses to methylmercury in wildlife trout (<i>Oncorhynchus mykiss</i>) in Chilean watersheds ELVIRA VERGARA , HUB Ambiental-Universidad de Playa Ancha
10:30 - Refreshment Break Lobby			
	The Past, Present, and Future of Wastewater Effluent Ecotoxicology	Life on the Coast: Assessing the Effects of Environmental Contaminants on Coastal Organisms	Advancing Wildlife Ecotoxicology through Traditional and Emerging Approaches
11:00	124. Combining innovative survey techniques to investigate the correlation between waterbirds and other biotic factors on E. coli and TSS in sewage treatment centre polishing ponds COLE MOSZYNSKI , Stantec Consulting	135. From toxicology to ecology: a case study in adapting research plans following declines in clam populations impacted by an oil spill TYLER BLACK , University of Guelph	146. High-throughput screening of chemical libraries to understand chemical metabolism in fish JOANNA WILSON , McMaster University
11:15	125. A global review to examine study design considerations for detecting impacts of municipal effluents on fish reproduction PATRICIJA MARJAN , University of Calgary	136. The effects of metal exposure on the first larval stage of the invasive green crab (<i>Carcinus maenas</i>) DUSTIN DOTY , University of Alberta	147. The chemical defenses of zebrafish MELLISSA EASWARAMOORTHY , McMaster University
11:30	126. Lessons learned from whole-lake additions of a synthetic estrogen and its broader impact KAREN KIDD , McMaster University	137. Evaluating the potential interactive effects of copper and phenanthrene on ion regulation in mummichog (<i>Fundulus heteroclitus</i>) EMIL SENATHIRAJAH , University of New Brunswick	148. Interspecies variation in fish species sensitivity to PAHs: effects of alkylation and development of predictive tools STEVE WISEMAN , University of Lethbridge
11:45	127. Reflecting on the environmental issues and progress in the Grand River, Ontario MARK SERVOS , University of Waterloo	138. The use of mesocosms to assess impacts from an anthropogenic stressor BENJAMIN DE JOURDAN , Huntsman Marine Science Centre	149. Investigating the lethal and sublethal effects of road salt contamination on the development and physiology of coho salmon (<i>Oncorhynchus kisutch</i>) CARLEY WINTER , University of British Columbia
12:00	128. Teat to Teeth: Mobilizing Food Sovereignty and Indigenous Nations in Environmental Effects Monitoring PHOENIX NAKAGAWA , University of Manitoba	139. The cumulative effects of marine shipping: impacts of vessel discharges on the South Coast of BC ANNIE CHALIFOUR , LGL Limited	150. Inter- and intra-species sensitivity of whole organism and liver transcriptomics in fish to tertiary treated municipal wastewater effluents PATRICIJA MARJAN , University of Calgary
12:15 - Lunch, Awards, and AGM Grand Ballroom			



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