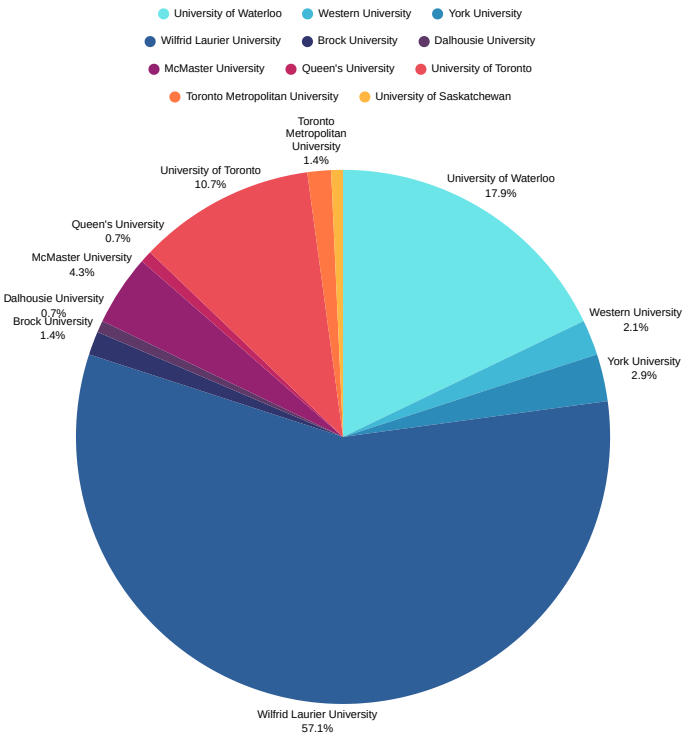


CRRC HIGHLIGHTS



38th Annual CRRC Student Conference

This year, we had outstanding attendance at the conference with **over 140 attendees**. This conference brought together students, faculty, and staff from several universities across Canada to share ideas and build connections.



We had an exciting three days filled with presentations, guest speakers, workshops, and social events.

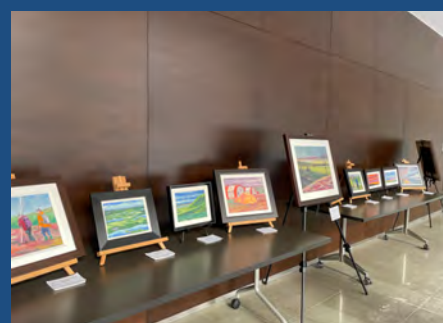
The Conference Kicked Off with an Ice Breaker Event

The first event, held at the Savvas Chamberlain Music building at Wilfrid Laurier University, was the ice breaker event. Attendees engaged in conversations, had great food, and listened to students, faculty, and staff share their experiences working in the North. Amber Buston-White, Madeline Patenall, and Branden Walker shared some challenges they encountered while working in the North and how they overcame them, which sparked a broader discussion among all conference attendees.



Keynote Speaker: Dr. Ken van Rees

Dr. Ken van Rees is an Emeritus professor at the University of Saskatchewan. We had the privilege of welcoming him as our conference keynote speaker, where he spoke about the intersections of science and art as well as his journey to the Trail Valley Creek Arctic Research Station. He incorporated art into his soil science field courses, which sparked his interest in painting different perspectives of research landscapes. Since then, he has gone on to create a vast number of paintings, which can be found at his website: <https://www.kenvanrees.com>

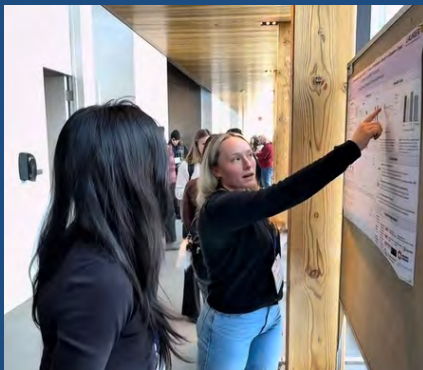


Art Exhibition

Throughout the ice breaker event and conference days, Dr. Ken van Rees displayed a selection of his amazing artwork, highlighting authentic real-life field work experiences. Some of the names of these pieces included "Drilling In The Rain", "Hi Ho It's Off To Work We Go", and "Trail Valley Creek Camp".

Woskhop: Exploring the Intersection of Science and Art

Over 30 conference attendees joined Dr. Ken van Rees for a unique art workshop, where they used a blank canvas to recreate a painting that resonates with their academic journey. Conference attendees expressed their research experience through an artistic lens. Check out some of the wonderful paintings made below.

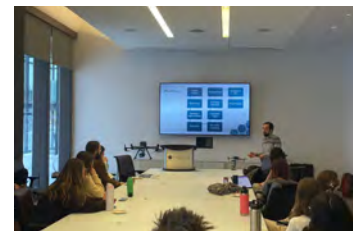


Poster Presentations

Across both days of the conference, students were given the opportunity to present their research through poster presentations. This environment encouraged the exchange of new ideas and provided students, faculty, and staff with a more relaxed space to connect and engage with one another.

Drone Demonstration Workshop

Branden Walker, a Geography Lab Technician at Wilfrid Laurier University, hosted a drone demonstration workshop at the CRRC conference. He discussed how drones work, their applications in research, and provided attendees with hands-on opportunities to interact with drones and other objects.



Congratulations to our Conference Award Winners!

We are thrilled to announce the first and second place award winners for the oral, 3-minute thesis, and poster presentations at the 38th Annual CRRC Student Conference!

Oral Presentation Awards:

First place: **Madeline Patenall** from Wilfrid Laurier University for their talk on “Arsenic, antimony, and phosphorus cycling varies across subarctic lakes with diverse municipal and mining impacts.”

Second place: **Evan Bennett** from Western University for their talk on “Effects of temperature on the dispersal of the Rocky Mountain apollo butterfly (*Pamassius smintheus*).”

3-Minute Thesis Awards:

First place: **Danielle Martin** from the University of Toronto for their talk on “Applying a bacterial lipid paleothermometer proxy to strengthen understandings of past climate variability in northwestern North America.”

Second place: **Nicola Rammell** from Wilfrid Laurier University for their talk on “Linking disease probability to growth history in aspen forests of central Yukon Territory.”

Poster Presentation Awards:

First place: **Karolina Czuba** from Wilfrid Laurier University for their poster titled “Physiological stress in rainbow trout across different severities of sea lamprey-inflicted parasitism.”

Second place: **Emma Bacchiochi** from the University of Waterloo for their poster titled “Has natural gas development altered sediment metal concentrations in Fisherman Lake, NWT?”

Conference Social Event at Huether Hotel

The conference social event was a lively mix of networking, tasty food, and friendly competition of pool and darts - an all-around great time!



Thank You to our Conference Volunteer Team!

The success of the 38th Annual CRRC Conference would not have been possible without our amazing conference volunteer team! These dedicated volunteers worked tirelessly behind the scenes and throughout the entire conference to ensure everything ran seamlessly. We are deeply grateful for all the effort each of you put in this year!



CRRC Sponsored ArcticNet's Annual Scientific Meeting

In December 2025, CRRC sponsored **ArcticNet's Annual Scientific Meeting (ASM) 2025**. This conference was held at the Calgary Telus Convention Centre. Throughout the conference, a CRRC booth was staffed by our student members, who spoke with attendees about CRRC's work and mission.

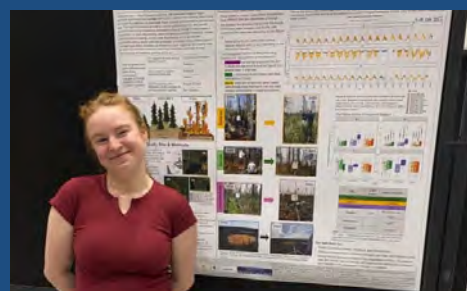
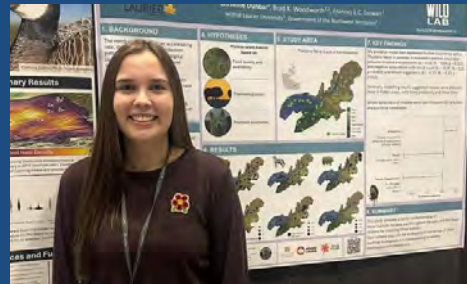


Dr. Homa Kheyrollah Pour: Awarded the 2025 Northern Science Award and Centenary Medal

We are thrilled to announce that Dr. Homa Kheyrollah Pour, Executive Director of CRRC, was awarded the 2025 Northern Science Award and Centenary Medal from Polar Knowledge Canada at ArcticNet ASM. She collaborates with northern Indigenous communities to better understand the impact of climate change on lake ice and winter road safety. Dr. Kheyrollah Pour was selected for this prestigious award for her outstanding scientific leadership and community partnerships in Canada's Arctic.



11 oral and 13 poster presentations by CRRC members at ArcticNet. Check out some of them here:



Screening of “Scotty Creek Research Community” Film at ArcticNet ASM



At the ArcticNet ASM, a documentary on the “Scotty Creek Research Community” was screened, followed by an open discussion on the future of the research station. This documentary was produced by local Indigenous communities in the Decho region, Northwest Territories. The film highlighted the origins and activities of the research station, the out-of-season wildfire that destroyed it, and how communities came together to rebuild this first Indigenous-led research station in Canada.

CRRC Members Highlighted on Cabin Radio

CRRC members, Dr. Brent Wolfe, Dr. Laura Neary, and Dr. Roland Hall, were featured in an article in Cabin Radio titled “What are the risks of the NWT’s water quality?” This article explains how water quality in the Northwest Territories (NWT) can be affected by activities upstream in Alberta. These CRRC members highlighted gaps in water quality and ecosystem monitoring and completed a seven-year research project to develop a comprehensive monitoring plan, along with baseline data on a range of metals and organic compounds that may pose risks to life.

Read more here:

<https://cabinradio.ca/277841/news/health/what-are-the-risks-to-the-nwts-water-quality/>



Polar Knowledge Canada Visited Laurier

In October 2025, Polar Knowledge Canada visited the Cold Regions Research Centre Ice House at Laurier to inform CRRC members about the Northern Scientific Training Program (NSTP). CRRC members who conduct field work in the Canadian north learned about the various funding opportunities available through POLAR and the eligibility for multiple years of funding.



Introducing Emilie Knighton

Emilie is a PhD student supervised by Dr. Frances Stewart at Wilfrid Laurier University. Read more about her research interests and her latest publication!

CRRC STUDENT RESEARCH

Spotlight

Monitoring wildlife is essential for conservation and for establishing ecological baselines, especially in remote regions with little human disturbance. Emilie uses passive monitoring tools such as camera traps and Autonomous Recording Units to allow for year-round observation of animal activity. By identifying how northern mammals and birds use the landscape, we can better understand the relationships among carbon, habitat, vegetation, and wildlife in Ontario's Far North.

Emilie aspires to see as many of Ontario's bird species as possible!

Check out Emilie's latest publication:
<https://doi.org/10.1111/jav.03399>



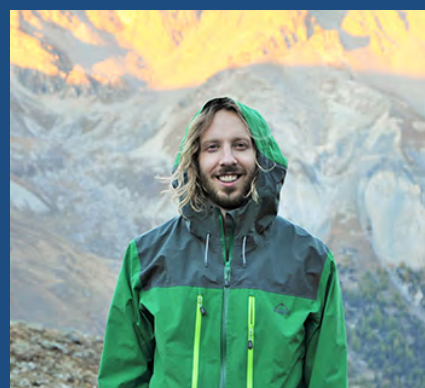
EMILIE KNIGHTON

PhD student, Laurier's Biological and Chemical Sciences Program
knig8770@mylaurier.ca

Meet Our New CRRC Member: Dr. Jason Goetz

Dr. Jason Goetz is an assistant professor in the Department of Geography and Environmental Studies at Wilfrid Laurier University. His research interests include enhancing ways to model and monitor the impacts of natural processes on landscapes and communities.

Welcome to the CRRC community, Dr. Goetz!



Dr. Jason Goetz

Meet Our New CRRC Member: Dr. Erin Leonard

Dr. Erin Leonard is an assistant professor in the Department of Biology at Wilfrid Laurier University. Her research interests include understanding how environmental stressors from anthropogenic inputs and climate change, such as low oxygen and metals, influence aquatic animals.

Welcome to the CRRC community, Dr. Leonard!



Dr. Erin Leonard

LiDAR Workshop held at Laurier



SCOTTY CREEK
Research Station

The Scotty Creek Research Station and CRRC held an expert-led full-day workshop on LiDAR advancements in January 2026. They covered topics on landcover mapping, time-series analysis, and hydrological applications.



Calling all Graduate Students!

Are you a CRRC undergraduate, master's, or doctoral student? Would you like to be featured in our CRRC Student Research Spotlight Series? This spotlight series is a great opportunity to share your research and graduate experience with CRRC members. It's a fantastic way to introduce yourself and connect with the CRRC community.

Please fill out this [**Google Form**](#) to be featured this term on our social media platforms.



Introducing Emma Vokey

Emma is an MSc student co-supervised by Dr. Heidi Swanson and Dr. Brian Laird. Read more about her research interests here.

CRRC STUDENT RESEARCH

Spotlight

Emma's research responds to questions raised by community leaders from Tł̓h̓s'ėhk'edéłi (Jean Marie River First Nation) about mercury levels in their traditionally harvested fish. She examines how much mercury becomes bioaccessible (available for absorption) in commonly harvested fish prepared by traditional methods such as pan-frying and smoking. Fish are harvested and cooked with Dehcho Guardians, and then analyzed using an *in vitro* digestion model that simulates human gastrointestinal conditions. This work provides a better understanding of mercury exposure from traditional foods and supports community-led risk assessment and decision-making.

Emma plans to continue in academic research about health and community well-being using ethical research methodologies.



EMMA VOKEY

MSc student; Laurier's Integrative Biology program
voke2550@mylaurier.ca

Mackenzie River Basin Climate Change Workshop

The CRRC has strengthened its external partnerships and secured non-tri-agency support to facilitate collaboration and knowledge exchange. CRRC, in close collaboration with the Research Office at Laurier, is partnering with the Mackenzie River Basin Board (MRBB) in co-organizing the “Stories of Change: Mackenzie River Basin Climate Change Workshop” held March 4-5, 2026, in Yellowknife, Northwest Territories. CRRC secured \$89,405 over one year of funding from the Canada Water Agency (CWA) to help plan and coordinate the delivery of this workshop.

This project aims to build respectful and collaborative relationships with Indigenous communities, researchers, and government partners. By bringing together Indigenous Knowledge and Western science, this initiative aims to better understand and share stories about how climate change is affecting aquatic ecosystems in the Mackenzie River Basin. Findings from the workshop will be incorporated into the next web-based Mackenzie River Basin State of the Aquatic Ecosystem Report (SOAER). A summary of this workshop will be featured in the next CRRC Highlights - stay tuned!



Fill out our CRRC conference feedback survey today!

We want your feedback! Please fill out this short, 3-minute survey to provide us with feedback on the conference:



CRRC Highlights: We Would Love to Feature You!

Get in on the action, be a part of our CRRC Highlights!

We are seeking PIs, staff, and students to become involved and share with us your research updates, new research articles, awards, and more! Please email coldregions_info@wlu.ca if you have any exciting new information you would like to share with the CRRC community.

Find us on Instagram, Facebook, X, and LinkedIn as **Cold Regions Research Centre**.

Some recent (April 2025 until now) publications from our CRRC members: check them out!

- Gill GK, Liu J, Gaebler HM, Hamilton I, Smith DS. April 2025. Aqueous lead speciation determined using DNAzyme GR5. <https://doi.org/10.1071/EN24054>
- Byun E, Rezanezhad F, Slowinski S, Lam C, Bhusal S, Wright S, Quinton WL, Webster KL, Cappellen PV. April 2025. Effects of nitrogen and phosphorus amendments on CO₂ and CH₄ production in peat soils of Scotty Creek, Northwest Territories: potential considerations for wildfire and permafrost thaw impacts on peatland carbon exchanges. <https://doi.org/10.5194/soil-11-309-2025>
- Nykamp NM, McGeer JC, Leonard EM. May 2025. Exposure to neodymium blunts the hypoxic ventilatory response in fathead minnows (*Pimephales promelas*). <https://doi.org/10.1007/s00128-025-04047-4>
- Palmer MJ, Chételat J, Jamieson HE, McClelland C, Daly S. May 2025. Archived government correspondence reveals extreme arsenic pollution of local waterbodies from gold mining at Yellowknife, NT prior to environmental regulation. <https://doi.org/10.1139/facets-2024-0349>
- Rafat A, Cheng B, Kheyrollah Pour H. May 2025. Exploring the physics of two thermodynamic lake ice models. <https://doi.org/10.1029/2024WR038615>
- Hourtané O, Smith DS, Fortin C. June 2025. Platinum speciation in the presence of natural organic matter in a simplified freshwater medium investigated using HPSEC-ICP-MS. <https://doi.org/10.1071/EN25014>
- Amadori M, Carrea L, Duguay C, Giardino C, Kheyrollah Pour H, Kurzeneva E, Laurenza LM, Moigne PL, Mironov D, Pinardi M. June 2025. Interdisciplinary challenges in advancing lake representation in Earth system models. <https://doi.org/10.1175/BAMS-D-25-0068.1>
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- Persuad BD, Shahvaran AR, Attiah G, Chasmer LE, English MC, Kheyrollah Pour H, Wolfe BB. August 2025. Trend analysis of surface shortwave (solar) radiation in continental Northwest Territories, Canada (1980-2023). <https://doi.org/10.1175/JCLI-D-25-0123.1>
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- Ragheb C, Shankardass K, Noonan LL. September 2025. Self-study tool for integrating health equity into Health in All Policies (HiAP) initiatives. <https://doi.org/10.17269/s41997-025-01098-2>
- Attiah G, Scott KA, Kheyrollah Pour H. September 2025. Spatially distributed modeling of lake ice trends and distribution in the North Slave Region, NWT, Canada. <https://doi.org/10.1029/2025WR040216>
- Lhosmot A, Gosselin GH, Helbig M, Fouché J, Ryu Y, Detto M, Connon R, Quinton W, Moore T, Sonnentag O. October 2025. Multi-scale water balance analysis of a thawing boreal peatland complex near the southern permafrost limit in northwestern Canada. <https://doi.org/10.5194/hess-29-4871-2025>
- Nurse CA, Leonard EM. October 2025. Excitatory neurotransmission at O₂ receptors in zebrafish gill: It takes two to tango. DOI: [10.1113/JP290062](https://doi.org/10.1113/JP290062)
- Spence DS, Painter KJ, Nazemi A, Venkiteswaran JJ, Baulch HM. October 2025. Climate variability and flow management impact phytoplankton biomass in a shallow reservoir. DOI: [10.1039/D5VA00094G](https://doi.org/10.1039/D5VA00094G)
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Some recent (April 2025 until now) publications from our CRRC members: check them out!

- Hewitt CM, Do A, Elayan S, Feick R, Gruebner O, Rank E, Shaughnessy K, Sheppard H, Solter M, Sykora M, Shankardass K. October 2025. Smart Citizens Enabling Resilient Neighbourhoods (SCERN): Participatory mapping platform for resilience planning at neighbourhood scale. <https://doi.org/10.1016/j.cities.2025.106101>
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- Baltzer JL, Haché S, Hodson J, Razu MR, Carrière S, Coyle M, McIntire EJB, McLaren A, Riordan-Short E, Turetsky MR, van der Sluijs J, Wilson J, Woodworth BK. November 2025. Impacts of novel wildlife disturbance on landcover and wildlife in boreal North America. <https://doi.org/10.3389/fenvs.2025.1504568>
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- Baulch H, Bauer J, Boyer L, Nugent K, Painter KJ, Venkiteswaran JJ, Vuleta L, Whitfield CJ. December 2025. Dataset of high-frequency water quality and meteorological variables in Buffalo Pound Lake, Saskatchewan, Canada, 2014-2021. <https://doi.org/10.1016/j.dib.2025.112290>
- Imran A, Neary LK, Hall RI, Wolfe BB. December 2025. Overlooked and underrated: Influence of snowmelt runoff on lake-level rise rivals river floodwaters at a cold-region freshwater delta. <https://doi.org/10.1016/j.jhydrol.2025.134036>
- Badawy MH, Bakshi V, Peldszus S, Slawson RM, Huck PM. December 2025. Orthophosphate and residence time impacts in chloraminated model distribution systems. <https://doi.org/10.1002/aws2.70045>
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- Temmer J, Blay-Palmer A, Spring A. December 2025. Leveraging community agroecological values across scales for food system transformation in Ka'a'gee Tu First Nation, Northwest Territories. <https://doi.org/10.15353/cfs-rcea.v12i3.737>
- Anderson CR, Ferrando T, Blay-Palmer A, Espinosa-García FJ, Cabral L, Termine P, Wilkes J, Soma T, Bhalla G, Madzorera I, Antwi-agyei P, Zurek M. December 2025. Time for a vision exam: diagnosing problems in the pursuit of equitably transformative resilience in food systems. <https://doi.org/10.1080/21683565.2025.2588252>
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- Packull-McCormick S, Ratelle M, Drysdale M, Borghese MM, Bouchard M, Stark KD, Gamberg M, Swanson H, Skinner K, Laird BD. January 2026. Determinants of human hair mercury, blood mercury, blood selenium, and plasma omega-3 fatty acid levels within northern Canada. <https://doi.org/10.1016/j.ijheh.2025.114703>
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- Link NT, Johnstone JF, Walker XJ, Amundsen F, Berrios HK, Bibeau L, Cooley D, Erickson AC, Johnston C, Little JM, Lojewski N, Perrin AD, Phillips CA, Potter S, Rees DC, Saperstein LB, Schmidt JI, Sousa EE, Spellman KV, Spring A, Mack MC. January 2026. Mitigating increasing wildfire risk through fuel break innovations. DOI: [10.1016/j.isci.2025.114391](https://doi.org/10.1016/j.isci.2025.114391)
- Hutchins RHS, Leathers JG, Schiff SL, English MC, Schultz M, Venkiteswaran JJ, Tank S, Elgood RJ, Aukes PJK. January 2026. Terrestrial inputs and in-lake processes shape dissolved organic matter along a permafrost gradient. DOI: [10.22541/essoar.176642407.72032619/v2](https://doi.org/10.22541/essoar.176642407.72032619/v2)
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- Rafat A, Spence C, Kheyrollah Pour H. February 2026. Field observations of ice melt and decay to constrain lake ice model parameterizations. <https://doi.org/10.1002/hyp.70430>
- Devoie EG, Lara RP, Berg A, Quinton WL, Craig JR. February 2026. Modelling near-surface ice content and midwinter melt events in mineral soils. <https://doi.org/10.1016/j.envsoft.2025.106816>
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