

JANUARY 28TH- 30TH, 2026
WATERLOO, ON

38TH ANNUAL CRRC STUDENT CONFERENCE

Conference Schedule

Wednesday, 28 January 2026

6:00 - 9:00 pm

Opening and Ice Breaker Event
Savvas Chamberlain Music Building
75 University Ave. W, Waterloo, ON, N2L3C5

Thursday, 29 January 2026

Location: CIGI Campus, 67 Erb St. W, Waterloo, ON, N2L6C2

8:30 - 9:00 am

Registration and Coffee

9:00 - 9:10 am

Welcome and Opening Remarks

9:15 - 9:27 am

Session 1: Permafrost and Cryosphere
Assessing timing and drivers of long-term land cover change in Van Tat, Yukon
Quinn Nixon-Goebel (Brock University)

9:27 - 9:39 am

Geophysical insights into permafrost beneath aquatic landscapes
Oliver Conway-White (University of Waterloo)

9:39 - 10:51 am

Assessing active layer thickness in ice-rich continuous permafrost using probing and ground-penetrating radar
Tobias Leonhard (Wilfrid Laurier University)

9:51 - 10:03 am

The impact of permafrost thaw on caribou lichen biomass across the Northwest Territories, Canada
Katerina Coveny (Wilfrid Laurier University)

10:03 – 10:15 am

**Monitoring and modelling lake ice for improving ice road safety*
Arash Rafat (Wilfrid Laurier University)

10:20 - 10:40 am

Coffee Break

10:40 - 11:25 am

Collisions of Science and Art: The Road to Trail Valley Creek
Keynote Speaker: Dr. Ken Van Rees
Professor Emeritus at the University of Saskatchewan

11:25 - 11:30 am

Health Break

Session 2: Remote Sensing and Modelling

11:30 - 11:42 am	<i>Satellite-derived turbidity assessment in Great Slave Lake using a dual-threshold random forest approach</i> Gifty Attiah (Wilfrid Laurier University)
11:42 - 11:54 am	<i>3-Dimensional hydrodynamic modelling of Great Bear Lake</i> Kirin Lorente (Wilfrid Laurier University)
11:54 - 12:06 pm	<i>Overcoming sparse data in the Arctic: Using SWOT satellite data to improve lake water balance modelling</i> Arnab Singh (Wilfrid Laurier University)
12:06 - 12:18 pm	<i>Prediction of the net ecosystem exchange of carbon dioxide in Canadian peatlands by integrating remote sensing and gridded climate data products</i> Katie Hettinga (University of Waterloo)
12:18 - 12:30 pm	<i>A lateral instability inspired by an idealization of the thermal bar</i> Nicolas Castro-Folker (University of Waterloo)
12:30 - 1:30 pm	Lunch
Session 3: Biologic and Aquatic Ecosystems	
1:30 - 1:42 pm	<i>Examining seasonality, interannual variability, and the drivers of zooplankton community structure in three Canadian subarctic lakes</i> Naomi Derksen (Wilfrid Laurier University)
1:42 - 1:54 pm	<i>A new 10,000 year chironomid-based reconstruction of Holocene climate in central Yukon</i> Albert Tomchyshyn (University of Toronto)
1:54 - 2:06 pm	<i>Gill bioaccumulation of acute neodymium exposure to juvenile Arctic char (<i>Salvelinus alpinus</i>)</i> Lauren Best (Wilfrid Laurier University)
2:06 - 2:18 pm	<i>Venlafaxine, an antidepressant, alters glucose metabolism in fish in low-oxygen conditions</i> Olena Kuntjy (Wilfrid Laurier University)
2:18 - 2:30 pm	<i>Metabolic control of gill neuroepithelial cells in a common freshwater fish, fathead minnow (<i>Pimephales promelas</i>)</i> Abbeneet Binning Bath (Wilfrid Laurier University)
2:30 – 2:35 pm	Health Break
3-Minute Theses	
2:35 pm	<i>Estimating the distribution of forage quality for caribou and willow ptarmigan in Tongait KakKasuangita SilakKijapvinga, Nunatsiavut, Labrador</i> Nhu Le (University of Waterloo)
2:40 pm	<i>Using novel technologies to understand landscape change in culturally significant places across coastal Labrador</i> Lili Paradi (Queen's University)
2:45 pm	<i>*Decoding knowledge: A comprehensive look at Ontario's far north wildlife</i> Emilie Knighton (Wilfrid Laurier University)

2:50 pm	<i>Characterizing vegetation community changes following permafrost thaw in the North Slave and Sahtú regions of the Northwest Territories</i> Karelia Del Piero (Wilfrid Laurier University)
2:55 pm	<i>*Linking site moisture availability to post-fire regeneration outcomes following short interval fires</i> Keagan Ferguson (Wilfrid Laurier University)
3:00 pm	<i>Lichen regeneration rate responses to post-fire conditions in central Yukon</i> Claire Bandet (Wilfrid Laurier University)
3:05 pm	<i>Investigating the toxicity, bioaccumulation and mechanisms of action of platinum (Pt) in freshwater invertebrates</i> Maddy Kim (Wilfrid Laurier University)
3:10 pm	<i>Quantifying controls on climate-driven landslides in British Columbia using probabilistic rainfall thresholds and explainable AI</i> G. Shaila Afroz (Wilfrid Laurier University)
3:15 pm	<i>The importance of mathematical modelling and data in environmental science</i> Christian Cameron (Wilfrid Laurier University)
3:20 pm	<i>What makes a patch a good patch? Bakeapple quality and nutritional value across NunatuKavut, Labrador, Canada</i> Tara Ryan (University of Waterloo)

concurrent

3:30 - 5:00 pm

Poster Session and Coffee

- *Boreal peatlands surface radiation changes in response to climate-induced permafrost thaw and wildfire disturbances*
Amber Buston-White (Wilfrid Laurier University)
- *Spatial and Temporal Variability of Snow and its Effects on Lake Ice in Yellowknife, NT*
Alicia Pouw (Wilfrid Laurier University)
- Leveraging artificial intelligence and IoT for predictive quality control in production systems*
Emmanuel Oyediran (University of Ibadan)
- Using the SWOT KaRIn Sensor to Retrieve Lake Ice and Overlying Snow*
Hayley Kavanagh (University of Waterloo)
- Understanding under-ice light availability in MacDonald Lake: A multi-year assessment of PAR, snow and ice conditions*
Imran Smlatic (University of Toronto Mississauga)
- Investigation of mercury bioaccessibility in subsistence fishes from the Canadian subarctic*
Kiran Sharma (Wilfrid Laurier University)
- Exploring early Earth: Characterization of Banded Iron Formation (BIF) and associated organic matter from the Gunflint Formation, northern Ontario*

Jawad Khan (Western University)

**Livin' on the edge: landscape and fire characteristics drive moose presence at the limit of their northern range*

Claudia Haas (Wilfrid Laurier University)

Plant community response to late-lying snowpatch dynamics in the Torngat Mountains National Park

Alyssa Goulet (University of Waterloo)

**Community-oriented forecasting of ice jam floods: A case study in Sambaa K'e, NWT*

Katie Schill (University of Waterloo)

Snow-ice interactions and slush development in a changing winter climate: Evidence from 10 years of lake ice data

Sofia Chemeris (University of Toronto Mississauga)

Effects of temperature dynamics on dissolved organic carbon export from permafrost soils

Huong Nguyen (University of Waterloo)

Has natural gas development altered sediment metal concentrations in Fisherman Lake, NWT?

Emma Bacchiochi (University of Waterloo)

Modularized marine infrastructure for cold-region urban development

Omar Gad (McMaster University)

Seismic line restoration in Northeastern B.C.: A look at in-line mounding & hummock transfer

Henry Gibbons (University of Waterloo)

Fire regime reconstruction using lake sediment from the Canadian Arctic

Mickey Chen (University of Toronto)

Seasonal patterns in plankton metal(loid) bioaccumulation in subarctic lakes that span a gradient of impact from legacy mining

Trish Rodrigues (York University)

Multiscale studies of permafrost degradation and solute fate in discontinuous permafrost

Jiaqi Weng (University of Waterloo)

Laurier's Yellowknife research facilities & amenities

Isabel Hilgendag (Wilfrid Laurier University)

Assessing Yttrium toxicity in early-life stages of Arctic and temperate fish under altering water chemistry

Mustajab Khalid (Wilfrid Laurier University)

Effects of rare earth elements (REE), Nd, Pr, and Y in arctic algae, Chlamydomonas sp.

Celine Do (Wilfrid Laurier University)

When elements compete: How calcium mitigates neodymium toxicity to rainbow trout

Jane Morgan (Wilfrid Laurier University)

Hydrological modelling to better improve carbon and methane emission estimations
Brampton Dakin (Wilfrid Laurier University)

Canadian connectivity: Economics of northern transportation networks
Julia Petrie (University of Toronto)

**Seasonal habitat use of muskox (Yutthéjéré; *Ovibos moschatus*) at the southern edge of their range*
Christine Dunbar (Wilfrid Laurier University)

Physiological stress in rainbow trout across different severities of sea lamprey-inflicted parasitism
Karolina Czuba (Wilfrid Laurier University)

**The influence of fire on lake biogeochemistry, Scotty Creek, NWT, Canada*
Carter Sarson (Wilfrid Laurier University)

concurrent

Art Workshop: Exploring the Intersection of Science and Art with Dr. Ken Van Rees

3:30 - 5:00 pm

6:00 - 9:00 pm

Social Event

Huether Hotel - Billiards Room
59 King St N, Waterloo, ON

Friday, 30 January 2026

Location: CIGI Campus, 67 Erb St. W, Waterloo, ON, N2L6C2

8:30 - 9:00 am

Registration and Coffee

9:00 - 9:12 am

Session 4: Wildlife and Ecosystem Conservation

Biodiversity concerns of researching climate change using satellites
Sara Varón Echeverri (Western University)

9:12 - 9:24 am

*Effects of temperature on the dispersal of the Rocky Mountain apollo butterfly (*Pamassius smintheus*)*
Evan Bennett (Western University)

9:24 - 9:36 am

Innovating muskox wool for community-led economic resilience in northern Canada
Sarah-Anne Thompson (University of Toronto)

9:36 - 9:48 am

How frequent are desiccation events in the critical aquatic nesting habitat of the endangered whooping crane?
Thenuja Vittanachchi (University of Waterloo)

9:48 - 10:00 am

Maternal transfer of contaminants of emerging Arctic concern
Aaron McQuaid (Toronto Metropolitan University)

10:00 - 10:12 am	<i>*Impacts of beaver impoundments in Arctic tundra streams on mercury and dissolved organic matter</i> Megan Cullen (Wilfrid Laurier University)
10:25 - 10:45 am	Coffee Break
	3-Minute Theses
10:45 am	<i>Exploring and understanding youth's active transportation use in a northern context</i> Alexandra Sbrocchi (McMaster University)
10:50 am	<i>Exploring the impact of Arctic climate change in the defence of Canada's geopolitical sovereignty</i> Isabella Bigioni (York University)
10:55 am	<i>*Linking disease probability to growth history in aspen forests of central Yukon Territory</i> Nicola Rammell (Wilfrid Laurier University)
11:00 am	<i>Maintaining vision at temperature extremes: the effects of temperature acclimation on the Arctic char (<i>Salvelinus alpinus</i>) retina</i> Alexis Dimitropoulos (Wilfrid Laurier University)
11:05 am	<i>Applying a bacterial lipid paleothermometer proxy to strengthen understandings of past climate variability in northwestern North America</i> Danielle Martin (University of Toronto)
11:10 am	<i>Assessing the effects of Cu contamination in the Canadian Arctic to the Arctic char (<i>Salvelinus alpinus</i>)</i> Natalie Nykamp (Wilfrid Laurier University)
11:15 am	<i>Characterizing snow depth break events and associated trends in the Great Slave Lake region</i> Albert Jiang (University of Waterloo)
11:20 am	<i>Improving bias corrections of snowfall measurements in the western Canada Arctic</i> Robin Thome (Wilfrid Laurier University)
11:25 am	<i>The influence of lake morphometry on ice-off timing across Arctic lakes</i> Riley Forth (University of Toronto)
11:30 am	<i>Microclimatic influences on lake ice formation and decay in Resolute Bay, Nu</i> Ernest Steele (University of Toronto Mississauga)
11:35 am	<i>Decoding Lake Superior winter dynamics through high-frequency decadal data</i> Leonard Korreshi (University of Waterloo)
11:40 am	<i>Radioactivity in the Arctic: Radionuclide transport in the hydrologic-permafrost systems under a changing climate</i> Erik Young (Wilfrid Laurier University)

12:00 - 1:00 pm	Lunch
Session 5: Hydrology and Water Quality	
1:00 - 1:12 pm	<i>*Examining snow water equivalent and runoff changes across ecoregions in the Northwest Territories, Canada</i> Elaine Cota (Wilfrid Laurier University)
1:12 - 1:24 pm	<i>Climate change impact on nuclear infrastructure proliferation in the Canadian north</i> Khaled Emam (McMaster University)
1:24 - 1:36 pm	<i>Trends and analysis of temperature and turbidity at the Slave River mouth region using Google Earth Engine</i> Andy Sekoh (Wilfrid Laurier University)
1:36 - 1:48 pm	<i>*Arsenic, antimony and phosphorus cycling varies across subarctic lakes with diverse municipal and mining impacts</i> Madeline Patenall (Wilfrid Laurier University)
1:50 - 2:00 pm	Health Break
Session 6: Wildfires and Disturbances	
2:00 - 2:12 pm	<i>Changing wildfire resilience of boreal conifer forests through time</i> Brian Newton (Wilfrid Laurier University)
2:12 - 2:24 pm	<i>*Aspen running canker in central Yukon forests</i> Mackenzie Mihorean (Wilfrid Laurier University)
2:24 - 2:36 pm	<i>*Assessing distribution and controls on slope stability in the southern Dehcho, NWT</i> Will Bender (Wilfrid Laurier University)
2:36 - 2:48 pm	<i>Bridging data gaps: Characterizing and predicting multi-hazard events in Canada using public datasets</i> Sarah Hoyos-Hoyos (Wilfrid Laurier University)
2:48 - 3:00 pm	<i>Impacts of burn severity on the physical, hydrological and thermal properties of sub-Arctic peat soils</i> Joshua Meyer (Wilfrid Laurier University)
3:00 - 4:30 pm	*concurrent* Poster Session and Coffee Similar posters
3:00 - 4:30 pm	*concurrent* Drone Demonstration Workshop with Branden Walker
4:30 - 5:00 pm	Closing and Awards

*** Northern Scientific Training Program Award Highlighted Presentation**