



22nd CRIPE Workshop of the Hydraulics of Ice-Covered Rivers
July 9-12, 2023 Canmore, Alberta
FINAL Program

Sunday July 9, 2023

14:00 - 16:30	CRIPE Committee Annual Meeting (Committee Members Only)
17:00 - 21:00	Icebreaker Reception

Monday July 10, 2023

07:00 to 08:20	Breakfast
08:20 to 09:00	Opening Speaker
09:00 to 10:20	Session 1: Ice and Climate Change Chair: Kevin Lees An assessment of changes in open versus ice-influenced peak water levels in some Canadian rivers Yonas Dibike
	St. Lawrence River ice conditions: historical data and plausible future scenarios Denise Sudom
	Investigation of Trends in River Ice in Manitoba, Canada Lucas Wazney
	Trends in Ice Conditions for Rivers in Ontario – Follow up Fuad Curi
	10:20 to 10:40
10:40 to 12:00	Session 2: Student Session A: Numerical Modelling Chair: Soheil Zare Two-dimensional modelling of ice dam growth and release processes at Sundance Rapids Madison Stafford
	Evaluating a CFD model for three-dimensional simulation of ice structure interaction Hanif Pourshahbaz
	Modelling Freeze-up Processes in a Small-Steep-Regulated River Heyu Fang
	A Numerical Study of Flow Beneath Floating Ice Blocks Peng Wu
	12:00 to 13:00
13:00 to 14:20	Session 3: Student Session B: Thermal Processes Chair: Vincent McFarlane Comparison between reanalysis and local weather data for estimating pre-break-up heat fluxes into the ice cover Sean Boyd
	Laboratory study of frazil ice particle and floc evolution under increased heat flux during supercooling Chuankang Pei
	Monitoring the formation and growth of lake ice under heavy snowfall Arash Rafat
	Assessing heat flux formulas used in the full energy budget model for rivers during freeze-up Jiaqi Yang
	14:20 to 14:40
14:40 to 16:20	Session 4: Student Session C: Advances in River Ice Engineering Chair: Jennifer Nafziger Frazil Ice Measurements Using the Four-Frequency AQUAScat Leila Shoorangiz
	Experimental investigation of border ice effect on bedform development Mina Rouzegar
	Investigating the Effect of Incoming Ice Supply Rate on Hanging Dam Formation Randula Senarathbandara
	Comparison of seasonal and year-long calibration approaches for hydrological modelling of winter discharge on the Chaudière River, Quebec Kh Rahat Usman
	Progress in the development of an operational testbed using Delft-FEWS for river ice forecasting on the Chaudière River, Quebec Rodolfo Alvarado Montero
16:20-16:30	Closing/Wrap/Logistics

Tuesday July 11, 2023

07:00 to 08:20	Breakfast
08:20 to 09:20	Session 5: Poster Introductions 10 Posters 60 minutes Chair: Benoit Turcotte
09:20 to 10:20	Session 6: Remote Sensing Applications Chair: Martin Jasek Use of NASA CERES satellite data to calculate the net heat flux of the Dauphin River during supercooling Vincent McFarlane Evaluating aerial drone based remote sensing technologies for characterizing a fluvial ice cover Jason Duguay Towards a comprehensive assessment of hydrokinetic resource assessment in ice covered Canadian rivers using remote sensing Saber Ansari
10:20 to 10:40	Break
10:40 to 12:00	Session 7: Monitoring, Forecasting, and Case Studies Chair: Robyn Andrishak Update on Breakup Forecasting and Ice Management with Lessons Learned from the February 2022 Churchillville Ice Jam Jeff Wong Ice Jamming on the Severn River near Bearskin Lake First Nation: 2019 Case Study and Assessment of Future Flooding Potential Lucas Wazney Remotely Monitoring NWT Ice Road thickness with SIMBAs and Beadedstream Thermistors Michael Lynch Ice jam assessment and monitoring system for the Town of Golden (Kicking Horse River) David Kushner
12:00 to 13:00	Lunch
13:00 to 15:30	Technical Tours
16:30 to 21:00	Boundary Ranch Activities and Dinner

Wednesday July 12, 2023

07:00 to 08:20	Breakfast
08:20 to 10:00	Session 8: Peace River Basin Chair: Shawn Clark
	Using logistic regression to identify the key hydrologic controls of ice-jam flooding near the Peace-Athabasca Delta: assessment of uncertainty Spyros Beltaos
	Insights from the 2022 mechanical breakup of the lower Peace River and contribution to flooding of the Peace-Athabasca Delta Martin Jasek
	Ice Jam Flood Frequency Analysis for the Peace-Athabasca Delta: Refining Projections by Modeling Historical Uncertainty Jonathan Lamontagne
	The 2022 Dynamic Mid-Winter Breakup on the lower Smoky River, Alberta In the Context of Historical Mid-Winter Breakups Jennifer Nafziger
	The 2022 Flooding of the Peace-Athabasca Delta: Extent, Magnitude, Hydrology, and Historic Context Kevin Timoney
10:00 to 10:20	Break
10:20 to 12:00	Session 9: Frazil, Freeze-Up, and Mid-Winter Ice Processes Chair: Mark Loewen
	The National Research Council of Canada Large Scale Frazil Ice Facility Robert Briggs
	Controls on aufeis formation: lessons from a small Yukon stream Ashley Dubnick
	Field investigation of the effectiveness of mitigation measures for water intake blockage by ice Amadine Pierre
	Analysis of Paxton Siphon Frazil Ice Blockage Event during January 2022 Jeremy Giovando
	Modelling freeze-up ice covers along the Exploits River, Newfoundland Karl-Erich Lindenschmidt
12:00 to 13:00	Lunch
13:00 to 14:00	Session 10: Ice and Structures and Modelling Chair: Nadia Kovachis
	Using Generalized Likelihood Uncertainty Estimation method for river ice jam calculations with HEC-RAS Niklas Dahlberg
	Ice Management at the Muskrat Falls Project: Before, During, and After Construction Joe Groeneveld
	Extending a stochastic modelling framework for ice-jam flood predictions with machine learning Apurba Das
14:00 to 15:00	Session 11: Posters and Coffee 60 mins
15:00 to 16:00	Session 12: Frequency, Hazard, and Risk Chair: Benoit Turcotte
	Ice-jam flood hazard assessment methodologies Karl-Erich Lindenschmidt
	Case Studies on Ice Jam Flood Frequency Estimation Dan Healy
	Ice Jam-Induced Flood Vulnerability Assessment in a Multi-Channel Deltaic Stream. Case Study: Lower Moose River, Ontario Soheil Zaré
18:00 to 21:00	Banquet Dinner

Poster Titles	** Denotes student poster
	Towards optimizing preventative ice weakening work in the province of Quebec ** Sara Azargashb Lord
	Investigating Anchor Ice Formation and Release Events at the Outlet of Clark Lake ** Samantha Wilson
	Evaluation of hydro-meteorological and geometric criteria for forecasting the onset of breakup ** Ehab Zidan
	Two-dimensional numerical ice modelling of a multi-channel fluvial island system on the Assumption River in Quebec ** Mathieu Fouquet
Introduction: Tuesday Session 5 08:20 to 09:20	Ice Concerns for A River Intake near The Lower Boundary of Cold Regions in North America Edward Kempema
Session: Wednesday Session 12 14:30 to 15:30	Ice-Resilient Water and Ice Level Monitoring Jennifer Nafziger
	Defining extreme ice jam water levels in a changing climate: limitations and possible improvements Benoit Turcotte
	River Ice Road Construction for Safety Boom Anchor Installation at Kettle GS Elie Abdelnour
	A logic-driven algorithm for the detection of river ice on a narrow river using Sentinel-1 Stephanie Saal
	River Ice Observations on the Bow River through Calgary, Alberta Andrew Forsyth
	A Web-Based Ice Jam Profile Model Tyler Hoekstra