



<b>Tuesday, May14<sup>th</sup></b>	
8:40	<b>Opening remarks : Brian Morse</b>
<b>Session 1: Anchor ice Session Chair: Karl-Erich Lindenschmidt</b>	
1 9:00	Swath bathymetry measurements of in-situ anchor ice in the Peace River <i>by Joel Evans</i>
2 9:20	In-situ measurements of anchor-ice formation and release <i>by Tadros Ghobrial</i>
3 9:40	Anchor-Ice-Related Flooding in Flat Creek, Jackson, Wyoming: Insights for Alpine Streams <i>by Edward Kempema</i>
10:00	Coffee Break
<b>Session 2: Ice jams &amp; other cool stuff Session Chair: Spyros Beltaos</b>	
4 10:30	Field Measurements of Supercooling in Rivers <i>by H. Kalke</i>
5 10:50	Brantford 2018 Ice Jam <i>by Fuad Curi</i>
6 11:15	Mississippi River Ice Bite <i>by Jeremy Giovando</i>
7 11:35	Ice Management of the Beauharnois Canal with Redesigned Ice Booms <i>by Elie Abdelnour</i>
12:00	<b>Lunch</b>
<b>Session 3: Numerical modelling Session Chair: Yuntong She</b>	
8 14:00	Simulated Breakup Ice Jams <i>by Joost van der Sanden</i>
9 14:20	Stress-resistance Approach to Assess the Ice-jam Flood Risk <i>by Simon Nolin</i>
10 14:40	Numerical Simulation of Ice Dynamics in the St-Lawrence River at Montreal <i>by Andrew Cornett</i>
10 15:00	Numerical Simulation of the Ice Processes in the Lower Churchill River, NL, Canada <i>by Soheil Ghareh Aghaji Zare</i>
15:20	Coffee Break
<b>Session 4: Numerical modelling Session Chair: Shawn Clark</b>	
12 15:45	Ice Cover along the Aishihik River in Yukon, Canada <i>by Caleb Light</i>
13 16:10	Anecdotal and analytical review of 1875 Ice Jam on the Athabasca River, AB <i>by Soheil Ghareh Aghaji Zare</i>
14 16:25	Estimation of Break-up Water Levels in Athabasca River at Fort McMurray, AB, Canada <i>by Soheil Ghareh Aghaji Zare</i>
15 16:40	A fully Lagrangian mesh-free numerical model for river ice dynamic <i>by Ahmad Shakibaeinia</i>
17:05	<b>Leave for Dow's Lake - walk through the Tulip Festival</b>
18:30	<b>Supper on Dow's Lake (Mexicali Rosa's)</b>



**Wednesday, May 15<sup>th</sup>**

**Session 5:**

**Student presentations**

**Session Chair: Steven Daly**

1	8:20	Working towards optical remote sensing of pan-Arctic river and lake ice <i>by Wayana Dolan</i>
2	8:35	Numerical Modeling of Secondary Flow for Different Water Depth Using LRR Model <i>by Samaneh Ebrahimi</i>
3	8:50	Laboratory Investigation of Void Seepage and Flow under Simulated Breakup Ice Jams <i>by Andrew Murray</i>
4	9:05	Variance-based sensitivity analyses of a river ice model <i>by Fan Zhang</i>
5	9:20	Application of a Fast Superpixel Segmentation Algorithm in River Ice Classification <i>by Saber Ansari</i>
6	9:35	Hydro-meteorological pattern recognition of ice jams <i>by Fatemehalsadat Madaeni</i>
7	9:50	Two-Dimensional Modelling of Freeze-Up Conditions near Jenpeg Generating Station <i>by Kevin Lees</i>
	10:05	Coffee Break

**Session 5:**

**Student presentations continued**

**Session Chair: Martin Jasek**

8	10:35	An Evaluation of Criteria for Mechanical Breakup Initiation Using Field Data <i>by Yanqi Ye</i>
9	10:50	Assessing flood risk in real-time ice-jam flood forecasting <i>by Apurba Das</i>
10	11:05	Development of an ice-jam flood forecasting system for the Lower Red River <i>by Brandon Williams</i>
11	11:20	Comparative analysis of river ice mapping tools using Radarsat-2 images <i>by Valérie Plante Lévesque</i>
12	11:35	Temporal and Spatial Variations of River Ice Breakup Timing across Canada <i>by Yuzhuang Chen</i>
13	11:50	Thermal regime in the North Saskatchewan River: multi-year field data and modelling <i>by Rhodri Howley</i>

**12:05 Lunch Boxes**

**Afternoon activities :**

**13:30 to 16:30 - Walking Tour - Rideau Canal Tour**

**OR**

**14:00 to 16:00 - Rental Bike**

18:00	Dinner - Irish Pub & Eatery (Patty Boland)	
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**Thursday, May 16<sup>th</sup>**

**Session 6:**

**Ice jam forecasting**

**Session Chair: Edward Kempema**

1	8:20	An Introduction to Canada's RADARSAT Constellation Mission <i>by Joost van der Sanden</i>
2	8:40	Case Studies on Ice Jam Flood Frequency Estimation <i>by Dan Healy</i>
3	9:00	Operational real-time forecasting of river ice breakup flow <i>by Prabin Rokaya</i>
4	9:20	Development and Application of an Ice-Jam Flood Risk Tool <i>by Joe Groeneveld</i>
	9:40	Coffee Break

**Session 7:**

**Eco-Cryology**

**Session Chair: Karen Dow**

5	10:10	Review on the Impact of Climate Change on River Ice Jams in Canada <i>by Benoit Turcotte</i>
6	10:35	Implications of River Ice Breakup on Suspended Sediment Concentrations <i>by Brian C. Burrell</i>
6	10:55	Hydrometric Data Routines at the Norwegian Water Resources, Norway <i>by Mads-Peter Dahl</i>
7	11:10	A River Ice Database from Water Survey of Canada Hydrometric Archives <i>by Laurent de Rham</i>

**Session 8:**

**Poster & Sponsor 2 minute lightning round**

**Session Chair: Benoit Turcotte**

11:25	<b>Session 8:</b> <b>Poster &amp; Sponsor 2 minute lightning round</b> <b>Session Chair: Benoit Turcotte</b>	
1	Proposal for a National Ice Jam Database Model by Simon Tolszczuk-Leclerc	
2	Mapping of river channels prone to ice jam formation by Rachid Lhissou	
3	Developing an ice-jam flood forecasting system for the Oder River by Karl-Erich Lindenschmidt	
4	Ice dynamics of the Chaudière River by Jean-Robert Ladouceur	
5	In-situ ice jam characterization by unmanned aerial vehicle (UAV) by Marc-Antoine Persent	
6	Peace River Break-up and Peace-Athabasca Flooding Flowchart by Martin Jasek	
7	Two-dimensional Modelling of Breakup Progression on the Red River by Morgann Becket	
8	Particle Image Velocimetry Investigation of Flow Separation beneath an Ice Block by Tanzim Ahmed	
9	Laboratory Study of Turbulent Flow in Open Channels with Partial Ice Cover by Ebenezer Ekow Essel	
10	Generation of Frazil Ice in Large-Scale Laboratory Experiments by Martin Richard	
11	River Stage Monitoring During Breakup Using an Oblique Laser by Crane Johnson	
12	Estimating ice breakup induced forces on bridges in small steep rivers by Einar Albert Rødtang	
13	Influence of tensile cracking on predicted ice loads on dams by Ekaterina Kharik	
14	Estuarine circulation in a hypertidal estuary during winter by Abdolvahid Mohammadian	
15	Assessing ice issues in river habitat restoration by Knut Alfredsen	
16	Is the Sea King helicopter the most expensive way to break ice? by Brian Morse & Thomas Simard	
17	Exhibitor A	
18	Exhibitor B	
19	Exhibitor C	
20	Exhibitor D	



**Thursday, May 16<sup>th</sup>**

12:00	<b>Lunch, Posters and Sponsors session</b>
14:15	Coffee Break
	<b>Session 9: Peace River Session Chair: Knut Alfredsen</b>
8 14:30	Regulation effects on spring breakup flows of Lower Peace River <i>by Spyros Beltaos</i>
9 14:50	Freeze-up on the lower Peace River 2015-2017: Implications for breakup <i>by Stefan Emmer</i>
10 15:10	Freeze-up consolidations on the Peace River near Peace River, AB <i>by Jennifer Nafziger</i>
11 15:30	2018 Peace River Break-up's Influence on Ice Jam of the Peace-Athabasca Delta <i>by Martin Jasek</i>
12 15:50	An immerging picture of Peace Break-up Types that Influence Ice Jams of the PAD <i>by Martin Jasek</i>
16:20	<b>Closing remarks (Brian Morse)</b>
18:00	<b>Cruise Banquet</b>

**CRIFE Short course on Ice Jam Floods & Risk Reduction  
May 17th, 2019, Four Points Hotel Gatineau, QC**

	Minutes	Presenter	Affiliation	Contribution
8:30 AM	5	Colin Rennie	U. Ottawa	University of Ottawa Welcome
8:35 AM	10	Shawn Clark	CRIFE	CRIFE's welcome
8:45 AM	20	Pascal Marceau	Gov Québec	Risk reduction research needs
9:05 AM	55	Spyros Beltaos	ECC	The nature of ice jam floods
10:00 AM	20			Coffee
10:20 AM	30	Benoit Turcotte	U. Laval	Winter discharge estimation approaches
10:50 AM	50	Amy She	U Alberta	Modelling floods caused by ice jams
11:40 AM	20	Razek Abdelnour	Géniéglaçe	Use of ice booms to reduce risk
12:00 PM	75			Lunch
1:15 PM	15	Thomas Simard-Robitaille	U. Laval	Ice weakening
1:30 PM	20	Steven Daly	US Corps	Use of Ice Control Structures to reduce risk
1:50 PM	30	Joe Groeneveld	Hatch	Engineering practice for risk reduction
2:20 PM	20	Yves Gauthier	INRS	Ice jam data bases for sustainable solutions
2:40 PM	15			Tea & Posters
2:55 PM	20	Mikko Huokuna	Finland	Flood mapping & warning
3:15 PM	20	Karl-Erich Lindenschmidt	Finland	Flood assessment & mapping
3:35 PM	30	James O'Regan	U. Laval	Real-time tools for tracking floods
4:05 PM	40	Benoit Turcotte	Gov Yukon	Risk calculation including climate change
4:45 PM	5	Colin Rennie	U. Ottawa	Closing remarks
4:50 PM				End