



**18th INTERNATIONAL CONFERENCE ON COLD REGIONS ENGINEERING and the 8th
CANADIAN PERMAFROST CONFERENCE**

Quebec City Convention Centre, CANADA, from August 18th to 22nd, 2019

MONDAY AUGUST, 19, 2019

Session	#PAP	Final Status	Title	Presenter	Affiliation	Timeslot	Room
Water bodies and permafrost	PAP113	Oral	Permafrost-related Erosional Effects of Water Level Regulation and Climate Change along the Shorelines of Aishihik and Canyon Lakes, Southwest Yukon	Robin McKillop	Palmer Environmental Consulting Group Inc.	10:35	2104AB
	PAP098	Oral	Thermal Regime of Stream Channels in Continuous Permafrost, Western Canadian Arctic	Timothy Ensom	(PhD Candidate, WLU)	10:55	2104AB
	PAP145	Oral	Application of an analytical solution for near-shore talik development in expanding, shallow, thermokarst lakes	Pascale Roy-Leveillee	Vale Living with Lakes Research Centre, Laurentian University	11:15	2104AB
	PAP000	Oral	Drainage Challenges in the Whapmagoostui First Nation Community: A Case Study	Yves Durand	CIMA+	11:35	2104AB
Laboratory characterization of frozen soils	PAP094	Oral	Frost Heave laboratory investigation on crushed rock aggregates	Benoit Loranger	Norwegian University of Science and Technology	10:35	2102AB
	PAP055	Oral	Assessment of the physical and mechanical properties of permafrost in Nunavik (Québec, Canada)	Jean-Pascal Bilodeau	Université Laval	10:55	2102AB
	PAP080	Oral	New Machining Method of Ice-rich Permafrost Samples for Large Strain Thaw Consolidation Tests in an Oedometer	Jonathan Fortin	Centre d'études nordiques / Université Laval	11:15	2102AB
	PAP155	Oral	Joint Acoustic and Electrical Measurements for Unfrozen Water Saturation Estimate - A Review	Chuangxin Lyu	Norwegian University of Science and Technology	11:35	2102AB
Permafrost aggradation and degradation I	PAP083	Oral	Evolution of palsas and peat plateaus in the Hudson Bay Lowlands: permafrost degradation mechanisms and the production of greenhouse gases	Adam Kirkwood	Vale Living with Lakes Centre, Laurentian University	10:35	2000D
	PAP040	Oral	Lithalsa Degradation and Thermokarst Distribution, Subarctic Canadian Shield	Peter Morse	Geological Survey of Canada	10:55	2000D
	PAP062	Oral	Assessing riverbank erosion and land cover changes in permafrost regions based on a terrain analysis approach, an example from the Colville River Delta, northern Alaska	Eva Stephani	Institute of Northern Engineering, University of Alaska Fairbanks / U.S. Geological Survey	11:15	2000D
Posters session	PAP105	Poster	Interface Model of Soil Freezing and Thawing for Use in Discontinuous Permafrost Hydrological Modelling	Élise Devoie	University of Waterloo	13:30	2000A
	PAP128	Poster	Effect of Soil Thermal Heterogeneity on Permafrost Evolution	Erfan Abedian Amiri	Department of Civil and Environmental Engineering, University of Waterloo	13:30	2000A
	PAP041	Poster	Ice reinforcement: Selection criteria for winter road applications and outcomes of preliminary testing	Lawrence Charlebois	National Research Council Canada	13:30	2000A
	PAP028	Poster	New Monitoring System of Anchored Slope Protections	Shusuke Oji	Chuo Kaihatsu Corporation	13:30	2000A
	PAP018	Poster	Numerical analysis of pipeline uplift resistance in a frozen clay at varying temperatures	Sohail Akhtar	Concordia University	13:30	2000A
	PAP013	Poster	Environmental conditions leading to spontaneous corrugation on snowy-icy roads due to repeated loading by moving vehicles	Shunji Kanie	Hokkaido University	13:30	2000A
	PAP025	Poster	Thermal Performance of a Proposed Geothermal Piles System for Re-harvesting Heat Loss through the Building Below-Grade Enclosure in Cold Regions	Pooneh Maghoul	University of Manitoba	13:30	2000A
	PAP089	Poster	Storm Wind Frequency and Direction, Dempster Highway, Richardson Mountains, Yukon and Northwest Territories	Jennifer Humphries	Carleton University	13:30	2000A
	PAP035	Poster	Optical Fiber Chloride Sensor for Health Monitoring of Structures in Cold Regions	Meriem Dhouib	Université Laval	13:30	2000A
	PAP061	Poster	Mechanical behavior of pavement structures containing foam glass aggregates insulation layer: laboratory and in-situ study	Nima Ghafari	Université Laval	13:30	2000A
PAP036	Poster	Prediction of Frost Depth Penetration and Frost Heave in Frost Ssusceptible Soils	Wade Lein	Cold Regions Research and Engineering Laboratory (CRREL)	13:30	2000A	



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Session	#PAP	Final Status	Title	Presenter	Affiliation	Timeslot	Room
	PAP146	Poster	Improving Technical and Environmental Safety of the Gas Pipelines Operation Crossing under Large Rivers with Destructive Spring Flood using Ground Penetrating Radar (on the Lena River Example)	Ivan Khristoforov	Melnikov Permafrost Institute	13:30	2000A
Foundations	PAP044	Oral	Adfreeze Pile Design for Bridges along the Inuvik to Tuktoyaktuk Highway, Northwest Territories	Barb Fortin	Tetra Tech Canada Inc.	15:35	2104AB
	PAP045	Oral	Initial Performance of a Thermopile Foundation for a Building in Inuvik	Ed Hoeve	HoevEng Consulting Ltd.	15:55	2104AB
	PAP057	Oral	Measurement of Frost Heaving force on Ground Anchor and Soil nailing	Atsuko Sato	Civil Engineering Research Institute for Cold Region	16:15	2104AB
	PAP082	Oral	Initial Thermal Performance of Diaviks A21 Dike	Lukas Arenson	BGC Engineering Inc.	16:35	2104AB
Mitigation of permafrost degradation	PAP012	Oral	Development of design tools for convective mitigation techniques to stabilize embankments built on thaw sensitive permafrost	Xiangbing Kong	Department of Civil and Water Engineering, Université Laval	15:35	2102AB
	PAP030	Oral	Long-Term Monitoring of Mitigation Techniques of Permafrost Thaw Effects at Tasiujaq Airport in Nunavik, Canada	Maria Baron	Université Laval	15:55	2102AB
	PAP017	Oral	Distress, Failure, and Mitigation of Inuvik Airport Access Road	Entzu Hsieh	Wood Environment & Infrastructure Solutions	16:15	2102AB
	PAP092	Oral	Laboratory assessment of a new road permafrost mitigation technique: the half pipe cover	Julie Malenfant-Lepage	Université Laval	16:35	2102AB
Permafrost aggradation and degradation II	PAP046	Oral	Measuring Sedimentation due to Frozen Debris Lobes within the Brooks Range, Alaska using LiDAR	Melinda Byrd	University of Alaska Fairbanks	15:35	2000D
	PAP031	Oral	Long-term permafrost degradation and thermokarst subsidence in the Mackenzie Delta area indicated by thaw tube measurements	Brendan O'Neill	Natural Resources Canada	15:55	2000D
	PAP130	Oral	Site-level Permafrost Simulation in Remote Areas Driven by Atmospheric Re-analyses: A Case Study from the Northwest Territories	Bin Cao	Carleton University	16:15	2000D

TUESDAY AUGUST, 20, 2019

Session	#PAP	Final Status	Title	Presenter	Affiliation	Timeslot	Room
Properties assessment and monitoring of frozen soils I	PAP070	Oral	Monitoring Ground Temperatures in Permafrost Along the Dempster Highway, Yukon and NWT	Emma Stockton	Carleton University	10:35	2000D
	PAP006	Oral	A study on the performance of insulation for buried utilities in cold regions	Pooneh Maghoul	University of Manitoba	10:55	2000D
	PAP011	Oral	Electrical Resistivity and Temperature Piezocone Penetration Test in Ice-Rich Permafrost in Nunavik, Québec, Canada: Signal Processing and Forward Modelling of Electrical Resistivity Signal	Richard Fortier	Centre d'études nordiques	11:15	2000D
	PAP020	Oral	Field and Laboratory Investigation of Electrical Resistivity-Temperature Relationships, Southern Northwest Territories	Jean Holloway	University of Ottawa	11:35	2000D
Thermal regime of permafrost	PAP147	Oral	Extrazonal Permafrost and Thermal Anomalies in Talus Slopes near Thunder Bay, Ontario	Saille Bishop-Legowski	Carleton University	10:35	2102AB
	PAP071	Oral	Exploring Subsurface Temperature Dynamics of Frozen Debris Lobes through Thermal Modeling	Margaret Darrow	University of Alaska Fairbanks	10:55	2102AB
	PAP067	Oral	Vegetation development and variation in near-surface ground temperatures at Illisarvik, western Arctic coast	Alice Wilson	Carleton University	11:15	2102AB
	PAP088	Oral	Influence of Variable Snow Cover Depth and Duration on Model Ground Temperatures in the Eastern Canadian Arctic	Cameron Ross	Royal Military College of Canada	11:35	2102AB
Pavements and embankments I	PAP064	Oral	Characterization of the mechanical response at the earth-core of a Rockfill dam under heavy vehicle loading	Erdrick Leandro Pérez-González	Unversité Laval	10:35	2104AB
	PAP117	Oral	Frost Depth and Frost Protection Capacity of Crushed Rock Aggregates Based on Particle Size Distribution	Benoit Loranger	Norwegian University of Science and Technology	10:55	2104AB
	PAP029	Oral	Preliminary Investigation for Mechanical Degradation of Permafrost Embankment: Inuvik Tuktoyaktuk Highway case study	Marilyne Parent	Department of Civil and Water Engineering and Center for Northern Studies- Université Laval	11:15	2104AB
	PAP122	Oral	Design and installation of a geotechnical monitoring system for monitoring freeze-thaw cycles on a railway track	Vincent Le Borgne	GKM Consultants	11:35	2104AB
Properties assessment and monitoring of frozen soils II	PAP123	Oral	Estimating Properties of Frozen Soil and Snow from Acoustic Waveforms	Sergey Vecherin	U. S. Army ERDC-CRREL	13:35	2000D
	PAP081	Oral	Assessing the Frozen State of Soils Using iFrost: an Electromagnetic Induction Sensor on a UAS Platform	Ben Barrowes	ERDC-CRREL	13:55	2000D
	PAP149	Oral	Investigating the Mechanical Behaviour of Ice-filled Discontinuities using an Ablation Modelling Approach	Greg Gambino	University of Toronto	14:15	2000D
	PAP096	Oral	A Comparison of Frost Depth Estimates from Ground Observations and Modelling Using Measured Values and Reanalysis Data for Vehicle Mobility	Lynette Barna	USAERDC-CRREL	14:35	2000D
Materials	PAP021	Oral	Chloride Diffusion in Cement Materials at Different Leaching States. An Experimental and Numerical Study.	Thomas Sanchez	Université Laval	13:35	2105
	PAP068	Oral	Foam glass aggregates: Thermal properties according to aggregates general characteristics	Maxime Bradette	Université Laval	13:55	2105
	PAP023	Oral	Hydraulic Binder Stabilised Near-Surface Soils Exposed to Cold Curing Climate and Freeze-Thaw-Cycles	Mirja Rothhaemel	Lulea University of Technology	14:15	2105
	PAP019	Oral	Monitoring of Northern Climate Exposure	Thomas Sanchez	Université Laval	14:35	2105
Pavements and embankments II	PAP140	Oral	Using DIC Techniques to Measure Ice Road Deflections under Moving Loads	Ryley Beddoe	RMC	13:35	2104AB
	PAP063	Oral	Thermal behavior of flexible pavement containing foam glass aggregates as thermal insulation layer	Nima Ghafari	Université Laval	13:55	2104AB
	PAP115	Oral	In-situ thermal performance of lightweight aggregates (expanded clay and foam glass) in road structure	Karlis Rieksts	NTNU	14:15	2104AB
	PAP103	Oral	Using the Light Weight Deflectometer in Winter Climates	Amelia Menke	Cold Regions Research and Engineering Laboratory (CRREL)	14:35	2104AB

TUESDAY AUGUST, 20, 2019

Session	#PAP	Final Status	Title	Presenter	Affiliation	Timeslot	Room
Design of liquified natural gas tank in Alaska	PAP124	Oral	Construction Ground Freezing A look at modeled versus measured performance	Andrew Daggett	Golder Associates Inc.	15:35	2105
	PAP125	Oral	Long-Term Design of the At-Grade Foundation System for an LNG Storage Tank in Fairbanks, Alaska	John Thornley	Golder Associates Inc	15:55	2105
	PAP126	Oral	Geotechnical Study and Alternatives Analysis for an LNG Storage Tank in Fairbanks, Alaska	John Thornley	Golder Associates Inc.	16:15	2105
	PAP127	Oral	Construction Wintertime Compaction and LNG Facilities in Fairbanks, Alaska	David Prusak	Stantec Consulting Services, LLC	16:35	2105
Climate change and permafrost hazards	PAP111	Oral	Quantifying Hazard and Climate Change Fragility for the Airport Access Road in Salluit, Nunavik, Québec	Heather Brooks	BGC Engineering	15:35	2000D
	PAP038	Oral	Tracking changes in permafrost thermal state in northern Canada	Sharon Smith	Geological Survey of Canada, Natural Resources Canadad	15:55	2000D
	PAP079	Oral	Determination of Communities At-Risk from Thawing Permafrost	Billy Connor	University of Alaska	16:15	2000D
	PAP084	Oral	The Subdivision, Dynamics and History of the Late Wisconsin cold event in northeast Asia and northern North America during the last 75 ka B.P.	Stuart A. Harris	University of Calgary	16:35	2000D



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WEDNESDAY AUGUST, 21, 2019

Session	#PAP	Final Status	Title	Presenter	Affiliation	Timeslot	Room
Snow and ice I	PAP106	Oral	Methods for Measuring Snow Moisture and Density	Bruce Elder	ERDC-CRREL	10:35	2000D
	PAP101	Oral	Mechanical Property Measurements on Various Snow Surfaces	Sally Shoop	Cold Regions Research and Engineering Laboratory (CRREL)	10:55	2000D
	PAP129	Oral	Snow Micro Penetrometer Applications for Winter Vehicle Mobility	Tate Meehan	Boise State University	11:15	2000D
	PAP131	Oral	Geospatial Snow Estimation for Engineering Applications and Operations	Elias Deeb	Cold Regions Research and Engineering Laboratory (CRREL)	11:35	2000D
Permafrost mapping	PAP024	Oral	Climate and Permafrost Data Integration in Support of the Development of the Community of Salluit, Nunavik	Sarah Gauthier	Centre d'études nordiques – Université Laval	10:35	2104AB
	PAP087	Oral	Mapping permafrost and terrain conditions by combining corrected DInSAR seasonal and inter-annual ground displacements	Anne-Marie LeBlanc	Geological Survey of Canada, Natural Resources Canada	10:55	2104AB
	PAP120	Oral	A new protocol to map permafrost geomorphic features and advance thaw-susceptibility modelling	Ashley Rudy	Geological Survey of Canada	11:15	2104AB
	PAP112	Oral	Predictive Mapping of the Variable Response of Permafrost Terrain to Climate Change for Optimal Roadway Routing, Design and Maintenance Forecasting in Northern Canada	Robin McKillop	Palmer Environmental Consulting Group Inc.	11:35	2104AB
Inuvik - Tuktoyaktuk Highway (ITH)	PAP043	Oral	Monitored Thermal Performance of Varying Embankment Thickness on Permafrost Foundations	Earl Marvin De Guzman	University of Manitoba	10:35	2102AB
Snow and ice II	PAP142	Oral	Ice Jam Discharge Frequency and its Impact on Flood Insurance Elevations	Jon Zufelt	HDR	13:35	2000D
	PAP076	Oral	A multi-time-scale assessment of the influence of water releases from the Aishihik hydropower plant (Yukon) on downstream discharge at two distant gauging stations	Michel Baraer	ÉTS	13:55	2000D
	PAP114	Oral	River Ice Classification from High-Angle Oblique Imagery using Deep Neural Networks	Daniel Hamill	Cold Regions Research and Engineering Laboratory (CRREL)	14:15	2000D
	PAP010	Oral	Oil Beneath Arctic Ice: Predicting Under-Ice Storage Capacity as a Means to Better Anticipate Oil Slick Spreading Under Ice	Kelsey Frazier	University of Alaska Anchorage	14:35	2000D