



Third Northern Research Day

Wednesday, January 23th, 2019

McGill Faculty Club, 3450 McTavish Street, Montréal, Québec

8:30 a.m. – 5:00 p.m.

EVENT PROGRAM

8:30 – 9:00	Registration and Networking
9:00 – 9:10	Opening of the Event <i>Nancy Ross, Associate Vice-Principal, Research and Innovation, McGill University</i>
9:10 – 9:30	McGill North <i>Murray Humphries, INQ-McGill Chair in Northern Research – Wildlife Conservation and Traditional Food Security</i>
9:30 – 10:30	<i>Race and Identity in Northern Canada</i> Implicit Biases and Stereotypes: Challenges to the Delivery of Culturally Safe Health Care and Social Services in Northern and Remote Indigenous Communities <i>Zoua M. Vang, Department of Sociology and Department of Obstetrics and Gynecology, McGill University</i> Indigenous Identities are Intertwined with their Homeland: Implications of Resource Development in the North <i>Gail Baikie, School of Social Work, Dalhousie University</i>
10:30 -11:00	Coffee Break and Poster Session
11:00 – 12:00	<i>Northern Health</i> Research in context: Culturally safe approaches to understanding and improving health Eeyou Istchee <i>Anne Anderman, Faculty of Medicine, McGill University</i> Partnering with Cree Public Health for diabetes prevention in young families of Eeyou Istchee <i>Kaberi Dasgupta, Centre for Outcomes Research and Evaluation (CORE), Research Institute of the McGill University Health Centre</i>
12:00 -12:30	<i>McGill North Engagement Grants Presentations</i>
12:30 – 13:30	Lunch and Poster Session
13:30 – 14:30	<i>Energy in the Arctic</i> Infrastructure/Control co-Design for Low-Carbon Electricity Systems in Northern Communities <i>François Bouffard, Department of Electrical and Computer Engineering, McGill University</i> Geothermal energy as alternative source of heating in Nunavik: case studies of deep and shallow resource <i>Nicolò Giordano, Institut National de la recherche scientifique – Centre Eau Terre Environnement</i>
14:30 – 15:30	<i>Northern Water</i> Water Resources and Climate Change in the North <i>Jeffrey McKenzie, Department of Earth and Planetary Sciences, McGill University</i> Impacts of Changing Climate and Water Resources in the Far North <i>Bethany T. Neilson, Civil and Environmental Engineering Department, Utah Water Research Laboratory, Utah State University</i>
15:30 – 16:00	Coffee Break
16:00 – 17:00	<i>Arctic Wildlife under Climate Change</i> Ecological and ecotoxicological impacts of climate change in Arctic marine predators <i>Melissa McKinney, Department of Natural Resource Sciences, McGill University</i> Working with Inuit communities to assess trends of contaminants in ringed seals in relation to climate change <i>Magali Houde, Research Scientist, Aquatic Contaminants Research Division, Environment and Climate Change Canada</i>
17:00 – 18:30	Closing of the Event and Cocktail



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POSTER PRESENTATIONS

1. Highlighting the potential of peer-led workshops in training early career researchers for conducting research with Indigenous communities

Gwyneth A. MacMillan^{1}, Marianne Falardeau^{2*} (Co-Presenter), Catherine Girard³, Sophie Dufour-Beauséjour⁴, Justine Lacombe-Bergeron⁵, Allyson K. Menzies² (Co-Presenter), Dominique Henri⁶*

* Co-first authorship

¹ Centre for Northern Studies, Department of Biological Sciences, Université de Montréal, Montréal, Québec, Canada

² Department of Natural Resource Sciences, McGill University, Macdonald Campus, Ste. Anne de Bellevue, Québec, Canada,

³ Sentinelle Nord, Centre for Northern Studies, Université Laval, Québec, Québec, Canada

⁴ Centre for Northern Studies, Centre Eau Terre et Environnement, Institut national de la recherche scientifique, Québec, Québec, Canada

⁵ Mine of Knowledge, Department of Biological Sciences, Université de Montréal, Montréal, Québec, Canada

⁶ Environment and Climate Change Canada, Montréal, Québec, Canada

2. Lateral Kindness, Supportive Social Environments in Eeyou Istchee

Steven Stechly¹, Anne Andermann¹, George Diamond², Marie Carmen Berlie²

¹ Faculty of Medicine, McGill University, Montréal, Québec, Canada

² Cree Board of Health and Social Services James Bay, Waskaganish, Québec, Canada

3. Updated palaeoclimatic reconstruction for a Cenomanian-aged angiosperm flora near Schefferville, Labrador

Alexandre Demers-Potvin¹

¹ Department of Biology, McGill University, Montréal, Québec, Canada

4. Improved sea ice drift estimates in Lagrangian methods for sea ice forecasting

Charles Brunette¹, Bruno Tremblay¹, Robert Newton²

¹ Department of Atmospheric and Oceanic Sciences, McGill University, Montreal, Quebec, Canada

² Lamont-Doherty Earth Observatory, Palisades, New York, USA

5. The Canadian Integrated Northern Greenhouse: Results and future development

David Leroux¹

¹ Department of Bioresource Engineering, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

6. Design and implementation of a bioreactor and nutrient sensing device for northern food production

Peter Tikasz¹, David Leroux¹

¹ Department of Bioresource Engineering, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

7. Ancient carbon export to lakes

Regina Gonzalez Moguel¹, Peter Douglas¹

¹ Department of Earth and Planetary Sciences, McGill University, Montréal, Québec, Canada



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8. Heat transfer triggered by mobile subsurface water and thermal insulation caused by seasonal snow cover degrade permafrost and impact overlying highways

Lin Chen^{1,2}, Daniel Fortier^{1,2}, Jeffrey McKenzie³, Clifford I. Voss⁴

¹ Département de géographie, Université de Montréal, Québec, Canada

² Centre d'études Nordiques, Université Laval, Québec, Canada

³ Department of Earth and Planetary Sciences, McGill University, Québec, Canada

⁴ US Geological Survey, Menlo Park, CA, USA

9. Multi-century impacts of ice sheet retreat on sea level and tides in Hudson Bay

Anna Hayden¹, Natalya Gomez¹, Sophie-Berenice Wilmes², J.A. Mattias Green², Linda Pan¹, Holly Han¹

¹ Department of Earth and Planetary Sciences, McGill University, Montréal, Québec, Canada

² School of Ocean Sciences, Bangor University, Menai Bridge, Gwynedd, United Kingdom

10. How will permafrost thaw affect the groundwater contribution to streams and lakes?

Pierrick Lamontagne-Hallé¹, Jeffrey McKenzie¹, Barret L. Kurylyk² and Samuel C. Zipper^{1,3}

¹ Department of Earth and Planetary Sciences, McGill University, Montréal, Québec, Canada

² Centre for Water Resources Studies and Department of Civil and Resource Engineering, Dalhousie University, Halifax, Nova Scotia, Canada

³ Department of Civil Engineering, University of Victoria, Victoria, British Columbia, Canada

11. Groundwater Flow and Permafrost Distribution in a Subarctic Watershed

Laura Lyon¹, Jeffrey McKenzie¹, Gregory Langston¹, Sean Carey²

¹ Department of Earth and Planetary Sciences, McGill University, Montréal, Québec, Canada

² School of Geography and Earth Science, McMaster University, Hamilton, Ontario, Canada

12. Microbial Activity MicroAssay for extant microbial detection in cryoenvironments

David Touchette¹

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

13. Meta-analyses of S-oxidizing biofilms from anoxic hypersaline springs in the Canadian high Arctic

Elisse Magnuson¹, Nadia C.S. Mykytczuk², Andre Pellerin³, Jaqueline Goordial⁴, Susan M. Twine⁵, Boswell Wing⁶, Simon J. Foote⁷, Kelly Fulton⁷, Lyle G. Whyte¹

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

² Vale Living with Lakes Centre, Laurentian University, Sudbury, Ontario

³ Centre for Geomicrobiology, Aarhus University, Aarhus, Denmark

⁴ Bigelow Laboratory for Ocean Sciences, East Boothbay, Maine, United States

⁵ Institute for Biological Sciences, National Research Council, Ottawa, Ontario

⁶ Boswell Wing: Earth and Planetary Sciences, McGill University, Montreal, Quebec

⁷ Institute for Biological Sciences, National Research Council, Ottawa, Ontario

14. In situ DNA-SIP enrichment in concert with genome binning of a high Arctic methanotrophic and methanotroph-associated community

Ianina Altshuler¹

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

15. Using stable isotopes to track pollutants in Hudson Bay

Esteban Gongora¹, Kyle Elliott¹, Birgit Braune²

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

² National Wildlife Research Centre, Environment and Climate Change Canada, Ottawa, Ontario, Canada



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16. Daring crossing or cautious detour? Contrasting transatlantic migration strategies in a small migratory bird breeding in the Canadian Arctic and wintering in Africa

Don-Jean Léandri-Breton^{1,2}, Jean-François Lamarre³, Joël Bêty¹

¹ Université du Québec à Rimouski and Center for Northern Studies, Rimouski, Québec, Canada

² Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

³ Polar Knowledge Canada, Cambridge Bay, Nunavut, Canada

17. Using Foraging Behaviour and Energetics to Identify Marine Habitat for an Arctic Seabird

Allison Patterson¹, Jannie Fries Linnebjerg², Morten Fredericksen², Anders Mosbech², Flemming Merkel², Grant Gilchrist³, and Kyle Elliott¹

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Québec, Canada

² Department of Bioscience, Aarhus University, Roskilde, Denmark

³ National Wildlife Research Centre, Environment and Climate Change Canada, Ottawa, Ontario, Canada

18. Weather Indices and Migration of the American Golden-Plover

Emma Sutherland¹, Jean-François Lamarre², Kyle Elliott³

¹ McGill School of Environment, McGill University, Montréal, Québec, Canada

² Polar Knowledge Canada, Canadian High Arctic Research Station (CHARS), Nunavut, Canada, Université du Québec à Rimouski and Centre d'études Nordiques (CEN), Québec, Canada

³ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Canada

19. Foraging plasticity in thick-billed murre (*Uria lomvia*)

Thomas Lazarus¹, Oliver Love², Grant Gilchrist³, Kyle Elliott¹

¹ Department of Natural Resource Sciences, McGill University, Ste-Anne-de-Bellevue, Canada

² University of Windsor

³ Environment Canada, Carleton University

20. Monitoring freshwater ice phenology in Canada's North in the era of abundant open-access satellite sensors

Xavier Giroux-Bougard¹, Murray M. Humphries¹, Jeffrey Cardille^{1}*

¹ Department of Natural Resource Sciences, McGill University, Ste. Anne de Bellevue, Quebec, Canada

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