

**CURRICULUM VITAE
ERIKA HILLE**

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EDUCATION AND EMPLOYMENT HISTORY

Education

MSc in Geography, University of Victoria, Victoria, BC. 2014. Thesis Title: The Effects of Shoreline Retrogressive Thaw Slumping on the Hydrology and Geochemistry of Small Tundra Lake Catchments. Supervisor: Daniel Peters.

BSc (Specialized Honours) in Environmental Science, York University, Toronto, ON. 2009. Thesis Title: The Role of Benthic Algae in CO₂ Exchange from Ponds in the Hudson's Bay Lowlands. Supervisor: Richard Bello.

Certificate in Geographic Information Systems and Remote Sensing, York University, Toronto, ON. 2009.

Professional Experience

2016-2018	Manager, Western Arctic Research Centre, Aurora Research Institute
2015-2016	Special Projects Coordinator, Western Arctic Research Centre, Aurora Research Institute
2014-2015	Manager, Western Arctic Research Centre, Aurora Research Institute
2013-2014	Program Coordinator, Aurora Research Institute
2011-2013	Laboratory Coordinator, Aurora Research Institute
2011	NSERC Northern Research Internship, Aurora Research Institute and Indigenous and Northern Affairs Canada
2009-2010	Teaching Assistant, Hydrology, University of Victoria
2009	Research Assistant, Water Climate Impacts Research Centre, University of Victoria
2007-2008	Research Technician, Climatology Laboratory, York University

CURRENT ACTIVITIES

Research Interests

Hydrology, watershed hydrology, run-off processes, geochemistry, climate change, permafrost, northern infrastructure, and communicating northern research to community members and stakeholders.

Current Projects

Arctic Great Rivers Observatory: Arctic GRO is a coordinated international effort to collect and analyze a time series of water samples from the six largest arctic rivers, using identical sampling and analytical protocols. The Aurora Research Institute leads the Mackenzie River team.

Beaufort Sea Coastal Restoration Project – Exploring the Potential for Using Indigenous Plant Species to Revegetate Coastline Affected by Permafrost Thaw Slumping: The goal of this project is to examine the effects of thaw slumping on landscape run-off and near-shore water, with a focus on the coastal region of Tuktoyaktuk and Husky Lakes, and to create a plan to mitigate these effects using indigenous plant species.

Examining the Effects of Spring Snowmelt on the Geochemistry of Runoff from Thaw Slumps: The two primary goals of this project are to: 1) examine the evolution of geochemistry in runoff over the spring freshet; and 2) compare the geochemical signature of runoff from thaw slumps located on glaciated terrain to that of thaw slumps located on unglaciated terrain.

Impacts of Natural and Anthropogenic Disturbances on the Aquatic Health of Tundra Lakes in the Upland Region East of the Mackenzie River: The goal of this project is to evaluate the impacts of retrogressive thaw slumping (RTS), tundra fires, and the construction of the Inuvik to Tuk Highway (ITH) on the aquatic health of small lakes in the upland region northeast of Inuvik, NT.

Pile Monitoring Program: When the Western Arctic Research Centre was built in 2011, the traditional building pilings, which are back-filled with dirt, were paired with new experimental “convection” pilings, which are hollow and vented to permit air flow. Ground temperature is measured next to each piling type twice a day. The goal of this project is to assess the freeze-back rate of both traditional and convection piles, in order to determine whether the convection piles accelerate freeze-back by allowing cold air flow during the winter months.

Professional Memberships

Association of Polar Early Career Scientists, Canadian Geophysical Union – Hydrology Section, American Geophysical Union – Hydrology Section, Canadian Water Resources Association, Canadian Meteorological and Oceanographic Society, and Oceans Research in Canada Alliance.

PUBLICATIONS

Journal Articles

- Hille E, Peters D, and Wrona, F. in progress. Landscape-level factors driving the geochemistry of upland tundra lakes affected by permafrost thaw slumping, Inuvik region, NT, Canada.
- Hille E, Lin C, and Pokharel B. 2009. A comparison of the aquatic primary productivity of ponds located on serpentine and non-serpentine soils. *Hidden Geographies*. 1(1):21-32.

Reports

- Michel J, Gareis J, Benson K, Owen C, and Hille E (*editors*). 2015. *Compendia of Research in the Northwest Territories: 2015*. Aurora Research Institute, Yellowknife, NT.
- Condon W, Gareis J, Hammer N, Hille E, Mercer A, Michel J, Rosolen S, and Secombe-Hett P (*editors*). 2014. *Compendia of Research in the Northwest Territories: 2011-2012*. Aurora Research Institute, Yellowknife, NT.
- Trimble A, Hille E, Gareis J, Michel J, Hammer N, Secombe-Hett P, and Rosolen S (*editors*). 2012. *Compendium of Research in the Northwest Territories: 2009-2010*. Aurora Research Institute, Yellowknife, NT.

Unpublished Reports

- Mero A, and Hille E (*editors*). 2011. NWT IPY Results Conference Report.

PRESENTATIONS

Invited, Plenary, and Keynote Presentations

- Hille E, Peters D, Wrona F, and Kokelj S. 2010. Climatic factors driving the hydrological and geochemical responses of tundra upland lakes to landscape perturbation. Plenary presentation in Student Day at the 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON. **Invited.**
- Wrona F, Prowse T, McCauley E, Peters D, Flanagan K, Gantner K, di Cenzo P, de Rham L, Thompson M, Mesquita P, Hille E, Moquin P, and Kokelj S. 2010. Arctic freshwater systems: trans-ecosystem integrators of climate and environmental change. Plenary presentation at the 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON. **Invited.**

Contributed Oral Presentations

- Hille, E. 2017. Science education and outreach at the Western Arctic Research Centre. 2017 Arctic Change Scientific Meeting. Quebec City, QC.
- Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2013. Catchment-level processes driving the geochemistry of small tundra lakes affected by shoreline retrogressive thaw slumping, Mackenzie Delta Uplands, NT. 2013 ArcticNet Annual Scientific Meeting. Halifax, NS.
- di Cenzo, P.D., Paquette-Struger, B., Wrona, F.J., Prowse, T.D., de Rham, L., Gareis, J., Hille, E., Ross, D., Hurst, W., Guay, J. and Lennie, J. 2013. Development of a Fully-automated Arctic Lake Monitoring System for Hydro-ecological Research Applications. 2013 ArcticNet Annual Scientific Meeting. Halifax, NS.
- Wrona, F.J., Prowse, T.D., McCauley, E., Peters, D.L., Reist, J., di Cenzo, P.D., de Raham, L., Hille, E., Ahmed, R., Newton, B., Linton, H., Moquin, P., Paquette-Struger, B. and Kokelj, S. 2012. Hydro-Ecological Responses of Arctic Freshwater Systems to a Changing Cryosphere. 2012 ArcticNet Annual Scientific Meeting. Vancouver, BC.
- Wrona, F.J., Prowse, T.D., McCauley, E., Peters, D.L., Kokelj, S.V., di Cenzo, P.D., Dibike, Y., de Rham, L., Flanagan, K., Gantner, N., Mesquita, P.S., Thompson, M.S., Hille, E., and Moquin, P. 2011. Arctic Tundra Lakes: Ecosystems in Transition. ArcticNet IRIS 1 & FJMC Community-Based Monitoring Workshop. Inuvik, NT.
- Gantner, N., Ross, D., Wrona, F.J., Hille, E., Peters, D.L., di Cenzo, P.D., de Rham, L., Prowse, T.D. and Reist, J. 2011. Trophic Interactions in Northwestern Canadian Tundra Lakes - Can Climate Induced Permafrost Thaw Slumping Affect Fisheries Habitat? NWT International Polar Year (IPY) Results Conference. Inuvik, NT.
- Gantner, N., Ross, D., Wrona, F.J., di Cenzo, P.D., Hille, E. and Reist, J.D. 2011. Trophic Interactions in Northwestern Canadian Tundra Lakes - Can Climate Induced Permafrost Thaw Slumping Affect Fisheries Habitat? Canadian Conference For Fisheries Research (CCFFR). Toronto, ON.
- Gantner, K., Ross, D., Wrona, F.J., Hille, E., Peters, D.L., di Cenzo, P.D., de Rham, L., Prowse, T.D. and Reist, J.D. 2010. Trophic Interactions in Northwestern Canadian Tundra lakes - Can Climate Induced Permafrost Thaw Slumping Affect Fisheries Habitat? 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON.
- Gantner, N., Wrona, F.J., Thompson, M., Mesquita, P. Hille, E., Peters, D., Prowse, T.D. and Reist, J.D. 2010. Trophic Interactions in Northwestern Canadian Tundra Lakes - Can Climate Induced Permafrost Thaw Slumping Affect Fisheries Habitat? International Polar Year Science Meeting. Oslo, Norway.

Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2010. Climatic factors driving the hydrological and geochemical responses of tundra upland lakes to landscape perturbation. 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON.

Gantner, G., Wrona, F.J., Thompson, M., Mesquita, P., Hille, E., Peters, D.L., Prowse, T.D. and Reist, J.D. 2009. Trophic Interactions in Northwestern Canadian Tundra Lakes – Can Climate-induced Permafrost Thaw Slumping Affect Fisheries Habitat? 2009 ArcticNet Annual Scientific Meeting. Victoria, BC.

Bello, R., Mojdehi, P., and Hille, E. 2007. Progress in Monitoring Greenhouse Gas Exchange from Ponds in the Hudson Bay Lowlands. 4th Annual Churchill Research Symposium. University of Manitoba, Winnipeg, MB.

Contributed Poster Presentations

Amos, E., Hille, E., di Cenzo, P., Wrona, F., and Paquette-Struger, B. 2016. Impacts of lake ice, shoreline retrogressive thaw slumping, and fire on the water quality and productivity of small tundra lakes in the northwestern Arctic. 2016 ArcticNet Annual Scientific Meeting. Winnipeg, MB.

Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2015. The geochemical responses of small tundra upland lake catchments to landscape perturbation, upland region north-east of Inuvik, Northwest Territories, Canada. 2015 American Geophysical Union Fall Meeting. San Francisco, CA, USA.

Peters, D.L., Turner, K., Hille, E., Wrona, F.J. and Kokelj, S.V. 2014. Isotope Hydrology of Arctic Tundra Lakes in a Region Impacted by Permafrost Disturbance. 2014 Arctic Change/ArcticNet Annual Scientific Meeting. Ottawa, ON.

Peters, D.L., Hille, E., Wrona, F.J. and Kokelj, S.V. 2013. Hydrology of Arctic Tundra Lakes in a Region Impacted by Permafrost Disturbance. 2013 ArcticNet Annual Scientific Meeting. Halifax, NS.

Hille, E., Peters, D.L., Wrona, F.J. and Kokelj, S. 2012. Validation of Two Simple Evaporation Models for Tundra Upland Lakes, Inuvik, NT, Canada. IPY 2012: From Knowledge to Action. Montreal, QC.

Paquette-Struger, B., Wrona, F.J., Prowse, T.D., di Cenzo, P.D., Moquin, P., de Rham, L., Hille, E., Ross, D., Hurst, W. and Lennie, J. 2012. Geochemical, Biological and Limnological Responses of Arctic Lakes in Relation to a Changing Cryosphere, 2012 ArcticNet Annual Scientific Meeting. Vancouver, BC.

Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2012. The Hydrological and Geochemical Responses of Tundra Lake Catchments to Shoreline Retrogressive Thaw Slumping in the Upland Region North-East of Inuvik, NT, Canada. International Polar Year 2012 Conference. Montreal, QC.

- Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2011. Climatic factors driving the hydrological and geochemical responses of tundra upland lakes to landscape perturbation. 2011 Canadian Geophysical Union Annual Scientific Meeting. Banff, AB.
- Peters, D.L., Wrona, F.J., Hille, E. and Kokelj, S.V. 2010. Stable Isotope Hydrology of Arctic Tundra Lakes along the Proposed Mackenzie Gas Pipeline in Northwestern Canada. 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON.
- Moquin, P., Wrona, F.J., di Cenzo, P.D., Gareis, J., Hille, E., Gantner, N., Houben, A., Hurst, W., Ross, D. and Trimble, A. 2010. Determining the Impacts of Shoreline Retrogressive Thermokarst Slumping on the Basal Components of the Aquatic Food Web. 2010 ArcticNet Annual Scientific Meeting. Ottawa, ON.
- Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2010. Hydrological and geochemical responses of arctic tundra lakes to landscape perturbation: an overview. 2010 Canadian Geophysical Union Annual Scientific Meeting. Ottawa, ON.
- Hille, E., Peters, D., Wrona, F., and Kokelj, S. 2009. Hydrological and geochemical responses of arctic tundra lakes to landscape perturbation: an overview. 2009 ArcticNet Annual Scientific Meeting. Victoria, BC.
- Hille, E., Bello, R., Mojdehi, P., Papakyriakou, T., and Tenuta, M. 2007. The Role of Benthic Algae in the CO₂ Exchange from Ponds in the Hudson Bay Lowland. 2007 ArcticNet Annual Scientific Meeting. Collingwood, ON.

RESEARCH FUNDING

Awarded – Current

- Hille E. 2017. Department of Fisheries and Oceans. Beaufort Sea Coastal Restoration: The Potential for Using Native Plant Species to Stabilize Coastline Affected by Permafrost Thaw Slumping. \$410,000.
- Hille E. 2018. Natural Resources Canada. Beaufort Sea Coastal Restoration: The Potential for Using Native Plant Species to Stabilize Coastline Affected by Permafrost Thaw Slumping. \$33,440.
- Hille E. 2018. Natural Resources Canada. Impacts of natural and anthropogenic disturbances on the aquatic health of tundra lakes in the upland region northeast of Inuvik, NT. \$30,400.

AWARDS AND HONOURS

Awards

- 2011 Research Fellowship Award, Aurora Research Institute
- 2011 Northern Research Internship. National Science and Engineering Research Council
- 2009 Graduate Student Entrance Award, University of Victoria
- 2008 Deans List, York University
- 2008 RAY Work Study Award, York University
- 2008 Northern Scientific Training Program Award, Indigenous and Northern Affairs Canada
- 2007 RAY Work Study Award, York University
- 2007 Northern Scientific Training Program Award, Indigenous and Northern Affairs Canada
- 2004 Undergraduate Student Entrance Award

TEACHING ACTIVITIES

Courses Taught

At Aurora College

- 120-116 Geographic Information Systems.
Second-year course for Environment and Natural Resources Technology Program that gives a general introduction to geological processes and landforms. 2015.

Student Supervision

- 2017 Supervised two undergraduate summer students

PROFESSIONAL SERVICE ACTIVITIES

Review Panels and Advisory Boards

- Member**, Northwest Territories Regional Contaminants Committee. 2014-present.
- Observer Member**, Cumulative Impacts Monitoring Program. 2017-present.

Conference, Conference Session, and Workshop Organization

Conference Organizer

- International Polar Year Regional Results Conference. 19-21 January 2011, Inuvik, NT.

Other Professional Service Activities

Grant Reviews

Northern Contaminants Program, Cumulative Impacts Monitoring Program, Aurora Research Institute Fellowship and Assistantship Programs