

# Jennifer Horwath Burnham

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## **EDUCATION**

University of Washington, Ph.D., Earth and Space Sciences

University of Illinois, M.S., Environmental Studies in Physical Geography

Augustana College, B.A., Geography and Environmental Studies

## **EXPERIENCE**

**Director**, Augustana Center for Polar Studies (2017– present), Assistant Director (2009–2017)

**Department Chair**, Department of Geography, Augustana College (9/2012 – present)

**Professor**, Department of Geography, Augustana College (9/2020 – present)

**Associate Professor**, Department of Geography, Augustana College (9/2012 – 8/2020)

**Assistant Professor**, Department of Geography, Augustana College (9/2006 – 8/2012)

**Board of Director**, High Arctic Institute (2007 – present)

## **SELECT AWARDS AND GRANTS**

**Larry P. Jones Fellowship**, Augustana College (2020)

**Wallenberg Faculty Research Grant for Nordic Studies**, Marianne and Marcus Wallenberg Foundation grant to Augustana College (2018 and 2020)

**Presidential Research Fellowship**, Augustana College (2014 and 2018)

**G.K. Gilbert Award for Excellence in Geomorphological Research**  
Geomorphology Specialty Group, American Association of Geographers, 2013

**Anne U. White Award**, American Association of Geographers, 2010

### **Augustana College Research Support**

Sabbatical Leave Stipend, 2020

Faculty Research Fund, 2017, 2014, 2012, 2010, 2008

New faculty research funding, 2008

## **PUBLICATIONS** \*indicates student author

Burnham, K.K., **Burnham, J.L.**, Johnson, J.A., and A. Huffman\* (2021) Migratory movements of Atlantic Puffins *Fratercula arctica naumanni* from high Arctic Greenland. *PLOS ONE* 16(5): e0252055.  
<https://doi.org/10.1371/journal.pone.0252055>

Burnham, K.K., Meyer, F.,\* **Burnham, J.L.**, and M.M. Chumchal. (2021) Mercury contamination in eggs of three High Arctic seabird species. *Polar Biology* <https://doi.org/10.1007/s00300-021-02864-x>

Burnham, K.K., **Burnham, J.L.**, and J.A. Johnson. (2020) Morphological measurements from Atlantic puffin (*Fratercula arctica naumanni*) in high Arctic Greenland: Puffin High Arctic Greenland. *Polar Research*. 39, 3614, <http://dx.doi.org/10.33265/polar.v39.5242>

Burnham, K.K., **Burnham, J.L.**, Johnson, J.A., Konkel, B.W., Stephens, J. and H. Badgett\*. (2020) First record of horned puffin in the North Atlantic and tufted puffin in High Arctic Greenland. *Polar Research* 2020, 39, 4458, <http://dx.doi.org/10.33265/polar.v39.4458>

Safstrom, M. and **J.L. Burnham** (2020). Exploring the rough edges of the Arctic field experience with university students: Bridging the natural and social sciences, *In Library and Information Studies for Arctic Social Sciences and Humanities*. Edited by S. Acadia and M. Fjellestad. Routledge Publishers

**Burnham, J.H.**, Burnham, K.K., Chumchal, M.M., Welker, J.M. & Johnson, J.A. (2019) Status of blood mercury concentration in twenty-four bird species in Northwest Greenland. *In* Kyhn, L.A. & Mosbech, A. (eds.) North Water Polynya Conference, Copenhagen 2017 — White Paper: 134–138. Copenhagen, DK: Aarhus University.

Burnham, K.K., **Burnham, J.L.**, & Konkel, B.W. (2019) Status of peregrine falcon and gyrfalcon populations in Northwest Greenland. *In* Kyhn, L.A. & Mosbech, A. (eds.) North Water Polynya Conference, Copenhagen 2017 — White Paper: 101–103. Copenhagen, DK: Aarhus University.

**Burnham, J.L.**, Burnham, K.K., Chumchal, M.M., Welker, J.M., and J.A. Johnson. (2018) Correspondence between mercury and stable isotopes in high Arctic marine and terrestrial avian species from northwest Greenland. *Polar Biology* doi:10.1007/s00300-018-2302-9

Burnham, K.K., **Burnham, J.L.**, Konkel, B.W. and J.A. Johnson. (2017) Significant decline observed in Arctic Tern *Sterna paradisaea* population in northwest Greenland *Seabird* (30):39–50

Gabet, E., **Horwath Burnham, J.** and T. Perron. (2016) Critiques of the seismic hypothesis and the vegetation stabilization hypothesis for the formation of Mima mounds in the western U.S. *Geomorphology* 269:40–42

Burnham K.K., Sinnett D.R., Johnson J.A., **Burnham J.L.**, Baroch J.A., and B.W. Konkel. (2014) New species records and changes in population status for waterfowl in northwest Greenland. *Polar Biology* 37(9):1289–1300.

Burnham, K.K., Johnson, J.A., Konkel, B.W., and **J.L. Burnham**. (2012) Nesting common eider (*Somateria mollissima*) population quintuples in northwest Greenland. *Arctic* 65(4):456–464.

**Horwath Burnham, J.**, Johnson, D.L., and D.N. Johnson. (2012) The significance of stone layers in mima mounds. *In* Mima Mounds: The Case for Polygenesis and Bioturbation. Horwath Burnham and Johnson. (eds) Geological Society of America Special Paper 490. Boulder, CO.

Johnson, D.L. and **J. Horwath Burnham**. (2012) Introduction chapter to Mima Mounds: The Case for Polygenesis and Bioturbation. Horwath Burnham and Johnson. (editors) Geological Society of America Special Paper 490. Boulder, CO.

**Burnham, J.L.**, and K.K. Burnham. (2010) An ornithological survey of the Carey Islands, northwest Greenland. *Dansk Ornitologisk Forenings Tidsskrift* 104:26–37

**Burnham, J.L.**, and R.S Sletten. (2010) Spatial distribution of soil organic carbon in northwest Greenland and underestimates of High Arctic carbon stores *Global Biogeochemical Cycles*. Vol. 24, GB3012, doi:10.1029/2009GB003660

**Horwath, J.L.**, Sletten, R.S., Hagedorn, B. and B. Hallet. (2008) Spatial and temporal distribution of soil organic carbon in non-sorted striped patterned ground of the High Arctic, *Journal of Geophysical Research: Biogeosciences*, 113, G03S07, doi:10.1029/2007JG000511.

Sullivan, P.F., Welker, J.M., Hagedorn, B., Sletten, R.S., Arens, S. and **J.L. Horwath**. (2008) Energy and water additions give rise to expected and unexpected results in plant canopy and soil microclimates of a High Arctic ecosystem. *Journal of Geophysical Research: Biogeosciences* 113, G03S08, doi:10.1029/2007JG000477

**Horwath, J.L.** and D.L. Johnson.(2006) Mima-type mounds in southwest Missouri: expressions of point-centered and locally thickened biomantles. *Geomorphology* 77:308-319.

### **Co-Edited Book**

Mima Mounds: The Case for Polygenesis and Bioturbation. (2012) Eds. **Horwath Burnham, J.** and D.L. Johnson. Geological Society of America Special Paper 490. Boulder, CO

### **Select Conference Presentations** \*indicates student author

**Burnham, J.**, Burnham, K.K., Chumchal, M. Johnson, J. A. and J.M. Welker. (2017) Status of mercury concentration in twenty-four species in northwest Greenland. North Water Polynya Conference. Copenhagen, Denmark. 21–24 November.

Burnham, K.K., **Burnham, J.**, and B.W. Konkel. (2017) Status of Peregrine Falcon and Gyrfalcon populations in northwest Greenland. North Water Polynya Conference. Copenhagen, Denmark. 21–24 November.

**Burnham, J.L.**, Burnham, K.K., Robb, Z.\* and B. W. Konkel. (2017) Spatial analysis of migratory pathways of Atlantic puffins (*Fratercula arctica*) from Northwest Greenland using geolocator technology. Association of American Geographers Meeting. Boston, MA

**Burnham, J.L.**, Burnham, K.K., Chumchal, M., Johnson, J. and J. Welker. (2015) Trophically disparate levels of blood mercury in breeding birds of northwest Greenland. Association of American Geographers Meeting. Chicago, IL. Abstract #66741.

Sletten, R.S., Hagedorn, B., Hallet, B. and **J.L. Burnham**. (2013) Active layer warming and deepening at Thule, Greenland during past decade: a comparison of a polar desert and a polar semi-desert site. *Eos Trans. AGU*, Fall Meet. Suppl.

**Horwath Burnham, J.** (2013) A man and his mounds: Contributions of Donald L. Johnson to the field of mima mound studies. *GSA Abstracts with Programs*. Denver, CO

Bargmann, N.A., Burnham, K.K., **Burnham, J.L.**, Padula, V.M., Welker, J.M. and D. Causey. (2012) Biogeochemical indicators of change in High- and Low-Arctic marine bird communities: comparative isotopic (<sup>13</sup>C, <sup>15</sup>N, and <sup>34</sup>S) studies in Alaska and Greenland. 39th Annual Meeting of the Pacific Seabird Group, 7–12 February, Turtle Bay, HI.

Causey, D., Bargmann, N.A., Burnham, K.K., **Burnham, J.L.**, Padula, V.A., Johnson, J.A., and J. M. Welker. (2011) Biogeochemical indicators in High- and Low-Arctic marine and terrestrial avian community changes: Comparative isotopic (<sup>13</sup>C, <sup>15</sup>N, and <sup>34</sup>S) studies in Alaska and Greenland *Eos Trans. AGU*, Fall Meeting Supplement. GC51F-1079

Johnson, D.L., **Horwath Burnham, J.** and D.N. Johnson. (2011) Historic formation and re-formation of mima mounds. *GSA Abstracts with Programs Vol. 43, No. 5. #197528*, Minneapolis, MN.

**Burnham, J.L.**, Burnham, K.K., Chumchal, M., and J.A. Johnson. (2011) Quantification and spatial distribution of mercury in avian species of northwest Greenland. *Abstract with Programs – Association of American Geographers Annual Meeting*. Seattle, WA.

Schulwitz, S.E., Chumchal, M.M., **Burnham, J.**, Burnham, K. and J.A. Johnson. (2011) Comparison of mercury in birds at temperate, sub-Antarctic and Arctic locations. Ecological Society of America, Austin, TX.

Welker, J. M., Sullivan, P., Rogers, M., Sharp, E. D., Sletten, R.S., **Burnham, J. L.**, Hallet, B., Hagedorn, B., and Czimicz, C. (2009) Climate change consequences for terrestrial ecosystem processes in NW Greenland: Results from the High Arctic Biocomplexity Project. American Geophysical Union, Abstract #GC41D-04

**Burnham, J.L.**, and D.L. Johnson. (2008) The biodynamic significance of double stone-layers at Diamond Grove mima moundfield, southwest Missouri. *Abstract with Programs – Geological Society of America Meeting* – Houston, TX.

**Horwath, J.L.**, Sletten, R.S., Hagedorn, B. and B. Hallet. (2006) Ancient carbon buried in patterned ground: soil and soil carbon dynamics based on <sup>14</sup>C age of soil carbon, Pituffik NW Greenland (76°N, 68°W). *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract C44A-03.

**Horwath, J.L.**, Sletten, R.S. and J. M. Welker. (2006) Associations of soil organic carbon with non-sorted striped patterned ground in NW Greenland. *Abstract with Programs – AAG Annual Meeting*. Chicago, IL.

### **UNDERGRADUATE STUDENT RESEARCH ADVISING**

Served as primary research or project advisor on these Greenland research projects:

Huffman, Abby (2019)	Atlantic Puffin GIS analysis of archival light logger data
Wyco, Jacob (2019)	Analysis of Peregrine Falcon and Gyrfalcon nest camera data (2017-2018) in NW Greenland
Aasen, Bailey (2018)	Comparative analysis of Peregrine Falcon migratory pathways in NW Greenland (2003-2017)
Baugh, Sara (2017)	Washed away: Summer storm occurrence effect on two passerine bird species in northern Greenland
Robb, Zoe (2016)	GIS research on Atlantic Puffin geolocator data from NW Greenland
Meyer, Fallon (2014)	Mercury contamination in Arctic seabird eggs from northwestern Greenland
Behnke, Claire (2012)	The migration patterns of Black-legged Kittiwakes ( <i>Rissa tridactyla</i> ) breeding in northwest Greenland
Biesterfeld, Ryan (2010)	The spatial distribution of methyl mercury in High Arctic avian species of northwest Greenland

### **TEACHING SPECIALITIES**

Cartography, Global Weather and Climate, Soil Science, Geography of the Arctic, Environmental Conservation