

# Jennifer Horwath Burnham

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## EDUCATION

2007 - University of Washington, Ph.D., Earth and Space Sciences

2002 - University of Illinois, M.S., Environmental Studies in Physical Geography

1997 - 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)

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

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

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

## SELECT AWARDS AND GRANTS

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

**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**  
Faculty Research Fund, 2017, 2014, 2012, 2010, 2008  
New faculty research funding, 2008

## SELECT PUBLICATIONS \*indicates student author

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

Burnham, K.K., **Burnham, J.L.**, Johnson, J.A. and Z. Robb\*. (*In prep*) Migratory pathways and use areas differ by sex in Atlantic Puffins (*Fratercula arctica*) breeding in northwest Greenland

**Burnham, J.L.**, Burnham, K.K., Behnke, C.\*, Phillips, R., and B.W. Konkel. (*In prep*) Spatial analysis of migratory pathways of Black-legged Kittiwakes (*Rissa tridactyla*) from northwest Greenland using geolocator technology

**Burnham, J.L.**, Meyer, F.,\* Burnham, K.K., and M.M. Chumchal. (*In prep*) Mercury contamination in eggs of three High Arctic seabird species

**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.

**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 ( $^{13}\text{C}$ ,  $^{15}\text{N}$ , and  $^{34}\text{S}$ ) 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 ( $^{13}\text{C}$ ,  $^{15}\text{N}$ , and  $^{34}\text{S}$ ) 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  $^{14}\text{C}$  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:

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|--------------------------|---|
| 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