

Curriculum Vitae
BEVERLY J. JOHNSON
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PERSONAL

Spouse: Mathieu Duvall, two children.

EDUCATION

Ph.D. 1995	Geological Sciences/INSTAAR, University of Colorado, Boulder
M.Sc. 1990	Geological Sciences, University of Delaware, Newark
B.Sc. 1985	Geological Sciences, University of Delaware, Newark

TEACHING AND RESEARCH EXPERIENCE

2008, Fall: *Visiting Researcher*, Nordic Center for Earth Evolution (NordCEE), Institute of Biology, Univ. of Southern Denmark.

2006-present: *Associate Professor*, Department of Geology, Bates College.

2001-2006: *Assistant Professor*, Department of Geology, Bates College.

1997-2000: *Postdoctoral Researcher*, University of Washington (1998-2000) and the Australian National University (1997).

1995 - 1996: *Postdoctoral Fellow*, Geophysical Laboratory.

1991 - 1993: *Predoctoral Fellow*, Geophysical Laboratory.

1991 - 1993: *Visiting Scientist*, MSC/CAL, Smithsonian Institution.

GRANTS, AWARDS AND FELLOWSHIPS

External Grants

NSF, Ocean Sciences, Biological Oceanography. PI on "Changes in Baseline Conditions in Gulf of Maine Coastal Ecosystems Over the Last 4000 Years," \$393,000 total awarded (10/09-9/12).

EPSCOR, Maine's Sustainability Solutions Partners. Bates, Bowdoin and USM; Co-PI on "Ecological Recovery and Sustainability in Kennebec and Androscoggin Rivers, Estuary, and Nearshore Environment," \$58,850 awarded (9/09-6/10).

GRANTS, AWARDS AND FELLOWSHIPS (continued)

- US Fish and Wildlife/Bates College Cooperative Agreement, "Stable isotope analysis of *Fundulus Heteroclitus* and the effectiveness of ditch-plug restoration at the Sprague River Salt Marsh, Phippsburg, Maine", \$15,000 awarded (6/09-12/10).
- 2002: Maine Marine Research Institute. PI on "Investigation of Terrestrial Organic Carbon Cycling and Human Impact on Maine Coastal Environments," \$168,866 awarded (9/02-8/05).
- 2001: NSF, Earth System History/GEO. PI on "Collaborative Research: Centennial-to-Millennial-Scale Climatic Fluctuations in Northeast Siberia During the Last Glacial Cycle," \$55,000 awarded (8/01-2/05); \$12,642 awarded 8/03-7/04.
- 2001: NSF, Major Research Instrumentation. CO-PI on "Acquisition of a GC-MS and a GC-FID for research in environmental science at Bates College," \$107,000 awarded (11/01-10/04).
- 2000: NSF, Earth System History/GEO. PI on "Collaborative Research: Megafauna Extinction, Ecosystem Disruption, and Climate Change in Australia: Assessing the Human Factor," \$155,800 awarded (9/00-8/03); \$55,909 awarded 9/02-8/03.
- 1997: NSF, Earth System History/GEO. CO-PI on "Drought in the Australian Outback: Milankovitch and Anthropogenic Forcing of the Australian Monsoon," awarded in full.
- 1996: NSF, International Postdoctoral Fellowship. "Late Quaternary Changes of Vegetation and Climate in Northern Australia," awarded in full.
- 1992: NSF, Dissertation Improvement Award, Archaeology. "Stable Isotope Biogeochemistry of Fossil Ostrich Eggshell: A New Tool for Late Pleistocene-Holocene Paleoecologic Reconstructions in Africa," awarded in full.

Internal Grants

- 2006: BBC Mellon Collaborative Faculty Development Project. CO-PI on "The Androscoggin River - A Living Laboratory," \$10,500 awarded (8/06-7/08).
- 2005: Bates College, Hughes Grant for Faculty/Student Group Project "Investigation of Organic Carbon Cycling and Sequestration Over the Last 5,000 Years at Sprague Marsh," \$9,100 awarded.
- 2003: Bates College, Hughes Grant for Faculty/Student Group Project "Investigation of Terrestrial Organic Carbon Cycling in Maine Coastal Environments Through the Last 12,000 Years," \$8,770 awarded.
- 2001: Bates College, Hughes Grant III Equipment Proposal. "Purchase of a New Chemical Fume Hood for the Geochemistry Curriculum in the Department of Geology," \$9,650 awarded.
- 2001: Bates College, Hughes Grant for Faculty/Student Group Project "Geologic Field-Work in the Wolf Creek Meteorite Crater, Western Australia," \$6,800 awarded.

Awards and Fellowships

- 2007: Phillips Fellowship, Bates College
- 1995: Outstanding Woman Geoscientist Award, Association for Women Geoscientists
- 1993: Zena Hunter Andrews Fellowship, University of Colorado
- 1991, 1992: Geological Society of America Research Grants
- 1991: Graduate School, University of Colorado Research Grant
- 1991: Krueger Enterprises, Inc., Research Grant

PUBLICATIONS (# designates student author)

- McMahon, K. W., Fogel, M. L., **Johnson, B. J.**, Houghton, L.A., Thorrold, S. R.,
Reconstructing fish diet and movement patterns using stable carbon isotope analysis of
otolith amino acid, *Canadian Journal of Fisheries and Marine Sciences*, (Submitted,
7/15/10).
- Morata, N., Renaud, P.E., Brugel, S., Hobson, K.A., **Johnson, B.J.**, 2008. Spatial and
seasonal variations in the pelagic-benthic coupling of the southeastern Beaufort Sea
revealed by sedimentary biomarkers, *Marine Ecology Progress Series*, V. 371, P, 47-63.
- Bourque, B. J., **Johnson, B.J.**, and Steneck, R., 2008. Possible prehistoric fishing affects on
coastal marine food webs in the Gulf of Maine. In *Human Impacts on Ancient Marine
Ecosystems* (eds., T.C. Rick and J.M. Erlandson), University of California Press, Berkley,
p. 165-185.
- Boving, T., Klement, J., Thienel, B.#, and **Johnson, B.**, 2007. Runoff Treatment with Aspen
Wood. In: ASABE - American Society of Agricultural and Biological Engineers,
Eleventh Individual and Small Community Sewage Systems Conference Proceedings.
Warwick, RI, Oct. 20-24, 2007. Paper No. 701P1107cd.
- Johnson, B.J.**, Moore, K.A.#, Lehmann, C., Bohlen, C. and Brown, T.A., 2007. Middle to
Late Holocene fluctuations of C₃ and C₄ vegetation in a Northern New England salt
marsh, Sprague Marsh, Phippsburg Maine: *Organic Geochemistry*, 38, 394-403. (DOI:
10.1016/j.orggeochem.2006.06.006).
- McMahon, K.W.#, Ambrose, W.G., **Johnson, B.J.**, Sun, M.-Y., Lopez, G.R., Clough, L.M.,
and Carroll, M.L., 2006. Benthic community response to ice algae and phytoplankton in
Ny Ålesund, Svalbard: *Marine Ecology Progress Series*, 310, 1-14.
- McMahon, K.W.#, **Johnson, B.J.**, and Ambrose, W.G., 2005. Diet and movement of the
killifish, *Fundulus heteroclitus*, in a Maine salt marsh assessed using gut contents and
stable isotope analyses: *Estuaries*, 28, 966-973.
- Johnson, B. J.**, Miller, G. H., Magee, J. W., Gagan, M. K., Fogel, M. L., and Quay, P.D.,
2005. Carbon isotope evidence for abrupt grassland loss coincident with European
settlement of Lake Eyre, South Australia: *The Holocene*, 15, 888-896.
- Wooller, M.J., **Johnson, B.J.**, Wilkie, A.#, and Fogel, M.L., 2005. Stable isotope
characteristics across narrow savanna/woodland ecotones in Wolfe Creek Meteorite
Crater, Western Australia: *Oecologia*, 145, 100-112. (DOI: 10.1007/s00442-005-0105-5).
- Miller, G.H., Fogel, M.L., Magee, J.W., Gagan, M.K., Clarke, S.J., and **Johnson, B.J.**, 2005.
Ecosystem collapse in Pleistocene Australia implies a human role in megafaunal
extinction: *Science*, 309, 287-290.
- Miller G.H., Hart C.P., Roark E.B., and **Johnson B.J.**, 2000. Isoleucine epimerization in
eggshells of the flightless Australian birds, *Genyornis* and *Dromaius*. In *Perspectives in
Amino Acid and Protein Geochemistry* (ed. G. A. Goodfriend, M. J. Collins, M. L. Fogel,
S. A. Macko, and J. F. Wehmiller), p. 161-181. Oxford University Press, Oxford.
- Johnson, B.J.**, Miller, G.H., Fogel, M.L., Magee, J.W., Gagan, M.K., and Chivas, A.R.,
1999. 65,000 years of vegetation change in central Australia and the Australian summer
monsoon: *Science*, 284, 1150-1152.
- Miller, G.H., Magee, J.W., and **Johnson, B.J.**, Fogel, M.L., Spooner, N.A., McCulloch,
M.T., Ayliffe, L.K., 1999. Pleistocene extinction of *Genyornis newtoni*: human impact
on Australian megafauna: *Science*, 283, 205-208.

PUBLICATIONS (continued)

- Johnson, B.J.**, Fogel, M.L., and Miller, G.H., 1998, Stable isotopes in modern ostrich eggshell: a calibration for paleoenvironmental applications in semi-arid regions of southern Africa: *Geochimica et Cosmochimica Acta*, 62, 2451-2461.
- Johnson, B.J.**, Miller, G.H., Fogel, M.L., and Beaumont, P.B., 1997. The determination of late Quaternary paleoenvironments at Equus Cave, South Africa, using stable isotopes and amino acid racemization in ostrich eggshell: *Palaeogeography, Palaeoclimatology, Palaeoecology*, 136, 121-137.
- Johnson, B.J.** and Miller, G.H., 1997. Archaeological applications of amino acid racemization dating: a review: *Archaeometry*, 39, 265-287.
- Fogel, M.L., Tuross, N., **Johnson, B.J.**, and Miller, G.H., 1997. Biogeochemical record of ancient man: *Organic Geochemistry*, 27, 257-287.
- Johnson, B.J.**, Fogel, M.L., and Miller, G.H., 1993. Paleoecological reconstructions in southern Egypt based on the stable carbon and nitrogen isotopes in the organic fraction and stable carbon isotopes in individual amino acids of fossil ostrich eggshell: *Chemical Geology*, 107, 493-497.
- Miller, G.H., Beaumont, P.B., Jull, A.J.T., and **Johnson, B.J.**, 1992. Pleistocene geochronology and paleothermometry from protein diagenesis in ostrich eggshells: implications for the evolution of modern humans: *Phil. Trans. R. Soc. Lond. B*, 337, 149-157.
- Johnson, B.J.**, Fogel, M.L., and Miller, G.H., 1992. Stable isotopes in fossil ostrich eggshell: *Carnegie Institution of Washington Year Book*, p. 97.

SELECTED ABSTRACT PRESENTATIONS (# designates student author)

- Johnson, B.**, Bourque, B., and Steneck, R., 2008. Stable isotopes and near shore food web dynamics in Penobscot Bay over the last 4500 years, The State of Marine Ecology in Maine Symposium, Bowdoin College (May, 2008).
- Johnson, B.**, Ambrose, W., Henkes, G.#, McMahon, K., and Carroll, M., 2007. Shifts in the $\delta^{13}\text{C}$ of *Serripes groenlandicus* Shell Organic Matter: A Proxy for Intra- and Interannual Changes in Primary Production in the Arctic? *234th American Chemical Society National Meeting*, Boston, MA, 8/19-8/23.
- Johnson, B.**, Ambrose, W., McMahon, K., and Carroll, M., 2007. Shifts in the $\delta^{13}\text{C}$ of *Serripes groenlandicus* Shell Organic Matter: A Proxy for Intra- and Interannual Changes in Primary Production in the Arctic? *Geological Society of America, Northeastern Sectional Meeting*, Durham, NH, 3/12-3/14.
- Johnson, B.**, Ambrose, W., McMahon, K., and Carroll, M., 2007. Shifts in the $\delta^{13}\text{C}$ of *Serripes groenlandicus* Shell Organic Matter: A Proxy for Intra- and Interannual Changes in Primary Production in the Arctic? *Arctic Frontiers*, Tromso, Norway, 1/22-1/26.
- Johnson, B.**, Beirne, E.#, Moore, K.#, Lehmann, C., Bohlen, C., and Brown, T., 2006. Late Holocene fluctuations of C3 and C4 plant communities and carbon sequestration in a Maine salt marsh. *New England Estuarine Research Society, 8th Biennial Research Conference*, New London, CT, 10/26-10/28.
- Johnson, B.**, Moore, K.#, Lehmann, C., Bohlen, C., and Brown, T., 2006. Middle to Late Holocene fluctuations of C3 and C4 plant communities and carbon sequestration in a Northern New England salt marsh, Maine, USA: *EGU General Assembly*, April, Vienna.

SELECTED ABSTRACT PRESENTATIONS (continued) (# designates student author)

- Johnson, B.J.**, Wakeham, S., Gélinas, Y., Luly, J., Miller, G., 2004. Isotopic evidence for C4 grass expansion during the Last Glacial Maximum and Younger Dryas in Northern Australia: *AGU Fall Meeting*, December, San Francisco.
- Johnson, B.J.**, Wakeham, S., Gélinas, Y., Luly, J.G., Miller, G.H., 2004. A 35,000 year record of vegetation and fire history in the Keep River National Park, NT, Australia: *Gordon Conference on Organic Geochemistry*, August, Holderness, N.H.
- Johnson, B.**, Miller, G., Luly, J., Quay, P., 2003. Late Quaternary vegetation history of the Keep River National Park, Northern Territory, Australia: *XVI INQUA Congress*, Reno, NE, Programs with Abstracts, p. 74.
- Ouellette, N.O. #, **Johnson, B.J.**, Anderson, P.A., Lozhkin, A., 2003. Lipid biomarkers and late Quaternary organic carbon cycling at Lake Elikchan, northeast Siberia: *XVI INQUA Congress*, Reno, NE, Programs with Abstracts, p. 77.

SELECTED STUDENT ABSTRACTS AND PRESENTATIONS

(# and @ designate undergraduate and graduate students, respectively)

- Loopesko, W.V., Johnson, B.J., Bohlen, C.C., Doan, M., and Dostie, P., 2010. *Zostera marina* as a proxy for anthropogenic nitrogen enrichment in Casco Bay, Maine. *Northeastern/Southeastern Section Meeting of the Geological Society of America* (14-16 March, Baltimore).
- Judice, E.V., Johnson, B.J., Joseph, R., and Dostie, P., 2010. Stable isotope analysis of *Fundulus Heteroclitus* and the effectiveness of ditch-plug restoration at the Sprague River Salt Marsh, Phippsburg, Maine. *Northeastern/Southeastern Section Meeting of the Geological Society of America* (14-16 March, Baltimore).
- Doolittle, D. #, Lindelof, J. #, **Johnson, B.**, Dostie, P., Bates College Environmental Geochemistry Class (GEO 240), 2010. Winter chloride fluctuation as a result of road salt application along the Androscoggin River in Auburn, Maine. *Maine Water Conference, 2010*, March 17, Augusta. Undergraduate Poster.
- Eberhardt, A. @, Burdick, D., **Johnson, B.**, Dionne, M., 2008. Can tidal restrictions in salt marshes limit prey items for the American eel, *Anguilla rostrata*? *New England Estuarine Research Society, 10th Biennial Research Conference* (Greenland, 5/1-5/3).
- Eberle, D.E.H. # and **Johnson, B.J.**, 2008. A 300 year record of metal deposition at Taylor Pond, Auburn, Maine. *Geological Society of America, Northeastern section 40th Annual Meeting* (Buffalo, N.Y., 3/27-3/29), *Abstracts with Programs*, (Honorable Mention for Undergraduate Student Poster Competition; 5 awards made out of 132 posters).
- Henkes, G.A. #, Ambrose, W.A., **Johnson, B.J.**, Carroll, M.L., McMahon, K.W., Denisenko, S.G., Thorrold, S.r., Voronokov, A., 2007. Tracing environmental variation over the past 130 years in the Barents Sea: mineral ratio evidence in shells of the circumpolar Greenland cockle, *Serripes groenlandicus*. *American Geophysical Union, San Francisco, 12/08*.
- Noblitt, C. # and **Johnson, B.**, 2007. Stable carbon and nitrogen isotopes in mollusk tissue and shell organic matter: potential tracers of primary production in the near shore Gulf of Maine. *New England Estuarine Research Society, 9th Biennial Research Conference*, (Boothbay, ME., 5/3-5/5).

SELECTED STUDENT ABSTRACTS AND PRESENTATIONS (continued)

(# and @ designate undergraduate and graduate students, respectively)

- Rodgers, K.G. #, **Johnson, B.J.**, Anderson, P.M, and Lozhkin, A.V., 2005. Stable carbon isotope analysis of lake core sediments and lipid biomarkers as a proxy for Late Pleistocene carbon cycling at Elikchan Lake, NE Siberia. *Geological Society of America, Northeastern section 40th Annual Meeting* (Saratoga Springs, N.Y., March, 2005), *Abstracts with Programs*, p. 14.
- Frost, D.S. #, Retelle, M.J., and **Johnson, B.J.**, 2005. Paleoclimate reconstruction using physical sedimentology and organic matter biogeochemistry of varved sediments, Basin Pond, Fayette, ME. *Geological Society of America, Northeastern section 40th Annual Meeting* (Saratoga Springs, N.Y., March, 2005), *Abstracts with Programs*, p. 14.
- Felton, A. #, **Johnson, B.**, and Retelle, M., 2004. Organic carbon cycling in laminated sediments from coastal lacustrine and marine environments, eastern Canadian Arctic, *Geological Society of America, combined Northeastern section 39th Annual Meeting and Southeastern section 53rd Annual Meeting* (Tysons Corner, March, 2004), *Abstracts with Programs*, p. 154.
- Gontz, A. M. #, Belknap, D. F., **Johnson, B. J.**, and Kelley, J. T., 2004. Paleogeographic reconstructions of the Black Ledges pockmark field, Penobscot Bay, Maine from 13ka to present, *Geological Society of America, combined Northeastern section 39th Annual Meeting and Southeastern section 53rd Annual Meeting* (Tysons Corner, March, 2004), *Abstracts with Programs*, p. 45.

INVITED TALKS

College of the North Atlantic (4/10), Marine Biological Laboratory (12/09), State of Maine Ecology in Maine Symposium, Bowdoin (5/08), Maine Maritime Academy (4/08), Colby (10/05), University Maine (2/03); University of Tennessee (2/02), Australian Rangeland Society (8/00), Gordon Conference (1/00), University South Carolina (9/99), Goldschmidt Conference (8/99), CSIRO, Division of Wildlife and Ecology (6/97), RSES, Australian National University (3/97), University of Delaware (3/96), Duke University (11/95), Academy of Natural Sciences, Philadelphia (11/95).

PEER REVIEWER

National Science Foundation
PRF-ACS
Geochimica et Cosmochimica Acta
Proceedings of the National Academy of Sciences

PROFESSIONAL MEMBERSHIPS

American Geophysical Union
Geological Society of America
Universities Council on Water Resources

National Association of Geoscience Teachers
Am. Assoc. for the Advancement of Science

RECENT COLLABORATORS

William Ambrose: Department of Biology, Bates College, Lewiston, ME
Patricia Anderson: Quaternary Research Center: University of Washington, Seattle, WA
Bruce Bourque: Department of Anthropology, Bates College, Lewiston, ME
Don Canfield: NordCEE, University of Southern Denmark
Alyson Eberhardt: PhD Student, Department of Biology, University of New Hampshire
Allen Gontz: Department of Geology, University of Maine, Orono, ME
Ronald Joseph: US Fish and Wildlife, ME
Kirsten Habicht: NordCEE, University of Southern Denmark
Lynne Lewis: Department of Economics, Bates College
John Lichter: Environmental Studies, Bowdoin College
Jon Luly: James Cook University, Townsville, Australia
Gifford Miller: INSTAAR, University of Colorado, Boulder, CO
Kelton McMahon: PhD Student, WHOI Joint Program, Woods Hole, MA
Hilary Neckles: USGS, Patuxent Wildlife Research Center, MEs
Mike Retelle: Department of Geology, Bates College, Lewiston, ME
Bob Steneck: Darling Marine Center, University of Maine
Willis, Theo: Environmental Science and Aquatic Systems Group, U of Southern Maine
Wilson, Karen: Environmental Science and Aquatic Systems Group, U of Southern Maine