

**ALISON JEAN SMITH**  
PROFESSOR, DEPARTMENT OF GEOLOGY, AND  
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CURRICULUM VITAE

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Education

1991 – Ph.D. (Geology), Brown University  
1987 – M.Sc. (Geology), University of Delaware  
1980 – M.Ph. (Archaeology), Cambridge University  
1979 – B.A. (Anthropology), Wheaton College, Massachusetts

Positions Held

2017-Dean, The Honors College, July 2017-  
2017-Acting Chair, Spring semester 2017  
2012-present-Assistant Chair, Geology  
2009-present-Adjunct Professor, Biological Sciences  
2001 to present – Full Professor, Geology,  
1998 to 2010-Director, Master of Liberal Studies Program  
1995 to August, 2001 – Associate Professor, Geology  
1990 to August, 1995 - Assistant Professor, Geology

Teaching Experience

Courses: *Graduate Level:* The Holocene, Paleolimnology, Cenozoic Climate Change, Micropaleontology, Introduction to Liberal Studies. *Undergraduate Level:* Invertebrate Paleontology (Writing Intensive), Oceanography, Water & Society (Honors College), Earth & Life Through Time.

Leadership Experience

**Dean**, The Honors College, Kent State University, 2017-current, [www.kent.edu/honors](http://www.kent.edu/honors)

**President**, American Quaternary Association (AMQUA) 2014-2016 [www.amqua.org](http://www.amqua.org)

**Vice-Chair**, U.S. National Committee for INQUA, 2010-2016  
<http://sites.nationalacademies.org/PGA/biso/INQUA/index.htm>

**Director**, Master of Liberal Studies Program, Kent State University, 1998-2010

## Graduate Students

- Joan C. Puller, M.S. 1995. Thesis: A Study of Fossil Ostracoda from Elkwater Lake, Alberta: Lake Response to Late Holocene Climate Changes.
- John Carney, M.S. 1997. Thesis: The Use of Ostracodes and Environmental Isotopes as Indicators of Surface-Groundwater Interaction in Hays County, Central Texas
- Dana Oleskowiecz, M.S. 1998. (in co-advisement with Bob Carlson, Biology Dept.) Thesis: Seasonal Distributions of Ostracodes in East Twin Lake, Portage Co., Ohio
- Sonia Bacon, M.S., 1999. Thesis: Seasonal Study of Ostracodes and Environmental Isotopes in Page Pond, Cuyahoga Co., Ohio
- Bonnie Muller, M.S., 2001. Thesis: Application of Spatial Analysis to Nonmarine Ostracode Distribution in the United States
- Timothy N. Cosma, M.S., 2002. Thesis: Paleoenvironment of Plio-Pleistocene Lake Cahuilla, Anza-Borrego State Park, California
- Colleen Jones, M.S., 2002. Thesis: Ostracode Distribution and Hydrogeochemical Variability in a Fen Wetland
- Cordelia Dennison-Budak, M.S. 2010. Thesis: Ostracodes as Indicators of the Paleoenvironment in the Pliocene Glens Ferry Formation, Glens Ferry Lake, Idaho
- Kay Amey, Ph.D. 2011. Dissertation: Hydrology and Predictive Model of Headwater Streams and the Groundwater/Surface Water Interactions Supporting Brook Trout Habitat in Northeast Ohio
- Katie Wells, M.S. 2011. Thesis: Paleoecology of Beringian lacustrine deposits as indicated by northern hemisphere ostracode biogeography
- Frank Mathias, M.S. 2014. Thesis: Ostracodes as proxies of the paleoenvironment in a prehistoric lake, Butte Valley, Siskiyou County, California
- Kevin Engle, M.S. 2015. Thesis: Paleoecology and Isotopic Analysis of Ostracodes from a Holocene Core from Twin Ponds Lake in Brookfield, Vermont
- Ted Surdel, M.S. (in progress). Thesis: Biogeographic and Paleohydroclimatic Study of Quaternary Ostracodes from Walker Lake, Nevada

## Undergraduate Honors Thesis Students

- Nicole Miklus, 2003. Ostracodes as Indicators of a Younger Dryas Environment at Three Fossil Mastodon Sites in New York, Honors Thesis.
- Robin Green, 2008. Ostracodes, Microenvironments, and Changing Hydrology in a Fen Wetland in Northeast Ohio, Honors Thesis.

## Published Papers (1991-present)

- Osborn, G., Thomas, R., McCoy, W.D., Miller, B. and Smith, A.J., **1991**, Significance of a molluscan fauna to the physiographic history of the Calgary area, Alberta: *Canadian J. of Earth Sci.*, v.28, p.1948-1955.

- Curry, B.B. and Smith, A.J., **1991**, Preliminary survey of ostracodes from Jamestown Quarry, IN Hajic, E.R., Johnson, W.H., and Follmer, L.R., (eds.), Quaternary Deposits and Landforms, Confluence Region of the Mississippi, Missouri, and Illinois Rivers, Missouri and Illinois: Terraces and Terrace Problems, Midwest Friends of the Pleistocene 38th Field Conference, Univ. of Illinois, p. 95-96.
- Smith, A.J., Delorme, L.D., and Forester, R.M., **1992**. A lake's solute history from ostracodes: comparison of methods, IN Kharaka, Y.K. and Maest, A.S. (eds.) Water-Rock Interaction, Proceedings of the 7th International Symposium on Water-Rock Interaction, p. 677-680.
- Smith, A.J., **1993**. Lacustrine ostracodes as hydrochemical indicators in lakes of the north-central United States, *J. Paleolimnology*, 8, 121-134.
- Smith, A.J. and Dai, B., **1993**. The ostracode record from Europe Lake, Wisconsin: the past 6,600 years. In Schneider, A.F. (ed.) Pleistocene geomorphology and stratigraphy of the Door Peninsula, Wisconsin, Friends of the Pleistocene 40th Mtg, University of Wisconsin Parkside, p. 63-66.
- Smith, A.J., **1993**. Lacustrine ostracode diversity and hydrochemistry in lakes of the northern Midwest of the United States, 11th International Symposium on Ostracoda: Balkema Publishers, Rotterdam, p. 493-502.
- Forester, R.M. and Smith, A.J., **1993**. Microfossils as indicators of paleohydrology and paleoclimate, Disposal of Radioactive Waste, NEA Paleohydrological Methods and their Applications, Proceedings of an Organization for Economic Cooperation and Development, Nuclear Energy Agency Technical Workshop, Paris, France, 9-10, November, 1992, 39-57.
- Miller, B.B., Palmer, D.F., McCoy, W.D., Smith, A.J., and Colburn, M.L., **1993**. A Pre-Illinoian Pleistocene fossil assemblage from near Connersville, southeastern Indiana, *Quaternary Research*, 40, 254-261.
- Rea, D.K., Moore, T.C., Jr., Anderson, T.W., Lewis, C.F.M., Dobson, D.M., Dettman, D.L., Smith, A.J., and Mayer, L.A., **1994**, Great Lakes paleohydrology: complex interplay of glacial meltwater, lake levels, and sill depths, *Geology*, v. 22, p. 1059-1062.
- Smith, A.J. and Forester, R.M., **1994**. Estimating past precipitation and temperature from fossil ostracodes, Proceedings of the 5th International High Level Radioactive Waste Management Conference and Exposition, May, 1994, Las Vegas, Nevada, 2545-2552.
- Forester, R.M. and Smith, A.J., **1994**. Late glacial climate estimates for southern Nevada-the ostracode fossil record, Proceedings of the 5th International High Level Radioactive Waste Management Conference and Exposition, May, 1994, Las Vegas, Nevada, 2553-2561.

- Miller, B.B., Graham, R.W., Morgan, A.V., Miller, N.G., McCoy, W.D., Palmer, D.F., Smith, A.J., and Pilny, J.J., **1994**. A biota associated with Matuyama-age sediments in west-central Illinois, *Quaternary Research*, v. 41, 350-365.
- Rea, David K., Moore, T.C., Jr., Lewis, C.F.M., Mayer, L.A., Dettman, D., Smith, A.J., and Dobson, D., **1994**. Stratigraphy and paleolimnologic record of early Holocene sediments in northern Lake Huron and Georgian Bay, *Canadian J. Earth Science.*, 31, 1586-1605.
- Lewis, C.F. Michael, Moore, T.C., Jr., Rea, D.K., Dettman, D., Smith, A.J., and Mayer, L.A. **1994**. Lakes of the Huron Basin; their record of runoff from the southern Laurentide ice sheet, *Quaternary Science Reviews.*, 13, 891-922.
- Dai, B. and Smith, A.J., **1995**. Hydrochemical and biological responses to water quality variability within a wetland, Proceedings of the American Institute of Hydrology, 1995 Annual Meeting, Water Resources at Risk, Denver, Colorado, pp LL23-LL30.
- Dettman, D., Smith, A.J., Rea, Moore, T.C., Jr., and D.K., Lohmann, K.C., **1995**. Glacial meltwater in Lake Huron during early postglacial time as inferred from single valve analysis of oxygen isotopes in ostracodes, *Quaternary Research*, 43, 297-310.
- Karrow, P., Ceska A., Hebda, R., Miller B., Seymour, K. and Smith, A., **1995**. Diverse nonmarine biota from the Whidbey Formation (Sangamonian) at Point Wilson, Washington, *Quaternary Research*, 44, 434-437.
- Smith, A.J., Donovan, J., Panek, V., Engstrom, D., Ito, E., and Gong, E., **1996**. Climate-driven hydrologic transients in Holocene lake records, IN C.M. Isaacs and V. L. Tharp (eds.), Proceedings of the Twelfth Annual Pacific Climate (PACLIM) Workshop, May 2-5, 1995. Interagency Ecological Program, California Dept. of Water Resources, pp. 211-215.
- Smith, A.J., **1996**. Preliminary report on the ostracod record from Pyramid Lake, Nevada, IN Benson, L.V. (ed.) Proceedings of the Workshop "Ongoing Paleoclimatic Studies in the Northern Great Basin", Reno Nevada, May, 1993. U.S. Geological Survey Circular 1119, pp.95-97.
- Feldmann, R., Holland, F.D., Jr., and Smith, A.J., **1997**. Preparation methods, IN Fossils of Ohio, Feldmann, R. (ed.) Ohio Geological Survey Publication.
- Smith, A.J. and Tillman, J.R., **1997**. Arthropoda, Class Crustacea, Subclass Ostracoda, IN Fossils of Ohio, Feldmann, R. (ed.), Ohio Geological Survey Publication.
- Smith, A.J., Donovan, J.J., Ito, E., and Engstrom D., **1997**. Ground-water processes controlling a prairie lake's response to middle Holocene drought, *Geology*, v. 25, p. 391-394.

- Vance, R., Last, W., and Smith, A.J., **1997**. Hydrologic and climatic implications of a multidisciplinary study of late Holocene lake sediment from southeastern Saskatchewan, Canada, *J. Paleolimnology*, v. 18, p. 365-393.
- Miller, B.B., Schneider, A.F., Smith, A.J., Palmer, D.F., **2000**. A 6000 year water level history of Europe Lake, Wisconsin, USA. *J. Paleolimnology*, 23, 175-183.
- Moore, T.C., Jr., Walker, J.C.G. , Rea, D.K. , Lewis, C.F.M., Shane, L.C.K., Smith, A.J., **2000**. Younger Dryas interval and outflow from the Laurentide ice sheet , *Paleoceanography*. 15 , No. 1 , p. 4-18.
- Saros, J.E., Baker, R., Fritz, S. C., Goodfriend, G.A., and Smith, A.J., **2000**. Shifts in mid- to late-Holocene anion composition in Elk Lake (Grant County, Minnesota); comparison of diatom and ostracode inferences, *Quaternary International*, v. 67, p. 37-46.
- Donovan, J.J., Smith, A.J., Ito, E., Engstrom, D.R., and Panek, V., **2002**. Climate driven hydrologic transients in lake sediment records: calibration of groundwater conditions to 20th century drought, *Quaternary Science Reviews* 21/4-6, pp. 605-624.
- Smith, A.J., Donovan, J.J., Ito, E., Engstrom, D.R., and Panek, V., **2002**. Climate driven hydrologic transients in lake sediment records: multiproxy record of mid-Holocene drought. *Quaternary Science Reviews* 21/4-6 pp. 625-646.
- Smith, A.J. and Horne, D., **2002**. Ecology of Marine, Marginal Marine, and Nonmarine Ostracods, in *The Ostracoda: Applications in Quaternary Research, Geophysical Monograph Series*, edited by A. R. Chivas and J. A. Holmes, Monograph Series, Volume 131, 313 pages, Chapter 2, American Geophysical Union, Washington, D. C., pp. 37-64.
- Smith, A.J., J.W. Davis, D.F.Palmer, R.M. Forester, and B.B. Curry, **2003**. Ostracodes as hydrologic indicators in springs, streams and wetlands: a tool for environmental and paleoenvironmental assessment, In Park, Lisa E. and Smith, Alison J.(eds.)Bridging the Gap: Trends in the Ostracode Biological and Geological Sciences, *The Paleontological Society Special Papers*, v. 9. New Haven: Yale University Press, pp. 203-222. (published November, 2003)
- P.F. Karrow, T.F. Morris, J.H. McAndrews, A.V. Morgan, A.J. Smith, and I.R. Walker, **2007**. A diverse late-glacial (Mackinaw Phase) biota from Leamington, Ontario. *Canadian Journal of Earth Sciences*, v. 44, p. 287-296.
- Smith, Alison J., **2007**. Century scale Holocene processes as a source of natural selection pressure in human evolution: Holocene climate and the Human Genome Project, *The Holocene*, v.17, no. 5, pp. 689-695.
- Miklus, Nicole M., Smith, A.J., Palmer, D.F., and Nester, P., **2008** . Tracking the code, climate-induced shifts in ostracode biogeography at three fossil mastodon sites in New

York State, in Allmon, W. D., and P. L. Nester, eds. 2008. Mastodon paleobiology, taphonomy, and paleoenvironment in the Late Pleistocene of New York State: studies on the Hyde Park, Chemung, and North Java Sites. *Palaeontographica Americana*, no. 61, p. 73-83.

- Lewis, C.F.M., King, J.W., Blasco, S.M., Brooks, G.R., Coakley, J.P., Croley, T.E., Dettman, D.L., Edwards, T.W., Heil, C.W., Hubeny, J.B., Laird, K.R., McAndrews, J.H., McCarthy, F.M., Medioli, B.E., Moore, T.C., Rea, D.K. and Smith, A.J., **2008**. Dry climate disconnected the Laurentian Great Lakes, **EOS**, Transactions, American Geophysical Union, v. 89, no. 42, 23 December, 2008, 541-542.
- Smith, Alison J. and Delorme, L. Denis, **2009**. Ostracoda, Chapter 19, IN Thorp, J. and Covich, A. (Eds.), Ecology and Classification of North American Freshwater Invertebrates, Third Edition, Academic Press, pp. 811-849.
- Blois, Jessica; Goring, Simon; Smith, Alison, **2011**. Integrating Paleocological Databases, **EOS**, vol. 92, p. 48.
- Smith, Alison J., **2012**. Evidence of environmental change from terrestrial and freshwater palaeoecology, Chapter 12 IN (Matthews, J., Bartlein, P., Briffa, K., Dawson, A., de Vernal, A., Denham, T., Fritz, S. and Oldfield, F., Eds.) , Handbook of Environmental Change, Sage Publishing, pp. 254-283.
- Schön, I., Pinto, R.L., Halse, S., Smith, A.J., Martens, K., Birkey, W., Jr., **2012**. Cryptic species in putative ancient asexual Darwinulids (Crustacea, Ostracoda), **PLoS1**, v.7, (7), e39844, pp. 1-10.
- Smith, A.J. and Palmer, D.F. **2012**. The versatility of Quaternary ostracods as palaeoclimate proxies: comparative testing of geochemical and ecological/biogeographical approaches, IN (Horne, D., Holmes, J., Rodriguez-Lasaro, J., and Viehberg, F., Eds.) Ostracoda as Proxies for Quaternary Climate Change, vol. 17 in Developments in Quaternary Science series, Elsevier Science Publishing, pp. 183-203.
- Mezquita, F., Viehberg, F. and Smith, A.J. **2012**. The biology and ecology of ostracods IN (Horne, D., Holmes, J., Rodriguez-Lasaro, J., and Viehberg, F., Eds.) Ostracoda as Proxies for Quaternary Climate Change, vol. 17 in Developments in Quaternary Science series, Elsevier Science Publishing, pp. 15-35.
- Curry, B. B., Delorme, L.D., Smith, A.J., Palmer, D.F., and Stiff, B.J., **2012**. The biogeography and physiochemical characteristics of aquatic habitats of freshwater ostracodes in Canada and the United States IN (Horne, D., Holmes, J., Rodriguez-Lasaro, J., and Viehberg, F., Eds.) Ostracoda as Proxies for Quaternary Climate Change, vol. 17 in Developments in Quaternary Science series, Elsevier Science Publishing, pp. 85-115.

- Ranasinghe, P.N., Ortiz, J.D., Smith, A.J., Griffith, E.M., Siriwardana, C.H., de Silva, S.N., and Wijesundara, D.T., **2013**. Mid- to late-Holocene Indian winter monsoon variability from a terrestrial record in eastern and southeastern coastal environments of Sri Lanka, *The Holocene*, 0959683612475141, first published on March 19, 2013.
- Danielopol, D.L., Baltanas, A., Carbonel, P., Colin, J-P, Crasquin, S., Decrouy, L., DeDeckker P., Gliozzi, E., Groos-Uffendorde, H., Horne, D.J., Iepure, S., Keyser, D., Kornicker, L., Lord, A., Martens, K., Matzke-Karasz, R., Miller, C.G., Oertli, H.J., Publiese, N., Russo, A., Sames, B., Schon, I., Siveter, D.J., Smith, A., Viehberg, F.A., Wouters, K., Yassini, I., **2014**. From Naples 1963 to Rome 2013-A brief review of how the International Research Group on Ostracoda (IRGO) developed a social communication system, *Palaeogeography, Palaeoclimatology, Palaeoecology*, (in press), <http://dx.doi.org/10.1016/j.palaeo.2014.08.016>.
- Viehberg, Finn, Matzke-Karasz, Renate, Park Boush, Lisa., and Smith, Alison (editors), **2014**. The Recent and Fossil meet Kempf Database Ostracoda: Festschrift Eugen Karl Kempf, *Crustaceana*, 87, 260 pp..
- Smith, Alison J., Horne, David J., Martens, K., and Shon, I. **2015**. Ostracoda, IN (Thorp, J. and Rogers, D.C. (eds.) Ecology and General Biology: Thorp and Covich's Freshwater Invertebrates, Volume 1, Academic Press, Chapter 30, pp. 757–780. electronically released October, **2014**, print version Jan 2015, pp. 757-780.
- Smith, A.J. and Horne, D.J., **2016**. Ostracoda of the Nearctic, In: Thorp, J., Rogers, D.C. (Eds.), Ecology and General Biology: Thorp and Covich's Freshwater Invertebrates, Volume 2, Chapter 16, Academic Press, pp. 477-513.
- Rowell, C., Enache, M., Quinlan, R., Smith, A.J., Bloomfield, J., Charles, D., Effler, S., **2016**, Quantitative paleolimnological inference models applied to a high resolution biostratigraphic study of lake degradation and recovery, Onondaga Lake, New York (USA), *Journal of Paleolimnology*, 55, pp. 241-258.
- Forester, R.M., Carter, C., Quade, J., Smith, A.J., **2017**. Aquifer and surface-water ostracodes in Quaternary paleowetland deposits of southern Nevada, USA, *Hydrobiologia*, 786: 41. doi:10.1007/s10750-016-2966-5.
- Smith, A.J., Ito, E., Curry, B.B., and De Deckker, P., **2017**. The contribution of Richard M. Forester to the knowledge of the paleohydrologic and paleoclimatic significance of Cenozoic non-marine Ostracoda: An introduction to the Richard M. Forester memorial issue, *Hydrobiologia*, 786:1. doi:10.1007/s10750-016-2963-8.
- Williams, J.W., Grimm, E.C., Blois, J., Charles, D., Davis, E., Goring, S., Graham, R., Smith, A.J., Anderson, M., Arroyo-Cabrales, J., Ashworth, A., Betancourt, J., Bills, B., Booth, R., Buckland, P., Curry, B., Giesecke, T., Jackson, S., Latorre, C., Nichols, J., Purdum, T., Roth, R., Stryker, M., and Takahara, H., **2018**. The Neotoma

Paleoecology Database: A multi-proxy, international community-curated data resource, *Quaternary Research*, 89:1, 156-177, <https://doi.org/10.1017/qua.2017.105>.

### Internet Access Database

Forester, R.M., Smith, A.J., Palmer, D.F., Curry, B.B., December, **2005**. NANODe: North American Nonmarine Ostracode Database, version 1, [www.kent.edu/NANODe](http://www.kent.edu/NANODe), Kent State University, Kent, Ohio, U.S.A. (Externally reviewed website).

### Papers Delivered (Meeting Abstracts) 1990-present

Smith, A.J., 1990, Lacustrine ostracodes as indicators of past solute conditions in a Holocene core from Elk Lake, Grant Co., MN., U.S.A. (Abs.): Geol. Soc. America, Abstracts with Programs, v. 22, p. 312. (R)

Smith, A.J., 1991, Comparison of past solute conditions from Holocene cores from Elk Lake, Grant Co., MN and Pickerel Lake, Day Co., SD, using lacustrine ostracodes (Abs.): Geol. Soc. America, Abstracts with Programs, v. 23, p. 60. (R)

Smith, A.J., 1991, Lacustrine ostracodes and hydrochemistry of lakes in the north-central United States: implications for paleohydrochemistry (Abs.): 11th International Symposium on Ostracoda, Australia, Programme with Abstracts, p. 80. (R),(I)

Smith, A.J., 1991, The Holocene solute history of Elk Lake, Grant Co., MN: modern analog and response surface reconstructions based on ostracodes (Abs.): Sedimentary and paleolimnological records of saline lakes, Saskatoon, Conference Program and Abstracts, p. 50.(R)

Smith, A.J., Delorme, L.D., and Forester, R.M., 1992, A lake's solute history from ostracodes: comparison of methods: 7th International Symposium on Water-Rock Interaction Programme, p. 21. (paper published separately: see above). (R)

Smith, A.J. and Forester, R.M. 1992, A regional relationship between effective moisture, lake chemistry, and ostracodes (Abs): Geol. Soc. America, Abstracts with Program, v. 24, no. 7, p.180. (R)

Forester, R.M. and Smith, A.J., 1993. Temporal changes in lacustrine chemistry, a measure of perturbations in the hydrologic cycle, (Abs) International Paleolimnology Conference, Canberra Australia. (Invited Presentation).(R),(I)

Smith, A.J., and Forester, R.M., 1993. Past precipitation and air temperature reconstructions: the ostracode record (Abs), SEPM 1993 Meeting, Penn State University, Pennsylvania, p. 30. (Invited Presentation). (R),(I)



- Smith, A.J., 1993. A preliminary report on the ostracode record from Pyramid Lake, Nevada (Abs), 1993 Workshop "Ongoing paleoclimatic studies in the northern Great Basin, U.S. Geological Survey, Univ. Nevada, Desert Research Institute co-sponsors, Reno, Nevada. (R)
- Smith, A.J., 1993. Little Ice Age Records from the Great Plains: the ostracode record of lacustrine solute history (Abs), Geol. Soc. America, Abstracts with Program, v. 25, no. 6, p. 391. (R)
- Smith, A.J., and Forester, R.M., 1994. Estimating past precipitation and temperature from fossil ostracodes (Invited Presentation). The 5th Annual International High-Level Radioactive Waste Management Conference & Exposition, May, 1994 (paper published separately-see above). (R),(I)
- Puller, Joan C. and Smith, Alison J., 1994, Identifying groundwater-lake interactions: modern and Holocene ostracode records from Elkwater Lake, Alberta (Abs), American Quaternary Association, Abstracts with Program, June, 1994, p. 149. (R)
- Schwalb, Antje, Locke, Sharon M., Smith, Alison J., and Dean, Walter E., 1994, Ostracode and stable isotope evidence of Holocene environmental changes in Minnesota lake sediments (Abs), American Quaternary Association, Abstracts with Program, June, 1994, p. 155. (R)
- Smith, Alison J., 1994, Calibration of ostracodes as hydrochemical indicators using lake sediment records from 1900 to present from the Great Plains (Abs), American Quaternary Association, Abstracts with Program, June, 1994, p. 162. (R)
- Engstrom, D.R., Ito, E., Grimm, E.C., Fritz, S.C., Smith, A.J., 1995. Holocene paleohydrology and paleoecology of saline lakes in the northern Great Plains of the U.S.: a collaborative multi-proxy initiative, Geological Soc. America Abstracts with Programs, North-Central Section, v. 27, p. 48 (R)
- Donovan, J. and Alison Smith, 1995. Climate-driven shifts in lake solute source: groundwater-surface water interaction in Holocene Elk lake, Grant Co., MN, Geological Society of America Abstracts with Programs, North-Central Section, v.27, p. 47 (R)
- Gong, Z., Engstrom, D.R., Ito, E., Smith, A.J., Donovan, J., 1995. Mid-Holocene changes in groundwater sources to Elk Lake, Grant Co., MN, inferred from isotope and trace metal content of fossil ostracodes, Geological Society of America Abstracts with Programs, North-Central Section, v. 27, p. 52. (R)
- Ito, E., Engstrom, D.R., Fritz, S.C., Smith, A.J., 1995. The calibration of proxy records of lake salinity to instrumental climate records in the Northern Great Plains, Geological Soc. America Abstracts with Programs, North-Central Section, v. 27, p. 61. (R)

- Puller, Joan C. and Smith, Alison J., 1995. Groundwater-lake interactions: modern and Holocene ostracode records from Elkwater Lake, Alberta, Geological Society of America Abstracts with Programs, North-Central Section, v. 27, p. 81. (R)
- Smith, Alison J. and J. Donovan, 1995. The Holocene history of climate-driven hydrologic transients in Elk lake, Grant Co., Minnesota: the Ostracode record, Geological Society of America Abstracts with Programs, North-Central Section, v 27, p. 86. (R)
- Smith, A.J., Vance, R.E., and Last, W.M., 1995. Paleohydrologic implications of a multidisciplinary study of late Holocene sediments from Kenosee Lake, Saskatchewan, Geological Society of America Abstracts with Programs, North-Central Section, v. 27, p. 86. (R)
- Smith, Alison J., 1995. Ostracodes as Indicators of Climatic Processes and Anthropogenic Disturbances in Aquatic Environments (Invited Presentation to the Cushman Symposium) Geological Society of America Abstracts with Programs, National Meeting, v. 27, no. 6, p.A27 (R) (I)
- Smith, Alison J. and Palmer, Donald F., 1995. Groundwater-lake interaction and microfossil distributions: implications for paleo-environmental reconstructions, Geological Society of America Abstracts with Programs, National Meeting, v. 27, no. 6, p. A56. (R)
- Dai, B. Smith, A.J., and Yan, Y., 1995, Hydrological control of hydrochemical and biological characteristics in a fen wetland system, American Geophysical Union Annual Fall Meeting, San Francisco, AGU Meeting Abstracts, f227. (R)
- Carney, J., Smith, A.J., and Forester, R.M., 1996. Ostracodes as indicators of surface-groundwater interactions on the Edwards Plateau, Geological Society of America-South Central Meeting, San Marcos, Texas, March, 1996. v. 27, no. 1, p.7.
- Carney, J., Smith, A.J., and Forester, R.M., 1996, Identifying modern analogs for Holocene recharge history of the Edwards Aquifer, Central Texas using ostracodes, AMQUA National Meeting, Program with Abstracts, Flagstaff Arizona, p. 70.
- Puller, J., Ito, E., and Smith, A.J., 1996, Ostracode  $\delta^{18}O$  and  $\delta^{13}C$  differences by species and by sampling site within Elkwater Lake, Alberta, AMQUA National Meeting, Program with Abstracts, Flagstaff Arizona, p. 119.
- Smith, A.J., Ito, E., Donovan, J., and Engstrom D., 1996, Geochemical and faunal record of ground water-surface water interaction during this century from Elk Lake, Grant Co., MN., AMQUA National Meeting, Program with Abstracts, Flagstaff Arizona, p.188.
- Smith, A.J., 1996. Aquatic environments in retrospect: ostracodes as indicators of climatic processes and anthropogenic disturbance (Invited Presentation), Ecological Society of America National Meeting, Providence, R.I., ESA Bulletin, Program with Abstracts, v.77, no.3, p.412. (R)

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Association of Great Lakes Research, IAGLR Annual Conference, Penn State University, Book of Abstracts, p. 182.

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- Smith, Alison J. and Horne, David J., 2016. Widening the field of view for ostracode biogeography: Holarctic view of nonmarine ostracodes reveals useful analogs of climate and environmental change, American Quaternary Association, Inc., Abstracts with Program, 24th Biennial Meeting, Santa Fe, NM., 24, p. 48.
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- Smith, Alison J. and Horne, David J., 2017. Holarctic views of hydroclimatic changes in Pliocene through Holocene time using non-marine ostracode biogeographic databases, International Biogeography Society, Tucson, Arizona, Jan 9-13, Conference Program and Abstracts, p. 123.
- Surdel, Theodore and Smith, Alison J., 2017. Preliminary study of Limnocythere (Ostracoda) biogeography in Quaternary western North America: a tool for tracking changes in hydroclimatology. Joint 52nd Northeastern Annual Section / 51st North-Central Annual Section Meeting – 2017, Geological Society of America Abstracts with Programs. Vol. 49, No. 2, Pittsburgh, Pennsylvania, doi: 10.1130/abs/2017NE-291077.

Surdel, Theodore and Smith, Alison J., 2017. Hydroclimatic significance of Quaternary distributions of *Limnocythere ceriotuberosa* and *Limnocythere bradburyi* in western North America, 18th International Symposium on Ostracoda, Abstracts with Program, Santa Barbara, California.

Smith, Alison J., Horne, David J., Palmer, Donald F., and Surdel, Theodore, 2017. Paleobiogeographic and paleoclimatic significance of *Cytherissa lacustris* in North America, 18th International Symposium on Ostracoda, Abstracts with Program, Santa Barbara, California.

### Research Grants and Honors

#### Funded Proposals:

1990-91- Ohio Dept. of Natural Resources-Water quality changes in Ohio lakes and wetlands as indicated by lacustrine ostracodes (Crustacea) (\$1957).

1991 - BP America, funding for a Walk-In Cooler - \$10,000: (with D. F. Palmer, Dept. Geology, Kent State Univ.)

1992 - NSF-Climate Dynamics (Research Planning Grant): Effective Moisture, Water Quality, and Ostracodes: Climate History of the Northern Great Plains (\$17,999).

1992 - Ohio Board of Regents-Ohio Wetlands Research - (\$64,090) (In joint award with D. Palmer, S. Cabaniss, R. Carlson, G.D. Cooke, P. Fisher, J. Harbor, K. Havens, R. Heath, B. Miller and T. Wilson, Kent State University).

1993- Ohio Department of Natural Resources-Water quality changes in Ohio fens as indicated by lacustrine ostracodes (Crustacea) (\$3,000).

1993-NSF-Hydrologic Sciences-Scales of Hydrologic Transients in Holocene Lake Records: Ostracodes, Groundwater Flow, and Paleochemistry (\$209,205 Total, of which \$43,216 was awarded to Kent in 1993, \$35,153 in 1994.) (In joint award with D.E. Engstrom, Univ. Minnesota, and J.Donovan, West Virginia University.)

1994-Ohio Department of Natural Resources-Water quality changes in Ohio fens as indicated by lacustrine ostracodes-a continued study (\$2,000).

1994-National Geographic Society-A Late Holocene Climatically Induced Water Level Fluctuation History for Northern Lake Michigan (\$15,069). (Co-PIs B. B. Miller, D. F. Palmer, Dept. Geology, Kent State University).

1995-NSF Geology & Geophysics-Regional Climate Change, Meltwater, and Lake Levels in the Laurentian Great Lakes (\$28,053 subcontract to Kent over 3 years). Co-PIs T. Moore, Jr., and Dave Rea at University of Michigan, and Linda Shane at University of Minnesota.

- 1996-NSF ARI Equipment Grant-(in joint submission with 6 other members of the KSU Water Resources Research Institute: Maurice, Carlson, Heath, Leff, Lee, Cabaniss) (\$149,213 requested from NSF, matched by a grant from O.B.R. to a total of \$250,000).
- 1996-NSF Earth Systems History-Global Change (ESH-ATM) Subdecadal Reconstruction of Drought Patterns of North America's Arid Interior: 0-2 ka . In joint submission with Co-P.I.s: E. Ito-U.Minn, J. Clark-Duke Univ., J. Donovan-West Virginia Univ., D. Engstrom-St. Croix Watershed Research Station, S. Fritz-Lehigh Univ., E. Grimm-Illinois State Mus. Amount to KSU is \$ 5,919.
- 1997-NSF-Geology & Paleontology-(G&P) and Earth Systems History (ESH) Collaborative Research: Continental Ostracode Assemblages and Shell Geochemistry: Calibrating a Tool for Paleoclimatic and Paleohydrologic Reconstruction. In joint submission with co-P.I.s E. Ito-U.Minn., R.Forester, U.S.G.S., and D.F. Palmer, Kent State. \$207,000 to KSU over 3 years.
- 2001-NSF-Research Experience for Undergraduates (REU) (P.I.s are Laura Leff and Bob Heath, BSCI)Water Resources Institute. senior personnel on this grant
- 2004-NSF-Collaborative Research: Understanding Sensitivity of Great Lakes Water Levels to Climate Forcing, in joint submission with co-P.I.s King-U.Rhode Island, Rea-U. Michigan, Dettman-U.Arizona June 1-2004 through May 31, 2007, \$23,490 to KSU over two years.
- 2010-NSF -Geoinformatics: Collaborative Research: Neotoma Paleoecology Database, Pliocene-Quaternary, with Co-PIs Eric Grimm (Illinois State Museum), Don Charles (Academy of Natural Sciences), Steve Jackson (Univ. Wyoming), Bob Thompson (U.S.G.S.), \$655,143 over 60 months, \$31,380 to KSU for graduate student support.
- 2011-NSF-OISE –Office of International Science and Engineering: Northern Hemisphere Quaternary and Modern Non-marine Ostracodes: Developing International Research Initiatives, funding to conduct two international workshop/symposia, 24 months, \$59,631 to KSU. International Co-PIs (not funded on this grant) David Horne, Queen Mary, University of London, and Martin Gross, University of Graz, Austria.
- 2015- NSF-EarthCubeIA: Collaborative Proposal: Building Interoperable Cyberinfrastructure (CI) at the Interface between Paleogeoinformatics and Bioinformatics, 36 months, \$78,000 awarded to KSU.
- 2016-NSF-Geoinformatics: Collaborative Proposal: Neotoma Paleoecology Database, Community-Led Cyberinfrastructure for Global Change Research, 48 months, \$48,000 requested for KSU.
- 2017-NSF-EarthRates: Collaborative Workshop Proposal: What forcing mechanisms sustained the large perennial lakes of the North American Pliocene West? \$15,000

awarded for workshop to be held at LacCore, University of Minnesota, February 2018, Co-PI with Emi Ito, University of Minnesota.

Proposals Not Funded:

2005-NSF-submitted/not funded)-IGERT: Ground water – surface water interactions: Connectivity through Cenozoic Time, with 16 co-PIs \$2,605,425 over five years (co-PIs from KSU Geol/Geog/BSCI and U.Akron Geol

2005-NSF-EAR-Hydrologic Sciences (submitted/not funded): Collaborative Proposal: The Transformation of Herbicides in Sulfide Rich Prairie Pothole Lake Sedimentary Porewaters, \$285,645 requested over 3 years

2008-(NSF-submitted/not funded) New GK-12: Northeast Ohio Water Initiative: NEOWIN, with co-PIs Donna Witter (Geology), Mandy Munro-Stasiuk (Geography), Laura Leff (Biological Sciences) and Mary Lou Holly (Education), \$2,899,171 over five years.

2013-NSF-Geoinformatics: Collaborative Research: Building Interoperable Cyberinfrastructure at the Interface between Geoinformatics and Bioinformatics, 24 months, \$66,040 to KSU. Co-PIs Russ Graham (Penn State U.), Jack Williams (Univ. Wisc.), Eric Grimm (Illinois State Mus.), Jessica Blois (Univ. Cal. Merced), Mark Uhen (George Mason U.), Edward Davis (Univ. Oregon) (not funded)

2013-Biodiversa-Fondation pour la Recherche sur la Biodiversité (EU): Collaborative Research: Cryptic invasive ostracod species “Cryptinos” BiodivERsA2013-54, \$36 months. Lead P.I. Isa Schon, (Royal Belgian Inst. Nat. Sci.), Co-PIs Koen Martens (Royal Belgian Inst. Nat. Sci.), Stuart Halse (Bennelongia Environ.Consultants, Australia), Emmanuel Paradis, (Institut de Recherche pour le Développement, IRD, France), Martin Melles, (Univ. Koln, Germany); Finn Viehberg (Univ. Koln, Germany); Annette Koenders (Edith Cowan U., Australia) (not funded)

2014-NSF-ABI: Collaborative Research: ABI Development: Building Interoperable Cyberinfrastructure at the Interface between Paleogeoinformatics and 24 months,\$254,904 total, \$97,583 to KSU. Co-PIs Russ Graham (Penn State U.), Jack Williams (Univ. Wisc.), Eric Grimm (Illinois State Mus.), Jessica Blois (Univ. Cal. Merced), Mark Uhen (George Mason U.), Edward Davis (Univ. Oregon) (*not funded*)

2014-NSF-Archaeology & Archaeometry: Collaborative Research: Rejolladas (Sinkholes) and their Socioecological Implications for Ancient Maya Subsistence. \$236,281 to KSU, Co-PIs T.K. Manahan (Kent State), M. Munro-Stasiuk (Kent State), C.T. Morehart (Arizona State), R. Terry, C. Balzotti (Brigham Young U.) (*not funded*)

2015 -NSF-GP-EXTRA: Pathways to Environmental Awareness at Kent State University, \$499, 251 requested for Kent State

## Research in Progress

My research program is centered on the development of the modern and fossil non-marine ostracode record as a tool in determining changes in water quality and climate from Pliocene through Holocene time. I focus on the role of ground water – surface water interactions in mediating the terrestrial climate record, and in identifying paleohydrologic changes using the ostracode ecology and ostracode shell geochemistry. This program involves independent research as well as collaborative efforts with researchers at other institutions. The general areas of this research program include:

- 1) Paleohydrology and Drought History on the Great Plains: Holocene climate records from lacustrine ostracodes
- 2) Holocene Lake Level and Paleolimnology of the Great Lakes
- 3) Calibration of ostracode shell geochemistry (stable isotopes, trace elements) against hydrogeochemistry
- 4) Construction of a modern environmental dataset (Forester et al., 2005) of limnologic/climate/ostracode distribution records in the continental U.S., designed for public access (version 1 is on line at [www.kent.edu/NANODE](http://www.kent.edu/NANODE) , complete data now available on [www.Neotomadb.org](http://www.Neotomadb.org) ).
- 5) Ground water / Surface water interactions: Hydrology of springs and seeps using ostracodes as bioindicators.
- 6) Pliocene Large Lakes of western North America: Paleohydrology and paleoclimate records from lacustrine ostracodes.

## Society Memberships and Activity

American Association for the Advancement of Science (AAAS)

American Geophysical Union (AGU)

American Quaternary Association (AMQUA)

International Biogeographical Society (IBS)

## Department and University Service

Member, Geology Undergraduate Studies/Curriculum Committee (1990-92)

Member, College of Arts & Sciences Curriculum Committee 1990-91 AY

Member, Dept. Search Committee for Chairperson, 1992

Member, Geology Graduate Studies Committee 1993-97, 2007-present

Member, College of Arts & Sciences Search Committee for Dean, 1995-96 AY

Member, Founders Scholarship Committee, 1995-96 AY

Departmental Preceptor 1996-97 AY

Member, David B. Smith Scholarship Committee, 1998

Geology Department Graduate Coordinator, Fall, 1998—Summer, 2002

Director, Master of Liberal Studies Program, 1998--2010

Provost Advisory Board for Promotion, Spring, 2002

Chair, Student Academic Complaint Committee, 2002-03, 09-10, 12-14

Member, A&S Foreign Language Requirement Review Committee, 2002-03

Member, URC Summer Research Award Subcommittee, Fall, 2002  
Faculty Advisory Committee, 2002-03, 12-14  
College Advisory Committee, 2002-04, Spring 2009, 12-14  
Provost Advisory Committee, 2002-03  
Member, Distinguished Scholar Subcommittee, Humanities, 2002-03  
Chair, Faculty Advisory Committee, 2003-04, 12-14  
Internal Review Committee B.A. General Studies, 2009  
Internal Review Committee, Biomedical Graduate Program, 2009  
Provost's Working Group on Women in Science, 2008-09  
Water Resources Research Institute Executive Committee Member 2004-2007  
Assistant Chair, 2012-  
Honors College Policy Committee (HOCOPOCO) 2014-2017  
Co-Chair, University Requirements Curriculum Committee, 2017-current

### Service to the Profession

#### *Journal Reviews*

Boreas  
BMC Ecology  
Quaternary Science Reviews  
G.S.A. Bulletin  
The Holocene  
J. Paleolimnology  
Can. J. Earth Sciences  
Quaternary Research  
Paleogeography, Paleoclimatology, Paleoecology  
Hydrobiologia  
Applied Geochemistry  
Quaternary International  
Ecological Indicators  
J. Crustacean Biology

#### *Other Reviews*

Internal Reviewer for U.S. Geological Survey, 1993-2005  
NSF Grant Proposal Reviews, Hydrologic Sciences, Climate Dynamics, Atmospheric Sciences, International Program, Ecosystems, Ocean Sciences, 1993-current  
NOAA Grant Proposal Reviews, Climate Change, 1992-1995.  
NSF Review Panel, Washington, D.C., Hydrologic Sciences, 1993.  
External Examiner for Ph.D. Dissertation, University of Waterloo, Canada, 1994.  
NSF Steering Committee, Earth Systems History, PEP-I transect, 1995  
External Examiner for Ph.D. Candidacy Examinations, University of Minnesota, 2000  
External Examiner for Ph.D. Candidacy Examinations, University of Akron, 2009  
External Examiner for Ph.D. Dissertation, Australian National University, 2000  
NSF Review Panel, Washington, D.C., Earth Systems History, 2001  
NSF Review Panel, Washington, D.C., Earth Systems History, 2002  
NSF Review Panel, Washington, D.C., SGP (Sedimentary Geology & Paleobiology) 2010-12  
External Member, M.S. Thesis Committee, Kenton Trubee, Geol., U.Akron, 2002

External Reviewer for Austrian National Science Fund (Fond zur Förderung der Wissenschaftlichen), 2012

*National or International Research Planning Panels*

NSF/ TESH Research Planning Panel, 1995

NSF/ASLO Research Initiative Panel, Boulder, CO, 2002

NSF/DOE Water Research Planning Workshop Panelist, PNNL, September, 2004

NSF/EarthCube Workshop Panelist, January 2013, January 2014

*Service to Professional Societies*

**President**, American Quaternary Association (AMQUA) 2014-2016

**Vice-Chair**, U.S. National Committee for INQUA, 2010-2016

Council Member, NSF/EarthCube Data Facilities Council, January 2014-present.

International Society of Ostracodologists (ISO)

Session Chair: *International Symposium on Ostracoda*, 1991, Canberra, Australia

Co-organizer: *Scientific Program, International Symposium on Ostracoda*, 2013, Rome

**Geological Society of America (GSA)**

Session Chair: Annual GSA Meeting 1992, Cincinnati, Ohio

Session Chair, Annual GSA Meeting, 2005, Salt Lake City

Session Chair, Combined Northeast North Central GSA Section Meeting, 2011

Session Chair, Annual GSA Meeting, 2012, Charlotte, N.C.

Session Chair, Annual GSA Meeting, 2014, Vancouver, B.C., Canada

**American Nuclear Society**

Session Chair: 5th Annual International High Level Radioactive Waste Management

Conference-Past Climate & Future Hydrology of Yucca Mountain, 1994, Las Vegas, Nevada

**Paleontology Society** Priscum Distinguished Speaker, AY 1993-94

University of Vermont, Dept. Geology

University of Northern Louisiana, Dept. Geology & Geography

University of Delaware, Dept. Geology

Co-Convenor, Paleontology Society Workshop, 2003 at Annual GSA Mtg, Seattle, WA

Co-Leader of **Friends of the Pleistocene** Midwest Chapter Field Trip Conference, 1993

**Association for the Study of Biological Evolution**

Session Chair: EEB 12<sup>th</sup> Annual Meeting, Marseilles, France, 2008

NSF Sponsored and Invited Lectures on Paleorecords of Global Change, 1996

University of Minnesota, Dept. of Geology & Geophysics, and Dept. of Ecology,  
Evolution & Behavior

**Smithsonian** Sponsored and Invited Lecture on Great Basin Aquatic Science History, 1997.  
Univ. Utah, Salt Lake City GBASH Meeting, September, 1997.

**U.S. National Committee for INQUA**

Council Member appointed 2008,  
Vice-Chair, appointed 2011, serving through 2015

*Other Invited Presentations*

Dept. Geology & Geography, West Virginia University, 1995  
Dept. Geology & Geophysics, University of Wyoming, 1995  
Dept. Geology, University of Cincinnati, 1996  
Department of Geology & Geography, University of London, Queen Mary, 2009

*Other Invited Lectures*

Wheaton College, Massachusetts Invited Lecture, Distinguished Alumna in Science,  
LaDonne Lecture, 1999

Dept. Geology, College of Wooster, 2002  
Northern Ohio Geology Society (NOGS), March, 2003  
Dept. Geology, Ohio State University, February, 2005

Service to the Community

*Water Quality Study for Gorge Metropark Serving Summit County*

Study of road-salt pollution affecting endangered plants in Gorge Metropark of Summit  
County, at request of Metroparks Serving Summit County and ODNR, 1997-2000.

1997-98: MetroParks Serving Summit County-Water Quality in Springs and Seeps in the  
Gorge MetroPark, \$2,000 over one year.

1999-00: MetroParks Serving Summit County-Water Quality in Springs and Seeps in the  
Gorge MetroPark: A Follow-Up Study, \$2,593 over one year.

*School, Parks, and/or Public Library Presentations*

Silver Lake Elementary School, Silver Lake, Ohio April 23, 2002  
Stow-Munroe Falls Public Library, Stow, Ohio Earth Science Day, October 4, 2003  
Geauga Co. Parks Service Speaker for "Engage the Ice Age" Program, Dec., 2004  
Old Trail School, Bath, Ohio , April, 2006

*Co-Convener of Two Workshops for Secondary Education and College Teachers*

Hosted by AMQUA, INQUA, and NSF's Cutting Edge Professional Geoscience Education  
(funded through the NSF's division of Undergraduate Education)



August, 2010 AMQUA Biennial Meeting, Univ. Wyoming, Laramie, Wyoming  
<http://serc.carleton.edu/NAGTWorkshops/climatechange10/index.html>  
Workshop: Teaching Climate Change-Lessons from the Past

June, 2012 AMQUA Biennial Meeting, Large Lakes Observatory, U.Minn., Duluth,  
Minnesota <http://serc.carleton.edu/NAGTWorkshops/climatechange12/index.html>  
Workshop: Teaching Climate Change Using Large Lakes