DR. ALISON JEAN SMITH, PROFESSOR
DEPARTMENT OF GEOLOGY, KENT STATE UNIVERSITY
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http://www.kent.edu/geology/alison-smith

Biosketch

Dr. Alison Smith has a broad interdisciplinary background with degrees in Anthropology, Archaeology, and Geology. Her interest in interdisciplinary studies was useful in her twelve years as Director of the Master of Liberal Studies Program at Kent State, during which time she increased enrollments and tripled graduation rates. While serving as Director, she became familiar with the wide range of faculty interests, expertise, and research throughout the university. Her administrative experience also includes service as Assistant Chair and Acting Chair, and external administrative positions. She has authored more than 40 research publications in peer reviewed journals and has been Principal Investigator or Co-Principal Investigator on grants from National Geographic, Metroparks, the Ohio Department of Natural Resources, and the National Science Foundation. Her National Science Foundation grants are from a wide range of divisions in three Directorates, and include managing personnel and multi-year budgets. An active researcher, she teaches a wide range of courses, including Kent Core, upper division, and graduate level. Her teaching record includes Honors College courses and she is a recipient of the Geology Department Glenn Frank Award in Teaching.

Education

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

Administrative Experience

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

- Tripled previous graduation rates for the program
- Increased enrollments and expanded involvement to faculty advisors from all colleges within the university.
- Managed general program advising for all LSM students-served on 74 LSM Essay committees.

Assistant Chair and Acting Chair, Department of Geology, Kent State University, 2012-present
Assistant Chair 2012-present, currently Acting Chair, Spring semester 2017

President, American Quaternary Association (AMQUA) 2014-2016 www.amqua.org

- Led incorporation as a 501-C-3 non-profit organization.
- Led restructuring of AMQUA constitution to improve access and communication.
- Worked with executive council to increase memberships and acquire federal funding through grants.gov to support student involvement in professional meetings.

Vice-Chair, U.S. National Committee for the International Union of Quaternary Research (INQUA), 2010-2016 http://sites.nationalacademies.org/PGA/biso/INQUA/index.htm

- Co-Convener of Two Workshops for Secondary Education and College Teachers
- Co-Convener of Mentoring Workshops for Early Career faculty, post-docs and doctoral students

Administrative Professional Development

HERS Luce Program for Women in STEM Leadership-Bryn Mawr Summer 2016
HERS Leadership Training for Women in Higher Education-Bryn Mawr Summer 2016

Positions Held

2017, Spring Semester-Acting Chair, Geology
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 2001 – Associate Professor, Geology
1990 to 1995 - Assistant Professor, Geology

Teaching Experience

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

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. Nicole entered a M.S. Program in Geology at Syracuse University upon graduation. She is currently a professional science writer.

Robin Green, 2008. Ostracodes, Microenvironments, and Changing Hydrology in a Fen Wetland in Northeast Ohio, Honors Thesis. Robin is currently in a Geosciences Ph.D. program at Indiana University.

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 Oleskoweicz, M.S. 1998. (in co-advisement with Robert 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 County, 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 Glenns Ferry Formation, Glenns 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

Published Peer-Reviewed Articles 2000-2017 (earlier peer reviewed articles extending to 1991 are listed on my CV at http://www.kent.edu/geology/alison-smith)

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.

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, 241-258.

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.

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.

Danielopol, D.L., Baltanas, A., Carbonel, P., Colin, J-P, Crasquin, S., Decrouy, L., DeDeckker P., Gliozzi, E., Groos-Uffenorde, 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., **2015**. 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*, 419, 3-22.

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

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.

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., Rodrigez-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.

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 Pub., 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., Rodrigez-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., Rodrigez-Lasaro, J., and Viehberg, F., Eds.) Ostracoda as Proxies for Quaternary Climate Change, vol. 17 in Developments in Quaternary Science series, Elsevier Science Pub., pp. 15-35.

Blois, Jessica; Goring, Simon; Smith, Alison, **2011**. Integrating Paleoecological Databases, *EOS, Transactions, American Geophysical Union* ,v. 92, p. 48.

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

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

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.

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)

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.

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.

23 Additional Journal peer reviewed articles, extending back to 1991, are listed on my CV at http://www.kent.edu/geology/alison-smith

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, Kent State University, Kent, Ohio, U.S.A. (Externally reviewed website).

Presentations (Meeting Abstracts) 1990-2017

98 oral presentations at Professional Meetings, Abstracts listed on my CV at http://www.kent.edu/geology/alison-smith

Service

University
Provost Advisory Board for Promotion, Spring, 2002
Provost Advisory Committee, 2002-03
Provost's Working Group on Women in Science, 2008-09
Honors College Policy Committee (HOCOPOCO) 2014-current
URC Summer Research Award Subcommittee, 2002
David B. Smith Scholarship Committee, 1998
Founders Scholarship Committee, 1995-96 AY

College of Arts & Sciences
College Advisory Committee, 2002-04, Spring 2009, Fall 2012-Spring, 2016
College Curriculum Committee, 1990-91, 2015-16
Internal Review Committee for B.A. General Studies, 2009
Internal Review Committee for Biomedical Graduate Program, 2009
Water Resources Research Institute Executive Committee 2004-2007
Distinguished Scholar Subcommittee, Humanities, 2002-03
College of Arts & Sciences Search Committee for Dean, 1995-96 AY

Department
Acting Chair, January 2017-current
Assistant Chair, 2012-current
Undergraduate Advisor-2009-current
Graduate Coordinator, Fall, 1998—Summer, 2002
Chair, Faculty Advisory Committee, 2003-04, 12-14
Chair, Student Academic Complaint Committee, 2002-03, 09-10, 12-14
Faculty Advisory Committee, 2002-03, 12-14
Departmental Preceptor 1996-97 AY
Member, Geology Graduate Studies Committee 1993-97, 2007-present
Member, A&S Foreign Language Requirement Review Committee, 2002-03
Member, Geology Undergraduate Studies/Curriculum Committee 1990-92
Member, Dept. Search Committee for Chairperson, 1992

Service to the Profession-Summary
See full details on CV at http://www.kent.edu/geology/alison-smith

- Reviewer for 14 Journals in the Geological and Biological Sciences
- Internal Reviewer for the U.S.Geological Survey,
- Grant Proposal Reviewer for NSF, NOAA, USGS
- External Ph.D. examiner for Australian National University, University of Minnesota, University of Akron, Waterloo University, Canada.
- External Reviewer for the Austrian National Science Fund
- Session Chair for Geological Society of America, Paleontology Society, Association for the Study of Biological Evolution, American Nuclear Society
- Council Member and President of the American Quaternary Association (AMQUA) Inc.
- Council Member and Vice-Chair of U.S. National Committee for the International Union of Quaternary Research (INQUA)
- Research Planning and Steering Committee Member for NSF, DOE
- Data Facilities Councilmember for NSF-Earthcube

Service to the Community
See full details on CV at http://www.kent.edu/geology/alison-smith

- 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.
- 18 Invited Lectures from Schools, Public Libraries, Civic Communities and Universities
- Co-Convenor of two Teaching Workshops for Secondary Education and College Teachers, hosted by AMQUA, INQUA and NSF.

Research Awards

2016-NSF-Geoinformatics: Collaborative Proposal: Neotoma Paleoecology Database, Community-Led Cyberinfrastructure for Global Change Research, 48 months, $48,000 requested for KSU.

2015- NSF-EarthCubeIA: Collaborative Proposal: Building Interoperable Cyberinfrastructure (CI) at the Interface between Paleogeoinformatics and Bioinformatics, 36 months, $78,000 awarded to KSU.

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.

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.

2004-NSF-Geology & Geophysics: 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.

2001-NSF-Research Experience for Undergraduates (REU) (P.I.s Laura Leff and Bob Heath, BSCI) Water Resouces Institute, Kent State. I was senior personnel on this grant.

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.

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.

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.

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).

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.).

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).

1991- 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.)

Research Program

My research program is centered on the study of how lakes, wetlands and springs change in water quality and supply during episodes of climate change. My tool in this research is the record of modern and fossil non-marine ostracodes (microcrustaceans). 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. I study records of Pliocene through modern environments (the most recent 5 million years). Field areas include the Great Lakes, the Appalachian springs, the Northern Great Plains, the Great Basin and western sites in North America.

Society Memberships

American Association for the Advancement of Science (AAAS)
American Geophysical Union (AGU)
American Quaternary Association, Inc. (AMQUA)
International Biogeographical Society (IBS)