

CURRICULUM VITAE

Elizabeth (Lisa) P. Sonnenburg, Ph.D.
Museum of Anthropological Archaeology
University of Michigan
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Education

2010 **Ph.D. Earth Sciences** *Holocene lake level changes and submerged archaeological site potential of Rice Lake, Ontario.* Supervisor: Dr. J.I. Boyce
McMaster University, Hamilton, ON

2006 **M.Sc. Geology** *Paleoenvironmental reconstruction of submerged landscapes in Colonel By Lake, Ontario using geoarchaeological and geophysical techniques.* Supervisor: Dr. J.I. Boyce, McMaster University,
Hamilton, ON

2004 **H.B.A Anthropology, B.A. History**
Lakehead University, Thunder Bay, ON

Research Interests

Submerged landscapes, human-environment interactions, paleoenvironmental reconstruction, microdebitage analysis, paleohydrology and settlement patterns, sedimentology of archaeological sites, Great Lakes prehistory, integration of submerged and coastal/riparian landscapes

Current Projects

Ancient Hunters of the Alpena-Amberley Ridge: Archaeological Investigations beneath Lake Huron (collaborator)

Voyageurs National Park Study and Grand Marais Creek Subwatershed Flood Damage Reduction Project (consultant/collaborator)

Academic and Professional Positions

2014-present **Research Associate**, Museum of Anthropological Archaeology, University of Michigan, Ann Arbor, MI

2012-2014 **Social Sciences and Humanities Research Council of Canada (SSHRC) Postdoctoral Fellow**, Museum of Anthropological Archaeology, University of Michigan, Ann Arbor, MI

2006-2012 **Sessional Lecturer**, School of Geography and Earth Sciences, McMaster University, Hamilton, ON

2011 **Sessional Lecturer** Department of Geology, University of Toronto, Toronto, ON

2011-2012 **Consultant**, Trefoil Cultural and Environmental Heritage; Voyageurs National Park Study, MN

2010-2011 **Consultant**, Scarlett Janusas Archaeology, Inc., Stage 2 Environmental Assessment of the 3rd Crossing of the Cataraqui River, Kingston, ON

2004-2010 **Teaching Assistant**, School of Geography and Earth Sciences, McMaster University, Hamilton, ON

2003-2004 **Laboratory Assistant**, Department of Anthropology, Lakehead University, Thunder Bay, ON

2002-2003 **Archaeology Field Crew**, Study of Cultural Adaptations in the Prairie Ecozone (SCAPE) Project, Lauder, MB.

Research Grants, Fellowships and Awards

2012 Social Sciences and Humanities Research Council of Canada, *Postdoctoral Fellowship* (\$81,000)

2010 National Science Foundation Award #096442 (J.O'Shea, P.I.), *Contributor* (\$267,196)

2010 Society for Archaeological Science, *R.E. Taylor Student Poster Award* (\$100)

2009 Government of Ontario, R. Edward Munn Ontario Graduate Scholarship, *Graduate Research Award* (\$15,000)

2008 Government of Ontario, Graduate Scholarship in Science and Technology, *Graduate Research Award* (\$15,000)

2007 School of Geography and Earth Sciences, McMaster University *Graduate Scholarship (Ph.D.)* (\$10,000)

2007 School of Geography and Earth Sciences, McMaster University, W. Gibbons Memorial Award, *Travel Bursary* (\$500)

2006 School of Geography and Earth Sciences, McMaster University *Graduate Scholarship (Ph.D.)* (\$10,000)

2006, Geological Society of America, Archaeological Geology Division, Claude C. Albritton Jr. Award, *Graduate Research Award* (\$750)

2005 School of Geography and Earth Sciences, McMaster University *Graduate Scholarship (M.Sc.)* (\$8,000)

2004 School of Geography and Earth Sciences, McMaster University *Graduate Scholarship (M.Sc.)* (\$8,000)

2004 Lakehead University, *In-Course Scholarship* (\$500)

2003 Lakehead University, *In-Course Scholarship* (\$500)

2002 Lakehead University, *In-Course Scholarship* (\$250)

2001 Lakehead University, *In-Course Scholarship* (\$250)

Field Experience

2014 **Geoarchaeologist**, University of Michigan, *Hunting Ancient Caribou Hunters in Lake Huron Project*

2013 **Geoarchaeologist** University of Michigan, *Hunting Ancient Caribou Hunters in Lake Huron Project*

2012 **Geoarchaeologist** University of Michigan, *Hunting Ancient Caribou Hunters in Lake Huron Project*

2012 **Field Assistant**, University of Michigan, *Underwater Archaeology Field School*

2011 **Geoarchaeologist**, University of Michigan, *Hunting Ancient Caribou Hunters in Lake Huron Project*

2011 **Field Assistant**, McMaster University, *Environmental Science Field School*

2011 **Submerged Landscapes Consultant**, Scarlett Janusas Archaeology, Inc., *Stage 2 Marine Archaeological Assessment Cataraqui River 3rd crossing City of Kingston, Frontenac County*

2010 **Field Assistant**, McMaster University, *Environmental Science Field School*

2009 **Director**, McMaster University, *Holocene lake level changes and submerged archaeological site potential of Rice Lake, Ontario*

2008 **Director**, McMaster University, *Holocene lake level changes and submerged archaeological site potential of Rice Lake, Ontario*

2007 **Director**, McMaster University, *Holocene lake level changes and submerged archaeological site potential of Rice Lake, Ontario*

2006 **Field Trainee**, McMaster University, *Geology Field Camp*

2005 **Co-director**, McMaster University, *Paleoenvironmental reconstruction of submerged landscapes in Colonel By Lake, Ontario using geoarchaeological and geophysical techniques*

2003 **Archaeologist**, Brandon University, *Study of Cultural Adaptations in the Prairie Ecozone (SCAPE) Project Excavations*

2002 **Field Trainee/Archaeologist**, Brandon University, *Study of Cultural Adaptations in the Prairie Ecozone (SCAPE) Project Excavations*

Publications

Peer Reviewed

O'Shea, J., Lemke, A., **Sonnenburg, E.**, Reynolds, R., Abbot, B. 2014. A 9,000-year-old caribou hunting structure beneath Lake Huron. *Proceedings of the National Academy of Sciences*, Published online April 28, 2014
doi:10.1073/pnas.1404404111.

O'Shea, J., Lemke, A., Reynolds, R., **Sonnenburg, E.**, Meadows, G. 2013. Approaches to the Archaeology of Submerged Landscapes: Research on the Alpena-Amberley Ridge, Lake Huron. In M. Lang and M.D.J. Sayer (Eds.), *Proceedings of the Joint International Diving Symposium*, American Academy of Underwater Sciences and European Scientific Diving Panel, 211-215.

Sonnenburg, E.P., Boyce, J.I., Reinhardt, E.G. 2013. Multi-proxy lake sediment record of prehistoric (Paleoindian-Archaic) archaeological paleoenvironments at Rice Lake, Ontario, Canada. *Quaternary Science Reviews*, 73:77-92.

Sonnenburg, E.P., Boyce, J.I., Suttak, P. 2012. Holocene paleoshorelines, water levels and submerged prehistoric site archaeological potential of Rice Lake (Ontario, Canada). *Journal of Archaeological Science*, 39(12): 3552-3567.

Sonnenburg, E.P., Boyce, J.I., Reinhardt, E.G. 2011. Quartz flakes in lakes: microdebitage evidence for submerged Great Lakes prehistoric (Late Paleoindian-Early Archaic) tool-making sites. *Geology*, 39(7):631-634.

Sonnenburg, E.P., Boyce, J.I., Reinhardt, E.G. 2009. Multi-proxy paleoenvironmental record of Colonial land-use change in the lower Rideau Canal System (Colonel By Lake), Ontario, Canada. *Journal of Paleolimnology*, 42(4):515-532.

Sonnenburg, Elizabeth P., Boyce, Joseph I. 2008. Integrated Digital Bathymetry and Side-Scan as a Base for Archaeological Inventory of Submerged Landscapes in the Rideau Canal, Ontario, Canada. *Geoarchaeology: An International Journal*, 23(5):654-674.

In press

O'Shea, John, **Sonnenburg, Elizabeth** (Eds.) *Archaeological, Ethnographic and Paleoenvironmental Perspectives on Caribou Hunting in the Great Lakes*. University of Michigan, Museum of Anthropological Archaeology Memoirs, Ann Arbor, MI.

Sonnenburg, E. Paleoenvironments of the Upper Great Lakes: What we know, and what we need to know, In: O'Shea, John and Sonnenburg, Elizabeth (Eds.) *Archaeological, Ethnographic and Paleoenvironmental Perspectives on Caribou Hunting in the Great Lakes*. University of Michigan, Museum of Anthropological Archaeology Memoirs, Ann Arbor, MI.

Sonnenburg, E. and Callison, E. Paleoenvironmental reconstruction of the Alpena-Amberley Ridge submerged landscape during the lake Stanley lowstand (ca. 8.4-9 ka cal BP), Lake Huron. In: O'Shea, John and Sonnenburg, Elizabeth (Eds.) *Archaeological, Ethnographic and Paleoenvironmental Perspectives on Caribou Hunting in the Great Lakes*. University of Michigan, Museum of Anthropological Archaeology Memoirs, Ann Arbor, MI.

Sonnenburg, E.P., O'Shea, J. *ACUA Underwater Archaeology Proceedings*. Effects of the end of the Lake Stanley lowstand on submerged landscapes of the Alpena-Amberley Ridge, Lake Huron. 15 pp

In review

Sonnenburg, Elizabeth and O'Shea, John. *Earth Surface Processes and Landforms*. Preservation potential of in-situ sediments, microfossils and archaeological materials on the Alpena-Amberley Ridge, Lake Huron. 21 pp.

In preparation

Sonnenburg, E., O'Shea, J. and Tangert, J. *Journal of Archaeological Science*. Identifying Caribou Hunting Structures in Lake Huron using Microdebitage. 10 pp

Rothaus, R. M., Kolb, M., Sagami, K., **Sonnenburg, E.**, Morse, C. *Geoarchaeology: An International Journal*. Geoarchaeological Predictive Modelling in VOYA National Parks, International Falls, MN, USA. 35 pp.

Technical Reports

Rothaus, R., Kolb, M., Sagami, K., **Sonnenburg, L.**, Moose, C. (2013). Geoarchaeological Predictive Model and Research Design VOYA National Park, International Falls, MN (Draft). National Parks Service Midwest Archaeological Center. 114 pp.

Sonnenburg, E. (2009) Remote Sensing/Geophysical Survey and Sediment Core Sampling for Paleoenvironmental Reconstruction to Identify Submerged Archaeological Site in Rice Lake Ontario. Ontario Marine Archaeological License Report on file. Ontario Ministry of Culture, Heritage Branch, Toronto, ON. 14 pp.

Sonnenburg, E. (2009) McIntyre Site (BbGn-2) Auger Sampling October 2008. Archaeological License Report on file. Ontario Ministry of Culture, Heritage Branch, Toronto, ON. 13 pp.

Sonnenburg, E. (2009) 2008 Final Report, Rice Lake. Research and Collection Permit Report on file, Parks Canada Agency, Trent-Severn Waterway, Peterborough, ON. 23 pp.

Sonnenburg, E. (2008) 2007 Final Report, Trent-Severn Waterway. Research and Collection Permit Report on file, Parks Canada Agency, Trent-Severn Waterway, Peterborough, ON. 25 pp.

Sonnenburg, E. (2007) Underwater survey and core sampling of Rice Lake, Ontario. Marine Archaeological License Report on file. Ontario Ministry of Culture, Heritage Branch Toronto, ON. 17 pp.

Presentations

Conferences

2014 *A Nested Search Strategy for Locating Submerged Late-Paleoindian and Early Archaic Caribou Hunting Structures on the Alpena-Amberley Ridge, Lake Huron.* Canadian Archaeological Association Annual Meeting, London, ON

2014 *Effects of the end of the Lake Stanley lowstand on submerged landscapes of the Alpena-Amberley Ridge, Lake Huron.* Society for Historical Archaeology Meeting, Quebec City, QC

2013 *Late Paleoindian and Early Archaic Caribou Hunters Beneath Lake Huron.* The Paleoindian Odyssey Conference, Santa Fe, NM (Presenter: A.K. Lemke)
2013 *Paleoenvironments of the Alpena-Amberley Ridge.* North Central GSA Meeting, Kalamazoo, MI

2013 *Microscopic Analysis of the Alpena-Amberley Ridge, Lake Huron.* Society for American Archaeology Annual Meeting, Honolulu, HI

2013 *Paleoenvironments of the Alpena-Amberley Ridge, Lake Huron.* Archaeological, Ethnographic and Paleoenvironmental Perspectives on Caribou Hunting in the Great Lakes Symposium, Ann Arbor, MI

2012 *Evaluating Microdebitage as a Technique for Locating Submerged Late Paleoindian-Early Archaic Sites in the Great Lakes Region.* Ontario Archaeological Society Symposium, Windsor, ON

2012 *Holocene water levels, paleoshorelines and underwater prehistoric archaeological potential of Rice Lake (Ontario, Canada).* Geological Association of Canada-Mineralogical Association of Canada Joint Meeting, St. John's, NL (Presenter: J.I. Boyce)

2010 *Paleoenvironmental Reconstruction and Water-level Fluctuations; Implications for Understanding Paleoindian and Archaic Archaeology in Southern Ontario.* Society for American Archaeology Annual meeting, St. Louis, MO

2009 *Submerged Archaeological Sites and Water-Level Fluctuations in Rice Lake, Ontario, Canada.* American Geophysical Union Joint Assembly, Toronto, ON

2009 *Holocene water-level fluctuations and the implications for Paleoindian Archaeology in Southern Ontario, Canada.* Developing International Geoarchaeology Conference, Hamilton, ON

2009 *Paleogeographic Reconstruction of a Submerged Landscape and its Archaeological Potential*. Society for Historical Archaeology Annual Meeting, Toronto, ON

2008 *Investigating Submerged Archaeological Site Potential of Shallow Lakes in the Great Lakes Region*. World Archaeological Congress, Dublin, IE

2008 *Submerged Archaic Site Potential of Rice Lake Ontario*. Annual Conference of the Canadian Archaeological Association, Peterborough, ON

2007 *Data fusion of bathymetry and side-scan imagery for mapping submerged cultural resources, Rideau Canal, Ontario, Canada*. Developing International Geoarchaeology (DIG) Conference, Cambridge, UK

2006 *Geophysical and Archaeological Inventory of a Drowned River Valley, Colonel By Lake, Ontario, Canada*. Geological Society of America Annual Meeting, Philadelphia, PA

2006 *Geophysical Imaging of Submerged Landscapes: Colonel By Lake Ontario*. Canadian Hydrographic Conference, Halifax, NS

2006 *Geophysical Imaging of Submerged Paleochannels, Colonel By Lake, Ontario*. Canadian Geophysical Union Annual Meeting, Banff, AB

2006 *Paleoenvironmental Reconstruction of a Submerged Landscape, Colonel By Lake, Ontario*. Annual Conference of the Canadian Archaeological Association, Toronto, ON

2006 *Paleoenvironmental Record of Land-Use Changes in the Lower Rideau Canal (Colonel By Lake), Ontario, Canada*. Geological Society of America Annual Meeting, Philadelphia, PA

2005 *Geophysical Imaging of a Drowned Landscape, Colonel By Lake, Ontario, Canada*. Geological Society of America Annual Meeting, Salt Lake City, UT

2005 *Paleoenvironmental Reconstruction of a Drowned Landscape, Colonel By Lake, Ontario*. Developing International Geoarchaeology Conference, Saint John, NB

Invited Lectures

2013 *Holocene Lake Level Change and Submerged Archaeological Site Potential of Rice Lake, Ontario*. Daniels Faculty of Architecture, Landscape and Design, University of Toronto

2012 *Microscopic Analysis of Submerged Landscapes of the Alpena-Amberley Ridge*. Museum of Anthropological Archaeology Brown Bag Series, University of Michigan

2011 *Needles in haystacks: Using microdebitage to locate submerged archaeological sites in Rice Lake, Ontario*. Department of Anthropology, University of Toronto

2011 *Holocene Lake Level Change and Submerged Archaeological Site Potential of Rice Lake, Ontario*. Ontario Archaeological Society, Peterborough Chapter

2011 *Holocene Lake Level Change and Submerged Archaeological Site Potential of Rice Lake, Ontario*. Rockfest, Department of Earth Science, University of Toronto.

2011 *Holocene Lake Level Change and Submerged Archaeological Site Potential of Rice Lake, Ontario*. School of Geography and Earth Sciences Seminar Series, McMaster University

2010 *Finding needles in haystacks: Evidence for submerged archaeological sites in Rice Lake, Ontario or "Holy crap I found something!"* Geology and Anthropology Graduate Society Lecture, McMaster University

2009 *Submerged Landscapes of the Great Lakes*. Save Ontario Shipwrecks, Toronto Chapter.

Conference and Symposia Organization

2013 **Co-organizer** (with J. O'Shea), *Archaeological, Ethnographic and Paleoenvironmental Perspectives on Caribou Hunting in the Great Lakes Symposium*. Museum of Anthropological Archaeology, University of Michigan

2009 **Co-organizer** (with B. MacDonald), *Developing International Geoarchaeology Conference and Geochemical Characterization in Archaeology Workshop*. Department of Anthropology and the School of Geography and Earth Sciences, McMaster University

Teaching

2012-2014 **Supervisor**, *Undergraduate Research Opportunities Program*, University of Michigan

2012 **Field Assistant**, *Underwater Archaeology Field School*, University of Michigan

2006-2012 **Lecturer**, *Earth Sci 2WW3 "Water and the Environment", Earth Sci 2GG3 "Natural Disasters", Earth Sci 3AA3/2AA3 "Earth Explorers", Geog 3RW3 "Geography of a Selected World Region-The Arctic", Env.Sci 1B03 "The Living Environment", Geo 3DD3 "Geoarchaeology of the Underwater Realm".* McMaster University

2011 **Lecturer** *GLG103 "Geology in Public Issues"* University of Toronto

2004-2010 **Teaching Assistant**, *School of Geography and Earth Sciences*, McMaster University

Related Teaching and Outreach Activities

2013-2014 **Collaborator**, *Wheeling High School Nanotechnology Program*, Wheeling, IL

2012 **Reviewer**, *Revised 3rd Canadian Edition of Natural Hazards: Earth's Processes as Hazards, Disasters and Catastrophes* by Edward A. Keller, Robert H. Blodgett and John J. Clague, Pearson Canada Education, Toronto.

2012 **Editor**, *Instructor's Manual, Human Geography: Places and Regions in Global Context, 4th Can. Ed* by Paul L. Knox, Sallie A. Marston, Michael Imort, and Alan E. Nash, Pearson Canada Education, Toronto.

2011 **Editor**, *Lecture Slides, 2nd Canadian edition of Natural Hazards: Earth's Processes as Hazards, Disasters and Catastrophes* by Edward A. Keller, Robert H. Blodgett and John J. Clague, Pearson Canada Education, Toronto.

2005-2008 **Organizational Committee**, *All Science Challenge*, McMaster University

2004-2011 **Teacher Partner**, *Let's Talk Science Partnership Program*, Faculty of Science, McMaster University

Service

2014 **Member**, *BSB Building Consultation Committee*, Museum of Anthropological Archaeology, University of Michigan

2013 **Supervisor**, *Independent Study Credit*, Museum of Anthropological Archaeology, University of Michigan

2011 **Supervisor**, *Applied Science Placement*, Faculty of Science, McMaster University

2009 **Graduate Representative**, *Geochemistry Search Committee*, School of Geography and Earth Sciences, McMaster University

2007-2009 **Graduate Coordinator**, *School of Geography and Earth Sciences*, McMaster University

2006-2007 **Vice-president External**, *Graduate Students' Association*, McMaster University

2005-2006 **Graduate Representative**, *School of Geography and Earth Sciences*, McMaster University

2001-2004 **Various positions**, *Lakehead University Anthropology Association*
Lakehead University

Editor/Reviewer

Co-editor, University of Michigan Museum of Anthropology Memoirs,

Reviewer, American Antiquity; Geoarchaeology: An International Journal;
Journal of Archaeology; Journal of Archaeological Science

Professional Memberships

American Anthropological Association
American Geophysical Union
Geological Society of America
Society for American Archaeology
Society for Historical Archaeology
Canadian Archaeological Association
American Academy of Underwater Sciences
Ontario Archaeological Society
Society for Archaeological Sciences
Association of Professional Archaeologists of Ontario
Michigan Archaeological Society

Media

2014 CBC Radio, Quirks and Quarks. *Prehistoric Lake Huron Caribou Crossing*
<http://www.cbc.ca/player/Radio/Quirks+and+Quarks/ID/2454002927/>

2014 CBC News. *Ancient caribou hunt artifacts preserved deep in Lake Huron*
<http://www.cbc.ca/news/technology/ancient-caribou-hunt-artifacts-preserved-deep-in-lake-huron-1.2624727>

2014 New York Times. *A 9,000 year-old Hunting Cabin Underwater*
http://www.nytimes.com/2014/05/06/science/a-9000-year-old-hunting-cabin-underwater.html?_r=1

2014 Discovery News. *Ancient Caribou Hunting Site Found Beneath Lake Huron*
<http://news.discovery.com/history/archaeology/ancient-caribou-hunting-site-found-beneath-lake-huron-140428.htm>

2014 USA Today. *Ancient Hunting Camp Found Beneath Lake Huron*
<http://www.usatoday.com/story/tech/2014/04/28/hunting-camp-lake-huron/8113975/>

2013 FameLab, SAA Honolulu, HI. *Flakes in Lakes*,
<https://www.youtube.com/watch?v=zyYZ8U7hsQI&list=PLEdUiAQC-e9XFBcuIX2rHSV2A2JFic2Ph&index=4>

2012 National Geographic Channel/Discovery Presents. *Drain the Great Lakes*

2011 CBC Radio, Quirks and Quarks. *Flakes in Lakes*
<http://www.cbc.ca/player/Radio/Quirks+and+Quarks/Full+Episodes/2011/ID/1990021823/?page=2>

2011 Columbus Dispatch. *Debris points to lost lake sites*
<http://www.dispatch.com/content/stories/science/2011/07/17/debris-points-to-lost-lake-sites.html>

2011 Vancouver Sun. *Traces of ancient aboriginals found in Ontario lake bottom*
<http://www2.canada.com/vancouver/news/archives/story.html?id=9d220445-a868-4378-be68-3a96cb89c831>

2011 Hamilton Spectator. *Mac brains are all over the map*
<http://www.thespec.com/news-story/2207782-mac-brains-are-all-over-the-map/>