

CURRICULUM VITAE: JESSICA E PILARCZYK

Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ, 08901, USA
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EDUCATION

- 2006 – 2011: PhD (Geology; upgraded from MSc), McMaster University
1999 – 2004: BSc (Earth & environmental sciences, minor in biology), McMaster University

EMPLOYMENT HISTORY

- 2013 –: **Postdoctoral Associate**, Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ, USA (transferred from UPenn with supervisor)
- 2012 –: **Visiting Research Fellow**, Earth Observatory of Singapore, Nanyang Technological University, Singapore
- 2011-2013: **Postdoctoral Researcher**, Department of Earth and Environmental Science, University of Pennsylvania, USA
- 2011-2012: **Endeavour Research Fellow**, Australia-Pacific Tsunami Research Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales, Australia
- 2006-2012: **Field/Teaching Assistant** for undergraduate field courses: Martha's Vineyard (2006), Oman (2007), Florida (2010), Bahamas (2011), New Zealand (2012); McMaster University (2006-2011), University of New South Wales (2012)
- 2003-2011: **Teaching Assistant**, School of Geography and Earth Sciences, McMaster University, Canada
- 2006-2010: **Teaching/Field Assistant** for undergraduate Geology Field Camp, School of Geography and Earth Sciences, McMaster University, Canada
- 2007-2008: **Research Assistant**, Stable Isotope and Biogeochemistry Laboratory (SIBL), McMaster University, Canada
- 2003-2004: **Research Assistant**, Archaeometry and Geochronology Laboratory (AGE), McMaster University, Canada

AWARDS

- Australian Government Endeavour Research Fellowship, 2011-2012
- McMaster Graduate Students Association Travel Grant, 2010
- Walter Gibbins Scholarship, 2009
- Ontario Graduate Scholarship (OGS), 2005, 2008, 2009
- McMaster University Earth Sciences Departmental Scholarship, 2008-2009
- Natural Sciences and Engineering Research Council of Canada (NSERC) Canada Graduate Scholarship (CGS), 2007-2008
- Canadian Meteorological and Oceanographic Scholarship (NSERC supplement), 2007-2008
- Geological Society of America (GSA) Sedimentary Geology Travel Award, 2006
- Outstanding Achievements in Teaching Award, 2002
- VSDA Undergraduate Scholarship, 1999-2001

SCHOLARLY OR PROFESSIONAL SOCIETIES

American Geophysical Union (AGU); Cushman Foundation for Foraminiferal Research; The Explorers Club (SM'11); Geological Association of Canada - Mineralogical Association of Canada (GAC-MAC); Geological Society of America (GSA); North American Micropaleontological Section (NAMS)

DEPARTMENT AND UNIVERSITY SERVICE

- Faculty Committee, student member, McMaster University, 2008-2009
- Graduate Student Selection Committee, student member, McMaster University, 2007-2009
- Organizer of the first School of Geography & Earth Sciences' Research Forum, 2007-2008
- Student Convenor of the School of Geography & Earth Sciences' Seminar Series, 2006-2007
- Graduate Teaching Assistant (TA) workshop leader, 2006

INVITED LECTURES AND SEMINARS

United States Geological Survey (USGS) at St. Petersburg, FL (2013); Universidad Catolica de Valparaiso, Chile (2012; 2013); Massey University, New Zealand (2012); Chester County Citizens for Climate Protection, Pennsylvania (2012); University of Southern Mississippi (2012); University of Pennsylvania (2011); McMaster University (2006; 2007, 2010); McMaster Teaching Assistant (TA) workshop leader (2006)

OUTREACH ACTIVITIES

- High School Outreach Committee representative, McMaster University, 2006-2007
- Public lecture to the Chester County Citizens for Climate Protection, West Chester, PA, 2012
- Mentored undergraduate research internship students, University of Pennsylvania, 2012-2013

RESEARCH GRANTS

- National Science Foundation (NSF) Early Concept Grants for Exploratory Research (EAGER): Geologic evidence of tsunamis originating from the Japan Trench's southern segment; Co-PI; \$31,970; 2012-2014
- Fondecyt (Chilean NSF): Is central Chile immune to giant earthquakes and tsunamis? (Grant #1110848); international collaborator; \$7200 for Pilarczyk; 2012-2014
- PADI Foundation Research Grant: Identifying tsunami risk for coastlines of the South Pacific (Polynesia); PI; \$9500; 2010-2012
- Yates Research Fund; PI; \$500; 2011
- Loeblich and Tappan Student Research Award: Microfossil taphonomic analysis as an indicator of paleo-tsunami deposits; PI; \$1000, 2009-2010
- Dr. Denis Shaw Memorial Award for Geochemical Research; PI; \$500; 2009
- Geological Society of America (GSA) Research Grant: Testing foraminiferal taphonomy and stable isotope analysis ($\delta^{13}\text{C}$ and $\delta^{18}\text{O}$) as a paleo-tsunami indicator for arid environments: Sur Lagoon, Sultanate of Oman; PI; \$3,120; 2008-2009
- United Nations Research Grant: Monitoring shoreline change and sea turtle nesting success, Playa Ostional, Guanacaste Province, Costa Rica; PI; \$500; 2006

PUBLICATIONS

Refereed Articles in journals (students supervised are underlined>

1. **Pilarczyk, J.E.**, Horton, B.P., Dura, T., *submitted*. Microfossils in coastal environments as indicators of paleo- earthquakes, tsunamis and storms. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
2. **Pilarczyk, J.E.**, Pelletier, B., Mountjoy, J., Goff, J., Lamarche, G., Horton, B.P., *submitted*. Sediment transport trends from a tropical Polynesian lagoon as indicated by *Homotrema rubrum* taphonomy. *Marine Micropaleontology*.
3. Brown, A., Reinhardt, E.G., van Hengstum, P.J., **Pilarczyk, J.E.**, *accepted*. A coastal Yucatan sinkhole records intense hurricane events. *Marine Geology*.
4. **Pilarczyk, J.E.**, Horton, B.P., Witter, R.C., Vane, C.H., Goff, J., Chagué-Goff, C., 2012. Sedimentary and foraminiferal evidence of the 2011 Tohoku-oki tsunami on the Sendai coastal plain, Japan. *Sedimentary Geology* 282, 78-89.
5. **Pilarczyk, J.E.**, Reinhardt, E.G., 2012. *Homotrema rubrum* (Lamarck) taphonomy as an overwash indicator in marine ponds on Anegada, British Virgin Islands. *Natural Hazards* 63 (1), 85-100.
6. Reinhardt, E.G., **Pilarczyk, J.E.**, Brown, A., 2012. Probable tsunami origin for a shell and sand sheet from marine ponds on Anegada, British Virgin Islands. *Natural Hazards* 63 (1), 101-117.
7. **Pilarczyk, J.E.**, Reinhardt, E.G., 2012. Testing foraminiferal taphonomy as a tsunami indicator in a shallow arid system lagoon: Sur, Sultanate of Oman. *Marine Geology* 295-298, 128-136.
8. **Pilarczyk, J.E.**, Reinhardt, E.G., Boyce, J.I., Schwarcz, H.P., Donato, S.V., 2011. Assessing surficial foraminiferal distributions as an overwash indicator in Sur Lagoon, Sultanate of Oman. *Marine Micropaleontology* 80, 62-73.
9. Donato, S.V., Reinhardt, E.G., Boyce, J.I., **Pilarczyk, J.E.**, Jupp, B.P. 2009. Particle-size distribution of inferred tsunami deposits in Sur Lagoon, Sultanate of Oman. *Marine Geology* 257, 54-64.

Chapters within books of edited volumes

1. **Pilarczyk, J.E.**, Horton, B.P., *submitted*. Mollusca. In: Shennan, I., Horton, B.P., Long, A. (eds.), *Sea Level Handbook*. John Wiley and Sons.

Other publications

1. **Pilarczyk, J.E.**, Cochran, U., Litchfield, N., Clark, K., Hayward, B., Lamarche, G., Horton, B.P., 2013. White paper: Paleoseismology at the Hikurangi Margin. *Geodynamic Processes at Rifting and Subducting Margins (GeoPRISMS)*.
2. Horton, B.P., MacInnes, B., Gonzalez, F., Hemphill-Haley, E., Switzer, A., Witter, R., Tanioka, Y., Bourgeois, J., Weiss, R., **Pilarczyk, J.E.**, 2012. White paper: Long-term records of tsunamis (and storms) with insights from recent events. *National Science Foundation (NSF)*.

Conference abstracts (first author only)

1. **Pilarczyk, J.E.**, Cisternas, M., Horton, B.P., Ely, L., Dura, T., 2014. Foraminiferal evidence supports a tsunami origin for a 2-km-inland buried sand layer in Central Chile. FORAMS 2014, the International Symposium on Foraminifera. January 19-34, 2014. Concepcion, Chile. ACCEPTED FOR ORAL PRESENTATION
2. **Pilarczyk, J.E.**, Sawai, Y., Horton, B.P., Namegaya, Y., Dura, T., Fujiwara, O., Vane, C.H., 2014. Assessing modern foraminiferal distributions as a tsunami indicator for coastlines facing the Japan Trench. FORAMS 2014, the International Symposium on Foraminifera. January 19-34, 2014. Concepcion, Chile. ACCEPTED FOR POSTER PRESENTATION

3. **Pilarczyk, J.E.**, Rubin, C.M., Sieh, K.E., Horton, B.P., Daly, P., Ismail, N., 2013. Predecessors of the 2004 Indian Ocean tsunami in a coastal cave, Aceh Province, Sumatra. American Geophysical Union (AGU) December 9-13, 2013. San Francisco, USA. ACCEPTED FOR ORAL PRESENTATION
4. **Pilarczyk, J.E.**, Horton, B.P., 2013. Foraminifera as indicators of paleoearthquakes and tsunamis. GeoPRISMS Planning Workshop for the New Zealand Primary Site. April 15-17, 2013. Wellington, New Zealand. POSTER
5. **Pilarczyk, J.E.**, Horton, B.P., Witter, R.C., Vane, C.H., Goff, J., Chagué-Goff, C., 2012. Sedimentary and foraminiferal evidence of the 2011 Tohoku-oki tsunami on the Sendai coastal plain, Japan. Geological Society of America. November 4-7, 2012. Charlotte, NC. ORAL PRESENTATION
6. **Pilarczyk, J.E.**, Horton, B.P., Witter, R.C., Vane, C.H., 2012. A comparison of the 2011 Tōhoku-oki and A.D. 869 Jōgan tsunami events on the Sendai coastal plain, Japan: implications for post-depositional change. AMTRAK Club Conference: Soil to Sea Geomorphology. 18-19 May 2012. Philadelphia, PA. ORAL PRESENTATION
7. **Pilarczyk, J.E.**, Horton, B.P., Witter, R.C., Vane, C.H., Goff, J.R., Chagué-Goff, C. The applicability of fossil foraminifera as a paleo-tsunami indicator: evidence from the 2011 Tohoku and A.D. 869 Jogan tsunami events. American Geophysical Union. 5-9 Dec 2011. San Francisco, CA. POSTER
8. **Pilarczyk, J.E.**, Reinhardt, E.G., *Homotrema rubrum* (Lamarck) taphonomy as an overwash indicator in coastal ponds from Anegada, British Virgin Islands. Geological Society of America. October 31 – November 3, 2010. Denver, Colorado. POSTER
9. **Pilarczyk, J.E.**, Reinhardt, E.G. Testing Foraminiferal Taphonomy as a Paleo-Tsunami Indicator in an Arid System Lagoon: Sur Lagoon, Sultanate of Oman. Geological Association of Canada – American Geophysical Union. May 24-27, 2009. Toronto, Canada. ORAL PRESENTATION
10. **Pilarczyk, J.E.**, Reinhardt, E.G., Schwarcz, H.P. The Control of Elevation on Foraminiferal, Geochemical and Sedimentological Parameters in a Shallow Lagoon: Sur, Sultanate of Oman. American Geophysical Union. December 14-19, 2008. San Francisco, CA. POSTER
11. **Pilarczyk, J.E.**, Reinhardt, E. Assessing the Link Between Elevation and Taphonomic Trends of Benthic Foraminifera in a Lagoon. Geological Assoc. of Canada/Mineralogical Assoc. of Canada. May 26-28, 2008. Quebec City, Canada. POSTER
12. **Pilarczyk, J.E.**, Reinhardt, E.G. Tsunami Detection in the Middle East: Examining the 1945 Makran Trench Tsunami. Advancement for Earth Sciences Research Conference (AESRC). April 10-11, 2008. Ottawa, Canada. ORAL PRESENTATION
13. **Pilarczyk, J.E.**, Reinhardt, E.G. Characterization of Modern Benthic Foraminiferal Assemblages for Paleo-tsunami Detection in Sur Lagoon, Oman. Geological Society of America. October 28-31, 2007. Denver, Colorado. POSTER
14. **Pilarczyk, J.E.**, Rink, W.J. Loggerhead Sea Turtle Nesting Preference for High Geomagnetic Field and Field Gradients. CAGONT: Ontario Division of the Canadian Association of Geographers. October 13-14, 2006. McMaster University, Hamilton, ON. ORAL PRESENTATION
15. **Pilarczyk, J.E.**, Boyce, J.I., Rink, W.J. Regional Scale Studies of Loggerhead Nesting Preference for High Geomagnetic Field Intensity. 24th Annual Symposium on Sea Turtle Conservation and Biology. February 22-29, 2004. San Jose, Costa Rica. POSTER

RESEARCH COLLABORATORS

McMaster University (*Boyce, Reinhardt, Rink, Schwarcz*), University of Sydney (*Dominey-Howes*), University of New South Wales, Australia (*Goff, Chagué-Goff*), Earth Observatory of Singapore (*Rubin, Sieh*), United States Geological Survey (*Nelson, Witter*), Smithsonian Institution (*Toscano*), Geological

Survey of Japan (*Sawai*), New Zealand National Institute of Water and Atmospheric Research (*Lamarche, Mountjoy*), Institute of Research and Development, New Caledonia (*Pelletier*), Oman Ministry of Regional Municipalities, Environment and Water Resources (*Jupp*), Geological Survey of Canada (*Percival*), Imperial Oil Resources (*Donato*), British Geological Survey (*Vane*), Universidad Catolica de Valparaiso, Chile (*Cisternas*)

TEACHING EXPERIENCE

- 2011–2013: **Assistant Lecturer** (PT), University of Pennsylvania, USA
Coasts (GEOL-419-001); Climate Change (ENVS-204-001); Oceanography (GEOL-130-001)
- 2012: **Field course Lecturer**, University of New South Wales, Australia
Natural Hazards field school to New Zealand (GEOS 3621)
- 2016-2011: **Field Assistant**, McMaster University, Canada
Undergraduate field camp (GEO 3FE3; 2006, 2009, 2010); Geology field school to the Sultanate of Oman (GEO 4FF3; 2007); Coastal Environments (GEO 4FE3; 2006; 2010; 2011); Marine geology field school to the Bahamas (GEO 4FF3; 2011)
- 2006: **Completed Education 750 – Principles and Practices of University Teaching course** (graduate level), McMaster University, Canada
- 2002-2011: **Teaching Assistant**, McMaster University, Canada
Courses: Atmosphere & Hydrosphere (ENVIR SCI 1A03; 2003, 2005); Earth & the Environment (ENVIR SCI 1G03; 2006); Urban Economic Geography I (GEO 1HU3; 2004); Environmental Issues I (GEO 2A03; 2005); Soils & the Environment (GEO 2B03; 2004, 2005); Natural Disasters (GEO 2GG3; 2002, 2005); Urban Economic Geography II (GEO 2HB3; 2003); Hydrology (GEO 2W03; 2004, 2008); Environmental Policy & Planning (GEO 3A03; 2008); Earth's Changing Climate (GEO 3CC3; 2011); Geoarchaeology of the Underwater Realm (GEO 3DD3; 2009); Sedimentary Environments (GEO 3E03; 2006, 2007, 2007); Transportation Geography (GEO 3HD3; 2004); Geography of Health & Healthcare (GEO 3HH3; 2004); Geography of Planning (GEO 3HT3; 2004, 2005); Environmental Paleontology (GEO 3P03; 2010, 2011); Research Design & Dissemination (GEO 3RD3; 2009); Environmental Impact Assessment (GEO 4A03; 2005); Environmental Issues (GEO 4EA3; 2008)

VOLUNTEER EXPERIENCE

- 2011: **Habitat for Humanity**, Negombo, Sri Lanka
- 2010: **Habitat for Humanity**, Phnom Penh, Cambodia
- 2005-2008: **Terry Fox Foundation for Cancer Research**, Milton, Ontario