

HEATHER LOUISE FORD

POSTDOCTORAL RESEARCH SCIENTIST

LAMONT-DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY

Geoscience 104B

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PROFESSIONAL EXPERIENCE

2013 – present	Lamont-Doherty Earth Observatory Postdoctoral Research Scientist North Atlantic Bottom Water Temperature and Ice Volume Records from the Mid-Pleistocene Transition Advisor: Dr. Maureen Raymo	Palisades, NY, USA
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EDUCATION

2007 – 2013	University of California, Santa Cruz <i>Doctor of Philosophy, Ocean Sciences</i> Evolution of Tropical Pacific Ocean Dynamics: Surface to Subsurface Temperature Variability from the Pliocene to Present Advisor: Dr. Ana Christina Ravelo	Santa Cruz, CA, USA
2004 – 2007	San Diego State University <i>Master of Science, Geological Sciences</i> Evaluating the Skeletal Chemistry of <i>Mytilus californianus</i> as a Temperature Proxy: Effects of Microenvironment and Ontogeny Advisor: Dr. Stephen Schellenberg	San Diego, CA, USA
2002 – 2003	University of Leeds University of California Education Abroad Program	Leeds, UK
2000 – 2004	University of California, Davis <i>Bachelor of Science, Geology, High Honors</i>	Davis, CA, USA

GRANTS AND FELLOWSHIPS

2014	NSF-OCE: North Atlantic Bottom Water Temperature and Ice Volume Records from the Mid-Pleistocene Transition (\$221,274)
2014	Climate Center Grant (\$10,000)
2012 – 2013	University of California President's Dissertation-Year Fellowship (\$21,000)
2012 – 2013	ARCS Foundation Fellowship (\$10,000)
2009 – 2010	Schlanger Fellowship, Ocean Leadership (\$28,000)
2009	CDELSI Research/IGPP Mini-Grant Award, <i>UC Santa Cruz</i> (\$3,000)
2007 – 2008	Regent's Fellow, <i>UC Santa Cruz</i>

2005 Geological Society of America Student Research Grant (\$1,500)
2004 Geological Sciences Department, Exxon Mobil Fellowship, *San Diego State University*

AWARDS AND HONORS

2011 Ocean Sciences Department, Graduate Student of the Year
2007 Outstanding Master's Thesis Presentation, *San Diego State University*

FIELD WORK

2012 Research Assistant, R/V Langseth *Line Islands*
2010 Research Assistant, R/V Melville *Costa Rica to Northern Chile*
2008 Research Assistant, R/V Sproul *Santa Barbara Basin*
2005 Research Assistant, R/V Revelle *Hawaii to San Diego*

PROFESSIONAL SERVICE

Reviewer for *Proceedings of the National Academy of Sciences; Geochemistry, Geophysics, Geosystems, Paleoceanography*

2014 Session Chair, American Geophysical Union Fall Meeting, Reconstructing and Modeling the Pliocene Warm Period: A Potential Analog for Future Warmth
2013 – 2014 Co-Leader Postdoctoral Professional Development Group, *LDEO*
2008 – 2012 Title IX Advisory Committee, *UC Santa Cruz*
2010 EVC Search Advisory Committee, Graduate Student Representative
2008 – 2010 Graduate Student Representative for Ocean Sciences, *UC Santa Cruz*

PROFESSIONAL DEVELOPMENT

2013 The Cutting Edge, Preparing for an Academic Career in the Geosciences, Colorado University, Colorado, USA
2010 ISEE Professional Development Program, Inquiry and Design Institute, Hawaii, USA
2009 Integrated Ocean Drilling Program, INVEST Workshop
2008 Communicating Your Science to the Public, AGU Fall Meeting Workshop
2005 Summer School in Paleoceanography, Urbino, Italy

INVITED TALKS

Princeton University (May 2014) The mid-Pliocene Warm Period: El Padre and the thermocline
Lamont-Doherty Earth Observatory (May 2014) El Niño and El Padre: a deep equatorial Pacific thermocline during the Pliocene warm period
Williams College (March 2014) El Niño and El Padre: The Pliocene Warm Period as an Analogue for Future Climate Change?

TEACHING AND MENTORING

- 2014 LDEO Summer High School Intern Mentor
2011 – 2012 Summer High School Internship Program in the Geo-Sciences* Mentor
2007 – 2012 Teaching Assistant, *UC Santa Cruz Ocean Sciences Department*
Life in the Sea, Marine Geology, Our Changing Planet
2011 EarthWEST Transfer Student Workshop, *UC Santa Cruz*
2004 – 2007 Teaching Assistant, *San Diego State University Geological Sciences Department*
Dynamics of the Earth Laboratory, The Ocean Planet Laboratory

COMMUNITY SERVICE AND SCIENCE OUTREACH

- 2014 Lamont-Doherty Earth Observatory Open House
2013 – 2014 Girls on the Run 5K Running Buddy
2008, 2009 Young Women in Science Mentor, Monterey Bay Aquarium
2007 Clinic Volunteer, Planned Parenthood, *San Diego, CA*

MEMBERSHIPS

American Geophysical Union
American Association for the Advancement of Science
Earth Science Women's Network

PUBLICATIONS

- Ravelo, A.C., Lawrence, K.T., Fedorov, A., and **Ford, H.L.** Comment on “A 12-Million-Year Temperature History of the Tropical Pacific Ocean.” accepted, *Science*.
- Ford, H.L.**, Ravelo, A.C., and Hovan, S., 2012, A deep Eastern Equatorial Pacific thermocline during the early Pliocene warm period, *Earth and Planetary Sciences Letters* 355–356, 152–161, doi:10.1016/j.epsl.2012.08.027.
- LaRiviere, J.P., Ravelo, A.C., Crimmins, A., Dekens, P.S., **Ford, H.L.**, Lyle, M., and Wara, M.W., 2012, Late Miocene decoupling of oceanic warmth and atmospheric carbon dioxide forcing: *Nature*, 486, doi: 10.1038/nature11200.
- Ford, H.L.**, Schellenberg, S., Becker, B., Deutschman, D., Dyck, K. and Koch, P., 2010, Evaluating the skeletal chemistry of *Mytilus californianus* as a temperature proxy: effects of microenvironment and ontogeny, *Paleoceanography*, 25, PA1203, doi:10.1029/2008PA001677.

PUBLICATIONS IN PREPARATION

- Ford, H.L.**, Ravelo, A.C., and Polissar, P. Reduced ENSO during the Last Glacial Maximum, in revision, *Science*.
- Lynch-Stieglitz, J., Polissar, P., Jacobel, A., Hovan, S., Pockalny, R., Lyle, M., Murray, R., Ravelo, A.C., Bova, S., Castro, V., Dunlea, A., **Ford, H.L.**, Herzberg, J., King, C., Maloney, A.,

Shackford, J., Wejnert, K., and Xie, R. Glacial-Interglacial Changes in Central Tropical Pacific Surface Seawater Property Gradients, submitted, *Paleoceanography*.

Ford, H.L., Ravelo, A.C., Dekens, P. LaRiviere, J.P., Wara, M. The Early Pliocene El Padre Mean State and the Evolution of the Equatorial Thermocline, in preparation, *Geophysical Research Letters*.

Ford, H.L., and Ravelo, A.C. Long-term Stability and Sensitivity of the Western Equatorial Pacific to Radiative Forcing, in preparation, *Paleoceanography*.

Lariviere, J.P., Ravelo, A.C., **Ford H.L.**, and Aung, M. Basin-wide sea surface temperature distributions of the Pleistocene, Pliocene, and late Miocene, in preparation, *Geophysical Research Letters*.

Dyck, K., Koch, P., **Ford, H.**, and Schellenberg, S., Mid-Holocene Climate Variability and Coastal Upwelling: Geochemical Evidence from *Mytilus californianus*, in preparation, *The Holocene*.

ABSTRACTS

***indicates student abstracts**

Ford, H.L., Ravelo, A.C., Dekens, P. LaRiviere, J.P., Wara, M. 2013. Changes in Thermocline Depth and Upper Ocean Stratification Complicate the Interpretation of Sea Surface Temperature Reconstructions, *Multiproxy approach to the reconstruction of the Pliocene climate*.

Ford, H.L., Ravelo, A.C., Dekens, P. LaRiviere, J.P., Wara, M. 2013. Long-term Stability of the Western Equatorial Pacific Warm Pool, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP53C-2019.

Ford, H.L., Ravelo, A.C., Dekens, P. LaRiviere, J.P., Wara, M. 2013. Long-term Stability and Sensitivity of the Western Equatorial Pacific to Radiative Forcing, *Pliocene Workshop 2 and International Conference on Paleoclimatology 11*, P-290.

Ravelo, A.C., **Ford, H.L.**, Dekens, P.S., White, S.M., and Griffith, E.M. 2013. Tropical Climate Mean State and Variability during the Pliocene Warm Period, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP52E-05.

Ford, H.L., Ravelo, A.C., Polissar, P.J., 2012. Reduced surface ocean temperature variability in the Eastern Equatorial Pacific during the Last Glacial Maximum. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP23E-02.

LaRiviere, J.P., Ravelo, A.C., **Ford H.L.**, and Aung, M. 2012. Basin-wide sea surface temperature distributions of the Pleistocene, Pliocene, and late Miocene, *EOS Transactions of the American Geophysical Union Fall meeting supplement*, PP33E-02.

Ravelo, A.C., Dekens, P.S., Dyez, K.A., **Ford, H.L.**, LaRiviere, J.P. 2012. Evidence for Changing Climate Sensitivity in the Geologic Past, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, A14C-01.

*Chopra, S., **Ford, H.L.**, and Ravelo, A.C., 2012. West Equatorial Pacific Surface Temperatures during the Pliocene, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, ED31A-0701.

- Ford, H.L.**, Ravelo, A.C. and Polissar, P., 2011. Single Foraminifera Reconstructions of Equatorial Pacific Variability from the Late Glacial Maximum to the Holocene. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP41B-1764.
- *Chopra, S., **Ford, H.L.**, and Ravelo, A.C., 2011. Southwest Subtropical Pacific Surface Temperatures during the Pliocene, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, ED41A-0511.
- Ford, H.L.**, Ravelo, A.C. and Hovan, S., 2010. Cooling Subsurface Temperatures in the Eastern Equatorial Pacific during the Pliocene and Linkages to Global Cooling. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP11G-04.
- Ford, H.L.**, Ravelo, A.C. and Hovan, S., 2010. Subsurface Temperature Records from the Pliocene Eastern Equatorial Pacific, *International Conference on Paleoclimatology 10*, M.061,
- Hovan, S.A. Ravelo, A.C. and **Ford, H.L.**, 2010. Pliocene records of ITCZ, wind field strength and thermocline temperatures in the Eastern Equatorial Pacific. *EOS Transactions of the American Geophysical Union Ocean Sciences Meeting Supplement*, PA25B-02.
- Ford, H.L.**, Ravelo, A.C. and Hovan, S., 2009. Temperature Gradient Reconstructions from the Eastern Equatorial Pacific Cold Tongue. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP13D-1450 and *Pliocene Workshop 1*.
- Ford, H.L.** and Schellenberg, S., Becker, B., Deutschman, D.H., Koch, P. 2007. Regional Failure of Intertidal Mussel Mg/Ca as an Independent Temperature Proxy: A Cautionary Tale. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, B31D-0613.
- Dyck, K., Koch, P., Schellenberg, S., and **Ford, H.** 2007. Mid-Holocene Climate Variability and Coastal Upwelling: Geochemical Evidence from *Mytilus californianus*, *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP43B-1251.
- Ford, H.L.** and Schellenberg, S., Becker, B., Deutschman, D.H., Koch, P. 2006. Evaluating the Robustness of *Mytilus californianus* Skeletal Chemistry as a Paleoenvironmental Archive: Effects of Microenvironment and Ontogeny. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, PP23D-1805.
- Ford, H.L.** and Schellenberg, S. 2005. Environmental and Biological Controls of Tidal Banding in the Common Mussel *Mytilus californianus*. *EOS Transactions of the American Geophysical Union Fall Meeting Supplement*, OS51C-0575.
- Herbert, G. and **Ford, H.L.** 2005. Influence of Competition and Growth Rates and Maximum Size of Predatory Gastropods: Ecological Versus Evolutionary Perspectives. *Geological Society of America Abstracts with Programs*, Vol. 37, No. 7, p. 134.