ELIZABETH M. GRIFFITH

Dept. of Geology, Kent State University, 221 McGilvrey Hall ▪ Kent, Ohio 44242 ▪ egriffi9@kent.edu

EDUCATION

2002-2008 Stanford University Stanford, California USA
Ph.D., Department of Geological & Environmental Sciences, School of Earth Sciences

Advisor: Dr. Adina Paytan; Co-Advisor: Dr. Jonathan L. Payne; Title: "Seawater calcium isotopes and the Cenozoic carbonate depositional history of the oceans"

1996-2000 Missouri University of Science and Technology Rolla, Missouri USA
(formerly University of Missouri-Rolla)
B.S. *summa cum laude*, Geology & Geophysics, minor Foreign Language, French

FELLOWSHIPS, SCHOLARSHIPS

National Science Foundation Graduate Research Fellowship 2006-2008
National Defense Science & Engineering Graduate Student Fellowship 2003-2006
Missouri Curators & Bright Flight Scholar 1996-2000
UMR - Geology Department Scholarship 1996-2000
UMR - School of Mines & Metallurgy Scholarship 1997, 1998
UMR - Chancellor's Leadership Scholar 1996-1997
Ray E. Morgan Scholarship 1999 (top junior in geology at UMR)

HONORS

School of Earth Sciences Research Review, 1st Place Poster 2007
Missouri Academy of Science Research Symposium 2nd Place Geosciences 1999
UMR - Sigma Xi (Science Honor Society) Student Paper Award Recipient 1999
UMR - Theta Tau Omega Freshman of the Year 1997

PROFESSIONAL EXPERIENCE

Assistant Professor. Department of Geology, Kent State University, January 2010-current.

Research Fellow. Institute of Marine Sciences, University of California, Santa Cruz, Fall 2008 - current.

Teaching Assistant. "GES 1 Fundamentals of Geology", "GES 47 Secrets in the Mud: Introduction to Paleoceanography", "GES 8 The Oceans". Stanford University, 2002-2003.

Field Engineer. Schlumberger – Reservoir Evaluation Wireline, Aberdeen, Scotland UK and Bakersfield, California, USA, June 2000-July 2002.

Research Assistant. Department of Geology & Geophysics, University of Missouri-Rolla, Summer-Winter 1999, Fall 1998.

Field Technician. Shively Geotechnical, Fairview Heights, Illinois, Summer 1998.

RESEARCH EXPEDITIONS

Seamounts 2007. 17-26 June 2007. Participant. California coastal seamounts via R/V Western Flyer and ROV Tiburon. Chief Scientist: David Clague, Monterey Bay Aquarium Research Institute (MBARI)

PUBLICATIONS

Griffith, E. M., Paytan, A., M. Calhoun, E. Thomas and T. Bralower (**in prep**) Fluctuations in export productivity and carbonate accumulation at the Eocene-Oligocene Transition across the Pacific Basin.

Griffith, E. M., A. Paytan, A. Eisenhauer, T. D. Bullen and E. Thomas (**in prep**) Seawater calcium isotopic ratios across the Eocene-Oligocene Transition.

Griffith, E. M., A. Paytan, K. Caldeira, T. D. Bullen and E. Thomas (**2008**) A dynamic marine calcium cycle during the past 28 million years. *Science*, Vol. 322, 1671-1674.

Griffith, E. M., E. A. Schauble, T. D. Bullen and A. Paytan (**2008**) Characterization of calcium isotopes in natural and synthetic barite. *Geochimica et Cosmochimica Acta*, Vol. 72, 5641-5658.

Griffith, E. M., A. Paytan, R. Kozdan, A. Eisenhauer and A. C. Ravelo (**2008**) Influences on the fractionation of calcium isotopes in planktonic foraminifera. *Earth and Planetary Science Letters*, Vol. 268, 124-136.

Griffith, E. M. and A. Paytan (**accepted October 2007**) Barite in the ocean – occurrence, geochemistry, and paleoceanographic applications. In *Authigenic minerals: sedimentology, geochemistry, origins, distribution and applications*, International Association of Sedimentology Special Publication.

Paytan A. and **E. M. Griffith** (**2007**) Marine barite: recorder of variations in ocean export productivity. *Deep Sea Research: Part II*, Vol. 54, 687-705.

Morris E. J. and F. E. Oboh-Ikuenobe. (**2000**) Sedimentary, palynology, and sea level fluctuations recorded by two Pennsylvanian cores from northwestern Missouri. In *Missouri Academy of Science Transactions*, Vol. 34 (ed. J. F. Belshe), 49-60.

SELECTED ABSTRACTS

Griffith, E. M. and A. Paytan, (2009) Seawater calcium isotopic ratios across the Eocene Oligocene Transition. *EOS Trans. AGU*, Fall Meet. Suppl., Abstract PP31B-1314.

Griffith, E. M., A. Paytan and T. D. Bullen (2008) Evidence for a dynamic marine calcium cycle during the past 28 million years from a record of calcium isotopes in marine barite. *Geochimica et Cosmochimica Acta* **72** (12), A329.

Griffith, E. M., A. Paytan, R. Kozdon, A. Eisenhauer and A. C. Ravelo (2007) Influences on the fractionation of calcium isotopes in planktonic foraminifera. *EOS Trans. AGU*, Fall Meet. Suppl., Abstract PP42A-04.

Griffith, E. M., A. Paytan and T. D. Bullen (2007) Variations in seawater calcium isotopes over the past 30 million years as recorded in marine barite. *9th International Conference on Paleoceanography ICP IX 3-7 September 2007 Shanghai, China.*

Griffith, E. M., A. Paytan and T. D. Bullen (2006) A high resolution record of strontium isotopes over the Paleocene Eocene boundary from marine barite. *EOS Trans. AGU*, **87** (52), Fall Meet. Suppl., Abstract PP21C-1707.

Morris, E. J., A. Paytan and T. D. Bullen (2005) Marine barite: A recorder of seawater calcium isotope composition. *6th International Symposium on Applied Isotope Geochemistry 11-16 September 2005 Prague, Czech Republic.*

Morris, E. J., A. Paytan and T. D. Bullen. (2003) Marine barite: A potential recorder of seawater calcium isotope composition. *GSA Abstracts with Program* **35** (6), 257.

ACADEMIC SERVICE

UMR Dept. of Geological Sciences & Engineering Alumni Advisory Board, 2007-current
School of Earth Sciences Ocean Seminar student coordinator, Fall 2004, Winter 2006
Stanford Freshman Advising, Resources & Mentoring Graduate Mentor, 2003-2005
Stanford School of Earth Sciences Graduate Student Advisory Committee, 2003-2004
AAPG/ C.L. Dake Geological Society, President 1999, Treasurer 1998

PUBLIC OUTREACH

High school teacher internship graduate student host, Summer 2006
Expanding Your Horizons in Science and Mathematics, workshop instructor, March 2006
High school Summer Internship graduate student host, Summer 2005
Stanford Geokids, 1st & 4th Grade workshop instructor, Fall 2003 – Fall 2007
Almond Elementary School, 6th Grade Oceanography instructor, Fall 2003, Spring 2005
Sally Ride Science Festival, Oceanography workshop instructor, October 2003 & 2004

INVITED TALKS

Kent State University, Department of Geology, March 2009
University of Miami, Rosenstiel School of Marine and Atmospheric Science, Division of Marine Geology and Geophysics, April 2008
University of Akron, Department of Geology and Environmental Science, February 2008
University of California, Santa Cruz, Ocean Sciences Seminar, October 2006

PROFESSIONAL SOCIETY AFFILIATIONS

American Geophysical Union; Geological Society of America; Mineralogical Society of America

REVIEWER FOR

American Journal of Science; Geochimica et Cosmochimica Acta; Journal of Sedimentary Research; Science

GRANTS

Stanford School of Earth Sciences McGee Fund, Individual Research Grant, May 2005 "*Calcium isotopes in foraminifera tests from coretops – Evaluation of their use as a paleothermometer*" $2400; May 2004 "*Calcium isotopes in foraminifera shells from sediment traps in Guaymas Basin, Gulf of California – Evaluation of their use as a paleothermometer*" $2000

International Conference of Paleoceanography (ICP) VIII - September 2004, Biarritz, France, Student Travel Grant awarded by IMAGES (The International Marine Past Global Changes Study), 1150 € ; ICP IX - September 2007, Shanghai, China, Early Career Travel Grant awarded by IMAGES, 1000 €

6th International Symposium on Applied Isotope Geochemistry – September 2005, Prague, Czech Republic, Financial Assistance awarded by International Association of Geochemistry and Cosmochemistry (IAGC) $612

Goldschmidt 2008 Conference – July 2008, Vancouver, Canada, Student Travel Grant $500

Shell Foundation Grant: November 2003 – GSA Annual Meeting Seattle, Washington $500; May 2004 – Michigan State University, Biogeochemistry Isotope Short Course $500; September 2004 – ICP VIII Biarritz, France $500; May 2005 – Goldschmidt Conference Moscow, Idaho $500; September 2007 – ICP IX Shanghai, China $500; July 2008 – Goldschmidt Conference Vancouver, Canada $500

COLLABORATORS

Paleoceanography/Paleoclimatology:
Adina Paytan, *Institute of Marine Sciences, University of California, Santa Cruz*
A. Christina Ravelo, *Ocean Sciences Department, University of California, Santa Cruz*
Isotope Geochemistry Analysis:
Thomas D. Bullen, *U.S. Geological Survey, Menlo Park*
Anton Eisenhauer, *Leibniz-Institut für Meereswissenschaften IFM-GEOMAR*
Paleobiology:
Jonathan L. Payne, *Department of Geological and Environmental Sciences, Stanford University*
Ellen Thomas, *Department of Geology and Geophysics, Yale University and Department of Earth and Environmental Sciences, Wesleyan University*
Modeling:
Ken Caldeira, *Department of Global Ecology, Carnegie Institution of Washington*
Edwin A. Schauble, *Department of Earth and Space Sciences, University of California, Los Angeles*