

Curriculum Vitae
Marina B. Suarez

Department of Earth and Planetary Science; Johns Hopkins University; 3400 N. Charles St.; 301 Olin Hall; Baltimore, MD 21218; email: msuarez5@jhu.edu; Phone: 410-516-7765 (office)

RESEARCH INTERESTS:

I am interested in understanding global climate change in deep-time by utilizing stable isotopic proxies and sedimentologic and stratigraphic patterns to reconstruct ancient environments particularly in the terrestrial realm. Currently, I am pursuing utilization of “clumped isotope” carbonate paleothermometry from soil carbonates to define paleotemperature from the Pliocene of China. In addition I am attempting to utilize fossil bone for clumped-isotope paleothermometry to better understand the utility of fossil bone for paleoclimate studies, such as to define high resolution paleotemperature records. I am especially interested in time periods, such as the Cretaceous or the Paleocene-Eocene Thermal Maximum, as examples of greenhouse climate systems.

EDUCATION:

PhD – Geology, (with departmental honors) The University of Kansas, Lawrence, KS. September 2009

Global hydrologic perspective on the mid-Cretaceous greenhouse climate (Aptian-Albian).
Dissertation Advisors: Dr. Luis A. González and Dr. Gregory A. Ludvigson

MS – Geology, Temple University, Philadelphia, PA. August, 2005

Thesis Title: Depositional environment of the Crystal Geyser Dinosaur Quarry, East-Central Utah. Thesis Advisor: Dr. Dennis O. Terry Jr.

BS – Geosciences, *Cum Laude*, Trinity University, San Antonio, TX. May 2003.

Senior Thesis Title: Analysis of freshwater limestones at the Cleveland-Lloyd Dinosaur Quarry, Emery County, Utah. Thesis Advisor: Dr. Edward C. Roy Jr.

PROFESSIONAL EXPERIENCE:

Blaustein Post-doctoral Fellow, Department of Earth and Planetary Sciences, Johns Hopkins University

September 21, 2009 to Present

Research Assistant at the Keck Paleoenvironmental and Environmental Stable Isotope Lab, The University of Kansas

Fall 2008–Spring 2009

- Preparation of carbonate and organic carbon samples for isotopic analysis
- Operation and maintenance of ThermoFinnigan Kiel III carbonate device, Costech elemental combustion system, and ThermoFinnigan MAT 253 isotope ratio mass spectrometer

Teaching Assistant, The University of Kansas

Fall 2007–Spring 2008

- Courses taught: Stratigraphy Lab, Geology Fundamentals Lab,

Research Assistant at the Keck Paleoenvironmental and Environmental Stable Isotope Lab, The University of Kansas

Fall 2005–Summer 2007

- Preparation of carbonate samples for isotopic analysis, including preparation of polished slabs for sampling and matching petrographic thin sections.
- Operation and maintenance of ThermoFinnigan Kiel III carbonate device and ThermoFinnigan MAT 253 isotope ratio mass spectrometer

Teaching Assistant, Temple University

Fall 2003–Summer 2005

- Courses taught: Introduction to Geology Lab, Facies Models Lab, and Paleontology and Stratigraphy Lab

Field Assistant, Crystal Geyser Dinosaur Quarry, Utah Geological Survey

Summer 2004

- Assisted in excavation and field preparation
- Supervised new volunteers to the quarry
- Conducted field research on depositional environment of quarry

Teaching Assistant, Trinity University

Fall 2001–Spring 2003

- Setup and clean-up of Introductory Geology Labs
- Assisted professor with instruction of students during labs

VOLUNTEERED POSITIONS:

Educational Volunteer, Cleveland-Lloyd Dinosaur Quarry, via the Student Conservation Association

Summer 2002

- Conducted tours of the quarry and quarry museum
- Answered visitor questions
- Participated in excavation and field preparation of dinosaur bones
- Conducted field research for undergraduate thesis

Educational Volunteer, Badlands National Park, via Badlands Natural History Association

Summer 2001

- Presented fossil talks, geology walks, and visitor interpretation at the “Pig Dig” (active paleontological site)
- Participated in excavation and field preparation of mammal bones
- Manned visitor center desk

- Assisted Dr. Dennis Terry (Temple University) and his research group with field research on the Cretaceous-Tertiary boundary at the park

Texas Hill Country Heritage Museum Track way cleanup

One weekend during the summer 2001

- Assisted Dr. James Farlow (Indiana-Purdue University) and the Paleontological Association of South Texas in cleaning and mapping dinosaur tracks

GRANTS AND SCHOLARSHIPS:

2008: American Association Petroleum Geologists Foundation Grants-in-Aid

2007: Geological Society of America Graduate Student Research Grant

2006–2008: Dr. Ernest and Margaret Angino Geochemistry Scholarship

2003: South Texas Geological Society Field Camp Scholarship

2003: Geological Society of America South-Central Section Undergraduate Research Grant

2002–2003: Tinker Family Fund Student Grant—selected by Department of Geosciences at Trinity University

2002–2003: Eckert Scholarship – selected by Department of Geosciences at Trinity University

1999–2008: American Geological Institute Minority Participation Scholarship

HONORS AND AWARDS:

William A. Tarr Award (awarded to an Outstanding Senior by SGE Trinity University Chapter membership)

Sigma Gamma Epsilon – Earth Science honor society

Alpha Lambda Delta – academic honor society

Dean's List (Trinity University) – Fall 1999, Spring 2000, Fall 2002

PROFESSIONAL SOCIETIES:

American Association of Petroleum Geologists

Geological Society of America

Society of Vertebrate Paleontology

Society for Sedimentary Geology

Society for the Advancement of Chicanos and Native Americans in Science

INVITED LECTURES:

Palo Alto Community College, Fall 2002: presented on research experience in Badlands National Park and Cleveland-Lloyd Dinosaur Quarry

Temple University, February 5, 2010: The mid-Cretaceous Water-bearer revisited: Quantification of a Greenhouse Hydrologic Cycle in the Americas

SERVICE:

- 2008: Participated in Women in Science day at Washburn University, teaching geology to middle school girls.
- 2007–2008: President, Sigma Gamma Epsilon, Alpha chapter at the University of Kansas
- 2006–2008: Expanding Your Horizons participant (Program to promote science for middle school aged girls)
- 2006: Guest teacher at Oak Lane Day School Elementary, Philadelphia, PA (taught 1st grade science class)
- 2002: Testified at the Texas State Board of Education to promote Earth Science education in public schools

PUBLICATIONS:

- Suarez, M.B.**, González, L.A., and Ludvigson, G.A., 2010, Estimating the isotopic composition of equatorial precipitation during the mid-Cretaceous, *Journal of Sedimentary Research*, v. 80, p. 480-491.
- Suarez, M. B.**, González, L. A., Ludvigson, G. A., Vera, F. J., and Alvarado-Ortega, J., 2009, Isotopic composition of low-latitude paleo-precipitation during the Early Cretaceous. *GSA Bulletin*, v. 121, p. 1584-1595.
- Suarez, M. B.**, Suarez, C. A., Kirkland, J. I., González, L. A., Grandstaff, D. E., and Terry, D. O. Jr., 2007, Sedimentology, stratigraphy, and depositional environment of the Crystal Geyser Dinosaur Quarry, East-Central Utah. *PALAIOS*, v. 22, p. 513-527.
- Suarez C. A., **Suarez, M. B.**, Terry, D. O. Jr., and Grandstaff, D. E., 2007, Rare earth element geochemistry and taphonomy of the Early Cretaceous Crystal Geyser Dinosaur Quarry, east-central Utah *PALAIOS*. v. 22, p. 500-512.

ABSTRACTS OF PRESENTATIONS:

- Suarez, M. B.**, Gonzalez, L., Ludvigson, G., 2010, Utilization of stable oxygen isotopes for quantification of the mid-Cretaceous greenhouse in the Americas. *American Association of Petroleum Geologists, Annual Covention and Exhibition, New Orleans, La.*, v. 19, p. 249.
- Suarez, M. B.**, González, L., Ludvigson, G., 2009, The mid-Cretaceous water-bearer revisited: Quantification of a greenhouse hydrologic cycle in the Americas. *American Geophysical Union, Fall Meeting, San Francisco, CA.*
- Suarez, M. B.**, González, L., Ludvigson, G., You, H., 2009, Depositional Environment and Stable Carbon Isotope Chemostratigraphy of the Early Cretaceous Xiagou Formation in Changma Basin, Gansu Province, China. *American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, CO.*, v. 18, p. 207

- Suarez, M. B.**, González, L., Ludvigson, G., You, H., 2008, Stable carbon isotope chemostratigraphy of the fossil bird-bearing Early Cretaceous Xiagou Formation in Changma Basin, Gansu Province, China. Society of Vertebrate Paleontology 64th Annual Meeting, Denver, CO. Abstracts with Programs, *Journal of Vertebrate Paleontology*, suppl. to v. 28, p. 149.
- Suarez, M. B.**, González, L., Ludvigson, G., You, H., 2008, Evidence of an intensified global hydrologic cycle during the Cretaceous from freshwater and pedogenic carbonates of Gansu Province, China; SACNAS National Conference Abstracts, p. 29.
- Suarez, M. B.**, González, L., Ludvigson, G., Ufnar, D., 2007, Oxygen isotopic study of carbonate minerals from the mid-Cretaceous low latitudes: Insights into the Cretaceous global hydrologic cycle; SACNAS National Conference Abstracts, p. 28.
- Suarez, M. B.**, Bozarth, S., and Tremain, E., 2007, Documentation of phytoliths and other biosilicates from the Mussentuchit Member of the Cedar Mountain Formation, Utah.; Geological Society of America, Rocky Mountain Section 59th annual meeting: Abstracts with Programs, Geological Society of America, v. 39, no. 5, p. 40.
- Suarez, M. B.**, González, L. A., Ludvigson, G. A., Davis, J., 2007, Pedogenic sphaerosiderites from the Caballos Formation (Aptian-Albian) of Colombia; a stable isotope proxy for Cretaceous paleoequatorial precipitation.; Geological Society of America, South-Central Section, 41st annual meeting: Abstracts with Programs, Geological Society of America, v. 39, no. 3, p. 75.
- Suarez, M. B.**, González, L. A., Vega-Vera, F. J., Ludvigson, G. A., 2006, Petrographic and isotopic study of depositional environments in the Early Cretaceous (Aptian-Albian) Tlayúa Quarry, Mexico.; Geological Society of America, annual meeting: Abstracts with Programs, Geological Society of America, v. 38, no. 7, p. 394.
- Ludvigson, G. A., Ufnar, D. F., Gonzalez, L. A., and **Suarez, M. B.**, 2006, Coming to grips with the evaporation rates recorded in ancient soils: interpreting diagenetic trends from vadose & phreatic components in calcic paleosols: Geological Society of America, annual meeting: Abstracts with Programs, v. 38, no. 7, p. 532.
- Suarez, M. B.**, Suarez, C., Terry, D.O., Grandstaff, D.E., and Kirkland, J.I., 2004, Sedimentologic, taphonomic, and rare earth element geochemical analysis of the Crystal Geyser Dinosaur Quarry, East-Central, Utah. Society of Vertebrate Paleontology 64th Annual Meeting, Denver, CO. Abstracts with Programs, *Journal of Vertebrate Paleontology*, v. 24, Suppl. to no. 3, p. 119a.
- Suarez, C., and **Suarez, M.**, 2004, Use of Facies, Taphonomy, and Rare earth element geochemistry analyses at the Cleveland Lloyd Dinosaur Quarry: Tools for bone bed interpretations. Society of Vertebrate Paleontology 64th Annual Meeting, Denver, CO. Abstracts with Programs, *Journal of Vertebrate Paleontology*, v. 24, Suppl. to no. 3, p. 119a.

Suarez, M. B., 2004, Analysis of Freshwater Limestones at the Cleveland-Lloyd Dinosaur Quarry, Emery County, Utah. Northeast Section and Southeast Section Joint meeting of the Geological Society of America, Abstracts with Programs, v. 36, no. 2, p. 97.

Suarez, M., 2003, Analysis of Freshwater Limestones at the Cleveland-Lloyd Dinosaur Quarry, Emery County, Utah. 17th National Conference on Undergraduate Research, Salt Lake City, UT, 2003, p. 327.

NON-PEER REVIEWED MEDIA

One of featured scientists in *Utah's Dinosaur Graveyard* , 2005, produced, written, and directed by Gary Wortman, EveryMan Productions, LLC., for the Science Channel.

Suarez, C., and **Suarez, M.** 2002. A summer of fossils. *Geotimes*, vol. 27, no. 5, p. 14-15.