

Marites Villarosa Garcia

5734 S. Ellis Ave • Chicago, IL 60637, USA
Phone: 619.804.1680 • E-Mail: marites@uchicago.edu

EDUCATION

- Ph.D. Candidate.** **University of Chicago, Department of the Geophysical Sciences**
- Dissertation Project: Evolutionary and Spatial Patterns of Phytoplankton Morphological Diversity
- Thesis Adviser: Dr. Michael Foote and Dr. C. Kevin Boyce
- Thesis Committee: Dr. David Jablonski, Dr. Maureen L. Coleman, Dr. Susan M. Kidwell.
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- B.A.** **University of California Santa Barbara, College of Creative Studies**
- Major: Biology
- Minor: Earth Science
- Undergraduate Adviser: Dr. Bruce Tiffney

RESEARCH INTERESTS

- Spatial and temporal patterns of morphological disparity
- Evolutionary patterns of phytoplankton morphological diversity
- Phytoplankton biomechanics and functional ecology
- Influence of environmental changes on the evolution of higher order clades

PUBLICATIONS

Belanger, Christina L., and Villarosa Garcia, Marites. 2014. "Differential drivers of benthic foraminiferal and molluscan community composition from a multivariate record of early Miocene environmental change". *Paleobiology* 40(3): 398-416.

(In Prep.) Villarosa Garcia, Marites, Porter, James J., LaBarbera, Michael. "The effect of coccolith shape and arrangement on whole-organism sinking behavior". *Journal of Nannoplankton Research*.

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(In Prep.) Villarosa Garcia, Marites. “Morphological disparity lacks biogeographic structure: a study using modern coccolithophores (Prymnesiophyceae)”.

RECENT PRESENTATIONS

2015. VILLAROSA GARCIA, Marites. **Biogeographic patterns of coccolithophore morphological disparity**. The 15th Meeting of the International Nannoplankton Association. Bohol, Philippines. (Talk)

2014. VILLAROSA GARCIA, Marites. **Exploring spatial patterns of morphological disparity in extant coccolithophores**. The Geological Society of America Annual Meeting, Vancouver, Canada. (Talk)

2014. VILLAROSA GARCIA, Marites. **Exploring patterns of morphological disparity in extant coccolithophores**. The Micropalaeontological Society joint Foraminifera and Nannofossil Spring Meeting: Foraminifera and nannofossils through time: qualification and quantification. Texel, The Netherlands. (Talk)

2013. VILLAROSA GARCIA, Marites, and PORTER, James J. **The effect of coccolith shape on coccolithophore fluid dynamics**. The 14th Meeting of the International Nannoplankton Association. Reston, Virginia, USA. (Talk)

2013. VILLAROSA GARCIA, Marites. **Modeling the effect of coccolith shape on coccolithophore sinking rates, light acquisition, and dissolution rate**. Aquatic Sciences, Limnology, and Oceanography 2013 Aquatic Sciences Meeting. New Orleans, LA, USA. (Poster)

RESEARCH EXPERIENCE

Biogeographic patterns of Morphological Diversity in Extant Coccolithophores. September 2013 to present.

- Principal Investigator; dissertation chapters
- Morphological character coding, gathering biogeographic province, latitude and biome data, generating and analyzing multi-family morphospace, compare and contrasting regional and global morphological disparity.

Biomechanical consequences of coccolithophorid morphology on whole-organism sinking behavior. January 2013 to present.

- Principal Investigator; dissertation chapter

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- Model construction, fluid-mechanical experimental design and execution, video recording and analysis, data analysis

Differential drivers of benthic foraminiferal and molluscan community composition from a multivariate record of early Miocene environmental change. January 2012 to October 2013

- Student Researcher under Dr. Christina L. Belanger
- Funded by NSF Award 0910026
- Sample maceration and preparation, nitrogen isotope mass spectrometry, data analysis.

Oceanographic research cruise aboard the R/V Melville examining human impacts to both the marine communities and their environment in the Southern California Shelf. September 2012.

- Student researcher under Dr. Susan M. Kidwell
- Sediment core subsampling for pore water chemical analysis (phosphate and nitrogen); Sieving, picking, and taxonomic identification of live and dead marine benthic communities.

Tracking the tempo of ecological turnover and biodiversity in bivalves and gastropods across the Plio-Pleistocene extinction boundary in North Carolina, USA. June 2010 to March 2011.

- Student researcher under Dr. Patricia H. Kelley
- Research Experience for Undergraduates in Biodiversity Conservation, NSF Award 0755109
- Sample collection, sieving, identification, and statistical analysis for paleontological and extant marine benthic communities.

Taxonomic reassessment of the Cambrian metazoan microfossil *Dabashanites mirus* using samples from Yunana Province, China. March 2008 to June 2011.

- Student researcher under Dr. Susannah M. Porter
- Sample maceration, imaging (Scanning Electron Microscopy), and identification.

Descriptive work on *Chimeracoris calliouensis*, a new genus and species of thread-legged bug from New Caledonia (Heteroptera). June 2007 to September 2008.

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- Volunteer research assistant under Dr. Michael A. Wall
- Descriptive work on a new thread-legged bug genus and species *Chimeracoris calliouensis*.

Online field guide of California tiger beetles (Coleoptera: Cicindelini) for the San Diego Natural History Museum. June 2006 to October 2006.

- Volunteer research assistant under Dr. Michael A. Wall
- Collection management, specimen mounting and preparation, data entry.

GRANTS, FELLOWSHIPS, AND AWARDS

Grants

- The Micropalaeontological Society Grant in Aid 2014, £300.00
- Graduate Student Affairs Travel Grant 2014, \$750.00
- Aquatic Science, Limnology, & Oceanography Travel Fund 2013, \$300
- Hinds Fund in 2012-2014, \$1,500.00
- Undergraduate Research and Creative Activities Grant 2008, \$485

Fellowships

- University of Chicago Weller Fellowship, 2011 to 2012
- McNair Scholar 2009-2011
- College of Creative Studies Iberti Fellowship 2007

Other Awards

- Best Student Oral Presentation, 14th International Nannoplankton Association Meeting, 2013.

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TEACHING

- Teaching Assistant, NTSC 10300: Biological Evolution

Course Instructor: Dr. David Jablonski

Fall 2011, Fall 2012, Fall 2013, Fall 2014

- Teaching Assistant, PHSC 11000: Environmental History of the Earth

Course Instructor: Dr. Susan M. Kidwell

Spring 2012, Spring 2014, Spring 2015

- Teaching Assistant, PHSC13600 Natural Hazards

Course Instructor: Dr. Noburo Nakamura

Winter 2012, Winter 2013

- Teaching Assistant, GEOS 13200: Earth History

Course instructor: Dr. C. Kevin Boyce

Spring 2013

- Teaching Assistant, GEOS 13200: Earth History

course instructor: Dr. Michael Foote

Winter 2014

RECENT OUTREACH AND MENTORSHIP

- Mentor luncheon for *Science Careers in Search of Women (SCSW) Conference*, at Argonne National Lab. April 2015
- Earth science demos for *Science Works: Career Day at the Museum of Science and Industry*. November 2014.

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- Instructor and lesson plan developer for *Paradigm Shift*, 8th grade science seminar at St. Thomas School. January- March 2014.

RECENT PROFESSIONAL DEVELOPMENT AND TRAINING

International FameLab USA: Exploing Earth and Beyond!

Sponsored by National Aeronautics and Space Administration regional heat, June 2015.

The Life Cycle of a Scientific Publishing Workshop

In conjunction with the Kathleen A. Zar Symposium, April 2015

Siliciclastic Core Logging Short Course

Sponseord by theGeological Society of America, taught by Dr. James A. MacEachern and Dr. Shahin Dashtgard. October 2014

Communicating Science Improv Workshop.

Sponsored by the Physical Sciences divison of the University of Chicago, taught by Heather Barnes (Director of Guest Experiences at the Museum of Science and Industry). July 2014.

Communicating Science Effectively Workshop

Sponsored by the office of Graduate Student Affairs, University of Chicago, featuring Linda Hosler (American Association for the Advancement of Science). May 2014.

Grant Writing in the Sciences

Sponsored by the office of Graduate Student Affairs, University of Chicago, featuring Dr. Holly Falk-Krzenski. December 2013

UNIVERSITY AND COMMUNITY SERVICE

Student Volunteer at the Geological Society of America Annual meeting. November 2015, October 2014, October 2012, October 2011.

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Department Representative on the Dean of Physical Science's Student Advisory Committee. Autumn 2012 to Summer 2015

Organizer of paleontology graduate student informal advising and mentoring meeting ("Paleo Floor Meeting"), University of Chicago. Spring 2013 to Fall 2014.

Organizer of Paleo Journal Club. Fall 2014, Summer 2015.

Intern with the University of California Santa Barbara's sustainability in a laboratory and research programs (LabRATS). Sept. 2008-dec 2009

PROFESSIONAL SOCIETY MEMBERSHIP

Geological Society of America

Paleontological Society

International Nannoplankton Association

The Micropalaeontological Society

Association for the Sciences of Limnology and Oceanography

SACNAS