

Curriculum Vitae for Pedro J. Marenco

Dr. Pedro Jose Marenco

- Basin and Range, USA. *Palaios*, v. 34, p. 159-174.
<https://doi.org/10.2110/palo.2018.085>
- Marenco, P.J.**, *Martin, K.R., Marenco, K.N., Barber, D.C., 2016, Increasing global ocean oxygenation and the Ordovician Radiation: Insights from Th/U of carbonates from the Ordovician of western Utah. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 458, p. 77-84.
<https://doi.org/10.1016/j.palaeo.2016.05.014>
- Algeo, T.J., **Marenco, P.J.**, Saltzman, M.R., 2016. Co-evolution of oceans, climate, and the biosphere during the 'Ordovician Revolution': A review. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 458, p. 1-11.
<https://doi.org/10.1016/j.palaeo.2016.05.015>
- Algeo, T.J., **Marenco, P.J.**, Saltzman, M.R., (editors) 2016. The Ordovician Revolution: Co-Evolution of Climate and the Biosphere. Special issue in *Palaeogeography, Palaeoclimatology, Palaeoecology*, volume 458, p. 1-198.
- Kloss, T.J., Dornbos, S.Q., Chen, J.-Y., McHenry, L.J., and **Marenco, P.J.**, 2015, High-resolution geochemical evidence for oxic bottom waters in three Cambrian Burgess Shale-type deposits. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 440, p. 90-95. <https://doi.org/10.1016/j.palaeo.2015.08.048>
- Frantz, C.M., Petryshyn, V.A., **Marenco, P.J.**, Tripathi, A., Berelson, W.M., and Corsetti, F.A., 2014. Dramatic local environmental change during the Early Eocene Climatic Optimum detected using high resolution chemical analyses of Green River Formation stromatolites. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 405, p. 1-15. <https://doi.org/10.1016/j.palaeo.2014.04.001>
- Marenco, P.J.**, Marenco, K.N., *Lubitz, R.L., and *Niu, D., 2013. Contrasting long-term global and short-term local redox proxies during the Great Ordovician Biodiversification Event: a case study from Fossil Mountain, Utah, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 377, p. 45-51.
<https://doi.org/10.1016/j.palaeo.2013.03.007>
- Clapham, M.E., Fraiser, M.L., **Marenco, P.J.**, and Shuzhong Shen, 2013. Taxonomic composition and environmental distribution of post-extinction rhynchonelliform brachiopod faunas: Constraints on short-term survival and the role of anoxia in the end-Permian mass extinction. *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol. 374, p. 284-292. <https://doi.org/10.1016/j.palaeo.2013.02.002>
- Loyd, S.J., **Marenco, P.J.**, Hagadorn, J.W., Lyons, T.W., Kaufman, A.J., Sour-Tovar, F., Corsetti, F.A., 2013. Local ³⁴S variability in 580 Ma carbonates of northwestern Mexico and the Neoproterozoic marine sulfate reservoir. *Precambrian Research* vol. 224, p. 551-569.
<https://doi.org/10.1016/j.precamres.2012.10.007>
- Marenco, P.J.**, *Griffin, J.M., Fraiser, M.L., Clapham, M.E., 2012. Paleocology and geochemistry of Early Triassic (Spathian) microbial mounds and implications for anoxia following the End Permian mass extinction. *Geology* vol. 40, no. 8.
<https://doi.org/10.1130/G32936.1>
- Loyd, S.J., **Marenco, P.J.**, Hagadorn, J.W., Lyons, T.W., Kaufman, A.J., Sour-Tovar, F., Corsetti, F.A., 2012. Sustained low marine sulfate concentrations from the Neoproterozoic to the Cambrian: Insights from carbonates of northwestern Mexico and eastern California. *Earth and Planetary Science Letters* vols. 339-340, p. 79-94. <https://doi.org/10.1016/j.epsl.2012.05.032>

- University-Purdue University Indianapolis Department of Earth Sciences, April 4, 2016.
- Marengo, P.J.**, 2015. Animal-microbial reefs following the first animal reef gap: insights from the Lower and Middle Ordovician of Utah. Delaware Valley Paleontological Society, November 19, 2015.
- Marengo, P.J.** and *^TToure, Nancy, 2014. Life in Ordovician seas: increased fossil biodiversity during a time of environmental chaos. Joint student and faculty talk for the inauguration of President Kim Cassidy.
- Marengo, P.J.**, Phillips, D.E., Marengo, K.N., 2014. Environmental controls on microbialite build-ups in the lower Fillmore Formation, Utah. *Keynote speaker* in special session New Developments in Microbialites, Geological Society of America annual meeting, Vancouver, Canada.
- Marengo, P.J.**, 2014, Crisis at the end of the Permian: global change and the greatest mass extinction in the history of life. University of California Museum of Paleontology, public short course "Where have all the species gone? The processes and patterns of extinction", March 1, 2014.
- Marengo, P.J.**, 2013. What role did oxygen play in the Great Ordovician Biodiversification Event? Using geochemistry to study one of life's most important radiations. Haverford College, Chemistry Seminar, October 4, 2013.
- Marengo, P.J.**, 2013, What role did oxygen play in the Great Ordovician Biodiversification Event? Using geochemistry to study one of life's most important radiations. Franklin and Marshall College, September 20, 2013.
- Marengo, P.J.**, 2013. Geochemistry and the Great Ordovician Biodiversification Event. International Geobiology Course, Catalina Island.
- Marengo, P.J.**, 2012, Contrasting shallow and deep paleoenvironments and the biotic recovery from the End Permian mass extinction. University of Wisconsin Milwaukee, November 29, 2012.
- Marengo, P.J.**, 2012, Contrasting shallow and deep paleoenvironments and the biotic recovery from the End Permian mass extinction. Lafayette College, March 30, 2012.
- Marengo, P.J.** 2010, Contrasting shallow and deep paleoenvironments and the biotic recovery from the End Permian mass extinction. Dickinson College, February 22, 2010.
- Marengo, P.J.** 2009. Using geochemistry for paleobiology. Haverford/Bryn Mawr Bi-College Chemistry Colloquium. December 4, 2009.
- Marengo, P.J.** 2009. Geochemical and sedimentological controls on *Conophyton* formation from the Neoproterozoic Gamuza Formation of Sonora, Mexico. Dickinson College, February 22, 2009.
- Marengo, P.J.**, 2009. Understanding the greatest mass extinction: insights from sulfur isotope geochemistry. Bryn Mawr College, February 2, 2009.
- Marengo, P.J.**, 2008. Sulfur isotope chemostratigraphy and the End Permian mass extinction. University of Massachusetts Amherst, June 9, 2008.
- Marengo, P.J.**, 2008. Sulfur isotopes and the End Permian mass extinction. University of California Santa Cruz, June 3, 2008.
- Marengo, P.J.**, 2008. The sulfur cycle through time: what we know and how we know it. University of California Davis, guest lecture in Graduate Seminar in Biogeochemical Cycles, February 7, 2008.

- Marenco, P.J.**, Corsetti, F.A., Hammond, D.E., Kaufman, A.J., Bottjer, D.J., 2007. Fidelity of the Carbonate Associated Sulfate signal: Implications for geobiological studies. Southern California Geobiology Symposium, California Institute of Technology.
- Marenco, P.J.**, Corsetti, F.A., Bottjer, D.J., Kaufman, A.J., 2006. Early Triassic sulfur isotopes: implications for linking land, sea and air following the end-Permian mass extinction. Geological Society of America annual meeting, Abstracts with Programs, vol. 38, no. 7.
- Marenco, P.J.**, Corsetti, F.A., Richoz, S., Baud, A., Bottjer, D.J., Hammond, D., Berelson, W., Kaufman, A.J., 2006. Combined sulfur and carbon isotope anomalies and the End Permian mass extinction. Southern California Geobiology Symposium, University of California at Riverside.

Conference Abstracts

*indicates current or former Bryn Mawr College or Haverford College undergraduate

Tindicates Bryn Mawr College or Haverford College undergraduate presenting a talk

Pindicates Bryn Mawr College or Haverford College undergraduate presenting a poster

- Marenco, P.J.**, *Zheng, T., and Marenco, K.N., *submitted*. Unravelling diagenetic versus primary geochemical signals in microbialites from the Upper Cambrian and Lower Triassic of the western Mid-S. Goldschmidt Conference, July 2022, Honolulu,

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- Marenco, P.J.** and *Clark, Rachel, 2017. Carbon Isotopic Chemostratigraphy of Microbialite-Bearing Lower Paleozoic Carbonates of Eastern Pennsylvania, USA. Goldschmidt Conference, Paris, France.
- Marenco, P.J.**, *Martin, Katherine R., and Barber, Donald C., 2016. Increasing oxygenation and the Ordovician Radiation: an investigation using Th/U in the Lower-Middle Ordovician of Utah, USA. Geological Society of America annual meeting.
- *^PJohnson, Claire M., Marenco, K.N., and **Marenco, P.J.**, 2015. Macro- and microfacies interpretations of the microbialite-sponge Hintze's Reef in the Lower Ordovician Fillmore Formation, House Range, western Utah. Geological Society of America annual meeting.
- *^PPhillips, D.E. and **Marenco, P.J.**, 2014. Setting a background for the chemical conditions of microbialite formation: a case study of redox proxies from the Fillmore Formation, Utah, Northeastern Section of the Geological Society of America annual meeting.
- *^PFullem, A., *Toure, N., *Garcia, E., *Phillips, D.E., **Marenco, P.J.**, Marenco, K.N., 2013. A geochemical investigation of the effects of deep ocean euxinia on continental shelf environments during the GOBE: insights from the middle and upper Fillmore Formation, Utah. Geological Society of America annual meeting.
- Marenco, P.J.**, Fraiser, M.L., Clapham, M.E., *Gatz-Miller, H., 2013. Extreme microgastropod size-limitation in Early Triassic shallow marine settings, Hidden Pasture, Montana: implications for environmental conditions following the End Permian mass extinction. Geological Society of America annual meeting.
- *^PPhillips, D.E., **Marenco, P.J.**, Marenco, K.N., 2013. Exploring the relationship between global and local redox proxies during the GOBE: a case study of carbonates from the lower Fillmore Formation, Utah. Geological Society of America annual meeting.
- *^PToure, N., **Marenco, P.J.**, Marenco, K.N., 2013. How did deep ocean euxinia affect the GOBE? A case study from the upper Kanosh and Lehman Formations, Utah. Geological Society of America annual meeting.
- *^PGarcia, E., **Marenco, P.J.**, Marenco, K.N., 2013. A geochemical investigation of redox during the GOBE: searching for the effects of deep ocean euxinia on shallow marine environments using carbonate rocks from the Wah Wah and Juab Formations, Utah. Geological Society of America annual meeting.
- *^PPhillips, D.E., **Marenco, P.J.**, Marenco, K.N., 2012. The carbonate associated sulfate proxy during the GOBE: investigating the impacts of global redox changes on shallow marine environments during a time of biodiversification. Geological Society of America annual meeting.
- Marenco, P.J.**, Marenco, K.N., *Lubitz, R.L., *Niu, D., 2012. Testing redox hypotheses for the Ordovician Juab and Kanosh Formations at Fossil Mountain, UT, using carbonate associated sulfate. Geological Society of America annual meeting.
- *^PAkhtar, A.A., **Marenco, P.J.**, Fraiser, M.L., Clapham, M.E., 2012. A diagenetic investigation of Lower Triassic carbonates: implications for geochemical studies of the Early Triassic biotic recovery in the western US. Geological Society of America annual meeting.
- Frantz, C.M., Petryshyn, V.A., Corsetti, F.A., Berelson, W.M., **Marenco, P.J.**, Tripathi, A., 2012. Local environmental change during the Early Eocene Climatic

Marengo, P.J., Corsetti, F.A., Kaufman, A.J., Bottjer, D.J., 2007. Carbonate associated sulfate, euxinia, the Siberian Traps and

Awards and Grants

NSF SSTEM DUE: 2130370. Building STEM Identity and Persistence Through STEM Pathway Mentorship.

Start Date: 04/2022

End Date: 03/2028

Co-Principal Investigator: **Marenco, P.J.**, Responsible for developing and disseminating a guide for inclusive field mentoring.

Award Amount: \$1,500,000

NSF MRI 1428975 Stable Isotope Analyses in a Liberal Arts College Setting: Teaching and Research Opportunities for Undergraduates and Faculty.

Start Date: 09/1/2014

End Date: 08/31/2017

Principle Investigator: **Marenco, P.J.**

Award Amount: \$199,914

American Geosciences Institute-Deep Carbon Observatory Diversity Scholarship. \$6,940, 2016-2017.

Rosabeth Moss Kanter Change Master Research Award, \$2000, Bryn Mawr College, 2014.

National Evolutionary Synthesis Center: Learning Evolution from the Fossil Record: K-12 Explorations in Deep Time

Project Leader: Yacobucci, M.M.

Co-Leaders: **Marenco, P.J.**, Plotnick, R.E., Smith, D.M.

Proposal to use facilities at NESCent to develop strategies to increase diversity in the evolutionary sciences.

NSF EAR 0921127 Collaborative Research: New Chemo- and Biostratigraphic Framework for the Lower Triassic of the Western U.S.: Towards a high-resolution understanding of Early Triassic events.

Start Date: 10/1/2009

End Date: 10/1/2011 extended to 10/1/2012

Principal Investigator: **Marenco, P.J.**

Award Amount: \$209,156

University of California at Riverside, Chancellor's Postdoctoral Fellowship, 2007.

Geological Society of America, Graduate Student Research Grant, 2004.

University of Southern California, Staff Club Scholarship, 2004.

American Association of Petroleum Geologists, Classen Family Student Grant, 2004.

Paleontological Society, Stephen J. Gould Student Grant-in-Aid, 2003.

Geological Society of America, Graduate Student Research Grant, 2002.

USC Department of Earth Sciences, Graduate Student Research Grant, 2002.

Paleontological Society, Graduate Student Research Grant, 2000.

USC Department of Earth Sciences, Graduate Student Research Grant, 2000.

University of Southern California, Diversity Fellowship for PhD Research, 2000.

Sigma Gamma Epsilon, W.A. Tarr Award for Meritorious Work in Earth Sciences, 2000.

University of Southern California, Dean's Scholarship, 1996.

Teaching Experience

Instructor, Bryn Mawr College GEOL 112, Geology in Film, Fall 2021.

Instructor, Bryn Mawr College, GEOL 108, Oceanography, Spring 2020, 2021, 2022.

Co-Instructor, Bryn Mawr College, GEOL108, Oceanography, Spring 2019.

Instructor, Bryn Mawr College, GEOL 208, Super Lab, Spring 2018, Spring 2019, Spring 2021.

Instructor, Bryn Mawr College, EMLY 001, The Hero in Pop Culture, Fall 2018.

Co-Instructor, Bryn Mawr College, GEOL203: The Biosphere Through Time, Fall 2017, 2018, 2019, 2020, 2021.

Instructor, Bryn Mawr College, GEOL203: The Biosphere Through Time, Fall 2016.

Instructor, Bryn Mawr College, GEOL 302, Stable Isotope Geochemistry, Spring 2015, Fall 2017, 2020.

Co-Instructor, Bryn Mawr College, GEOL 236, Evolution, Fall 2009, 2010, 2011, Fall, 2017, Spring 2019.

Instructor, Bryn Mawr College, GEOL 236, Evolution, Spring 2015.

Instructor, Bryn Mawr College, GEOL 350, Reefs Through Time, Spring 2014, 2022.

Instructor, Bryn Mawr College, GEOL 336, Advanced Evolution, Spring 2012.

Instructor, Bryn Mawr College, GEOL 102, Earth History, Spring 2010, 2011, 2012, 2014.

Instructor, Bryn Mawr College GEOL 125, Geology in Film, Fall 2011, Fall 2014, Spring 2017.

Instructor, Bryn Mawr College, GEOL 203, Invertebrate Paleobiology, Fall 2009, 2010, 2011.

Instructor, Bryn Mawr College, GEOL 350, Carbonate Environments, Spring 2011, Fall 2013, Spring 2016, Spring 2020.

Co-Instructor, Bryn Mawr College, GEOL 350, Time Scales of Climate Change, Fall 2010.

Co-Instructor, Bryn Mawr College, GEOL 350, Snowball Earth Seminar, Spring, 2010

Instructor, University of California Davis, COSMOS program for high school students interested in math and science, Anatomy of Global Climate Change, Summer 2008, 2009.

Invited Guest Lecturer, University of California Davis, Graduate Seminar in Biogeochemical Cycles, Winter 2008.

Teaching Assistant, University of Southern California, GEOL 333, Paleontology and the Evolution of Life, Fall 2004.

Teaching Assistant, University of Southern California, GEOL 105, Planet Earth, Spring 2004.

Teaching Assistant, University of Southern California, GEOL 107, Oceanography, Fall 2003, Summer 2007.

Student Research Advisement

Spring 2022, Bryn Mawr College, Bethan Lodge, *Senior Thesis*

Fall 2021, Bryn Mawr College, Riley Zheng, *Senior Thesis*

Spring 2021, Bryn Mawr College, Rebecca Brit, *Senior Thesis*

Spring 2020, Bryn Mawr College, Noelle Lewis, *Senior Thesis*

Spring 2019, Bryn Mawr College, Hannah Sensenig, *Senior Thesis*

Summer 2018, Bryn Mawr College, Christian Clothier

Summer 2017-Spring 2018, Bryn Mawr College, Yezi Yang, *Senior Thesis*

Fall 2015-Spring 2016, Bryn Mawr College, Katie Martin, *Senior Thesis*

Fall 2015-Spring 2016, Bryn Mawr College, Rachel Clark

Spring 2015-Spring 2016, Bryn Mawr College, Emily Crispell, *Senior Thesis*

Fall 2014-Spring 2015, Bryn Mawr College, Nancy Toure, *Senior Thesis*

Spring 2014-Summer 2014, Bryn Mawr College, Shakhari Badgett

Spring 2014-Spring 2015, Bryn Mawr College, Ana Mejia

Fall 2012-Spring 2014, Bryn Mawr College, Emily Garcia, *Senior Thesis*

Summer 2012-Spring 2014, Bryn Mawr College, Danyelle Phillips, *Senior Thesis*

Summer 2013, Haverford College, Abby Fullem

Fall 2011-Spring 2013, Bryn Mawr College, Alliya Akhtar, *Senior Thesis*

Fall 2011-Spring 2012, Bryn Mawr College, Christina Lee, *Senior Thesis*

Fall 2011-Spring 2012

Judge for Paleontological Society student posters at the Geological Society of America meeting, 2011, 2012.

Reviewer for the Canadian Journal of Earth Science

Reviewer for the Proceedings of the National Academy of Sciences

Reviewer for Nature

Reviewer for Nature Geoscience

Reviewer for Geology

Reviewer for the National Science Foundation

Reviewer for the Austrian Academy of Sciences

Reviewer for the Petroleum Research Fund

Reviewer for Geological Journal

Reviewer for National Geographic Society

Reviewer for Sedimentology

Reviewer for Earth and Planetary Science Letters (a0BL Tc 0.004 Tw4)

Summer 2013-Spring 2015-STEM Posse mentor

Fall 2011-2014, Faculty Representative to the Honor Board

Spring 2011, Chair of PhD Supervising Committee for Lori Felton, History of Art

Fall 2010-Spring 2012, Department of Geology major advisor

Fall 2009-Spring 2012, Committee on Laboratories

Spring 2009, Fall 2014, Fall 2019 departmental field trip planner and leader

Short Courses and Other Academic Activities

Fall, 2009: New faculty pedagogy seminar, Bryn Mawr College Teaching and Learning Initiative.

Summer and fall, 2009: Syllabus development workshop, Bryn Mawr College Teaching and Learning Initiative.

Spring 2007: Sequence stratigraphy for graduate students, taught by Vitor Abreu, and Jack Neal, ExxonMobil Exploration Company.

Spring 2005: Heterogeneity within carbonates – guidelines from modern examples, taught by Paul (Mitch) Harris, ChevronTexaco Energy Technology Company.

Additional Professional Experience

Summer 1998: Specialized Applications Programmer (Intern), IBM San Jose, California.

Summer 1997: Technical Support Intern, IBM Santa Teresa Labs, San Jose, California.