

# Katherine N. Marengo

Department of Geology  
Bryn Mawr College  
Bryn Mawr, PA 19010

## Education

Ph.D., 2008, Geological Sciences, University of Southern California  
M.S., 2006, Geological Sciences, University of Southern California  
B.A., 2003, Geology, *summa cum laude*, with Honors in Geology, The College of Wooster

## Professional Experience

Senior Lecturer, Bryn Mawr College, September 2023-present

Lecturer (continuing), Bryn Mawr College, Fall 2017-August 2023

Lecturer (interim), Bryn Mawr College, Fall 2010-Spring 2011, Fall 2012-Spring 2013, Fall 2013, Fall 2014-Spring 2015, Fall 2015-Spring 2016, Fall 2016

Laboratory Research Associate, Bryn Mawr College, Fall 2009-Spring 2010, Fall 2011-Spring 2012, Spring 2014, Spring 2017

National Science Foundation EAR Postdoctoral Fellow, Bryn Mawr College, Fall 2009-Spring 2010, Fall 2011-Spring 2012

Lecturer, University of California Riverside, Spring 2009

Postdoctoral Scholar, University of California Riverside, Fall 2008

## Teaching Experience

*Senior Lecturer/Lecturer, Bryn Mawr College:*

- **GEOL 101, How the Earth Works:** laboratory sections, Fall 2010, Fall 2015-present
- **GEOL 102, Earth: Life of a Planet (formerly Earth History):** laboratory sections, Spring 2011; lecture, Spring 2013; lecture and laboratory sections, Spring 2015, 2016
- **GEOL 103, Earth Systems and the Environment:** laboratory sections, Spring 2011, 2015
- **GEOL 120, Focus: Origin and Early Evolution of Life:** Fall 2010, Spring 2013
- **GEOL 203, Biosphere Through Time (formerly Paleobiology):** lecture and laboratory (as Paleobiology), Fall 2012-2015; laboratory (as Biosphere Through Time), Fall 2017-present; lecture and laboratory (leave replacement), Fall 2022
- **GEOL 205, Sedimentary Materials and Environments:** lecture and laboratory, Spring 2020; laboratory, Spring 2019, 2021, 2022, 2024-present

- **GEOL 209, Natural Hazards and Human Populations:** Spring 2018, 2019, 2021, 2022, 2024-present
- **BIOL 236, Evolution:** co-taught with Biology faculty, Fall 2012, Spring 2018
- **GEOL 399, Senior Capstone Seminar:** co-taught with Geology faculty, Fall 2015-Spring 2016, Fall 2017-Spring 2025

*Lecturer, University of California Riverside:*

- **GEO 003/BIO 010, Headlines in the History of Life:** Spring 2009
- **GEO 118, Sedimentology and Stratigraphy:** Spring 2009

*Teaching Assistant, University of Southern California:*

- **GEOL 105, Planet Earth:** Spring and Fall 2006
- **GEOL 107, Oceanography:** Spring 2007
- **GEOL 108, Crises of a Planet:** Fall 2005, Summer 2006

### **Student Research Projects Supervised at Bryn Mawr College**

**Sofie Prieto '26**, 2024, 2025, BMC Summer Science Research Program: *Investigating Lower-Middle Ordovician reef fabrics using grid analysis and petrography* (2024) and *Comparing metazoan contributions to Early-Middle Ordovician reef and non-reef sediment textures using thin section point counting* (2025)

**Maya Hofstetter '25**, 2024-2025, **senior thesis project:** *Morphological diversity and adaptations of stenolaemate bryozoans from the Middle Devonian Mahantango Formation at Beltzville Dam Emergency Spillway, Pennsylvania*

**Ella Fleming '25 (Haverford College)**, 2024-2025, **senior thesis project** (Geology–Sociology (at HC) double major): *Creeping towards resilience: seismic risk and recovery in Southern California*

**Leila N'Diaye '24 (STEMLA)**, 2022, BMC Summer Science Research Program: *Framework composition of Early-Middle Ordovician reefs: Microbes and sponges as reef builders*

**Bohyun Jeong '22**, 2021-2022, **senior thesis project:** *Asian American Pacific Islanders and the geosciences: A look into representation, inclusivity, and the experiences of AAPI in a majority White field*

**Sandra Melgar '22**, 2021, BMC Summer Science Research Program: *Fossil communities associated with microbialites in the late Cambrian Notch Peak Formation, Utah; senior thesis project* co-advised with Don Barber: *Salt marsh sediments record Late Holocene estuarine responses to global temperatures and coastal barrier disruptions, North Carolina USA*

**Elizabeth Yost '19**, 2018, BMC Summer Science Research Program (Francis Velay Fellow) and independent research: *Invertebrate fossil diversity associated with Cambro-Ordovician microbialite reefs in the Lakeside Mountains, Utah*

**Emma Wu '18**, 2016-2018, Mellon Mays Undergraduate Fellowship Program and **senior thesis project** co-advised with Don Barber: *Mercury concentrations in eight salt marsh cores collected using traditional peat coring methods along the Atlantic coast*; M.F.A. in Creative Writing from Rutgers University-Camden; currently a Post-Graduate Research Faculty Fellow in the English Department at George Washington University

**Yezi Yang '18**, 2016, 2017-2018, BMC Summer Science Research Program and independent research: *Ordovician receptaculitids from western Utah: Investigating the morphology and paleobiology of an enigmatic fossil group*; **senior thesis project** co-advised with Pedro Marenco: *Investigating the affinity of amorphous fabrics associated with Calathium fossils in the Lower Ordovician Fillmore Formation, Utah, United States, with petrography and geochemistry*; Ph.D. in geochemistry from Virginia Tech; currently an AGU/AAAS Legislative Fellow

**Claire Johnson '16**, 2014, 2015-2016, BMC Summer Science Research Program and independent research: *Thrombolite-stromatolite-sponge mounds in the Fillmore Formation, Utah: A look into Ordovician reef building and Microbial-metazoan reef building during the Ordovician "metazoan reef gap"*; graduate work in paleontology at the University of Southern California; pursuing a Master of Landscape Architecture degree at Cornell University

**Alliya Akhtar '13**, 2011, BMC Summer Science Research Program: *A Middle Ordovician sponge-microbial mound from western Utah: Evidence of a critical transition in the evolutionary history of reefs*; Ph.D. in Low-temperature Geochemistry from Princeton University; postdoctoral researcher at Princeton University

**Alice Clark '12 (Haverford College)**, 2011, BMC Summer Science Research Program: *Developing educational paleontology displays for the Department of Geology at Bryn Mawr College*

**Rachael Lubitz '11**, 2010-2011, **senior thesis project**: *The Kanosh Formation: A case study of a mixed carbonate-siliciclastic basin during the Great Ordovician Biodiversification Event*; M.S. in Geography and M.A.Ed. in Secondary Earth Science from Virginia Tech

### **Outreach Activities**

Co-led, with Pedro Marenco, an interactive fossil lesson for a local Montessori school class as part of their field trip to Bryn Mawr College (May 9, 2025)

Designed and led workshops at Swarthmore College Expanding Your Horizons Conferences, which were part of a national program run by the Math/Science Network to encourage young women (7th and 8th graders) to pursue careers in math and science: dinosaur trackways workshop (March 26, 2011); trilobite growth workshop (March 20, 2010)

Led an interactive fossil activity for a second-grade class at Pachappa Elementary School as part of the Geoscience Education Outreach Program, a graduate-student-run community outreach effort of the Earth Sciences Department at the University of California Riverside (Spring 2009)

### **Professional Service and Memberships**

Paleontological Society, Education and Outreach Committee: member, 2017-21

Paleontological Society, Student Research Grants Committee: chair, 2015-18; member, 2018-19

Paleontological Society, judge of student posters at the Geological Society of America annual meeting: 2011, 2012, 2013, 2015, 2017, 2018, 2019, 2020

Geological Society of America, Geobiology and Geomicrobiology Division, judge of student presentations at the Geological Society of America annual meeting: 2018, 2019

Geological Society of America, Technical Session Co-chair, "Paleontology: Paleoecology and Paleoenvironmental Reconstructions," GSA annual meeting, October 21, 2014

Reviewer of disciplinary application problems in environmental studies, environmental science, and geoscience for online modules developed by the LACOL QLAB Project, Summer 2020

Reviewer for the National Science Foundation, *Nature Ecology and Evolution*, *Geology*, *Geological Society of London Special Publications*, *Geobiology*, *Bollettino della Società Paleontologica Italiana*, *Palaios*, and *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*

Member of the American Association for the Advancement of Science, Paleontological Society, Palaeontological Association (UK), Geological Society of America, Association for Women Geoscientists, Earth Science Women's Network (ESWN), and National Association of Geoscience Teachers

### **Bryn Mawr College Service**

Quad participant in CATALYST-2 (Community Advocates for Teaching and Learning Yields in STEM), a participant-directed learning community of STEM faculty and student consultants, supported by HHMI and focused on making STEM courses at Bryn Mawr more inclusive, Spring 2024-Fall 2024; slated to participate in a second quad from Fall 2025-Spring 2026

Member of Q Program Steering Committee, Spring 2025-present

STEMLA Faculty Mentor (to a total of four students), Fall 2021-present

Faculty Adviser for the Goldwater Scholarship, Spring 2014-present (co-adviser with Mary Beth Davis, Spring 2014-Spring 2015; co-adviser with Eleanor Stanford, Fall 2017-present)

Member of the Goldwater Scholarship Nomination Committee (ad hoc), Fall 2013-present

Faculty participant in the Middle States Site Visit, March 29, 2022

Second reader on a Biology senior thesis: Arya Ying Yue '22, *Increase in the proportion of invasive plant species nearer to roads shows edge effect across ecosystems*, advised by Sydne Record

Member of the Committee on Libraries, Information, and Computing (CLIC), Fall 2020-Fall 2022; chair and member of Advisory Council, Fall 2020

Member of the Environmental Studies Steering Committee, Fall 2015-Spring 2016

Senior Exit Interviewer, 2013, 2016, 2019

### **Geology Department Service**

Organized and hosted virtual Geology Department alumnae panels: career panel with three alumnae guests (Nov. 22, 2024); career panel with three alumnae guests (Dec. 1, 2023); grad school panel with six alumnae guests (Nov. 18, 2022); career panel with seven alumnae guests (Feb. 25, 2022); grad school panel with six alumnae guests (Nov. 12, 2021)

Member of the “Bryn Mawr College BioGeoScientists” Pod of URGE (Unlearning Racism in the Geosciences), along with the other four Geology faculty and three Biology faculty, Spring 2021

Organized and hosted visiting speakers: Patricia Kelley (University of North Carolina Wilmington), March 22, 2018; Ted Daeschler (Academy of Natural Sciences of Drexel University), April 22, 2016; Mark Wilson (The College of Wooster), March 21, 2013; James Hagadorn (Denver Museum of Nature and Science), Feb. 26, 2013

Organized on-campus visits by Geology Department alumnae to speak with current geology majors: Spring 2019, Fall 2018, Spring 2018, Spring 2016

Assisted with annual Geology Department field trips: Florida Keys (Fall 2021), Southern California (Fall 2019), Death Valley (Spring 2019), Four Corners Region (Fall 2017), Bahamas (Spring 2016), Southern California (Fall 2014), Death Valley (Spring 2014), Costa Rica (Spring 2012), Bahamas (Spring 2011), Death Valley (Spring 2010)

Assisted with course field trips led by other faculty: 360° “Coasts in Transition” trip to Belize (Spring 2024); 360° “Nicaragua: Places and Names” trip to Nicaragua (Fall 2023); 360° “Coasts in Transition” trip to Belize (Spring 2017); Marine Geology (GEOL 314)–Carbonate Petrology (GEOL 350) joint field trip to the Florida Keys (Fall 2013)

**Peer-reviewed Publications** (\* denotes current/former undergraduate student co-author)

**Marengo, K.N.**, and Hagadorn, J.W., 2019. Big bedding planes: Outcrop size and spatial heterogeneity influence trace fossil analyses. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 513, p. 14-24.

Marengo, P.J., Martin, K.R.\*, **Marengo, K.N.**, and 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.

Marengo, P.J., **Marengo, 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.

**Marengo, K.N.**, and Bottjer, D.J., 2011. Quantifying bioturbation in Ediacaran and Cambrian rocks. *in* Laflamme, M., Schiffbauer, J.D., and Dornbos, S.Q., (eds.), *Quantifying the Evolution of Early Life: Numerical Approaches to the Evaluation of Fossils and Ancient Ecosystems*, Topics in Geobiology Series, v. 36, Springer, Dordrecht, p. 135-160.

**Marengo, K.N.**, and Bottjer, D.J., 2010. The intersection grid technique for quantifying the extent of bioturbation on bedding planes. *Palaaios*, v. 25, p. 457-462.

**Marengo, K.N.**, and Bottjer, D.J., 2008. The importance of *Planolites* in the Cambrian substrate revolution. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 258, n. 3, p. 189-199.

**Marengo, K.N.**, and Bottjer, D.J., 2007. Ecosystem engineering in the fossil record: early examples from the Cambrian Period. *in* Cuddington, K., Byers, J.E., Wilson, W.G., and Hastings, A., (eds.), *Ecosystem Engineers: Plants to Protists*, Elsevier Inc., Burlington, MA, p. 163-184.

Bailey, J.V., Corsetti, F.A., Bottjer, D.J., and **Marengo, K.N.**, 2006. Microbially mediated environmental influences on metazoan colonization of matground ecosystems: evidence from the Lower Cambrian Harkless Formation. *Palaaios*, v. 21, p. 215-226.

**Honors and Awards**

Bryn Mawr College

- Invited by First Lady Michelle Obama to attend a White House event announcing new workplace flexibility policies to support U.S. scientists and their families, Sept. 26, 2011 (<http://news.blogs.brynmawr.edu/2011/10/06/bryn-mawr-research-associate-katherine-marengo-attends-white-house-event-announcing-new-family-friendly-nsf-initiative/>)

University of Southern California

- USC Final Summer Dissertation Fellowship, 2008

- USC Final Year Dissertation Fellowship, 2007
- USC Dept. of Earth Sciences Teaching Assistant Award, 2005, 2007
- Provost's Fellowship, 2003-2005
- Keck Fellowship, 2003

The College of Wooster

- Phi Beta Kappa, 2003
- Robert W. McDowell Prize in Geology, 2003
- Northern Ohio Geological Society John F. Hall Senior Award, 2003
- Karl Ver Steeg Prize in Geology and Geography, 2002
- National Merit Scholarship, 1999-2003
- College Scholar Award, 1999-2003
- Dean's List, 1999-2003

### **Grants**

International Association of Sedimentologists, Student Research Grant, 2007  
Geological Society of America, Graduate Student Research Grant, 2004, 2006  
USC Dept. of Earth Sciences, Graduate Student Research Award, 2004, 2005, 2006  
Evolving Earth Foundation, Student Research Grant, 2005  
Sigma Xi, Grant-in-Aid of Research, 2004  
The Paleontological Society, Stephen J. Gould Grant, 2004  
Henry J. Copeland Grant for Independent Study, 2002

### **Invited Presentations**

“Quantifying the relative contributions of microbialites and metazoans to reef frameworks in the Lower–Middle Ordovician Ibex succession, western Utah, USA,” Geological Society of America Annual Meeting, Session 228, Oct. 12, 2022 (see publication information under Meeting Abstracts)

“Missing the big (bedding plane) picture: Small samples do not always capture the lateral heterogeneity of bioturbation,” North American Paleontological Conference, June 24, 2019 (see publication information under Meeting Abstracts)

“Reef-building at the Dawn of the GOBE: The Rise of Metazoan Framework Constituents in Lower-Middle Ordovician Reefs, Western Utah, USA,” Geological Society of America Annual Meeting, Session 132, Oct. 23, 2017 (see publication information under Meeting Abstracts)

“Trace Fossils: The Record of Animal Behavior,” The Quadrangle Senior Community, Jan. 20, 2015

“The Cambrian Substrate Revolution,” International Geobiology Course, July 3, 2014

“Animal-substrate Interactions in the Early Paleozoic: Burrowing, Attaching, and Reef-building on the Seafloor,” Portland State University, April 28, 2014

“Upper Cambrian and Ordovician Reef Mounds in Western Utah: Evidence for a Gradual Transition from Microbial- to Metazoan-dominated Reefs,” International Geobiology Course, July 6, 2013

“Trace Fossils: A Record of Behavior,” Lafayette College, Oct. 28, 2011

“Cambrian Bioturbation,” Pomona College, March 3, 2008

**Meeting Abstracts** (\* denotes current/former undergraduate student co-author)

**Marenco, K.N.**, N’Diaye, L.I.\*, and Marenco, P.J., 2022. Quantifying the relative contributions of microbialites and metazoans to reef frameworks in the Lower–Middle Ordovician Ibex succession, western Utah, USA. Geological Society of America Abstracts with Programs, v. 54, n. 5, doi: 10.1130/abs/2022AM-378024.

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

Lodge, B.\*, Marenco, P.J., and **Marenco, K.N.**, 2021. A geochemical investigation of the Top of the Cambrian Excursion (TOCE) in the Notch Peak Formation at Lawson Cove, Utah, USA. American Geophysical Union Annual Meeting, New Orleans, LA.

Wilson, M.A., Buttler, C.J., and **Marenco, K.N.**, 2021. Studying fossil encrusting bryozoan astogeny and paleoecology with acetate peels of basal layers: a simple and fast non-destructive technique. International Bryozoology Association Australarwood X and Larwood Meeting, 29-30 September 2021, Programme and Abstracts, p. 46.

Zheng, T.\*, Marenco, P., and **Marenco, K.N.**, 2021. Lamination-scale geochemistry of microbialites: Investigating the combined effects of primary mineralogy and diagenesis in microbialites from the Upper Cambrian and Lower Triassic of the western US. Geological Society of America Abstracts with Programs, v. 53, n. 6, doi: 10.1130/abs/2021AM-370064.

Osawa, H., Oji, T., Onodera, K., Takayanagi, H., Iryu, Y., Gonchigdorj, S., Marenco, P.J., **Marenco, K.N.**, and Dornbos, S.Q., 2019. Ediacaran-Cambrian boundary assignment by stable carbon isotope profile in Khuvsugul Group, Northern Mongolia. 1<sup>st</sup> Asian Paleontological Congress, Beijing, China.

**Marenco, K.N.**, and Hagadorn, J.W., 2019. Missing the big (bedding plane) picture: Small samples do not always capture the lateral heterogeneity of bioturbation. PaleoBios, v. 36 (Supplement 1), p. 232-233.



Yost, E.V.\*, **Marengo, K.N.**, and Marengo, P.J., 2018. Petrographic investigation of invertebrate fossil diversity in the Cambro-Ordovician Notch Peak Formation, Lakeside Mountains, Utah. Geological Society of America Abstracts with Programs, v. 50, n. 6, doi: 10.1130/abs/2018AM-319486.

Clothier, C. \*, Marengo, P.J., and **Marengo, K.N.**, 2018. Carbon isotopic chemostratigraphy of the microbialite-bearing Cambro-Ordovician Notch Peak Formation, Lakeside Mountains, Utah. Geological Society of America Abstracts with Programs, v. 50, n. 6, doi: 10.1130/abs/2018AM-320410.

**Marengo, K.N.**, 2017. Reef-building at the dawn of the GOBE: The rise of metazoan framework constituents in Lower-Middle Ordovician reefs, western Utah, USA. Geological Society of America Abstracts with Programs, v. 49, n. 6, doi: 10.1130/abs/2017AM-306373.

Yang, Y. \*, **Marengo, K.N.**, and Marengo, P.J., 2017. Investigating the role of amorphous fabrics associated with *Calathium* in the Lower Ordovician Fillmore Formation, Utah, USA, using petrography and geochemistry. Geological Society of America Abstracts with Programs, v. 49, n. 6, doi: 10.1130/abs/2017AM-296378.

Johnson, C.M. \*, **Marengo, K.N.**, and Marengo, 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 Abstracts with Programs, v. 47, n. 7, p. 564.

**Marengo, K.N.**, Johnson, C.M. \*, and Marengo, P.J., 2014. Thrombolite-stromatolite-sponge mounds during the Cambro-Ordovician microbialite resurgence: Insights from the Lower Ordovician Fillmore Formation, House Range, Utah. Geological Society of America Abstracts with Programs, v. 46, n. 6, p. 433.

Callahan, P.C., **Marengo, K.N.**, and Myer, G.H., 2014. Epigenesis of mollusk-bearing carbonate rocks of the Conestoga Formation (?Ordovician), King of Prussia, Pennsylvania. Geological Society of America Abstracts with Programs, v. 46, n. 2, p. 51.

Marengo, P.J., and **Marengo, K.N.**, 2014. A negative sulfur isotopic excursion during the height of the Great Ordovician Biodiversification Event: A brief interruption in long-term deep-ocean anoxia? Geological Society of America Abstracts with Programs, v. 46, n. 6, p. 625.

Marengo, P.J., Phillips, D.E. \*, and **Marengo, K.N.**, 2014. Environmental controls on microbialite build-ups in the lower Fillmore Formation, Utah. Geological Society of America Abstracts with Programs, v. 46, n. 6, p. 683.

**Marengo, K.N.**, 2013. Tracing the shift in dominance from microbial to metazoan framework-builders in Lower–Middle Ordovician reefs, western Utah, USA. Geological Society of America Abstracts with Programs, v. 45, n. 7, p. 534.

Garcia, E.\*, Marengo, P.J., and **Marengo, 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 Abstracts with Programs, v. 45, n. 7, p. 342.

Phillips, D.E.\*, Marengo, P.J., and **Marengo, 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 Abstracts with Programs, v. 45, n. 7, p. 341.

Touret, N.\*, Marengo, P.J., and **Marengo, 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 Abstracts with Programs, v. 45, n. 7, p. 342.

Fullem, A.\*, Touret, N.\*, Garcia, E.\*, Phillips, D.E.\*, Marengo, P.J., and **Marengo, 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 Abstracts with Programs, v. 45, n. 7, p. 341.

**Marengo, K.N.**, 2012. Sclerobiont community development during the Great Ordovician Biodiversification Event: Patchy colonization of extensive hard substrates in the Pogonip Group, western Utah. Geological Society of America Abstracts with Programs, v. 44, n. 7, p. 273.

Marengo, P.J., **Marengo, 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 Abstracts with Programs, v. 44, n. 7, p. 459.

Phillips, D.E.\*, Marengo, P.J., **Marengo, 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 Abstracts with Programs, v. 44, n. 7, p. 562.

**Marengo, K.N.**, and Akhtar, A.A.\*, 2011. Middle Ordovician sponge-microbial mounds from western Utah: transitional precursors of later metazoan-dominated reefs. Geological Society of America Abstracts with Programs, v. 43, n. 5, p. 503.

Lubitz, R.L.\*, **Marengo, K.N.**, and Marengo, P.J., 2011. Reexamining the depositional setting of the Kanosh Formation (Middle Ordovician, Utah): integrating geochemistry into a sedimentary and paleoecological study. Geological Society of America Abstracts with Programs, v. 43, n. 5, p. 96.

**Marengo, K.N.**, 2010. A Middle Ordovician sponge-algal mound from western Utah: implications for the radiation of hard-substrate-attaching organisms. Geological Society of America Abstracts with Programs, v. 42, n. 5, p. 634.

**Marengo, K.N.**, and Bottjer, D.J., 2010. Onshore initiation of the agronomic revolution: quantitative evidence from Lower Cambrian strata in the Great Basin. Geological Society of America Abstracts with Programs, v. 42, n. 5, p. 480.

**Marengo, K.N.** and Bottjer, D.J., 2010. A bioturbation-induced ecological transition: quantitative evidence from the Lower Cambrian of California and Nevada, USA. Third International Palaeontological Congress, London, UK.

**Marengo, K.N.** and Droser, M.L., 2009. Investigating the role of changing substrates in the Ordovician radiation: Great Basin, USA. Southern California Geobiology Symposium, Riverside, California.

**Marengo, K.N.** and Bottjer, D.J., 2008. Quantifying Early Cambrian bioturbation along an onshore-offshore transect: Great Basin, USA. Geological Society of America Abstracts with Programs, v. 40, n. 6, p. 508.

**Marengo, K.N.** and Bottjer, D.J., 2007. Quantitative analysis of bedding plane bioturbation: new insights from the Upper Cambrian of Wisconsin. Geological Society of America Abstracts with Programs, v. 39, n. 6, p. 207.

**Marengo, K.N.** and Bottjer, D.J., 2007. Lower Cambrian shelf ichnofabric: a bedding plane phenomenon. Ninth International Ichnofabric Workshop, Calgary, Alberta, Canada.

**Marengo, K.N.** and Bottjer, D.J., 2006. Quantifying horizontal bioturbation in Lower Cambrian rocks using image analysis. Geological Society of America Abstracts with Programs, v. 38, n. 7, p. 475.

**Marengo, K.N.** and Bottjer, D.J., 2006. Lower Cambrian trace fossils of eastern California: engineering an ecological revolution. Second International Paleontological Congress, Beijing, China.

**Marengo, K.N.** and Bottjer, D.J., 2006. Lower Cambrian trace fossils of eastern California: engineering an ecological revolution. Southern California Geobiology Symposium, Riverside, California.

**Nicholson, K.A.** and Bottjer, D.J., 2005. Lower Cambrian trace fossils of eastern California: engineering an ecological revolution. Geological Society of America Abstracts with Programs, v. 37, n. 7, p. 486.

**Nicholson, K.A.** and Bottjer, D.J., 2005. Bioturbation in Lower Cambrian siliciclastics: investigating an early record of metazoan substrate engineering. Second International Symposium on the Cambrian System, Acta Micropalaeontologica Sinica, v. 22 (supplement), p. 122-123.

**Nicholson, K.A.** and Bottjer, D.J., 2005. Lower Cambrian trace fossils of eastern California: an early record of substrate engineering. North American Paleontological Convention, Paleobios, v. 25, supplement to n. 2, p. 90.

**Nicholson, K.A.** and Bottjer, D.J., 2004. Ecosystem engineers during the Cambrian Explosion: trace fossil record from the Lower Cambrian of eastern California. Geological Society of America Abstracts with Programs, v. 36, n. 5, p. 522.

Bailey, J., Corsetti, F.A., Bottjer, D., and **Nicholson, K.**, 2004. Fossil assemblages in Lower Cambrian microbial matground sediments and implications for early benthic and infaunal ecologies. Geological Society of America Abstracts with Programs, v. 36, n. 5, p. 522.

**Nicholson, K.** and Bottjer, D., 2004. Investigating mat-busters from the Early Cambrian. California Paleontological Conference, Paleobios, v. 24, supplement to n. 1, p. 6.

**Nicholson, K.A.** and Wilson, M.A., 2003. Paleoecology of an Upper Jurassic cryptic community inhabiting empty mollusk shells (Portland Limestone of southern England). Geological Society of America Abstracts with Programs, v. 35, n. 6, p. 420.

Wilson, M.A., **Nicholson, K.A.**, and Palmer, T.J., 2003. Studying the naturally-exposed attachment surfaces of fossil encrusters (skeletozoans): a simple acetate peel technique reveals growth histories and surface paleoecology. Northeastern Section, Geological Society of America Abstracts with Programs, v. 35, n. 3, p. 85.

**Nicholson, K.A.** and Wilson, M.A., 2002. Paleoecology of an ancient shell-encrusting community: observations from “upside-down” encrusters in external and internal molds (Upper Jurassic of southern England). Geological Society of America Abstracts with Programs, v. 34, n. 6, p. 357.

### **Additional Academic Experience**

Paleontological Society Short Course: “Pedagogy and Technology in the Modern Paleontology Classroom,” GSA Annual Meeting, Indianapolis, IN, 2018

Applied Ichnology Short Course, AAPG Annual Convention, Long Beach, CA, 2007

Invertebrate Zoology course at Friday Harbor Laboratories (University of Washington), Summer 2004

Albion College Geology Field Camp in Wyoming, Montana, and South Dakota, Summer 2003