

Shannon J. Haynes

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EDUCATION

- 2019 Ph.D., Geology – University of Missouri
Minor in College Teaching – University of Missouri
- 2012 M.S., Geology – University of Missouri
- 2009 B.S., Geology – West Virginia University

WORK EXPERIENCE

- March 2020 – Present Associate Professional Specialist in the Zhang Lab at Princeton University
(Department of Geosciences)
- July 2017 – March 2020 Research Specialist II (2017 – 2020) in the Zhang Lab at Princeton University
(Department of Geosciences)
- October 2010 – July 2017 Lab manager of and student researcher in the Biogeochemistry Isotope Lab at
the University of Missouri (Department of Geosciences)
- June 2009 – July 2010 Intern under the supervision of Dr. Brian Huber at the Smithsonian Institution
National Museum of Natural History (Department of Paleobiology), project
title “Evolution and phylogeny of Turonian biserial planktonic foraminifera”

TEACHING EXPERIENCE

The University of Missouri: *Geological Sciences Department*

- January 2016, February 2017 Guest Lecturer – Dinosaurs
- August – December 2016 Teaching Practicum – Environmental Geology
- August – December 2010 Teaching Assistant of Environmental Geology Labs

OTHER PROFESSIONAL EXPERIENCE

- 2022 International Ocean Discovery Program: *Expedition 392*
Sailing as a shipboard sedimentologist
- 2017 International Ocean Discovery Program: *Expedition 369*,
Sailed as a shipboard sedimentologist
- 2016 Texas University of Texas A&M: *Short Course on Shipboard Sedimentology*
- 2015 The University of Urbino: *Urbino Summer School in Paleoclimatology*
- 2013, 2014, 2016 The University of Florida: *Geology Department*
Visiting researcher in the lab of Dr. Ellen Martin
- 2011 The University of Bristol: *Organic Geochemistry Department*
Visiting researcher in the lab of Dr. Richard Pancost

FUNDING

- 2022 US Science Support funding to sail on IODP Expedition 392 to Agulhas Plateau
2021 Princeton University Department of Geosciences: “Proposal to fund the construction, installation, and socking of the diversity equity and inclusion (DEI) in GEO lending library”, \$2,670
2018 Post-expedition award to conduct research related to IODP Expedition 369, \$15,000
2017 US Science Support funding to sail on IODP Expedition 369 to the Naturaliste Plateau Basin
2016 US Science Support funding to attend course on shipboard sedimentology (College Station, TX)
2015 NSF funding to attend the Urbino Summer School in Paleoclimatology (Urbino, Italy), \$3,000
2013 US Science Support funding to attend the Cretaceous ocean drilling proposal workshop (London)

AWARDS AND SCHOLARSHIPS

- 2005 – 2009 Sigma Alpha Lambda National Leadership and Honors Organization, The Society of Sigma Gamma Epsilon (The National Honor Society for Earth Sciences), Presidential Award for Excellence in Scholarship, Golden Key International Honour Society
2010 James H. Stitt Scholarship
2010 – 2014 Carl B. Rexroad Scholarship
2011 Travel funding from the MU Graduate Student Association
2012, 2016 Travel funding from the MU Graduate Professional Council

PUBLICATIONS

Published

- Haynes, Shannon J.**, MacLeod, Kenneth G., Ladant, JB., Vande Guchte, A., Rostami, M.A., Poulsen, C., Martin, Ellen E., 2020, Constraining sources and relative flow rates of bottom waters in the Late Cretaceous Pacific Ocean: *Geology*, v. 48(5), p. 509-513, doi:10.1130/G47197.1.
- Ladant, Jean-Baptiste, Poulsen, Christopher J., Fluteau, Frederic, Tabor, Clay R., MacLeod, Kenneth G., Martin, Ellen E., **Haynes, Shannon J.**, 2020, Paleogeographic controls on the evolution of Late Cretaceous ocean circulation: *Climate of the Past*, v. 16, p. 973-1006, doi:10.5194/cp-16-973-2020.
- MacLeod, K.M., White, L.T., Wainman, C.C.,...**Haynes, S.J.**, et al., 2020, Late Cretaceous stratigraphy and paleoceanographic evolution in the Great Australian Bight Basin based on results from IODP Site U1512: *Gondwana Research*, v. 83, p. 80-95, doi:10.1016/j.j.gr.2020.01.009.
- Warny, Sophie; Jarzen, David M.; **Haynes, Shannon J.**; MacLeod, Kenneth G., 2019, Late Cretaceous (Turonian) terrestrial palynomorphs from Tanzania with emphasis on angiosperm diversity: *Journal of Palynology*, v. 43, n. 4, p. 608-620, doi:10.1080/01916122.2018.1477850.
- Huber, Brian T.; Petrizzo, Maria Rose; Watkins, David; **Haynes, Shannon J.**; and MacLeod, Kenneth G., 2017, Correlation of Turonian continental margin and deep-sea sequences in the subtropical Indian Ocean sediments by integrated planktonic foraminiferal and calcareous nannofossil biostratigraphy: *Newsletters on Stratigraphy*, v. 50, no. 2, p. 141-185 doi:10.1127/nos/2017/0373.
- Haynes, Shannon J.**; MacLeod, Kenneth G.; Huber, Brian T.; Warny, Sophie; Kaufman, Alan J.; Pancost, Richard D.; Jiménez Berrocoso, Álvaro; Petrizzo, Maria Rose; Watkins, David K.; Zhelezinskaia, Iadviga, 2017, Southeastern Tanzania depositional environments, marine and terrestrial

links, and exceptional preservation in the warm Turonian, *GSA Bulletin*, v. 129, no. 5–6, p. 515–533, doi:10.1130/B31432.1.

Hughes, Kelsey Putnam; MacLeod, Kenneth G.; **Haynes, Shannon J.**; Quinton, Page C.; Martin, Ellen E.; Ethington, Raymond, 2016, A paired neodymium and oxygen isotopic perspective on paleoceanographic changes across the Dubuque/Maquoketa contact in the Late Ordovician Laurentian Seaway, *Stratigraphy*, v. 12, nos. 3–4, P. 275-285.

Haynes, Shannon J.; Huber, Brian T.; MacLeod, Kenneth G., 2015, Evolution and phylogeny of mid-Cretaceous (Albian-Coniacian) biserial planktonic foraminifera, *Journal of Foraminiferal Research*, v. 45(1), p. 42–81, doi:10.2113/gsjfr.45.1.42.

Jiménez Berrocoso, Álvaro; Huber, Brian T.; MacLeod, Kenneth G.; Petrizzo, Maria Rose; Lees, Jacqueline A.; Wendler, Ines; Coxall, Helen; Mweneinda, Amina K.; Falzoni, Francesca; Birch, Heather; **Haynes, Shannon J.**; Bown, Paul R.; Robinson, Stuart A.; Singano, Joyce M., 2015, The Lindi Formation (upper Albian-Coniacian) and the Tanzania Drilling Project Sites 36-40 (Lower Cretaceous to Paleogene): lithostratigraphy, biostratigraphy, and chemostratigraphy, *Journal of African Earth Sciences*, v. 101, p. 282–308, doi:10.1016/j.jafrearsci.2014.09.017.

Jiménez Berrocoso, Álvaro; Huber, Brian T.; MacLeod, Kenneth G.; Lees, Jacqueline A.; Petrizzo, Maria Rose; Wendler, Ines; Coxall, Helen; Mweneinda, Amina K.; Falzoni, Francesca; Birch, Heather; Gould, Jeremy; Singano, Joyce M.; **Haynes, Shannon J.**; Cotton, Laura; Wendler, Jens; Bown, Paul R.; Robinson, Stuart, 2012, Lithostratigraphy, biostratigraphy and chemostratigraphy of Upper Cretaceous sediments from southern Tanzania: Tanzania Drilling Project Sites 27 to 35, *Journal of African Earth Sciences*, v. 70, p. 36–57, doi:10.1016/j.afrearsci.2012.05.006.

Other

Contributions to several non-referred Initial Reports chapters and related articles reporting initial findings of IODP Expedition 369.

Huber, Brian T, Hobbs, Richard W., Bogus, Kara A., and the Expedition 369 Scientists, 2018, Expedition 369 Preliminary Report: Australia Cretaceous Climate and Tectonics. International Ocean Discovery Program. <http://doi.org/10.14379/iodp.pr.369.2018>.

Published citing IODP Expedition 369 scientists

White, Lloyd T., Forster, Marnie A., Tanner, Dominique, Tejada, Maria Luisa G., Hobbs, Richard, IODP Expedition 369 Science Party, 2021, The timing of magmatism and subsequent alteration of basaltic rocks cored at the base of IODP Site U1513, Naturaliste Plateau, southwestern Australia: *Australian Journal of Earth Sciences*, v..

Lee, E.Y., Wolfgring, E., et al., IODP Expedition 369 Science Party, 2020, Early Cretaceous subsidence of the Naturaliste Plateau defined by a new record of volcanoclastic-rich sequence at IODP Site U1513: *Gondwana Research*, v. 82, p. 1-11, doi:10.1016/j.gr.2019.12.007.

Maximilian Vahlenkamp, David De Vleeschouwer, Sietske J. Batenburg, Kirsty M. Edgar, Emma Hanson, Mathieu Martinez, Heiko Pälike, Kenneth G. MacLeod, Yong-Xiang Li, Carl Richter, Kara Bogus, Richard W. Hobbs, Brian T. Huber and Expedition 369 Scientific Participants, 2019, An early

to middle Eocene astrochronology for the Mentelle Basin (Australia) and its implications for the geologic time scale: *Earth and Planetary Science Letters*, v.529, p. 1-13, doi:10.1016/j.epsl.115865.

PRESENTATIONS

- 2020 **Shannon J. Haynes**, Kenneth G. MacLeod, Jean-Baptiste Ladant, Christopher J. Poulsen, Ellen E. Martin “Using Nd isotopes to decipher complex circulation patterns in the South Atlantic at the end of the Cretaceous”: The Geological Society of America Annual Conference, virtual
- 2016 **Shannon J. Haynes**, Kenneth G. MacLeod, Ellen E. Martin “Pacific Ocean Circulation during the Late Cretaceous”: The Geological Society of America Annual Conference, Denver, CO
- 2016 **Shannon J. Haynes** “The relationship between climate change and ocean circulation in the latest Cretaceous”: University of Missouri Department of Geological Sciences Seminar, Columbia, MO
- 2015 **Shannon J. Haynes**, Kenneth G. MacLeod. “Linking the depositional environment with exceptionally well-preserved calcareous marine microfossils and terrestrial organic matter in Turonian drill cores from the southeastern coastal region of Tanzania” Midwest Geobiology Conference, Bloomington, IN
- 2015 **Shannon J. Haynes**, Kenneth G. MacLeod; Ellen E. Martin. “Changes in ocean circulation in the South Atlantic during the Early Maastrichtian Cooling Event”, poster, Urbino, Italy
Urbino Summer School in Paleoclimatology, Urbino, Italy
- 2014 **Shannon J. Haynes**, Kenneth MacLeod; Ellen Martin. “Climate and ocean circulation patterns during and after the early Maastrichtian cooling event”: The Geological Society of America Annual Conference, Vancouver, BC
- 2012 **Shannon J. Haynes**; Brian Huber. “Evolutionary classification of Cretaceous biserial Taxa” Mesozoic Planktonic Foraminifera Working Group Meeting, Ben Gurion University, Israel
- 2012 **Shannon J. Haynes**; Brian Huber; Kenneth MacLeod. “Revised taxonomic framework and phylogeny of Turonian biserial planktonic foraminifera”: The Geological Society of America Annual Conference, Charlotte, NC
- 2011 **Shannon J. Haynes**; Kenneth MacLeod. “Late Cretaceous Chemostratigraphic patterns of $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ in Samples from the 2008 and 2009 TDP Drilling seasons” & “Dissecting Bulk Organic Matter to Estimate Sources and $\delta^{13}\text{C}$ Trends: A preview”: Tanzania Drilling Project Workshop, Washington, DC
- 2010 **Shannon J. Haynes**; Brian Huber. “Taxonomy and Biostratigraphy of Exquisitely Preserved Cenomanian-Santonian Biserial Planktonic Foraminifera from Tanzania Drilling Boreholes” The Geological Society of America Annual conference, Denver, CO, Invited Speaker

ABSTRACTS

Martin, Ellen E.; Rostami, Masoud A.; MacLeod, Kenneth G.; **Haynes, Shannon J.**; Poulsen, Christopher J., 2017, Deep-water formation in the North Atlantic during the latest Cretaceous, EOS, Transactions of the AGU, PP14A-02.

- Rostami, Masoud A.; Martin, Ellen E.; MacLeod, Kenneth G.; Poulsen, Christopher J.; Vande Guchte, Andrew; **Haynes, Shannon J.**, 2017, Gateways and water mass mixing in the Late Cretaceous North Atlantic, EOS, Transactions of the AGU, PP23A-1288.
- Rostami, Masoud A.; Martin, Ellen E.; MacLeod, Kenneth G.; and **Haynes, Shannon J.**, 2017, Changes in deep water sources in the Late Cretaceous western North Atlantic (J-Anomaly Ridge) based on benthic foraminiferal assemblages, stable isotopes and Nd isotopes, NAMS Microfossils IV.
- Huber, Brian T.; Petrizzo, Maria Rose; Watkins, David K.; **Haynes, Shannon J.**; and MacLeod, Kenneth G., 2017, Integrated planktonic foraminiferal and calcareous nannofossil correlation of Turonian continental margin and deep-sea sequences in the subtropical Indian Ocean, NAMS Microfossils IV.
- Haynes, Shannon J.**; MacLeod, Kenneth G.; and Martin, Ellen E., 2016, Pacific Ocean Circulation during the Late Cretaceous, GSA Abstracts with Programs, v. 48(7).
- Rostami, Masoud A.; Martin, Ellen E.; MacLeod, Kenneth G.; and **Haynes, Shannon J.**, 2016, Changes in intermediate water sources during the early Maastrichtian cooling event: Evidence from Nd-isotopes and foraminifera assemblages, GSA Abstracts with Programs, v. 48(7).
- Fordham, Barry, G.; **Haynes, Shannon J.**; and Huber, Brian T., 2016, Evidence for ancestry in taxonomic studies: Lessons from mid-Cretaceous biserial planktic foraminifera, International Geological Congress.
- MacLeod, Kenneth G.; **Haynes, Shannon J.**; Kelley, Cheryl A.; Owens, Jeremy D.; Ravizza, Gregory E., 2014, Leads, lags, and correlations among geochemical records through the Cenomanian/Turonian Boundary Interval in Demerara Rise Black Shales, Eos, Transactions of the AGU.
- Haynes, Shannon J.**; MacLeod, Kenneth G.; and Martin, Ellen E., 2014, Climate and ocean circulation patterns during and after the early Maastrichtian cooling event, GSA Abstracts with Programs, v. 46(7).
- Petrizzo, Loren, Huber, Brian T., Petrizzo, Maria Rose, MacLeod, Kenneth G., **Haynes, Shannon J.**, 2012, "Searching for OAE2 in coastal Tanzania: Cenomanian-Turonian foraminiferal biostratigraphic and chemostratigraphic results from the Cretaceous Tanzania Drilling Project, GSA Abstracts with Programs, v. 44(7).
- Haynes, Shannon J.** and Huber, Brian T., 2012, Revised taxonomic framework and phylogeny of Turonian biserial planktonic foraminifera, GSA Abstracts with Programs, v. 44(7), p. 324.
- Haynes, Shannon J.** and Huber, Brian T., 2010, Taxonomy and Biostratigraphy of Exquisitely Preserved Cenomanian-Santonian Biserial Planktonic Foraminifera from Tanzania Drilling Boreholes, GSA Abstracts with Programs, v. 42(5), p. 248.

SERVICE

Reviewer

Journal of Foraminiferal Research

Educational Outreach

Dinosaurs and Cavemen – Rock Bridge High School Columbia, MO (2015, 2016)

Princeton Women in Geosciences – participant (2020 – present)

Unlearning Racism in Geoscience (URGE) <https://urgescience.org/> – participant in Princeton podlet (2021)