# Dr. Brittany N. Hupp

Department of Atmospheric, Oceanic and Earth Sciences
George Mason University
bhupp@gmu.edu
(740) 404-2559
Brittanynhupp.com

#### **Appointments**

2022-	Assistant Professor, Dept. of Atmos., Ocean., & Earth Sci.	George Mason University
2021-2023	NOAA Climate & Global Change Postdoctoral Fellow	Oregon State University (OSU)

#### Education

2017-2021	Ph.D.	Department of Geosciences	University of Wisconsin-Madison (UW-M)
2015-2017	M.Sc.	Department of Geology	West Virginia University (WVU)
2011-2015	B.A.	Department of Geology	Ohio Wesleyan University (OWU)
		Graduated Cum Laude and wi	ith Honors in Professional Geology

#### **Publications**

- 7. **Hupp, B.N.,** Kozdon, R., Orland, I., Valley, J., and Kelly, D.C., 2023, Secondary controls on the stratigraphic signature of the carbon isotope excursion marking the Paleocene-Eocene thermal maximum at Ocean Drilling Program Site 1135: *Chemical Geology*, v. 632, 121534, https://doi.org/10.1016/j.chemgeo.2023.121534
- 6. Judd, E.., Tierney, J.E., Huber, B.T., Wing, S.L., Lunt, D.J., Ford, H.L., Inglis, G.N., McClymont, E.L., O'Brien, C.L., Rattanasriampaipong, R., Si, W., Staitis, M.L., Thirumalai, K., Anagnostou, E., Cramwinckel, M.J., Dawson, R.R., Evans, D., Gray, W.R., Grossman, E.L., Henehan, M.J., Hupp, B.N., MacLeod, K.G., O'Connor, L.K., Montes, M.L.S., Song, H., and Zhan, Y., 2022, The PhanSST global database of Phanerozoic sea surface temperature proxy data: *Scientific Data*, v. 9 (753), <a href="https://doi.org/10.1038/s41597-022-01826-0">https://doi.org/10.1038/s41597-022-01826-0</a>
- 5. **Hupp, B.N.**, Kelly, D.C., and Williams, J.W., 2022, Isotopic Filtering Reveals High Sensitivity of Planktic Calcifiers to Paleocene-Eocene Thermal Maximum Warming and Acidification: *PNAS*, v. 119, 7 p., e2115561119, <a href="https://doi.org/10.1073/pnas.2115561119">https://doi.org/10.1073/pnas.2115561119</a>
- 4. **Hupp, B.N.** and Kelly, D.C., 2020, Distortions, discrepancies, and delays: Size-dependent sediment mixing and the deep-sea record of the Paleocene-Eocene thermal maximum from ODP Site 690 (Weddell Sea), *Paleoceanography and Paleoclimatology*, v.35, <a href="https://doi.org/10.1029/2020PA004018">https://doi.org/10.1029/2020PA004018</a>
- 3. **Hupp, B.N.,** Kelly, D.C., Zachos, J.C., and Bralower, T. J., 2019, Effects of Size-Dependent Sediment Mixing on Deep-Sea Records of the Paleocene-Eocene Thermal Maximum: *Geology*, v. 47, p. 749-752, https://doi.org/10.1130/G46042.1
- 2. **Hupp, B.N.** and Weislogel, A.L., 2018, Geochemical insights into provenance of the Middle Devonian Hamilton Group of the central Appalachian Basin: *Journal of Sedimentary Research*, v. 88, p. 1153-1165, <a href="https://doi.org/10.2110/jsr.2018.62">https://doi.org/10.2110/jsr.2018.62</a>
- 1. **Hupp, B.N.** and Donovan, J.J., 2018, Quantitative mineralogy of the Marcellus Shale, Appalachian Basin, USA, based on XRD-XRF integration: *Sedimentary Geology*, v. 371, p. 16-31, <a href="https://doi.org/10.1016/j.sedgeo.2018.04.007">https://doi.org/10.1016/j.sedgeo.2018.04.007</a>

## In Review/In Preparation Publications

- 5. **Hupp, B.N.**, and Fehrenbacher, J.S., *in review*, Geochemical differences between alive, uncrusted and dead, crusted shells of *Neogloboquadrina pachyderma*: Implications for paleoreconstruction; submitted to *Paleoceanography and Paleoclimatology*.
- 4. **Hupp, B.N.**, and Fehrenbacher, J.S., in preparation, How well do stable carbon isotope ( $\delta^{13}$ C)

- gradients track the biological pump in the Northern California Current?; for submission to Limnology and Oceanography.
- 3. **Hupp, B.N.**, Kozdon, R., and Kelly, D.C., *in preparation*, Evolving modes of carbonate diagenesis: Implications for constraining oceanic chemical response to the Paleocene-Eocene thermal maximum; for submission to *Sedimentology*.
- 2. **Hupp, B.N.,** Kelly, D.C., Shanks, L., Silverstein, L., and Jiang, S., *in preparation*, Response of High-Latitude Planktic Foraminifera to the Paleocene Eocene Thermal Maximum: Insights from the Southern Indian Ocean (ODP Site 1135); for submission to *Marine Micropaleontology*.
- 1. Ye, S. He, F., Jones, A.G., Shakun, J.D., Batchelor, C.J., **Hupp, B.N.,** Mcdowell, T.M., and Marcott, S.A., *in preparation*, A Data-Model climate comparison for the last 20 ka; for submission to *Climates of the Past*.
- **Abstracts and Conference Papers** (\*denotes oral presentation; \*\*denotes invited speaker, †denotes student mentee, ††denotes student whose committee I serve on)
- 17. ††Gallotti, J.S., Jin, Q., **Hupp, B.**, Jones, M., Buursink, M., and Brennan, S.T., 2023, Biogeochemical modeling of underground hydrogen storage in Illinois Basin s andstones, GSA Connects Meeting.
- 16. **Hupp, B.N.,** and Kelly, D.C., 2023, 'Unmixing' Deep-Sea Sedimentary Records of Planktic Foraminifer Community Turnover during the PETM through Isotopic Filtering, FORAMS 2023 Meeting.
- 15. **Hupp, B.N.**, and Fehrenbacher, J.S., 2023, Geochemical differences between alive, uncrusted and dead, crusted shells of the planktic foraminifera *Neogloboquadrina pachyderma*: Implications for paleoreconstruction, FORAMS 2023 Meeting.
- 14. **Hupp, B.N.**, and Fehrenbacher, J.S., 2022, To be crusted or not to be crusted: Differences in trace element geochemistry between shells of living and dead planktic foraminifera, AGU Fall Meeting.
- 13. **Hupp, B.N.**, and Fehrenbacher, J.S., 2022, To be crusted or not to be crusted: Differences in trace element geochemistry between shells of living and dead planktic foraminifera, GSA Annual Meeting.
- 12. **Hupp, B.N.**, Kelly, D.C., Kozdon, R., Orland, I., and Valley, J.W., 2021, Diagenetic controls on the carbon isotope record of the Paleocene Eocene thermal maximum at Ocean Drilling Program Site 1135 (southern Indian Ocean), AGU Fall Meeting.
- 11. \*\*Hupp, B.N., Kelly, D.C., and Jiang, S., 2021, Response of high latitude planktic foraminifer communities to the Paleocene-Eocene Thermal Maximum: Insights from the southern Indian Ocean (ODP Site 1135), GSA Annual Meeting.
- 10. \***Hupp, B.N.,** Kelly, D.C., and Williams, J.J., 2020, Isotopic filtering reveals high sensitivity of planktic foraminifers to Paleocene Eocene Thermal Maximum ocean acidification and warming: GSA Annual Meeting.
- 9. **Hupp, B.N.**, and Kelly, D.C., 2019, Single-shell Stable Isotope Signatures as a Taphonomic Filter: Deconvolving the Effects of Sediment Mixing on Tropical Planktic Foraminiferal Assemblages from Paleocene-Eocene Thermal Maximum: AGU Fall Meeting, San Francisco, CA.
- 8. Valencia Villa, A., Mixon, E., Bate, C.E., Callahan, E.H., Honig, S., **Hupp, B.N.**, Parrish, E., Roberts, N., and Krishnan, A., 2019, Invigorating the geoscience community: Graduate student-led efforts in creating inclusive, equal, and diverse science and community at the University of Wisconsin-Madison: AGU Fall Meeting, San Francisco, CA.
- 7. \*Hupp, B.N., Kelly, D.C., Zachos, J.C., and Bralower, T. J., 2018, Effects of Size-Dependent Sediment Mixing on Deep-Sea Records of the Paleocene-Eocene Thermal Maximum: GSA National Meeting (Nov. 2018, Indianapolis, IN), Paper No. 212-6
- 6. Weislogel, A. and **Hupp, B.,** 2017, Identifying Lithosomes of the Marcellus Shale: A Provenance Approach: Eastern Section AAPG 46<sup>th</sup> Annual Meeting, Tuesday September 26, 2017.
- 5. Song, L., Paronish, T., Agrawal, V., Hupp, B., Sharma, S., and Carr, T., 2017, Depositional

environment and impact of pore structure and gas storage of Middle Devonian organic rich shale, northeastern West, Virginia, Appalachian Basin: URTeC Paper #2667387, doi: 10.15530/URTEC-2017-2667397.

- 4.\***Hupp, B.N.,** Weislogel, A.L., and Donovan, J.J., 2017, Provenance of the Marcellus Shale: Geochemical insights into the source to sink relationships within the Middle Devonian Acadian Foreland Basin: Geological Society of America NE/NC Regional Meeting-Abstracts with Program, v. 49, paper no. 17-1
- 3.\***Hupp, B.N.,** 2017, The Unconventional Minority: Preparing Single Parents for Success within the Geosciences: Geological Society of America NE/NC Regional Meeting-Abstracts with Program, v. 49, paper no. 32-3
- 2.\***Hupp, B.N.,** Weislogel, A.L., and Donovan, J.J., 2016, Interactions between Provenance, Paleoclimate, and Productivity in the Devonian Millboro Shale, North-Central West Virginia: Geological Society of America-Abstracts with Programs, v. 48, paper no.200-10
- 1. **Hupp, B.N.,** and Mann, K.O., 2015, High Resolution Conodont Biostratigraphy of the Dundee Limestone, Michigan Basin: Geological Society of America-Abstracts with Programs, v. 47, p. 337

## **Thesis Work**

2017-2021	PhD Dissertation: Deconvolving Climate and Biotic Signals from Taphonomic Overprints
	in Deep-Sea Records of the Paleocene-Eocene Thermal Maximum (Advisor: Dr. D. Clay
	Kelly)
2015-2017	MSc Thesis: Provenance of the Hamilton Group: A study of source-to-sink relationships
	within the Middle Devonian central Appalachian Basin (Advisor: Dr. Amy Weislogel)
2014-2015	Undergraduate Honors Thesis: High Resolution Conodont Biostratigraphy of the Dundee
	Limestone, Michigan Basin (Advisor: Dr. Keith Mann)

# **Work Experience**

2021-2023	NOAA Climate & Global Change Postdoctoral Fellow
2020-2021	Adjunct Instructor, Edgewood College
2019-2021	Head Graduate Teaching Assistant, Department of Geoscience, UW-M
2017-2019	Graduate Teaching Assistant, Department of Geosciences, UW-M
2015-2017	Graduate Teaching Assistant, Department of Geology, WVU
Summer 2016	Graduate Research Assistant, MSEEL, WVU
2013-2015	Intern, Ohio Department of Natural Resources, Division of Oil & Gas Resources
2012-2013	Collections Maintenance Worker, Department of Geology, OWU

# **Teaching Experience**

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Fall 2023	GEOL 120/121: The Changing Ocean Lecture & Laboratory (30 students)	
Spring 2023	GEOL 406/603: Geochemistry (10 students)	
Spring 2021	Instructor of Record: Intro to Natural Science for Elementary Education, Edgewood C.	
	(30 students)	
Fall '20/Spr. '21	Instructor of Record: Oceans and Atmosphere, Edgewood College (40 students)	
Spring 2019	Geosci 204: Historical Geology Laboratory, UW-M (~40 students)	
Sp./Fall 2018	Geosci 110: Evolution and Extinction Laboratory, UW-M (~100 students/semester)	
Fall 2017	Geosci 202: Introduction to Geologic Structures Laboratory, UW-M (~20 students)	
Spring 2017	Geol 104: Historical Geology, Guest Lecturer, WVU	
Spring 2016/17	Geol 104: Historical Geology Laboratory, WVU (96, 60 students)	
Fall 2016	Geol 331: Paleontology Laboratory, WVU (~50 students)	
Fall 2015/Sum 17 Geol 102: Introductory Geology Laboratory, WVU (69 students)		

## **Research Experience**

2017-2021	Lab Member, Micropaleontology and Paleoceanography Laboratory (UW-M)
2016-2017	Research Assistant, Marcellus Shale Energy and Environmental Laboratory (MSEEL)
2015-2017	Lab Member, Sedimentary Basins Research Laboratory (WVU)
2014-2015	Research Assistant, Micropaleontology Laboratory (OWU)
2011-2012	Lab Member, Aquatic Animal Behavior Laboratory (OWU)
Honors, Gi	rants, and Awards (post-grad)
2023	International Ocean Discovery Program, United States Science Support Program:
	brid Workshop: Establishing Early-Career Scientific Ocean Drilling Communities: Lead PI,
	0,000 over 1 year
2022-2024	National Science Foundation Division of Ocean Sciences: Marine Geology &
	ophysics: Improving High Latitude Foraminiferal Paleoproxies: Insights from Northern
	lifornia Current Modern and Historical Records: Lead PI, \$268,746 total over two years
*	08,660 to GMU)  NOAA Climate & Clobal Change Postdoctoral Fallowskin (\$150,120)
2021-2023 2021	NOAA Climate & Global Change Postdoctoral Fellowship (\$159,130) NSF Ocean Sciences Postdoctoral Research Fellowship*
2021	*Award declined, as I could only accept one postdoctoral fellowship
	Award declined, as I could only accept one postdoctoral tenowship
Graduate &	& Undergraduate Honors, Grants, and Awards
2021	Univ. of WiscMadison Dept. of Geosci. Fowler Billings Grant for DEI Efforts (\$5,400)
2021	Univ. of WiscMadison Department of Geoscience Outstanding Paper Award
2021	Univ. of WiscMadison Department of Geoscience Tyler Teaching Award
2020	Cushman Foundation Johanna S. Resig Research Fellowship (\$15,000)
2020	AWG-Paleontological Society Winifred Goldring Award (\$2,000)
2020	Cushman Foundation Student Research Award (\$3,000)
2020	Dept. of Geoscience S.W. Bailey Distinguished Graduate Student Award, UW-M
2020	Ken and Linda Ciriacks Distinguished Graduate Fellowship, UW-M (1 semester support)
2020	C.F. Schiesser Outstanding Student Research Paper Award, UW-M
2020	OB Shelbourne Summer Research Award, UW-M (\$3,000)
2020	Paleontological Society Allison R. "Pete" Palmer Student Research Award (\$1,200)
2019 2019	NSF Scholarship to Urbino Summer School in Paleoclimatology George J. Verville Award in Paleontology, UW-M (\$1,000)
2019	James D. and Stella M. Robertson Graduate Research Assistantship (1 semester RA)
2019	Univ. of Wisconsin-Madison Department of Geoscience Summer Research Awards (\$2,000)
2018	Geological Society of America Exxon Mobile Student Research Grant (\$5,000)
2018	Society of Sedimentary Geology Student Research Grant (\$1,300)
2018	American Association of Petroleum Geologists M. Ray Thomasson Named Grant (\$2,500)
2018	University of Wisconsin-Madison Cool Science Photograph Winner
2016	Geological Society of America Student Meeting Travel Award
2016	Society of Sedimentary Geology (SEPM) Student Meeting Travel Award (\$300)
2016	West Virginia University Shumaker Graduate Student Travel Award (\$600)
2016	American Association of Petroleum Geologists Foundation Grants-in-Aid (\$2,000)
2016	Geological Society of America Student Research Grant (\$1,375)
2016	West Virginia University Shumaker Student Research Grant (\$1,400)
2016	Society of Sedimentary Geology (SEPM) Foundation Student Research Grant (\$800)
2015	West Virginia University Shumaker Graduate Student Travel Award (\$575)
2015	Cheasapeake Energy Fellowship (\$2,000)
2015	Graduated Cum Laude Graduated with Departmental Honors in Goology
2015	Graduated with Departmental Honors in Geology  P. F. Shanklin Distinguished Scholar in Geology Award (\$500)

R.E. Shanklin Distinguished Scholar in Geology Award (\$500)

Ohio Wesleyan University Theory to Practice Grant (\$4,642)

2015

2014

2014-2015	Raymond H. and Beryl Dean Penick STEMM Scholarship (\$4,000)
2013-2015	Crowl-Shanklin Geology Scholarship (\$1,000/yr)
2013	Sigma Gamma Epsilon Inductee
2012-2014	Julius and Beula Lenz Science and Engineering Scholarship (\$1,000/yr)
2011-2015	Leland F. and Helen Schubert Honors Program
2011-2015	Leland F. and Helen Schubert Scholarship (\$17,500/yr)
2011-2015	Ohio Wesleyan University Founders Scholarship (\$6,000/yr)
2011-2012	Floyd and Alberta Mahard Scholarship (\$1,000)
Field Exper	ience/Research Cruises
May 2023	Offshore California, Oregon, Washington Coast Field Sampling (18 days)
Sept. 2022	Offshore California, Oregon, Washington Coast Field Sampling (13 days)
May 2022	Offshore California, Oregon, Washington Coast Field Sampling (13 days)
March 2022	Offshore Oregon Coast Field Sampling (7 days)
Sept. 2021	Offshore Oregon Coast Field Sampling (6 days)
Field Cours	es (*denotes co-teaching of course/fieldtrip)
	Field Mapping of the Black Hills, SD, USA*
	Modern Coastal Depositional Systems in Congaree National Park & Sapelo Island: GA, USA
May 2016	Sequence Stratigraphy of the Book Cliffs, UT, USA
Apr. 2016	Miocene Facies and Fossils along Chesapeake Bay, MD, USA
Mar. 2015	Marine Biology and Mathematical Modeling: Field Course in St. John, USVI
Oct. 2014	Field Study of Alleghany Structural Front: WV, USA
Mar. 2014	Petrographic Analysis of the Great Unconformity of the St. Francis Mountains: MO, USA
Mar. 2013	Field Study of Deformation Events in the Appalachians of Pennsylvania: PA, USA
Oct. 2012	Paleontological Study of Cincinnatian Outcrops in Southeast Indiana: IN, USA
May 2012	Tectonics, Volcanology, & Geothermal Energy in the N. Atlantic: Field Course in Iceland
Workshops	Led/Organized (*denotes workshop chair/co-chair)
Aug. 2023	IODP Establishing Early-Career Scientific Ocean Drilling Learning Communities*
June 2022	IODP IMPACT (Advancing Scientific Ocean Drilling Impact)
Fall 2019	Manuscript Writing 101: Preparing Your Work for Publication*
Short Cours	ses, Summer Schools, and Workshops
Aug. 2023	IODP Establishing Early-Career Scientific Ocean Drilling Learning Communities
June 2022	IODP IMPACT (Advancing Scientific Ocean Drilling Impact)
Spring 2022	Oregon Museum of Science & Industry Science Communication Fellowship Workshops
Oct. 2021	Social Justice Education Initiative Workshop
Sept. 2021	PhanTASTIC (Phanerozoic Technique Averaged Surface Temperature Integrated Curve) Workshop
Aug. 2021	IODP IMPACT Next Generation Workshop
June 2021	Identifying New Community-Driven Science Themes for NSF's Support of Paleo
	Perspectives on Climate Change (P2C2): A Workshop
Spring 2021	Community of Practice on Scholarship of Teaching and Learning
Spring 2021	URGE: Unlearning Racism in Geosciences, Midwest Pod
Oct. 2020	An Introduction to Stratigraphic Data Analysis in R (SDAR), a Quantitative Toolkit to Analyze Stratigraphic Data
Fall 2020	Community of Practice on Course Design & Inclusive Teaching
Sum. 2020	An Introduction to Evidence-Based Undergraduate STEM Teaching
Feb. 2020	Demystifying the IODP Proposal Process for Early Career Scientists: Pacific Ocean
June 2019	Urbino Summer School of Paleoclimatology

March 2017 Micro- to Nano- Scale Features of Mudrocks short course, Instructor: Dr. Kitty Milliken

## **Invited Talks**

Oct. 2022 Rutgers University Earth & Planetary Sciences Dept. Research Seminar	
Feb. 2022 Western Michigan Univ. Geological & Environmental Sciences Dept. Research S	eminar
Feb. 2022 George Mason University AOES Research Seminar	
Oct. 2021 Oregon State University QuatTea Seminar Series	
Aug. 2021 Panelist for IODP IMPACT Workshop: Effective Mentoring Strategies	
Nov. 2019 University of Wisconsin-Madison Paleontology Club	

#### **Guest Lecturer**

- Nov. 2020 NATS 105: Intro to Natural Sciences for Elementary Education- "Thinking About Climate Change"
- Sept. 2019 Geosci 304: Geobiology- "Carbon Isotopes and the Biological Pump"

## **Reviewer for:**

Journals: Palaeogeography, Palaeoclimatology, Palaeoecology (Palaeo3), Paleoceanography & Paleoclimatology, Geosciences, Rapid Communications in Mass Spectrometry, The Depositional Record, Journal of Palaeogeography, Journal of Asian Earth Sciences

Funding Agencies: International Ocean Discovery Program: United States Science Support Program

## Academic Service, Leadership, and Volunteering

AGU Bridge Liaison for GMU AOES Department
AGU Fall Meeting Session Convener & Chair
AGU Paleoclimatology/Paleoceanography Student and Early Career Working Group
AGU Fall Meeting Session Co-Chair
AGU Outstanding Student Presentation Award Judge
GSA Onto the Future Mentor
GEMS (Geosciences Education & Mentorship Support) Mentor
Ocean Observation Initiative Data Labs Fall Pilot Implementation Cohort
Teaching Assistant-Faculty Committee, Graduate Student Representative (UW-M)
President, Geoscience Graduate Student Association (UW-M)
Treasurer, Association for Women Geoscientists, UW-Madison Chapter
Department Climate Survey Committee, Graduate Student Representative (UW-M)
Weeks Lecture Series Committee, Graduate Student Representative (UW-M)
President and Co-Founder, Association for Women Geoscientists, UW-Madison
Chapter
Graduate Student Faculty Liaison (UW-M)
Graduate Student Isotope Geochemistry Faculty Search Committee (2 searches; UW-M)
Geology Department Masters Student Representative (WVU)
President: Sigma Gamma Epsilon, Delta Lambda Chapter (OWU)
Ohio Wesleyan University Geology Student Board

#### **Public Outreach**

- 2022-2023- *Oregon Museum of Science and Industry Science Communication Fellow:* Through this fellowship I will be working with OMSI staff to develop an outreach tool to be shared at several public outreach events during the 2022-2023 years
- October 2018- Wisconsin Science Weekend Public Outreach: Helped to organize, construct, and conduct outreach events at two WI state parks throughout the weekend, focusing on communicating the geologic history of the state to the public.

May 2018- *Geology Lesson at Madison School Forest*: As part of a local elementary school's 3<sup>rd</sup> grade campout, I organized and taught several outdoor geology lessons looking sandstone outcrops in which students used their observations to make hypotheses about potential past environments.

- April 2017- *Cub Scout Fossil Dig*: I organized an activity for scouts (1<sup>st</sup>-3<sup>rd</sup> grades) to dig up dinosaur skulls (small replicas), identify the "fossil" using pictures, and report to the group fun-facts about the dinosaur they uncovered
- May 2016- *Cub Scout Geology Hike*: Lead scouts and their families on a ~2 hour geology hike through the local boy scout camp to learn about how we can use our observations to make interpretations from rocks
- March 2016- *Geology Read-In*: Visited 2<sup>nd</sup> grade classroom at Eastwood Elementary to read to them books about geology.

## **Media Interviews and Articles**

- Flatt, C., 2022, *This single-celled sea critter could help scientists learn about climate change*, NWNews, <a href="https://www.nwnewsnetwork.org/2022-06-23/this-single-celled-sea-critter-could-help-scientists-learn-about-climate-change">https://www.nwnewsnetwork.org/2022-06-23/this-single-celled-sea-critter-could-help-scientists-learn-about-climate-change</a>
- Burakoff, M., 2022, *Deep dive: UW researchers find climate clues in tiny fossils from the ocean floor*, Spectrum News 1, <a href="https://spectrumnews1.com/wi/milwaukee/news/2022/03/22/deep-dive--uw-researchers-find-climate-clues-in-tiny-fossils-from-the-ocean-floor-">https://spectrumnews1.com/wi/milwaukee/news/2022/03/22/deep-dive--uw-researchers-find-climate-clues-in-tiny-fossils-from-the-ocean-floor-</a>
- Barncard, C., 2022, *Ancient example of modern global warming was too hot for tiny, important ocean critters*, University of Wisconsin-Madison News, <a href="https://news.wisc.edu/ancient-example-of-modern-global-warming-was-too-hot-for-tiny-important-ocean-creatures/">https://news.wisc.edu/ancient-example-of-modern-global-warming-was-too-hot-for-tiny-important-ocean-creatures/</a>

# Non-academic Volunteer and Leadership Experience

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2015-2017	Cub Scouts, Pack 60 Volunteer
2015-2016	Read Aloud Volunteer
2014-2015	Scholarship Director: Kappa Alpha Theta, Gamma deuteron Chapter
2014-2015	Membership Director: Ohio Wesleyan University Panhellenic Council

#### **Professional Affiliations**

2019-Present	American Geophysical Union
2018-Present	Cushman Foundation
2018-Present	Paleontological Society of America, member #:1316898
2016-Present	SEPM, Society for Sedimentary Geology, member #: 51042
2015-Present	American Association of Petroleum Geologists, member #: 10138956
2013-Present	Association for Women Geoscientists
2013-Present	Geological Society of America
2013-2015	Sigma Gamma Epsilon

## **Analytical and Laboratory Experience**

Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS)

Secondary Ion Mass Spectrometry (SIMS)

Gas Source Isotope Ratio Mass Spectrometry (GS- IRMS)

Scanning Electron Microscopy (SEM)

Energy Dispersive X-ray Spectroscopy (EDS)

X-ray Fluorescence (XRF)

X-ray Diffraction (XRD)

Microfossil Extraction

Thin Section Preparation

Proficiency in R Coding Language