

JENNIFER E. HERTZBERG, PH.D.

Department of Ocean, Earth, & Atmospheric Sciences
Old Dominion University
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EDUCATION

2015 Ph.D., Oceanography, Geological Oceanography Focus

Texas A&M University, College Station, TX USA

2010 M.S., Marine and Atmospheric Science

Stony Brook University, Stony Brook, NY USA

2007 B.S., Geology

B.S., Astronomy, Physics minor

University of Massachusetts, Amherst, MA USA

Completion of Double Bachelor's Degree Program

EMPLOYMENT

2017 – present Postdoctoral Research Associate, Department of Ocean, Earth & Atmospheric Sciences, Old Dominion University. Mentor: Dr. Matthew Schmidt

2015 – 2017 Postdoctoral Fellow, Department of Marine Science, University of Connecticut Avery Point. Mentor: Dr. David Lund

Spring 2015 Lecturer, Texas A&M University

2010 – 2014 Research & Teaching Assistant, Texas A&M University

2007 – 2010 Research & Teaching Assistant, Stony Brook University

PEER-REVIEWED PUBLICATIONS

- (16) Lund, D. C., **J. E. Hertzberg**, and M. Lacerra (2019). Surface ocean carbon isotope minima in the South Atlantic: Evaluating the influence of air-sea exchange. *Environmental Research Letters*, 14, 055004.
- (15) Marcantonio, F., M. Loveley, M. W. Schmidt, and **J. E. Hertzberg** (2019). Reply to: No evidence for equatorial Pacific dust fertilization. *Nature Geoscience*, 12, 156.
- (14) Ford, H. L., C. McChesney, **J. E. Hertzberg**, J. McManus (2018). A deep Eastern Equatorial Pacific thermocline during the Last Glacial Maximum. *Geophysical Research Letters*, 45, 1-11.
- (13) **Hertzberg, J. E.** (2017) Ice-sheet history revealed by fossils. *Nature*, 547, 35-36.
- (12) **Hertzberg, J. E.** and M. W. Schmidt (2017). Paleotemperatures. In: *Encyclopedia of Geochemistry*, Earth Science Series. Ed. by W. White. Springer. Pages 1-8.
- (11) Loveley, M., F. Marcantonio, M. Wisler, **J. E. Hertzberg**, M. W. Schmidt, M. Lyle (2017). Millennial-scale iron fertilization of the Eastern Equatorial Pacific over the past 100,000 years. *Nature Geoscience*, 10, 760-764.
- (10) Loveley, M. R., F. Marcantonio, M. Lyle, R. Ibrahim, **J. E. Hertzberg**, and M. Schmidt (2017). Sediment redistribution and grain size effects on ^{230}Th -normalized mass accumulation rates and focusing factors in the Panama Basin. *Earth and Planetary Science Letters*, 480, 107-120.

- (9) **Hertzberg, J. E.**, D. C. Lund, A. Schmittner, and A. L. Skrivaneck (2016). Evidence for a biological pump driver of atmospheric CO₂ rise during Heinrich Stadial 1. *Geophysical Research Letters*, 43, 12242-12251.
- (8) Lyle, M., R. A. Pockalny, P. J. Polissar, J. Lynch-Stieglitz, S. C. Bova, A.G. Dunlea, H. L. Ford, **J. E. Hertzberg**, S. A. Hovan, A. W. Jacobel, C. A. Wertman, A. E. Maloney, R. W. Murray, J. K. Wilson, K. Wejnert, and R. C. Xie (2016). Dynamic carbonate sedimentation on the Northern Line Islands Ridge, Palmyra Basin. *Marine Geology*, 379, 194-207.
- (7) **Hertzberg, J. E.**, M. W. Schmidt, T. S. Bianchi, R. W. Smith, M. R. Shields, and F. Marcantonio (2016). Comparison of eastern tropical Pacific TEX₈₆ and *G. ruber* Mg/Ca derived sea surface temperatures: Insights from the Holocene and Last Glacial Maximum. *Earth and Planetary Science Letters*, 434, 320-332.
- (6) Lynch-Stieglitz, J., P. J. Polissar, A. W. Jacobel, S. A. Hovan, R. A. Pockalny, M. Lyle, R. W. Murray, A. C. Ravelo, S. Bova, A. Dunlea, H. L. Ford, **J. E. Hertzberg**, C. Wertman, A. E. Maloney, J. Shackford, K. Wejnert, and R. C. Xie (2015). Glacial-interglacial changes in central tropical Pacific surface seawater property gradients. *Paleoceanography*, 30, 423-438.
- (5) **Hertzberg, J. E.** and M. W. Schmidt (2013). Refining *Globigerinoides ruber* Mg/Ca Paleothermometry in the Atlantic Ocean. *Earth & Planetary Science Letters*, 383, 123-133.
- (4) Schmidt, M. W., P. Chang, **J. E. Hertzberg**, T. R. Them, L. Ji, and B. L. Otto-Bliesner (2012). Impact of abrupt deglacial climate change on tropical Atlantic subsurface temperatures. *Proceedings of the National Academy of Sciences*, 109(36), 14348-14352.
- (3) **Hertzberg, J. E.**, D. E. Black, L. C. Peterson, R. C. Thunell, and G. H. Haug (2012). Decadal- to centennial-scale tropical Atlantic climate variability across a Dansgaard-Oeschger cycle. *Paleoceanography*, 27, PA3218.
- (2) Schmidt, M. W. and **J. E. Hertzberg** (2011). Abrupt climate change during the last Ice Age. *Nature Education Knowledge* (peer reviewed educational article), 2(12): 11.
- (1) McIntosh, D. H., Y. Guo, **J. E. Hertzberg**, N. Katz, H. Mo, F. van den Bosch, and X. Yang (2008). Ongoing assembly of massive galaxies by major merging in large groups and clusters from the SDSS. *Monthly Notices of the Royal Astronomical Society*, 388, 1537- 1556.

AWARDS AND FUNDING

MAJOR RESEARCH FUNDING

Reconstructing Mean State and ENSO Variability in the Eastern Equatorial Pacific under Glacial Forcing: A Combined Geochemical and Organic Proxy Approach*

NSF Paleo Perspectives on Climate Change; 2017 – 2019, **\$355,000**

PI: M. W. Schmidt, Co-PI: T. S. Bianchi, Post-Doc: J. E. Hertzberg

*I wrote the majority of this proposal, but university regulations state that post-docs are unable to submit proposals as PI or Co-PI.

Mg/Ca Paleothermometry in Planktonic Foraminifera: Proxy Refinement and Applications in the Eastern Equatorial Pacific

Johanna M. Resig Foraminiferal Research Fellowship, given by the Cushman Foundation for Foraminiferal Research; 2014 – 2015, **\$12,500**

Searching for Intermediate-depth Radiocarbon Depleted Waters in the Central Equatorial ODASES (Ocean Drilling & Sustainable Earth Science) Research Fellowship, Texas A&M- IODP Joint Program; 2012 – 2013, \$25,000

AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS

2015 **John Wormuth Memorial Award for Excellence in Undergraduate Teaching**
2013 – 2015 **James Sharp Graduate Fellowship**, Texas A&M University
2012 – 2014 **Unocal Graduate Fellowship in Geosciences**, Texas A&M University
2012 **David McGrail Memorial Scholarship in Oceanography**, Texas A&M
2011 **Ralph Rayburn '69 Texas Sea Grant Scholarship**
2010 – 2013 **Lois & Elizabeth Scherk Graduate Fellowship in Oceanography**, Texas A&M
2010 – 2013 **NSF S-STEM Continental Margins Scholarship**, Texas A&M University
2010 **Lechner Graduate Scholarship**, Texas A&M University
2009 **Excellence in Science Award**, AAAS Graduate Student Award
2007 **Dean's Scholarship**, Stony Brook University

INVITED SEMINARS AND TALKS

University of Southern Mississippi, Division of Marine Science (May 2019)
Southeast Regional GSA Conference, Invited Talk (March 2019)
Texas A&M University, Department of Oceanography (February 2019)
University of Hawaii, School of Ocean and Earth Science and Technology (February 2019)
James Madison University, Department of Geology and Environmental Science (January 2019)
Coastal Carolina University, Department of Marine Sciences (January 2018)
Montclair State University, Department of Earth and Environmental Sciences (January 2018)
Ball State University, Geology Department (May 2017)
Columbia University, LDEO, Biology and Paleoenvironment Section (April 2017)
Wesleyan University, Department of Earth & Environmental Sciences (February 2016)
Old Dominion University, College of Ocean Earth & Atmospheric Sciences (September 2015)

TEACHING EXPERIENCE

Spring 2018 **Guest Lecturer**, Physical Geology, 3 lectures on volcanology
Department of Ocean, Earth, & Atmospheric Sciences, Old Dominion University
Spring 2015 **Lecturer**, *Introductory Oceanography*
Department of Oceanography, Texas A&M University
Enrollment: 68 students; Full Instructor of Record.
Mean course evaluation score: 4.6 (1 – 5 scale, 5 highest). **Evaluations available.**
Fall 2014 **Teaching Assistant**, *Introductory Oceanography Laboratory*
Department of Oceanography, Texas A&M University
3 2-hour weekly lab sections, 20 students/section. **Evaluations available.**

- Spring 2013 **Guest Lecturer**, *Global Change*, 2 lectures on ocean acidification
College of Geosciences, Texas A&M University
- Fall 2012 **Guest Lecturer**, *Introductory Oceanography*, 3 lectures on marine geology
Department of Oceanography, Texas A&M University
- Fall 2008 **Teaching Practicum**, *Introductory Oceanography*
School of Marine and Atmospheric Science, Stony Brook
- 2007 – 2009 **Teaching Assistant**, Courses: (1) *Current Topics in World Climate and Atmosphere*; (2) *Waves, Tides, Beaches*; (3) *Introductory Oceanography*
School of Marine and Atmospheric Science, Stony Brook
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STUDENT MENTORING AND ADVISING

- Old Dominion University:** **Lenzie Ward** (B.S. Geological Oceanography)
Ryan Glaubke (M.S. Oceanography)
Brian Close (M.S. Oceanography)
Colton Watkins (M. S. Oceanography)
Megan Agee (NSF REU student from Virginia Wesleyan Univ.)
- University of Connecticut:** **Matthew Lacerra** (B.S./M.S. Marine Sciences)
Melissa Cote (M.S. Marine Sciences)
Sarah McCart (B.S. Marine Sciences)
- Texas A&M University:** **Paulina de los Santos** (B.S. Environmental Geosciences)
Jessica Wang (B.S. Meteorology)
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PROFESSIONAL DEVELOPMENT

- Preparing for an Academic Career in the Geosciences:** workshop through On the Cutting Edge (SERC), University of Colorado, Boulder, 2013
- STEM Teaching Professional Development:** Semester course through the Center for Teaching Excellence, Texas A&M University, 2013
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WORKSHOP PARTICIPATION

- GEOTRACES/PAGES workshop on Trace Element and Isotope Proxies in Paleooceanography: A synthesis workshop**, Aix-Marseille, France, 2018
- Demystifying the IODP Proposal Process for Early Career Scientists: Northern Atlantic and Gulf of Mexico**, University of Texas, Austin, Texas, 2017
- Short Course on Shipboard Sedimentology: Data Collection, Interpretation, and Integration**, IODP Gulf Coast Repository, College Station, Texas, 2016
- Individual Foraminifera Analyses for Paleooceanographic Reconstructions**, Utrecht University, Utrecht, Netherlands, 2016
- COMPARE 2012 Comparing Ocean Models with Paleo-Archives**, University of Bremen, Germany, 2012

PRESENTATIONS & CONTRIBUTED ABSTRACTS

♦ denotes first author abstracts given as oral presentation at meeting/conference

† denotes graduate student mentee # denotes undergraduate student mentee

- (27) ♦**Hertzberg, J. E.**, †R. Glaubke, M. W. Schmidt, #L. Ward, and F. Marcantonio. *Reconstructing tropical Pacific mean state and El-Niño-Southern Oscillation Variability over the last 60 kyr*. AGU Fall Meeting, Washington DC, 2018.
- (26) Hostak, R., F. Marcantonio, **J. E. Hertzberg**, and M. W. Schmidt. *Authigenic uranium evidence for deep-ocean respired carbon storage in the Eastern Equatorial Pacific over the past 180 kyr*. AGU Fall Meeting, Washington DC, 2018.
- (25) Schmidt, M. W., **J. E. Hertzberg**, #M. Agee, T. S. Bianchi, F. Marcantonio, and M. R. Shields. *Temporal evolution of the TEX₈₆ export depth in the Eastern Equatorial Pacific across the last deglaciation*. AGU Fall Meeting, Washington DC, 2018.
- (24) #Ward, L., M. W. Schmidt, **J. E. Hertzberg**, and F. Marcantonio. *Reconstructing surface water carbonate ion concentrations in the Eastern Equatorial Pacific using B/Ca ratios in Globigerina bulloides over the past 25 kyr*. AGU Fall Meeting, Washington DC, 2018.
- (23) **Hertzberg, J. E.**, M. W. Schmidt, F. Marcantonio, and T. S. Bianchi. *Tropical Pacific mean state and ENSO variability across MIS 3*. AGU Fall Meeting, New Orleans, LA, 2017.
- (22) Marcantonio, F., M. Loveley, M. Wisler, R. Hostak, **J. E. Hertzberg**, M. W. Schmidt, and M. W. Lyle. *Millennial Variability of Eastern Equatorial Bottom Water Oxygenation and Atmospheric CO₂ over the past 100 kyr*. AGU Fall Meeting, New Orleans, LA, 2017.
- (21) †Glaubke, R., M. W. Schmidt, #L. Warner, **J. E. Hertzberg**, F. Marcantonio, and T. Bianchi. *Changes in Eastern Equatorial Pacific thermocline structure across the last Deglaciation: evidence from the Carnegie Ridge*. AGU Fall Meeting, New Orleans, LA, 2017.
- (20) McCourty, M., M. W. Schmidt, †R. Glaubke, **J. E. Hertzberg**, F. Marcantonio, and T. S. Bianchi. *Reconstructing Eastern Tropical Pacific productivity across Marine Isotope Stage 3 using foraminiferal faunal counts*. AGU Fall Meeting, New Orleans, LA, 2017.
- (19) Collins, M. S., **J. E. Hertzberg**, F. Mekik, and M. W. Schmidt. *A new multi-basin calibration for estimating paleo-temperature using Mg/Ca from tests of Neogloboquadrina dutertrei*. AGU Fall Meeting, New Orleans, LA, 2017.
- (18) ♦**Hertzberg, J. E.**, D. C. Lund, A. Schmittner, and A. Skrivanek. *Evidence for a biological pump driver of atmospheric CO₂ rise during Heinrich Stadial 1 and the Younger Dryas*. AGU Fall Meeting, San Francisco, CA, 2016.
- (17) Loveley, M. R., F. Marcantonio, M. W. Lyle, and **J. E. Hertzberg**. *Iron Fertilization and Productivity in the Panama Basin*. AGU Fall Meeting, San Francisco, CA, 2016.
- (16) **Hertzberg, J. E.**, D. C. Lund, A. Schmittner, and A. Skrivanek. *Evidence for a biological pump driver of atmospheric CO₂ rise during Heinrich Stadial 1*. 12th International Conference on Paleoceanography, Utrecht, Netherlands, 2016.
- (15) ♦**Hertzberg, J. E.** and M. W. Schmidt. *Multi-species temperature and proxy reconstructions of the tropical Pacific mean state across Marine Isotope Stage 3*. AGU Fall Meeting, San Francisco, CA, 2015.

- (14) Lyle, M, T. C. Moore Jr., A. C. Ravelo, J. Baldauf, J. Backman, H. Ford, A. Stepanova, and **J. E. Hertzberg**. *Paradoxical high productivity in the Eastern Equatorial Pacific during the Miocene El Padre, ODP 849, IODP U1337, U1338*. AGU Fall Meeting, 2015.
- (13) **†Hertzberg, J. E.** and M. W. Schmidt. *Thermocline temperature variability reveals shifts in the tropical Pacific mean state across MIS 3*. AGU Fall Meeting, San Francisco, CA, 2014.
- (12) Lovely, M. R., F. Marcantonio, M. Lyle, R. Ibrahim, [#]J. Wang, and **J. E. Hertzberg**. *Grain size biasing of ²³⁰Th-driven focusing factors in the Panama Basin*. AGU Fall Meeting, 2014.
- (11) Randle, N. J., M. W. Schmidt, T. S. Bianchi, **J. E. Hertzberg**, and M. R. Shields. *Understanding TEX_{86}^H temperature estimates in the Eastern Equatorial Pacific over the last deglacial*. AGU Fall Meeting, 2014.
- (10) **†Hertzberg, J. E.**, M. W. Schmidt, T. S. Bianchi, R. W. Smith, M. R. Shields, and N. J. Randle. *TEX_{86} temperatures and multi-species foraminiferal Mg/Ca temperatures and $\delta^{13}C$ reflect changes in the glacial nutrient dynamics and upper water column hydrography of the Eastern Equatorial Pacific*. AGU Fall Meeting, San Francisco, CA, 2013.
- (9) **Hertzberg, J. E.**, M. W. Schmidt, T. Bianchi, R. W. Smith, and M. R. Shields. *Comparison of TEX_{86} and Mg/Ca SSTs reflects changes in glacial nutrient dynamics of the Eastern Equatorial Pacific*. 11th International Conference on Paleoceanography, Sitges, Spain, 2013.
- (8) Schmidt, M. W., **J. E. Hertzberg**, and T. R. Them. *Foraminiferal Ba/Ca ratios and $\delta^{18}O_{sw}$ values from the southern Caribbean reflect hydrologic cycle variability over the past 21 kyr*. 11th International Conference on Paleoceanography, Sitges, Spain, 2013.
- (7) **†Hertzberg, J. E.** and M. W. Schmidt. *Reinvestigating the “salinity effect” on Atlantic *Globigerinoides ruber* Mg/Ca ratios*. AGU Fall Meeting, San Francisco, CA, 2012.
- (6) Schmidt, M. W., **J. E. Hertzberg**, T. S. Bianchi, R. Smith, and M. Shields. *Holocene and Last Glacial Maximum TEX_{86} and *Globigerinoides ruber* Mg/Ca sea surface temperatures from the Eastern Equatorial Pacific*. AGU Fall Meeting, San Francisco, CA, 2012.
- (5) **†Hertzberg, J.E.**, M. W. Schmidt, and P. Chang. *Impact of abrupt deglacial climate change on tropical Atlantic subsurface temperatures*. COMPARE Workshop on Comparing Ocean Models with Paleo-Archives, University of Bremen, Bremen, Germany, 2012.
- (4) **Hertzberg, J. E.**, P. Chang, M. W. Schmidt, L. Ji, and B. L. Otto-Bliesner. *Modeling the response of tropical North Atlantic subsurface temperatures to AMOC variability under LGM boundary conditions*. AGU Fall Meeting, San Francisco, CA, 2011.
- (3) Schmidt, M. W., **J. E. Hertzberg**, T. R. Them, A. O. Parker, and P. Chang. *Deglacial subsurface temperature change in the tropical North Atlantic linked to Atlantic meridional overturning circulation variability*. AGU Fall Meeting, San Francisco, CA, 2011.
- (2) **Hertzberg, J. E.** and M. W. Schmidt. *Quantifying the $[Ba^{2+}]$: $\delta^{18}O_{SEAWATER}$: surface salinity relationship in the Eastern Equatorial Pacific*. V. M. Goldschmidt Conference, Prague, Czech Republic, 2011.
- (1) **Hertzberg, J. E.**, D. E. Black, L. C. Peterson, R. C. Thunell, and G. H. Haug. *The tropical Atlantic response to abrupt climate change during Interstadial 12*. AGU Fall Meeting, San Francisco, CA, 2010.

SERVICE TO THE COMMUNITY

PROPOSAL REVIEWER

NSF Marine Geology and Geophysics Core Program, NSF Paleo Perspectives on Climate Change (P2C2), Netherlands Organisation for Scientific Research (NWO)

MANUSCRIPT REVIEWER

Nature, Nature Geoscience, Nature Communications, Paleoceanography and Paleoclimatology, Geochimica et Cosmochimica Acta, Earth and Planetary Science Letters, Geophysical Research Letters, Geochemistry Geophysics Geosystems, Marine Micropaleontology, Biogeosciences, Journal of Geophysical Research – Oceans, Boreas, Palaeogeography Palaeoclimatology Palaeoecology, Journal of Climate

AGU PALEOCEANOGRAPHY & PALEOCLIMATOLOGY (PP) FOCUS GROUP

2016 – present **Fall Meeting Program Committee member**
2016 – 2018 **Assistant Secretary**
2017 – present **Member, selection committee for Elderfield Student Paper Award**
2015 – present **Early Career Representative**
2013 – 2015 **Student Representative**
Program Committee Member for 2015 American/Canadian Geophysical Union Joint Assembly
Program Committee Member for 2013 AGU Fall Meeting

SERVICE FOR THE AMERICAN GEOPHYSICAL UNION

Session Convener – AGU Fall Meeting 2019
The 100s of CO₂ Centennial Session
The climate/ocean time machine: Unconstrained exploration of Earth and its climate
Paleoceanography and Paleoclimatology General Contributions
Session Convener – AGU Fall Meeting 2018
Paleoceanography and Paleoclimatology General Contributions (Poster session)
Session Convener – AGU Fall Meeting 2017
Climate, Carbon Cycle, and Biogeochemical Reconstructions from the Eastern Tropical Pacific (Oral and Poster sessions)
Paleoceanography and Paleoclimatology General Contributions (Poster session)
AGU Student and Early Career Leaders Group member, 2015 – present

DEPARTMENTAL SERVICE AND OUTREACH

Post-Doctoral Advisory Board, founding member, Old Dominion University, 2017 - present
Led workshop on Introduction to Ocean Data View, Old Dominion University, February 2018
Blue Crab Bowl (National Ocean Sciences Bowl competition) volunteer, 2018
Paleo-Nutrients bi-weekly paper discussion seminar organizer, UConn Avery Point
Oceanography Graduate Council, Texas A&M University, 2010 – 2015; *President 2013 to 2015*
Bay Scallop Bowl judge (National Ocean Sciences Bowl competition), 2010
Graduate Programs Committee, Student Representative, Stony Brook University, 2009 – 2010

FIELD EXPERIENCE

- 2013** NOAA Ship *Ron Brown* (22 days) – North Atlantic (Reykjavik, Iceland to Funchal, Portugal), Cruise RB1304: A16N GO-SHIP/CO₂ Repeat Hydrography Cruise, Leg 1; Shipboard CFC, SF₆, and N₂O analyst assistant, CTD sampling.
- 2012** R/V *Marcus Langseth* (27 days) – Line Islands Ridge (Honolulu, HI to Honolulu, HI), Cruise MGL1208: Line Islands geophysical survey and sediment coring cruise; Planktonic foraminifera biostratigraphy and sediment core curating.
- 2010** R/V *Melville* (27 days) – Eastern Tropical Pacific (Puntarenas, Costa Rica to Arica, Chile), Cruise MV1014: ²³⁰Th dynamics in the Eastern Equatorial Pacific Ocean; Water sampling, sediment coring, core descriptions, core curating, geophysical watch.
- 2010** R/V *Hermano Ginés* (2 days) – Cariaco Basin, Venezuela (Margarita Island to Margarita Island); Sediment trap recovery and deployment, sediment coring.
- 2009** R/V *Seawolf* (2 days) – Hudson Canyon, New York Bight (Atlantic City, NJ to Staten Island, NY); Sediment trap deployment.
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MEDIA INTERVIEWS

- July 2019 **NBS News:** *Climate scientists drive stake through heart of skeptics' argument.*
<https://www.nbcnews.com/mach/amp/ncna1033646>
- June 2018 **Nature:** *How a hobby can boost researchers' productivity and creativity.*
<https://www.nature.com/articles/d41586-018-05449-7>
- Nov 2017 **Mongabay:** *Should I stay, or should I go: is U.S. facing a climate scientist brain drain?* <https://news.mongabay.com/2017/11/should-i-stay-or-should-i-go-is-u-s-facing-a-climate-scientist-brain-drain/>
- Jan 2017 **AGU Eos:** *Data Illuminate a Mountain of Molehills Facing Women Scientists.*
<https://eos.org/features/data-illuminate-mountain-molehills-facing-women-scientists>
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PROFESSIONAL AFFILIATIONS

American Geophysical Union, Cushman Foundation for Foraminiferal Research, Earth Science Women's Network, Geological Society of America, Society for Women in Marine Sciences, PAGES Past Global Changes