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EDUCATION

- Ph.D., 1993, University of Washington, Seattle, WA.
Advisor: Peter D. Ward.
Thesis: "The extinction of the Inoceramidae and ecological change during the Maastrichtian."
- M.S., 1989, University of Washington, Seattle, WA.
Advisor: Peter D. Ward.
Research: The stratigraphic distribution of Maastrichtian inoceramids.
- B.A. (Magna Cum Laude), 1986, Williams College, Williamstown, MA, Geology (Highest Honors) and Biology.
Advisor: Markes E. Johnson.
Thesis: "The ecological zonation in an incipient carbonate formation, St. John, the U.S. Virgin Islands."

WORK EXPERIENCE

- 2022-2023 Fulbright Distinguished Chair, University of Birmingham
- 2011-present Professor, University of Missouri.
- 2005-2011 Associate Professor, University of Missouri.
- 1999-2005 Assistant Professor, University of Missouri.
- 1998 Visiting Assistant Professor, University of North Carolina, Chapel Hill.
- 1996-1997 Researcher Associate, University of Washington.
- 1993-1999 Smithsonian Fellow/Research Associate, Smithsonian Institution.
- 1991-1992 Instructor, University of Washington Extension College.
- 1987-1992 Research Assistant/Teaching Assistant, University of Washington.
- 1986-1987 Science Teacher, Landon Middle School, Bethesda, Maryland.

PROFESSIONAL ACTIVITIES/SERVICE/SOCIETIES:

- Fulbright Distinguished Scholar, University of Birmingham (2022-2023)
- Director MU Biogeochemistry Isotope Lab (2017 – present); co-director (2001-2017)
- Associate Editor- Geological Society of America Bulletin (2009-2017)
- IODP Distinguished Lecturer (2009-2010).
- Fellow Geological Society of America (2007)
- University Service- A&S Promotion and Tenure Committee (2013-2016); MU Faculty Council (2004-2010);
Advising Assessment Task Force (2008-2010); COI oversight panel (2007-2015); Undergraduate Research
Mentorship Program selection committee (2008-2013); many departmental committees.
- other service/activities/outreach- geologist for Columbia Public School Yellowstone Experience (2018);
broadcast from JOIDES Resolution (2017); primary and secondary school presentations (2001-2012);
reviewed Missouri K-12 science standards (2003-2004, 2008-2009); member various Ocean Drilling
Program Panels (2000-2005); shipboard scientist- ODP/IODP Expeditions 171B (1997), 192 (2000), 207
(2003), and 369 (2017); organized and chaired sessions at GSA, NAPC, workshops, reviewer for journals
and funding agencies.

COURSES TAUGHT:

- Themes- Mass Extinctions (introductory/survey, non-majors), Principles of Geology (introductory physical geology), Environmental Geology (introductory environmental geology), Age of Dinosaurs (non-majors,

sophomore level), Principles of Paleontology (advanced, majors), Sedimentary Facies and Environments (advanced, majors), Ancient Greenhouse Climate (graduate level), Geologic History of Atmospheric Oxygen Levels (graduate level), Geobiological stable isotope techniques (graduate level).

PUBLICATIONS

(in review)

- Jones, M.M., Sageman, B.B., Selby, D.S., Jacobson, A.D., Batenburg, S.J., Riquier, L., MacLeod, K.G., Huber, B.T., Bogus, K.A., Tejada, M.L.G., Kuroda, J., and Hobbs, R.W., 2022 (in review), Mid-Cretaceous ocean acidification link to massive volcanism, Nature Geoscience.
- Judd, E.J., Tierney, J.E., Huber, B.T., Wing, S.L., Lunt, D.J., Ford, 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., Henahan, M.J., Hupp, B.N., MacLeod, K.G., O'Connor, L.K., Montes, M.L.S., Song, H., and Zhang, Y.G., 2022 (resubmitted), The PhanSST global database of Phanerozoic sea surface, Scientific Data.
- Matsumoto, H., Shirai, K., Huber, B.T., MacLeod, K.G., Kuroda, J., 2022 (in review), High-resolution marine osmium and carbon isotopic record across the Aptian–Albian boundary at the southern Atlantic Ocean: implication for the enhanced continental weathering and the acidified oceanic condition during OAE1b, Global and Planetary Change.

(published/accepted)

- Petrizzo, M.R., Amaglio, G., Watkins, D.K., MacLeod, K.G., Huber, and Hasegawa, T., 2022 (in press), Biotic and paleoceanographic changes across the Late Cretaceous Oceanic Anoxic Event 2 in the southern high latitudes (IODP Sites U1513 and U1516, SE Indian Ocean), Paleoceanography and Paleoclimatology, <https://doi.org/10.1029/2022PA004474>.
- Wolfgring, E., Petrizzo, M.R., MacLeod, K.G., Huber, B.T., and Watkins, D.K., 2022 (in press), Santonian deep sea benthic foraminifera from IODP Site U1513, Mentelle Basin (SW Australia): Reactions of benthic foraminiferal assemblages to surface water cooling at southern high latitudes, Marine Micropaleontology, <https://doi.org/10.1016/j.marmicro.2022.102152>.
- Fan, Q., Xu, Z., MacLeod, K.G., Li, T., Chang, F., Wan, S., Riquier, L., Brumsack, H.-J., Duan, B., Chen, H., Wang, W., Lim, D., 2022 (in press), First record of oceanic anoxic event 1d at southern high latitudes: Sedimentary and geochemical evidence from International Ocean Discovery Program Expedition 369, Geophysical Research Letters, 49, e2021GL097641, <https://doi.org/10.1029/2021GL097641>.
- Edgar, K.M., MacLeod, K.G., Hasegawa, T., Hanson, E.M., Boomer, I., and Kirby, N., 2022, Data report: Cenozoic and Upper Cretaceous bulk carbonate stable carbon and oxygen isotopes from IODP Sites U1513, U1514 and U1516, Expedition 369 in the southwest Indian Ocean, IODP Initial Reports, v. 369, <https://doi.org/10.14379/iodp.proc.369.206.2022>.
- Petrizzo, M.R., MacLeod, K.G., Watkins, D.K., Wolfgring, E., and Huber, B.T., 2022, Late Cretaceous paleoceanographic evolution and the onset of cooling in the Santonian at southern high latitudes (IODP Site U1513, SE Indian Ocean), Paleoceanography and Paleoclimatology, 38 p., <https://doi.org/10.1029/2021PA004353>.
- Wudarska, A., Wiedenbeck, M., Słaby, E., Lempart-Drozd, M., Harris, C., Joachimski, M.M., Lécuyer, C., MacLeod, K.G., Pack, A., Vennemann, T., Couffignal, F., Feng, D., Glodny, J., Kusebauch, C., Mayanna, S., Roscholl, A., Speir, L., Sun, Y., Wilke, F., 2022, Inter-laboratory Characterisation of Apatite Reference Materials for Oxygen Isotope Analysis, Geostandards and Geoanalytical Research, <https://doi.org/10.1111/ggr.12416>.
- Huber, B.T., Tur, N.A., Self-Trail, J., and MacLeod, K.G., 2022, Calcareous plankton biostratigraphic fidelity and species richness during the last 10 m.y. of the Cretaceous at Blake Plateau, subtropical North Atlantic, Cretaceous Research, <https://doi.org/10.1016/j.cretres.2021.105095>.
- Lam, A.R., MacLeod, K.G., Schilling, S.H., Leckie, R.M., Fraas, A.J., Patterson, M.O., and Venti, N.L., 2021, Pliocene to earliest Pleistocene (5-2.5 Ma) reconstruction of the Kuroshio Current Extension reveals a dynamic current, Paleoceanography and Paleoclimatology, v. 36, e2021PA004318, <https://doi.org/10.1029/2021PA004318>.
- Petrizzo, M.R., Watkins, D.K., MacLeod, K.G., Hasegawa, T., Huber, B.T., Batenburg, S.J., and Tomonori, K., 2021, Exploring the paleoceanographic changes registered by planktonic foraminifera across the

- Cenomanian-Turonian boundary interval and Oceanic Anoxic Event 2 at southern high latitudes in the Mentelle Basin (SE Indian Ocean), *Global and Planetary Change*, v. 206, art. no. 103595, <https://10.1016/j.gloplacha.2021.103595>.
- White, L.T., Forster, M.A., Tanner, D., Tejada, M.L.G., Hobbs, R.W., and the 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*, in press, <https://doi.org/10.1080/08120099.2021.1963840>.
- MacLeod, K.G., White, L.T., Wainman, C.C., Martinez, M., Jones, M.M., Batenburg, S.J., Riquier, L., Haynes, S.J., Watkins, D.K., Bogus, K.A., Brumsack, H.-J., do Monte Guerra, R., Edgar, K.M., Edvardsen, T., Harry, D.L., Hasegawa, T., Hobbs, R.W., Huber, B.T., Jiang, T., Kuroda, J., Lee, E.Y., Li, Y.-X., Maritati, A., O'Connor, L.K., Petrizzo, M.R., Quan, T.M., Richter, C., Tagliaro, G.T., Tejada, M.L.G., Wolfgring, E., Xu, Z., 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, (invited), <https://doi.org/10.1016/j.gr.2020.01.009>.
- Haynes, S.J., MacLeod, K.G., Ladant, J.-B., Vande Guchte, A., Rostami, M.A., Poulsen, C.J., and Martin, E.E., 2020, Constraining sources and relative flow rates of bottom waters in the Late Cretaceous Pacific Ocean, *Geology*, v. 48, p. 509-513, <https://doi.org/10.1130/G47197.1>.
- Ladant, J.-B., Poulsen, C.J., Fluteau, F., Tabor, C.R., MacLeod, K.G., Martin, E.E., Haynes, S.J., and Rostami, R.A., 2020, Paleogeographic controls on the evolution of Late Cretaceous ocean circulation, *Climate of the Past*, v. 16, p. 973-1006, <https://doi.org/10.5194/cp-16-973-2020>.
- Huber, B.T., Petrizzo, M.R., and MacLeod, K.G., 2020, Planktonic foraminiferal endemism at southern high latitudes following the terminal Cretaceous extinction, *Journal of Foraminiferal Research*, v. 50, p. 382-402, <https://doi.org/10.2113/gsjfr.50.4.382>.
- Vahlenkamp, M., De Vleeschouwer, D., Batenburg, S.J., Edgar, K.M., Hanson, E., Martinez, M., Pälke, H., MacLeod, K.G., Li, Y.-X., Richter, C., Bogus, K., Hobbs, R.W., Huber, B.T., and Expedition 369 Scientific Participants, 2020, An astrochronology for the lower to middle Eocene of the Mentelle Basin (Australia) and its implications for the geologic time scale, *Earth and Planetary Science Letters*, v. 529, p. 115865, <https://doi.org/10.1016/j.epsl.2019.115865>.
- Petrizzo, M.R., Huber, B.T., Falzoni, F., and MacLeod, K.G., 2020, Changes in biogeographic distribution patterns of southern mid- to high latitude planktonic foraminifera during the Late Cretaceous hot to cool greenhouse climate transition, *Cretaceous Research*, v. 115, p. 104547, <https://10.1016/j.cretres.2020.104547>.
- Lee, E.Y., Wolfgring, E., Tejada, M.L.G., Harry, D.L., Wainman, C.C., Chun, S.S., Schnetger, B., Brumsack, H.-J., Maritati, A., Martinez, M., Richter, C., Li, Y.-X., Riquier, L., MacLeod, K.G., Waller, T.R., Borissova, I., Petrizzo, M.R., Huber, B.T., Kim, Y., and 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, <https://doi.org/10.1016/j.gr.2019.12.007>.
- Quan, T.M. and IODP Expedition 369 Science Party, 2019, Data report: Isotopic records for carbonate and organic fractions from IODP Expedition 369, Site U1515, Hole A, *IODP Initial Reports*, v. 369.
- Ferguson, K., MacLeod, K.G., Landman, N.H., and Sessa, J.A., 2019, Evaluating growth and ecology in baculitid and scaphitid ammonites using isotopic composition, *Palaios*, v. 34, p. 317-329, <https://doi.org/10.2110/pal0.2019.005>.
- Warny, S., Jarzen, D.M., Haynes, S.J., MacLeod, K.G., and Huber, B.T., 2019, Late Cretaceous (Turonian) angiosperm pollen from Tanzania: A glimpse of past vegetation from a warmer climate, *Palynology*, v. 42, p. 608-620, <https://doi.org/10.1080/01916122.2018.1477850>.
- Wainman, C., Borissova, I., Harry, D.L., Hobbs, R.W., Mantle, D.J., Maritati, A., Lee, E.Y., and IODP Expedition 369 Science Party, 2019, Evidence for non-marine Jurassic to earliest Cretaceous sediments in the pre-breakup section of the Mentelle Basin, southwestern Australia, *Australia Journal of Earth Sciences*, <https://doi.org/10.1080/08120099.2019.1627581>.
- MacLeod, K.G., Quinton, P.C., Sepúlveda, J., and Negra, H., 2018, Post-impact earliest Paleogene warming shown by fish debris oxygen isotopes (El Kef, Tunisia), *Science*, v. 360, p. 1467-1469, <https://doi.org/10.1126/science.aap8525>.
- Evans, K.R., McKenna, L.W. III, Lieberman, B.S., Weichert, W.D., and MacLeod, K.G., 2018, Geology of the Nelson Limestone, Postel Nunatak, Patuxent Range, Antarctica, *Antarctic Science*, v. 30, p. 29-43, <https://doi.org/10.1017/S0954102017000396>.

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- Huber, B.T., Hobbs, R.W., Bogus, K.A., Batenburg, S.J., Brumsack, H.-J., Do Monte Guerra, R., Edgar, K.M., Edvardsen, T., Harry, D.L., Hasegawa, T., Haynes, S.J., Jiang, T., Jones, M.M., Kuroda, J., Lee, E.Y., Li, Y.-X., MacLeod, K.G., Maritati, A., Martinez, M., O'Connor, L.K., Petrizzo, M.R., Quan, T.M., Richter, C., Riquier, L., Tagliaro, G.T., Tejada, M.L.G., Wainman, C.C., Watkins, D.K., White, L.T., Wolfgring, E., Xu, Z., 2018, Tectonic, paleoclimate, and paleoceanographic history of high-latitude southern margins of Australia during the Cretaceous, Integrated Ocean Drilling Program: Preliminary Reports, v. 369, p. 1-39.
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- MacLeod, K.G., Quinton, P.C., and Bassett, D.J., 2017, Warming and increased aridity during the earliest Triassic in Karoo Basin, South Africa, *Geology*, v. 45, p. 483-486, <https://doi.org/10.1130/G38957.1>.
- Wright, Z.A., Quinton, P.C., Martin, E.E., Leslie, S.A., MacLeod, K.G., and Herrmann, A.D., 2017, Neodymium isotope ratios and a positive $\delta^{13}\text{C}$ excursion: connecting oceanographic and climate changes during the early Late Ordovician of Laurentia, *Stratigraphy*, v. 14, p. 443-456.
- Haynes, S.J., MacLeod, K.G., Huber, B.T., Warny, S., Kaufman, A.J., Pancost, R.D., Jiménez Berrocoso, Á., Petrizzo, M.R., Watkins, D.K., and Zhelezinskaia, I., 2017, Depositional environments, marine and terrestrial links, and exceptional preservation in the Turonian of southeastern Tanzania. *Geological Society of America Bulletin*, v. 129, p. 515-533, <https://doi.org/10.1130/B31432.1>.
- Huber, B.T., Petrizzo, M.R., Watkins, D.K., Haynes, S.J., and MacLeod, K.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, p. 141-185, <https://doi.org/10.1127/nos/2017/0373>.
- Petrizzo, M.R., Jiménez Berrocoso, Á., Falzoni, F., Huber, B.T., and MacLeod, K.G., 2017, The Coniacian-Santonian sedimentary record in southern Tanzania (Ruvuma Basin, East Africa): Planktonic foraminiferal evolutionary, geochemical and palaeoceanographic patterns, *Sedimentology*, v. 64, p. 252-285, <https://doi.org/10.1111/sed.12331>.
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- Quinton, P.C., Percival, I.G., Zhen, Y.-Y., and MacLeod, K.G., 2015, Factors influencing conodont apatite $\delta^{18}\text{O}$ variability in the Ordovician: a case study from New South Wales, Australia, Stratigraphy, v. 12, p. 265-274.
- Ando, A., Huber, B.T., MacLeod, K.G., and Watkins, D.K., 2015, Early Cenomanian “hot greenhouse” revealed by oxygen isotope record of exceptionally well-preserved foraminifera from Tanzania, Paleoceanography, v. 30, p. 1556-1572, <https://doi.org/10.1002/2015PA002854>.
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- Huber, B.T., MacLeod, K.G. and Wing S. (eds.), 2000, Warm climates in Earth History, Cambridge University Press, Cambridge, 462p.

(other)

- Contributions to ~30 non-refereed Initial Reports chapters and related articles reporting initial findings of ODP Legs 171B, 192, and 207 and of IODP Expedition 369.
- National coverage of findings concerning regional warming in the North Atlantic during the Maastrichtian (2005); international coverage of study of the K/Pg boundary on Demerara Rise (2006-2007); international coverage of study of the K/Pg boundary review paper (2010); international coverage of study demonstrating circulation changes in the North Atlantic during the Maastrichtian (2011), national coverage of study addressing carbon cycling during the Late Ordovician (2016), international coverage of study demonstrating post-impact warming across the K/Pg boundary in North Africa (2018), national coverage of study addressing strength of the Kuroshio Current Extension (2021).

ADVISING/MENTORING

post-docs

- Gouwy, Sofie Annie (2010-2012, Università di Modena e Reggio Emilia, Italy),
Jiménez-Berrosco, Álvaro (2006-2009, University of the Basque Country, Bilbao, Spain).

graduate students- primary advisor

- Suenarso, Dita (present, Ph.D. [Fulbright Scholar]), University of Missouri
Savoie, Rachel (present, M.S.), University of Missouri
Graham, Emily (present, M.S.), University of Missouri

Haynes, Shannon (2019- Ph.D.), University of Missouri
Speir, Laura (2019, M.S.), University of Missouri
Ferguson, Katherine (2017- M.S.), University of Missouri
Quinton, Page (2016- Ph.D.), University of Missouri
Haynes, Shannon (2012- M.S.), University of Missouri
Quinton, Page (2012- M.S.), University of Missouri
Putman, Kelsey (2011- M.S.), University of Missouri
Isaza-Londoño, Carolina (2009- Ph.D.) University of Missouri
Lepley, Scott (2009- Ph.D.) University of Missouri
Basnett, Daniel (2005- M.S.) University of Missouri
Isaza-Londoño, Carolina (2004- M.S.), University of Missouri
Bassett, Damon (2003- M.S.), University of Missouri
Krueger, Diane M. (2002- Ph.D.), University of Missouri

graduate students- committee member

Suenarso, Dita [Fulbright Scholar]), University of Missouri
Boehm, Hadley (present- Ph.D.), University of Missouri,
Speir, Laura (present- Ph.D.), University of Missouri,
Epa, Ranjeev (2022- Ph.D.), University of Missouri,
Jacobs, Gabriel (2022- Ph.D.), University of Missouri,
Edge, Kenny (2022- M.S.), University of Missouri,
Broce, Jesse (2017- Ph.D.), University of Missouri,
Hale, Kelly (2016- M.S.), University of Missouri,
Beaudoin, Claire (2014- M.S.), University of Missouri,
Nicholson, Brooke (2013- M.S.), University of Missouri,
Senefeld, Laura (2013- M.S.), University of Missouri,
Rosania, Corinne (2010- M.S.), University of Missouri (Anthropology).
Judd, Amy (2005- M.S.), University of Missouri (Anthropology).
Formolo, Mike (2004- Ph.D.), University of Missouri,
Bates, Steve (2004- M.S.), University of Missouri,
Shim, MooJoon (2004- M.S.), University of Missouri.
Johnson, Aaron (2003- Ph.D.), University of Missouri.
Bright, Cammy (2002- M.S.), University of Missouri.
Zwiebel, Jennifer (1999- M.S.), University of Washington.
Maestas, Yvette (1998- M.S.), University of Washington.

undergraduate students- lab workers, independent study, and/or senior theses

Laura Scoville (2021-2022), Louie Lovelace (2018-2021), Melissa Menghini (2021), Nick Gilbert (2016-2017),
Gretchen O'Neil (2013), Randall Bonnell (2011), Andy Moen (2010-2011), Matt Burger (2009), Martin
Krueger (2009), Jacob Masters (2009), Aaron Boynton (2006-2007), Rebecca Dodds, (2005-2006), Eric
Livingston (2005), Elyn Potter (2005), Patrick Stanley (2001-2004), Rachel Lee (2003-2004), Howard Davis
(2004), Nikki Cruise (2000-2002)

high school intern- Nicole Ridgewell (2007)

GRANTS/EXTRAMURAL EFFORTS

Collaborative Research: Evaluating Climate Change and Kill Mechanisms Associated with the End-Cretaceous Mass Extinction: A Model-Data Comparison Approach, 2020, National Science Foundation, 2020, 3 years, ~\$2,400,000 (MU portion ~\$380,000), (PI).

Drilling the Agulhas Plateau and Transkei Basin to reconstruct the Cretaceous - Paleocene Tectonic and Climatic evolution of the Southern Ocean Basin, proposal 834-full2, scheduled February-April 2022, International Ocean Discovery Program (a lead proponent, 1 of 12).

Documentation of isotopic values and trends for Cretaceous and Paleogene samples from the Mentelle Basin and Great Australian Bight (IODP Expedition 369, Australia Cretaceous Climate and Tectonics), 2017, International Ocean Discovery Program (IODP), 3 years, \$60,000, (PI).

Tectonic, paleoclimatic and paleoceanographic history of the Mentelle Basin and Naturaliste Plateau at southern high latitudes during the Cretaceous, proposal 760-full2, International Ocean Discovery Program, drilled September-November, 2017, International Ocean Discovery Program (a lead proponent, 1 of 4).

Faculty International Travel (MU), 2015, University of Missouri, Research Council, funds to intend a by-invitation workshop on Mesozoic paleoclimatology “Climates of the past - lessons for the future” Ascona, Switzerland, \$1,500.

Collaborative Research: Testing the early Late Ordovician Cool Water Hypothesis, 2013, National Science Foundation, 3 years, ~\$470,000 (MU portion ~\$225,000), (PI).

Collaborative Research: Constraining sources and circulation patterns of intermediate and deep waters during the Late Cretaceous greenhouse, 2013, National Science Foundation, 3 years, ~\$560,000 (MU portion ~\$165,000), (PI).

Cretaceous Greenhouse Climate: Deep Ocean Circulation Patterns and Temperature Trends, 2012, University of Missouri Research Council, \$7,500 (PI).

The tropical temperature history of the Cretaceous greenhouse interval inferred from Tanzanian 'glassy' foraminifera, supplemental request, 2009, National Science Foundation, 1 year, ~\$57,000 (PI).

Collaborative Research: The tropical temperature history of the Cretaceous greenhouse interval inferred from Tanzanian 'glassy' foraminifera, 2007, National Science Foundation, 3 years, ~\$460,000 (MU portion ~\$225,000), (PI).

Collaborative Research: Tracking North Atlantic water column structure and circulation through the Late Cretaceous using oxygen and neodymium isotopes in fish debris, 2007, National Science Foundation, 3 years, ~\$290,000, (MU portion ~\$140,000), (PI).

Generating a 500-year-long record of Missouri climate, 2006, University of Missouri Research Board, 2 years, ~\$26,000, (PI).

Generation of a Late Cambrian-Early Carboniferous conodont-based $\delta^{18}\text{O}$ curve: Paleozoic climates, phosphate $\delta^{18}\text{O}$ diagenesis, and conodont paleobiology, 2006, National Science Foundation, 3 years, ~\$125,000, (PI).

The University of Missouri conodont collection and database effort, 2006, National Science Foundation, 3 years, ~\$175,000, (PI).

Investigating Late Cretaceous oxygen levels, benthic ecology, and organic carbon burial using samples from the tropical western Atlantic, 2004, University of Missouri Research Council, \$7,500 (PI).

Late Cretaceous paleoceanographic implications of the Maastrichtian geochemical, paleontological, and sedimentological record on Demerara Rise, 2003, United States Science Advisory Council, 1 year, ~\$24,000 (+ ~\$26,000 related to Leg participation) (PI).

Investigating ancient greenhouse climates using exceptionally well preserved fossils from Tanzania, 2003, MU Research Council, 1 year, \$3,720 (PI).

Collaborative Research: Short-term Paleoceanographic Variation and Foraminiferal responses in the Maastrichtian Subtropics, 2002, National Science Foundation, 3 years, ~\$160,000 (MU portion ~\$155,000) (PI).

- Stable isotopic analyses of Campanian-Maastrichtian microfossils and implications for Late Cretaceous paleoceanography, 2001, United States Science Advisory Council, 1 year, ~\$31,000 (+ ~\$24,000 related to Leg participation) (PI).
- Request to Obtain Carbonate Device for new IRMS System, 2000, UM Research Board, 1 year, ~\$53,000 (co-PI).
- Acquisition of a Multi-use Isotope Ratio Mass Spectrometer System, 2000, National Science Foundation, 1 year, ~\$130,000 (co-PI).
- Acquisition of a Multi-use Isotope Ratio Mass Spectrometer System, 2000, MU Prime Fund, 1 year, ~\$90,000 (co-PI).
- Maastrichtian foraminiferal and paleoceanographic changes on Milankovitch time scales, 1999, University of Missouri Summer Research Fellowship, 1 year, ~\$3,500 (PI).
- Dissecting REE patterns in hemipelagic sediments, 1999, University of Missouri Research Board, 2 years, ~\$34,000 (PI).
- Investigation of depth related differences in the expression of Late Cretaceous paleoceanographic changes at ODP Sites 1049, 1050, and 1050 using integrated paleontological, geochemical, and sedimentological data, 1997, United States Science Advisory Council, 1 year, ~\$23,000 (+ ~25,000 related to Leg participation) (PI).
- Bio- and chemostratigraphy across the Permo-Triassic extinction interval in the Karoo Basin of South Africa, 1996, University of Washington Royalty Research Fund, \$44,000, 1 year, (co-PI).
- Tethyan paleoceanography during the Santonian-Maastrichtian, 1994, Smithsonian Research Initiative "Ecosystem History and Global Change", 1 year, \$28,000, (co-PI).
- Investigation of the Late Cretaceous "Greenhouse" climate, 1994, Smithsonian Institution's Walcott Fund, \$14,000, 1 year, (co-PI).
- The extinction of the Inoceramidae and Campanian-Maastrichtian Paleoceanography, 1992, National Science Foundation, 2 years, \$100,000 (co-written with PI).
- Inoceramid disappearance in the Pacific and Indian Oceans, 1991, Geological Society of America, 1 year, \$1435 (PI).
- Molluscan biostratigraphy at Cretaceous/Tertiary boundary sections, Western Europe, a renewal, 1989, National Science Foundation, 2 years, \$90,000 (co-written with PI).