

CURRICULUM VITAE—RONALD E. MARTIN—NOVEMBER, 2019

EDUCATION

University of California, Berkeley, Department of Zoology	1976-1981
(Ph.D. dissertation: Adhesion and locomotion in the marine amoeba <i>Paramoeba pemaquidensis</i> Page)	
University of Washington, Friday Harbor Laboratory	1976 (summer)
University of California, Berkeley, Department of Paleontology	1975-1976
University of Florida, Gainesville	Geology M.S., 1975
Bowling Green State University (Ohio)	Geology B.S., 1973
(<i>summa cum laude</i> and outstanding Geology senior undergraduate)	(Biology Minor, Concentration in Paleobiology)

EXPERIENCE

2014	Invited Visiting Professor, Université de Lille, Géosystèmes UFR des Sciences de la Terre, France
1985-present	Assistant, Associate, Full Professor of Geological Sciences, University of Delaware
1981-1985	Biostratigrapher, Unocal (Houston, TX): Biostratigraphic and paleoenvironmental analysis of well samples; Integration of biostratigraphic, well-log, and seismic data into exploration models of Neogene outer shelf and upper continental slope sequences; "well-sitting" to prevent blowouts.
1976-1981	Teaching Assistant and Associate in Cytology, Invertebrate Zoology, and Protozoology.

RESEARCH INTERESTS

The formation of fossil assemblages (taphonomy), especially those of microorganisms, and their use in deciphering past climate and sea-level change. Phytoplankton evolution and diversification of the marine biosphere. Microfossils as bioindicators. Paleocology and stratigraphy. Geology as a historical science.

POST-GRADUATE AND CONTINUING EDUCATION

2018	CANVAS workshop, University of Delaware
2018	Re-Engineering Large Introductory Classes, University of Delaware
2011	Teaching Writing Across the Curriculum. University of Delaware Writing Workshop.
2009	Teaching Paleontology in the 21 st Century. NSF-NGTA Workshop. Cornell University.
1999	Teaching Earth System History: A Computer-Assisted Approach. Geological Society of America Annual Meeting, Denver, Colorado, October 24. Short Course on Paleosols (Gregory Retallack, U. Oregon), Delaware Geological Survey, October 14-15.
1995	Climate Model Applications in Paleoenvironmental Analysis, SEPM Congress, St. Petersburg, Florida. August 13.
1989	Integrated Stratigraphic Analysis. American Association of Petroleum Geologists Annual Convention, San Antonio, Texas, April 22.
1988	Short Course on Quantitative Biostratigraphy sponsored by Society of Economic Paleontologists and Mineralogists, North American Micropaleontology Section - American Association of Petroleum Geologists Annual Convention, Houston, Texas, March 19-20.
1986	Statistics for Earth Sciences - Geology 657. University of Delaware, Newark, Spring Semester, 1986.
1984	Applied Geophysics for Geologists. University of Houston, Texas, May 14-25.
1983	Seismic Stratigraphy: Its Role as an Exploration Tool. American Association of Petroleum Geologists Continuing Education Program, Houston, Texas, May 6.
1982	Practical Geophysics for Geologists. Professional Seminar Group, Houston, Texas, September 23-24.

RECENT COURSES TAUGHT

Geology 110—Earth's Evolving Systems
Geology 304---Sedimentology and Stratigraphy
Geology 307—Paleobiology
Geology 308—History of Earth Systems
Environmental Science 425—Field Methods
Geology 605—Graduate Course in Stratigraphy
Geology 4XX/6XX—Paleoecology and Taphonomy; Petroleum Geology (with J. Madsen)
Graduate seminars (topics vary)

COURSES TAUGHT PRIOR TO APPROXIMATELY YEAR 2000 (of those I can remember)

- Geology 105—Physical Geology (primarily for non-science majors)
- Geology 107—Physical Geology (primarily for science majors)
- Geology 108—Historical Geology
- Geology 113—Earth Science
- Geology 244—Earth and Life Through Time (or something like that)—for non-majors
- Geology 402—History of the Earth
- Geology 4XX—Geowriting (with J. C. Kraft)
- Geology 6XX—Topics varied: Paleooceanography; Paleoenvironmental Analysis; Quaternary Environmental Micropaleontology)
- Geology 801—Graduate seminars Topics vary (Topics varied: Self-organization and chaos theory; modern carbonate environments; others)
- Geology 818—Advanced Micropaleontology

CURRENT SOCIETY MEMBERSHIPS

- American Association of Petroleum Geologists
- Geological Society of America
- Paleontological Society
- Society for Sedimentary Geology (SEPM)—National and North American Micropaleontology (NAMS) sections

PROFESSIONAL ACTIVITIES AND RECOGNITION

- 2018 Invited speaker, Insight '36 *Scientific American* Cruise: "Western Science Meets Eastern Culture" (Six lectures to be delivered on the history of the Earth and life)
- 2018 Invited keynote speaker, "Microorganism evolution and interaction with biogeochemical cycles and climate", International Paleontological Congress, Paris, France
- 2014 Invited Visiting Professorship. Université de Lille, France.
- 2014 Invited to join Editorial Board as Associate editor of *Frontiers in Paleoecology* (a section of *Frontiers in Ecology and Evolution*, launched in 2007 as a grassroots initiative by scientists of the Swiss Federal Institute of Technology (EPFL).
- 2014 *Scientific American* article published in French (*Pour la Science*), German (*Spektrum der Wissenschaft*), Spanish and Japanese sister publications
- 2014 Invited speaker. Northeast Section Geological Society of America Topical Session T14 March XX: An Interdisciplinary Approach to Taphonomy: The Impact of Morphological, Molecular, and Isotopic Changes on Environmental Proxies (SEPM Society for Sedimentary Geology) March XX: "Taphonomy, Phytoplankton Evolution, and the Fossil Record of Marine Biodiversity".
- 2013 Invited speaker. Geological Society of America Topical Session T296: Recent Advances in the Nature of the Mesozoic Marine Revolution (Paleontological Society) October 29: "Is the Meso-Cenozoic Marine Revolution an Analog for Biodiversification During the Late Neoproterozoic?"
- 2013 Le phytoplankton moteur de l'évolution. *Pour la Science* (French version of *Scientific American* article). October
- 2013 Las plantas microscópicas que ayudaron a repoblar la Tierra, *La Tercera* (Chilean Newspaper), Sunday August 24 edition, p. T22, based on *Scientific American* article
- 2013 Radio interview, June 5: Carl Wolfson's Carl InThe Morning Show (based in Portland, Oregon): Science Wednesday about *Scientific American* article (June 2013 cover story), "Tiny Engines of Evolution: Tiny Plants That Once Ruled the Seas." <http://www.carlwolfson.com/archive>
- 2011 Co-Editor, *Geology and Geoarchaeology of the Black Sea Region: Beyond the Flood Hypothesis*. Geological Society of America Special Paper 473. 196p.
- 2011 Nominated for Excellence in Teaching Award, University of Delaware
- 2010 Invited seminar speaker, West Chester University
- 2009 Nominated for Excellence in Teaching Award, University of Delaware
- 2009 Co-Editor, Abstracts Volume and Co-chair, Program Committee, Geologic Problem Solving with Microfossils II, University of Houston. 73p.

2008-09 President, North American Micropaleontology Section (NAMS) of SEPM

2008 Technical Program Co-Chair, Microfossils II: Geologic Problem Solving with Microfossils, U. Houston

2007 President-Elect, North American Micropaleontology Section (NAMS) of SEPM

2007 Nominated for Excellence in Teaching Award, University of Delaware

2007 Plenary lecture, IGCP 521: Black Sea-Mediterranean Corridor During the Last 30 ky: Sea Level Change and Human Adaptation, Gelendzhik, Russia

2007 Invited speaker, Paleoecology Session, National Ecosystem Restoration Conference, Kansas City, MO

2005 Keynote speaker, GeoErlangen 2005, System Earth-Biosphere Coupling, University of Erlangen, Germany 2005

Invited speaker, IGCP521: Black Sea-Mediterranean Corridor During the Last 30 ky: Sea Level Change and Human Adaptation, Istanbul, Turkey.

2004 Keynote lecture, 4th International Conference of ISEMMM, Isparta, Turkey.

2003 Invited Speaker, Theme Session "Evolutionary and Ecological Links Between Terrestrial and Marine Ecosystems in the Phanerozoic." Geological Society of America Annual Meeting.

2002 Invited speaker, University of Kansas, Lawrence

2002 Plenary lecture, Taphos 2002: 3rd International Meeting on Taphonomy and Fossilization, Valencia, Spain

2002 Editor, *Environmental Micropaleontology: The Application of Microfossils to Environmental Geology* (Kluwer Academic/Plenum Press, NY). 481p.

2001 Invited chapter for *Paleobiology II: A Synthesis*. Blackwell

2001 Invited presentations for symposia at North American Paleontological Convention, Berkeley, CA: "Future of Micropaleontology: Application to Environmental Problems?" and "Spatial and Temporal Resolution of the Fossil Record"

2001 Invited Speaker--Cornell University

2000-02 Editor, *Journal of Foraminiferal Research*

1999 Co-editor of Taphonomy as an environmental science. Special issue *Palaeogeography, Palaeoclimatology, Palaeoecology*

1997 Best Paper Award, *Palaaios* (1996): "Secular increase in nutrient levels through the Phanerozoic: Implications for productivity, biomass, and diversity of the marine biosphere." *Palaaios* 11:209-219.

1997-2003 Associate Editor, *Palaaios*

1996 Keynote Speaker. SEPM/IAS Research Conference "Carbonates and Global Change: An Interdisciplinary Approach." Wildhaus, Switzerland

1995 Nominated for Excellence in Teaching Award, University of Delaware
Appointed Associate Editor, *Journal of Foraminiferal Research*

1994 Nominated for president of the North American Micropaleontology Section (NAMS) of SEPM
Nominated for best paper award in *Palaaios* (1992) with E. Kotler (M.S. student) & W. D. Liddell

1993 Invited paper "Graphic Expression of Plio-Pleistocene Sequence Boundaries." Geological Society of America Northeast Regional Meeting, Burlington, VT
Invited paper for Paleontological Society Short Course "Taphonomic Approaches to Time Resolution in Fossil Assemblages", (S. Kidwell and A. Behrensmeier, organizers), Geological Society of America Annual Meeting, Boston, MA.

1991 Invited editorial column "Beyond Biostratigraphy: Micropaleontology in Transition?" *Palaaios* 5:437-38.

1989 Nominated for Secretary, North American Micropaleontological Society (NAMS) of SEPM

1987 Established Undergraduate Concentration in Paleobiology

1976 Summer Fellowship in Zoology, University of Washington, Friday Harbor Laboratory

1975 Earle C. Anthony Fellowship, University of California at Berkeley Dept. of Paleontology

1974 Harbor Branch Foundation Fellowship, University of Florida

1973 University Fellowship, University of Florida

1973 Outstanding Senior Undergraduate in Geology, Bowling Green State University

1973 W. A. Tarr Award of Sigma Gamma Epsilon, Bowling Green State University Chapter

ADVISEES: COMMITTEE CHAIR OR POST-DOCTORAL SUPERVISOR (YEAR OF GRADUATION INDICATED)

- Current Al-Ali, Alanoud. Cretaceous carbonates of the Simsim Formation, United Arab Emirates (M.S.)
- Current Gardner, Kristina. An examination of the biostratigraphy across the Paleocene-Eocene boundary via palynological analysis off the coast of Delaware (M.S., with P. P. McLaughlin, co-advisor)
- Current Vincette, W. The Paleocene-Eocene Thermal Maximum in Delaware (M.S., with P. P. McLaughlin, co-advisor)
- 2019 Buchanan, T. Integrated stratigraphic analysis of a Miocene-age sandy shallow marine depositional system in southern Delaware (M.S., with P. P. McLaughlin, DGS, co-advisor)
- 2018 Fulton, M. Stratigraphic correlation of the heterogeneous Cretaceous-aged sediments of the Potomac Formation in New Castle County, Delaware through examination of core, well logs, and palynology of the Formation (M.S., with P. P. McLaughlin, DGS, co-advisor)
- 2016 Christie, M. Tentative Title: Microfossil and stratigraphic analysis of natural and anthropogenic impacts on the Christina River Basin During the last millennium. TBD (Ph.D., J. E. Pizzuto, co-advisor)
- 2015 Fischer, K. Tentative Title: Strontium isotope stratigraphy of the St. Marys and Choptank formations (middle Miocene), subsurface Delaware (M.S., with P. P. McLaughlin, DGS, co-advisor)
- 2013 Pelepko, S. Investigating paleoenvironmental and diagenetic controls on the skid resistance of carbonate construction aggregates mined from the Lower Cambrian Kinzers Formation in the West York 7.5-minute quadrangle, Pennsylvania. (M.S.).
- 2003-5 Leorri, E. (Post-Doc) Holocene environmental and parasequence development of the St. Jones estuary, Delaware
- 2005 Moskalski, S. Palynologic determination of historical sediment accumulation rates and paleoecological variation in marshes on the St. Jones River, Delaware (M.S.). 167pp.
- 2000 Hippensteel, S.P. Taphonomy of foraminifera and bioturbation in marshes: Implications for reconstructing paleoenvironments and resolving Holocene sea-level records. Ph.D dissertation. 222pp.
- 1999 Thiel, D.L. Analysis of foraminiferal assemblages to determine sea level curves in marsh environments. University Senior Honors Thesis. 18pp.
- 1996 Hippensteel, S.P. Foraminifera as an indicator of overwash deposits and barrier island sediment supply: Folly Beach, South Carolina (M.S.). 128pp.
- 1994 Fletcher, R. R. Comparative planktonic foraminiferal biostratigraphy and aminostratigraphy of the Colombia Basin and the Northeast Gulf of Mexico (Ph.D.). 580pp.
- 1993 Self-Trail, J. Late Pleistocene planktonic foraminiferal and calcareous nannofossil biostratigraphy and paleoecology of DSDP Site 606, Mid-Atlantic Ocean (M.S.). 261pp.
- 1992 Chen, P. Foraminiferal characterization of island slope sediments, Discovery Bay, Jamaica 222pp.
- 1990 Kotler, E. Experimental analysis of foraminiferal taphonomy: Implications for the formation of foraminiferal assemblages (M.S.), 150 p.
- 1988 Johnson, G. W. Pleistocene planktonic foraminiferal biostratigraphy and paleoecology, northeastern Gulf of Mexico (M.S.), 256 p.
- 1988 Spatz, B. Pliocene planktonic foraminiferal biostratigraphy and paleoceanography, northeast Gulf of Mexico (M.S.), 168 p.

ADVISEES: COMMITTEE MEMBER OR EXTERNAL REVIEWER

- Current Ackerman, T. Sediment storage time in a simulated meandering river (Ph.D., J.E. Pizzuto, Advisor)
- Current Walker, J. (M.S., M. O'Neal, Advisor)
- 2015 Khan, M.—Hydrogeology (Ph.D., H. Michael, Advisor)
- 2015 Pearson, A.—Fluvial sedimentation and dam removal (Ph.D., J.E. Pizzuto, Advisor)
- 2013 Smith, F.C. Search for shock-metamorphosed grains in Precambrian spherule layers (Ph.D., B.P. Glass, Advisor)
- 2013 Nebel, S. Coastal—Surficial and shallow sub-surface characterization of a rapidly retreating barrier island shoreface (Ph.D., A. Trembanis, Advisor)
- 2013 Singh, S. Plant and Soil Science--TBD (M.S., S. Inamdar, Advisor)
- 2012 Velez, C. Seismic imaging and hydrogeologic characterization of the Potomac Formation in northern New Castle County, Delaware (Ph.D.).
- 2009 Lowery, D. Geoarchaeological investigations and site formation processes associated with prehistoric archaeological sites on the Delmarva Peninsula (Ph.D.)

- 2007 Moskalski, S. Mechanisms of sediment deposition, erosion, and accumulation in marshes of the St. Jones River, Delaware (Ph.D.)
- 2008 Edwards, A. Holocene molluscan aminostratigraphy and time averaging in Chesapeake Bay sediments (M.S.) 107p.
- 2004 Pellerito, V. Development of an amino acid racemization database for coastal plain sites in North and South Carolina. (M.S.) 146p.
- 2004 Allmendinger, N. The influence of concave-bank floodplains on stream channel processes and morphology in the Mid-Atlantic Piedmont. (Ph.D.) 236p.
- 2003 Lindley, C.E. Milankovitch cycles, Atlantic heat transport, and the transition from 41 kyr to 100 kyr ice sheet cyclicity, College of Marine Studies (M.S.)
- 2003 Klingbeil, A. Late Holocene record of sediment accumulation in the Hudson River estuary, College of Marine Studies (M.S.)
- 2003 Lewicki, M. Forecasting change in stream morphology due to land use changes in Montgomery and Howard counties (Ph.D.).
- 2002 Schwendt, A. Numerical modeling of autocompaction of coastal wetland deposits at Wolfe Glade, Delaware (M.S.). 61p.
- 2001 Mallonee, J.D. A comparison of bed load transport within paired stream reaches of the Pennsylvania Piedmont (M.S.).
- 2001 Egan, J. The effect of removing Manatawny Dam on the morphology of Manatawny creek, PA. (M.S.)
- 2001 Davis, K.L. A guide for amino acid racemization sample selection based present on thin section analysis of Quaternary mollusks (Ph.D.).
- 2000 John, S. Wetland evolution in response to the Holocene marine present transgression in the Leipsic River Valley, Delaware (Ph.D.).
- 2000 Nikitina, D. Paleo-environmental changes and sea-level history of the present Leipsic River (Ph.D.).
- 2000 Keyser, T. Multiple Deformation of Part of the Baltimore Terrane, Towson Quadrangle, Maryland (M.S.).
- 2000 Liu, S. Correlation of Upper Eocene spherule layers and correlation of spherule layers with possible present source craters (Ph.D.).
- 1999 Ebrahim, M. T. H. E. Carbonate sedimentation and recent influence of human activity on Tarawa Atoll, Republic of Kiribati, South Pacific. Ph.D. Dissertation, Department of Geology, Victoria University of Wellington, New Zealand. 426 p. (External examiner)
- 1999 Harris, M. S. Influence of a complex geologic framework on Quaternary coastal evolution: An example from Charleston, S.C. (Ph.D.).
- 1999 Reed, J. The influence of bank vegetation type and stream size on stream present morphology (M.S.).
- 1999 Schwimmer, R. Sea-level rise, progradation, and shoreline erosion: A history of Horse Island marsh, Rehoboth Bay, Delaware. (Ph.D.).
- 1999 Vitek, D. Crustal and upper mantle structure of ridge-transform intersections at ultra-slow spreading rates: Constraints from gravity data (M.S.).
- 1996 Li, Chun, 1996. Foraminifera: Their Distribution and Utility in the Interpretation of Carbonate Sedimentary Processes Around Grand Cayman, British West Indies. Ph.D. Dissertation, Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, 187 p. (External examiner)
- 1996 Parcell, W. Depositional environments and facies changes of the Middle Jurassic Sawtooth and Piper Formations of southwestern Montana and north central Wyoming (M.S.).
- 1993 Bock, W. K. A paleoenvironmental interpretation of the late Pleistocene of Gomez Pit, Virginia, using the stable isotopes of oxygen and carbon. College of Marine Studies (M.S.).
- 1990 Burns, C. On using Australasian microtektites, the Brunhes/Matuyama reversal boundary, and a Be-10 anomaly to estimate the depth of acquisition of NRM in deep-sea sediments and the search for associated changes in the geological record (Ph.D.).
- 1990 York, L. L. Aminostratigraphy of the U.S. mid-Atlantic Pleistocene coastal plain: Norfolk, VA to Charleston, SC (Ph.D.).
- 1990 Johnson, B. The Pleistocene planktonic foraminiferal aminostratigraphy of site 625B in the northeast Gulf of Mexico (M.S.).
- 1986 Beasley, E. L. An investigation of man-induced environmental changes in Rehoboth Bay, Delaware, as

recorded by diatoms (M.S.).

PUBLICATIONS: BOOKS

- Martin, R.E. 2012. *Earth's Evolving Systems: The History of Planet Earth*. Jones and Bartlett Publishers, Burlington, MA. 698p. Development of the textbook included authorship of an Instructor's manual and participation in the development of online software ("The Layered Earth"). Second edition (2016).
- Martin, R.E. (Editor). 2000. *Environmental Micropaleontology*. Kluwer/Plenum Press. Dordrecht. Topics in Geobiology Series. 459p. (Invited by Kluwer/Plenum)
- Martin, R.E. 1999. *Taphonomy: A Process Approach*. Cambridge University Press. 508p. (Invited by CUP; Reviewed by Flessa, K. 1999. Learning from the Dead. *Science* 288:1971-1972).
- Martin, R.E. 1998. *One Long Experiment: Scale and Process in Earth History*. Columbia University Press, New York. 262p. (Perspectives in Paleobiology Series).

PUBLICATIONS: JOURNAL ARTICLES, CONFERENCE PROCEEDINGS, ETC.

- Martin, R. E., and Servais, T. 2019. Review: Did phytoplankton evolution fuel the diversification of the marine biosphere? *Lethaia*. <https://doi.org/10.1111/let.12343>
- Servais, T., Martin, R. E., and Nützel, A. 2016. The impact of the 'terrestrialisation process' in the late Palaeozoic: $p\text{CO}_2$, $p\text{O}_2$, and the phytoplankton blackout. *Rev. Palaeobot. Palynol.*, 224, 26-37.
- Servais, T., Perrier, V., Danelian, T., Klug, C., Martin, R., Munnecke, A., Nowak, H., Nützel, A., Vandenbroucke, T., Williams, M., and Rasmussen, C.M.Ø. 2016. The onset of the 'Ordovician Plankton Revolution' in the late Cambrian. *Palaeogeogr., Palaeoclimatol., Palaeoecol.* 458, 12-28.
- Allmon, W.D. and Martin, R. E. 2014. Seafood through time revisited: The Phanerozoic increase in marine trophic resources and its macroevolutionary consequences. *Paleobiology* 40: 256-287.
- Martin, R. E. 2013. The history of Gulf Coast micropaleontology: from biostratigraphy to chronostratigraphy. In Bowden, A. et al. (Ed.). *Landmarks in Foraminiferal Micropalaeontology: History and Development*. Geological Society of London Special Publication (for The Micropalaeontological Society), pp. 103-123.
- Martin, R.E. and Quigg, A. 2013. Cover story: Tiny plants that once ruled in the seas. *Scientific American* (June 2013), 308, 40-45. Published online: 14 May 2013 | doi:10.1038/scientificamerican0613-40 (also published as Le phytoplankton moteur de l'évolution in *Pour la Science* (French version of *Scientific American*, October 2013). Also to be published in German version *Spektrum der Wissenschaft* (January 2014).
- Martin, R.E. and Quigg, A. 2012. Evolving phytoplankton stoichiometry fueled diversification of the marine biosphere. *Geosciences* 2, 130-146; doi:10.3390/geosciences2020130
- Martin, R.E. and Yanko-Hombach, V. 2010. Rapid Holocene sea level and climate change in the Black Sea: An evaluation of the Balabanov (2007) sea level curve. In Buynevich, I., et al. (Eds.) *Beyond Noah's Flood*. Geological Society of America Special Paper, 51-58.
- Lowery, D., and Martin, R.E. 2009. Archaeology of marine transgression: an inundated Middle Archaic burial in Chesapeake Bay, Maryland. *Archaeology of Eastern North America* 37:159-173.
- Leorri, E., Martin, R. E., and Horton, B. P. 2009. Field experiments on bioturbation in salt marshes (Bombay Hook National Wildlife Refuge, Smyrna, DE, USA): Implications for sea-level studies. *Journal of Quaternary Science* 24:139-149.
- Martin, R.E., Quigg, A., and Podkovyrov, V. 2008. Marine biodiversification in response to evolving phytoplankton stoichiometry. *Palaeogeography, Palaeoclimatology, Palaeoecology* 258:277-291.
- Martin, R. E., Leorri, E., and McLaughlin, P. P. 2007. Holocene sea-level and climate change in the Black Sea: Multiple marine incursions and freshwater discharge events. *Quaternary International (Special Issue devoted to IGCP521 Project: Black Sea-Mediterranean Corridor During the Last 30 ky: Sea Level Change and Human Adaptation* 167-168:61-72.
- Leorri, E., Martin, R. E. and McLaughlin, P. P. 2006. Holocene environmental and parasequence development of the St. Jones estuary, Delaware (USA): foraminiferal proxies of natural climatic and anthropogenic change. *Palaeogeography, Palaeoclimatology, Palaeoecology* 241:590-607.
- Martin, R. E. 2005. Taphonomic analysis and alternative enumeration procedures resolve multidecadal-to-centennial scale sea-level and paleoclimate signals in microtidal marshes (Delaware, U.S.A.). *Journal of the Society of Environmental Micropaleontology, Meiobenthology, and Microbiology* 2:68-101.
- Hippensteel, S. P., Martin, R. E., and Harris, M. S. 2005. Records of prehistoric hurricanes on the South Carolina

- coast based on micropaleontological and sedimentological evidence, with comparison to other Atlantic Coast records: Discussion. *Geological Society of America Bulletin* 117: 250-253.
- Martin, R.E. 2004. What, if anything, is environmental micropaleontology? *Journal of Micropaleontology, Microbiology, and Meiobenthology* 1:1-10.
- Martin, R.E. 2003. The fossil record of biodiversity: nutrients, productivity, habitat area and differential preservation. *Lethaia* 36:179-194.
- Martin, R.E., Hippensteel, S.P., Nikitina, D., and Pizzuto, J.E. 2003. Taphonomy and artificial time-averaging of marsh foraminiferal assemblages (Bombay Hook National Wildlife Refuge, Smyrna, DE): Implications for rates and magnitudes of late Holocene sea-level change. In R.M. Leckie & H.C. Olson (Eds.). *Micropaleontologic Proxies for Sea-Level Change and Stratigraphic Discontinuities*. Tulsa: SEPM Special Publication 75, p. 31-49.
- Hippensteel, S. P., R. E. Martin, D. Nikitina, and J. E. Pizzuto. 2002. Interannual variation of marsh foraminiferal assemblages (Bombay Hook National Wildlife Refuge, Smyrna, DE): Do foraminiferal assemblages have a memory? *Journal of Foraminiferal Research* 32:97-109.
- Martin, R.E. 2002. Cyclic and secular trends in preservation through geologic time: Implications for the evolution of biogeochemical cycles. In DeRenzi, M., Alonso, M.V.P., Belinchón, M., Peñalver, E., Montoya, P., and Márquez-Aliaga, A. (Eds.). *Current Topics on Taphonomy and Fossilization, International Conference Taphos 2002, Third Meeting on Taphonomy and Fossilization, Valencia, Spain*, p. 67-76.
- Martin, R.E., Hippensteel, S. P., and Pizzuto, J. E. 2002. Artificial time-averaging and the recovery of decadal-to-centennial scale ecological signals preserved in the subfossil record: Linking the temporal scales of ecology and paleoecology. *Paleobiology* 28:263-277.
- Nikitina, D.L., J.E. Pizzuto, R.E. Martin, and S.P. Hippensteel. 2002. Transgressive valley-fill stratigraphy and sea level history of the Leipsic River, Bombay Hook National Wildlife Refuge, Delaware. In R.M. Leckie & H.C. Olson (Eds.). *Micropaleontologic Proxies for Sea-Level Change and Stratigraphic Discontinuities*. Tulsa: SEPM Special Publication 75, p. 51-62.
- Martin, R.E. 2001. News and views of the new editor: Fear and loathing in paleontology, or looking on the bright side of things. *Journal of Foraminiferal Research* 31:77-78.
- Martin, R.E. 2001. Marine plankton. In Briggs, D.E.G. and Crowther, P.R., eds., *Paleobiology II: A Synthesis*. Blackwell, p. 309-312. (Invited paper)
- Hippensteel, S.P., Martin, R.E., Nikitina, D., and Pizzuto, J.E. 2000. The formation of Holocene marsh foraminiferal assemblages, Middle Atlantic Coast, U.S.A.: Implications for Holocene sea-level change. *Journal of Foraminiferal Research* 30:272-293.
- Hippensteel, S. P., and Martin, R. E. 2000. Foraminifera as indicators of storm deposition: Implications for barrier island sediment supply and evolution. In Martin, R.E. (Editor). *Environmental Micropaleontology*. Kluwer Press, Dordrecht. Topics in Geobiology Series, pp. 351-369.
- Martin, R.E. 2000. The environmental stories of microfossils: A new research path for micropaleontology. *Geotimes* 45(1):19-21.
- Martin, R.E. 2000. Introduction: Environmental Micropaleontology. in Martin, R.E. (Editor). *Environmental Micropaleontology*. Kluwer Press, Dordrecht. Topics in Geobiology Series, pp. 1-3.
- Martin, R. E. 1999. Taphonomy and temporal resolution of foraminiferal assemblages. In Sen Gupta, B., ed., *Foraminifera in the Modern Marine Realm*. Kluwer Press, Dordrecht, pp. 273-290.
- Martin, R.E., Goldstein, S.T., and Patterson, R.T. 1999. Taphonomy as an environmental science. *Palaeogeography, Palaeoclimatology, Palaeoecology* 149:vii-viii.
- Martin, R.E. 1999. Comment on Stanley, S.M. and Hardie, L.A., 1999, "Hypercalcification: Paleontology Links Plate Tectonics and Geochemistry to Sedimentology." *GSA Today* 9(5):17.
- Hippensteel, S. P., and Martin, R. E. 1999. Foraminifera as an indicator of overwash deposits, barrier island sediment supply, and barrier island evolution: Folly Beach, South Carolina. *Palaeogeography, Palaeoclimatology, Palaeoecology* 149:115-125. (symposium volume based on Cushman Foundation symposium "Taphonomy of Microfossils: Paleoenvironmental Reconstruction and Environmental Assessment, "Geological Society of America Annual Meeting, New Orleans, LA, Nov. 6-9.)
- Martin, R.E., Patterson, R.T., Goldstein, S.T., and Kumar, A. (eds.). 1999. Taphonomy as a Tool in

- Paleoenvironmental Reconstruction and Environmental Assessment. Special Issue *Palaeogeography, Palaeoclimatology, Palaeoecology* 149 (1-4):1-434.
- Martin, R. E. 1998. Catastrophic fluctuations in nutrient levels as an agent of mass extinction: Upward scaling of ecological processes? in McKinney, M. L. (ed.) *Biodiversity Dynamics: Origination and Extinction of Populations, Species, Communities, and Higher Taxa*. Columbia University Press, p. 405-429.
- Martin, R. E. 1996. Secular increase in nutrient levels through the Phanerozoic: Implications for productivity, biomass, diversity, and extinction of the marine biosphere. Proceedings of the International Symposium on Ecosystem Evolution, Moscow, Russia. *Paleontological Journal* 30:637-643.
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- Martin, R. E. and Steinker, D. C. 1973. Evaluation of techniques for recognition of living foraminifera. *Compass (Sigma Gamma Epsilon)* 50: 26-30.

PUBLICATIONS: IN PREPARATION OR SUBMITTED

Martin, R. E. In preparation. *Great and Measureless Time: Reawakening the Soul of Imagination*.

UNPUBLISHED REPORT

Martin, R. E. 1984. Plio-Pleistocene cyclic sedimentation at East Breaks field: an integrated model for deep-water sand exploration. In-house report to Union Oil Company of California on the effects of Plio-Pleistocene eustatic sea level fluctuations on foraminiferal and nannofossil assemblages ("ecostratigraphy") in an oil and gas field developed by Union Oil. The study integrated paleontologic, well-log, geochemical, and seismic data to produce a model for deep-water (turbidite) reservoir sand exploration.

ABSTRACTS AND PRESENTATIONS

100+ oral and poster presentations at national and international meetings: AAPG, GSA, IGCP521 on the Black Sea, International Society for Micropaleontology, Microbiology and Meiobenthology (ISEMMM) and to departments and local lay groups since 1984.

Recent presentations:

September, 2019 Geological Society of America Annual Meeting, Phoenix

"Did Phytoplankton Evolution Fuel Diversification of the Marine Biosphere: New Evidence" with Thomas Servais, Université de Lille

October-November 2018—Six lectures on Insight '36 *Scientific American* Cruise: Western Science Meets Eastern Culture *Scientific American* cruise

July, 2018—International Paleontological Congress 5, Paris

"Phytoplankton Evolution and Diversification of the "Marine Biosphere", with Thomas Servais, Université de Lille "Tectonic Forcing of Phytoplankton Evolution, Marine Biodiversification, and Biogeochemical Cycles", with Thomas Servais, Université de Lille (poster) "Co-evolution of Marine and Terrestrial Diversification: Links to Producer Stoichiometry and the Leaf Economics Spectrum.

Sept., 2017—George Mason U.—“Phytoplankton Evolution and Diversification of the Marine Biosphere.”

Feb., 2017—Lewes Universalist Church on “Scales of Change” for Darwin Day

EXTERNALLY FUNDED RESEARCH IN PREPARATION

Martin, R. E. (PI; co-PI's: Linda Hinnov and Mark Uhen, George Mason University; James Ogg, Purdue University; Michael Guidry and Fred Mackenzie, University of Hawaii Manoa): Phytoplankton evolution and diversification of the marine biosphere. Declined by NSF Integrated Earth Sciences. Intended for re-submission to Frontier Research in the Earth Sciences. UD portion: ~\$438,943.

PREVIOUSLY EXTERNALLY-FUNDED RESEARCH

Re-Engineering large introductory courses to enhance learning, persistence and graduation (with Claire O'Neal). Submitted April 1 to University of Delaware Center for Teaching and Learning for GEOL110. \$20,000.

Collaborative Research: Phytoplankton Evolution and Diversification of the Marine Biosphere, National Science Foundation Integrated Earth Systems, submitted November, 2017 (REM, lead PI; with Linda Hinnov and Mark, Uhen, George Mason University; James Ogg, Purdue University, Michael Guidry and Fred Mackenzie, University of Hawaii). \$1,891,020 total (UD portion: \$438,943)

Microfossil and Sedimentological Indices of Chemical Pollution in Tidal Marshes. \$10,000. Delaware National Estuarine Research Reserve.

Taphonomy of marsh foraminiferal assemblages: Implications for rates and mechanisms of Holocene sea-level change (with J. E. Pizzuto). National Science Foundation Grant No. EAR- 9614155. January 15, 1997-December 31, 2000. \$149,999.

Integrated field and laboratory studies of foraminiferal taphonomy in Quaternary carbonate and siliciclastic depositional environments (with W. D. Liddell, Utah State University). National Science Foundation Grant No. EAR-9017864. March 15, 1991 - August 31, 1994. \$180,000.

Experimental analysis of foraminiferal taphonomy: implications for the formation of foraminiferal assemblages (with W. D. Liddell, Utah State University). National Science Foundation Grant No. EAR-8815997. March 1, 1989- August 31, 1990. \$58,000.

Ecostratigraphy: A high resolution biostratigraphic tool. EXXON Company, U.S.A. June 1, 1988 –December 31, 1990. \$31,063.

Benthic foraminiferal zonation of carbonate bank margin and slope environments. University of Delaware Research Foundation Program. January 1, 1986 - December 31, 1986. \$10,900.

SERVICE: PROFESSIONAL

Numerous reviews for professional journals, books, conference proceedings, funding organizations

2017-2018 AAPG Committees on Landmark papers in Biostratigraphy and Paleontology.

2009 Co-Editor, Abstracts Volume and Co-chair, Program Committee, Geologic Problem Solving with Microfossils II, University of Houston. 73p.

2008-2009 President, North American Micropaleontology Section (NAMS) of SEPM

2008 Technical Program Co-Chair, Microfossils II: Geologic Problem Solving with Microfossils, U. Houston 2000-

2002 Editor, *Journal of Foraminiferal Research*

1999 Co-editor of *Taphonomy as an Environmental Science*. Special issue *Palaeogeogr., Palaeoclimatol., Palaeoecol.*

1997-2003 Associate Editor, *Palaios*

SERVICE: UNIVERSITY, COLLEGE (A&S), DEPARTMENT, ETC.

2018 Chair, Department P&T Committee (Adam Wallace)

2016 Co-chair (with Brian Hanson, Geography), Department P&T Committee (Michael O'Neal)

2016 Member, Department P&T Committee (Jessica Warren)

2013 Department Seminar (Fall; with H. Michael)

2013- present Chair or Committee Member, Department Promotion and Tenure Committee 2013 Member, Department Chair search Committee

2013 Member, Department Visiting Professor Search Committee

2012-present American Association of University Professors, Department Representative

2012-2017 American Association of University Professors—CEO Representative to U. Delaware Chapter Steering Committee
2010-present Department representative-American Association of University Professors—U. Delaware Chapter
2009 Department Faculty Search Committee
2005 Department Faculty Search Committee, Chair
1998-2001 University Faculty Senate (Departmental representative)
1995-96 College of Arts and Sciences Admissions Committee
1995-96 University Library Committee
1993 Department Seminar (Fall: Mass Extinction)
1990-97 Department Advisory Committee
1988-89 Department Admissions Committee
1987-89 University Committee on Undergraduate Studies
 -Subcommittee on Planning ("Project Vision"; 1987-1989)
 -Subcommittee on Curricula (Fall, 1987)
 -Subcommittee on Policy (Chair; 1988-1989)
1987-88 Department Alumni Newsletter
1986-87 Department Courses and Curriculum Committee
1986-87 Department Faculty Search Committee
1986 Departmental Ph.D. Qualifying Exam Committee, Chair
1985 Ad hoc Departmental Committee on Recruitment of Women Faculty (with J. C. Kraft)
1986 Department Seminar (Fall: Modern and Ancient Carbonate Sedimentation)