Brad E. Rosenheim

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Educational and Professional Information

Education

2005	Ph.D., University of Miami, Rosenstiel School for Marine and Atmospheric Science
1999	B.S. (*magna cum laude*), University of Vermont, Environmental Science major, Geology concentration

Professional Experience

2016-present	Associate Professor, College of Marine Science, University of South Florida
2013-2016	Assistant Professor, College of Marine Science, University of South Florida
2008-2013	Assistant Professor, Department of Earth and Environmental Sciences, Tulane University
2005-2007	Postdoctoral Investigator, Woods Hole Oceanographic Institution

Honors and Awards

2010	Weiss Presidential Teaching Fellow Finalist, Tulane University
2000	Outstanding Student of the Year, Marine Geology and Geophysics, University of Miami
1999	Magna cum laude distinction, University of Vermont
1999	Induction into Alpha Chapter of Vermont, Phi Beta Kappa
1999	Charles Doll Award, Top Geology Department student, University of Vermont
1997-1999	John Dewey Scholar, University of Vermont
1995-1999	Beard Family Scholarship, College of Arts and Sciences, University of Vermont

Professional Society Memberships

American Geophysical Union, American Chemical Society, Geological Society of America, European Geosciences Union, American Society of Limnologists and Oceanographers, La Société Française des Isotopes Stables, Phi Beta Kappa

Extramural Funding

Total Research Funding to Date: $5.75 million

Current or Recommended-for-Funding Grants

Florida Recovery Act Centers of Excellence Program "Evaluation of past Florida Gulf Coast mangrove restorations as a basis for future restoration success and resiliency." April 7, 2023 (awarded December, 2022, $915,090). Lead PI: **Brad Rosenheim**

NSF Chemical Oceanography "Collaborative Research: What Happens to Terrestrial Organic Matter in the Ocean? Solving the Mystery Behind an Iconic Question." September 1, 2019-August 31, 2022. (Funded, September 1, 2019, $357,690). Lead PI: **Brad Rosenheim** University of South Florida

NSF Polar Programs "Collaborative Research: Time Matters – A comparison of diatom ^{14}C and Thermochemical ^{14}C dating methods in sediment records of ice retreat from the East and West Antarctic Margins." March 15, 2017 – present. (PLR-1644117 $488,390). Lead PI: **Brad Rosenheim**, University of South Florida

Completed Grants

NIFA/USDA (via NASA ROSES) "Organic carbon biomass, burial, and biogeochemistry in blue carbon ecosystems along the South Florida Coast: Climate change and Anthropogenic Influences." May 15, 2017 – May 14, 2020. (2017-67003-26482, $1,330,000). Lead PI: Joseph Smoak, University of South Florida Saint Petersburg

NSF Polar Programs "Collaborative Research: Subglacial Antarctic Lakes Scientific Access (SALSA): Integrated study of carbon cycling in hydrologically-active subglacial environments." September 1, 2016 – August 31, 2019. (PLR-1543347 $395,644). Lead PI: John Priscu, Montana State University

NSF Paleoperspectives of Climate Change "Collaborative Research: Partitioning early Holocene Laurentide v. Antarctic ice melt from high-resolution reconstruction of sea-level rise and glacial isostatic adjustment modeling." June 1, 2015 – May 31, 2018. (OCE-1502977 $151,794). Lead PI: Torbjörn Tornqvist, Tulane University

NSF Sedimentary Geology and Paleobiology "Collaborative Research: Continuous vs. episodic fluviodeltaic sedimentation: Implications for carbon sequestration and coastal restoration." June 15, 2012 – May 31, 2016. (EAR-1148005 $380,913). Lead PI: Zhixiong Shen, Eastern Carolina University

NSF Office of Polar Programs "Timing and duration of the LGM and post-LGM grounding events in Whales Deep paleo ice stream, eastern Ross Sea middle continental shelf." October 1, 2012 – May 31, 2016. ($41,396, current). Lead PI: Phil Bart, Louisiana State University

NSF Paleoperspectives of Climate Change "Support for the 5th International Clumped Isotope Workshop." September 1, 2015 – August 31, 2016. ($10,000). Lead PI: **Brad Rosenheim**, University of South Florida

Gulf of Mexico Research Initiative RFP-I "Consortium for the Advanced Research of Transport of Hydrocarbon in the Environment." November 1, 2011 – December 31, 2015 ($841,693). Consortium Leader: Tamay Özgökmen, University of Miami

NSF Paleoperspectives in Climate Change "Assessing Wind-driven Circulation Variability in the Subtropical N. Atlantic Using an Array of Archived Radiocarbon Records," June 1, 2009 to May 31, 2013. (OCE-0902980 $255,073). Lead PI: **Brad Rosenheim**, Tulane University (sole PI)

NSF Geosciences Instrumentation and Facilities "Development of a Programmed-temperature Pyrolysis/Combustion Reactor System for Radiocarbon Applications," September 15,

2009 – August 31, 2013. (EAR – 0929752 $215,153). Lead PI: **Brad Rosenheim**, Tulane University (sole PI)

NSF Geosciences Instrumentation and Facilities "RAPID: Increasing through-put of novel Ramped Pyrolysis Radiocarbon Preparation Technique for Gulf Coast oil spill studies - Instrumentation Development." Sep. 1, 2010 – Aug. 31, 2013 (EAR – 1058517 $183,369). Lead PI: **Brad Rosenheim**, Tulane University (sole PI)

NSF Ecosystems "Collaborative Research: RAPID: The 2011 Atchafalaya River Flood and a possible altered system state for the Atchafalaya River Delta Estuary." July 1, 2011 – January 1, 2013. (DEB – 1141410 $37,396). Lead PI: Brian Roberts, LUMCON

NSF Geobiology and Low-Temperature Geochemistry "Collaborative Research: Geochemical and isotopic time-series of marine and terrestrial degradation of petroleum in the 2010 Gulf of Mexico oil spill." Aug. 1, 2010 – July 31, 2012. (EAR – 1045845 $66,094). Lead PI: David Finkelstein, University of Tennessee

NSF SGER Geomorphology Program "Fate and Transport of Carbon and Sediment during a Mississippi River High Water Event," June 1, 2008 to May 31, 2009. (EAR-0832754, $29,658). Lead PI: Alexander Kolker, LUMCON

Louisiana Board of Regents "Determining the Distribution of Ages in Sedimentary Organic Material Carried and Deposited by Mississippi River," June 1, 2009 to May 31, 2012. ($190,080). Lead PI: **Brad Rosenheim**, Tulane University (sole PI)

Publications (Advised student authors in *italics*, *visiting scholar who produced key published data in Rosenheim Laboratory)

h-index = 32 (Google Scholar, 29 Mar 2024)
citations = 3131 (Google Scholar, 29 Mar 2024)

Refereed Journal Articles and Book Chapters, in review or revision

Mukherjee, U.; Vetter, L.; Milne, G.A.; Tarasov, L.; Steponaitis, E.; Cahill, N.; LeCavelier, B.S.; Rosenheim, B.E.; Törnqvist, T.E. (in review). Revised constraints in the final stages of the last deglaciation from high-resolution sea-level observations. Nature

Sun, D.*; Wu. J.; Rosenheim, B.E.; He, Y.; Cui, X.; Sun, Y. (in revision). Enhanced petrogenic organic carbon export accompanied by decreased sediment loads in river system during degradation of land surface ecology by humans. Geology.

Refereed Journal Articles and Book Chapters, Published

86. Truax, O.; Riesselman, C.R.; Wilson, Gary S.; Stevens, C.R.; Parker, R.L.*; Lee, J.I.; McKay, R.M.; Rosenheim, B.E.; Ginnane, C.*; Turnbull, J.C.; Moon, H.S.; Lee, M.K.; Yoo, K.-C. (2024). Holocene oceanographic variability in the northwestern Ross Sea: influence of marine ice sheet retreat, orbital trends, and dynamic modes of climate variability. Quaternary Science Reviews. n. 108635.
doi:10.1016/j.quascirev.2024.108635
Times cited: 0

85. Ginnane, C.E.*; Turnbull, J.C.; Naeher, S.; Rosenheim, B.E.; Venturelli, R.A.; Phillips, A.M. Reeve, S.*; Parry-Thompson, J.; Zondervan, A.; Levy, R.H.; Yoo, K.-C.; Dunbar, G.; Calkin, T.; Escutia, C.; Gutierrez-Pastor, J. (2024). Advancing Antarctic sediment chronology through combined Ramped Pyrolysis Oxidation and Pyrolysis-GC-MS. Radiocarbon. pp. 1-20, doi: 10.1017/RDC.2023.116.
Times cited: 0

84. Ackerman, A.; Yarincik, K.; Murphy, S.; Cetinić, I.; Fundis, A.; Miller, A.; Shroyer, E.; Busse, A.; Covington, Q.; DeSilva, A.; Haupt, A.; Johnson, L.; Lee, C.; Lorenzoni, L.; Murphy, B.; Ramarui, J.; Rosenheim, B.; Steinberg, D. (2023). Know before you go. Oceanography. v. 36, n. 1, pp. 38-43.
Times cited: 4

83. Radabaugh, K.R.; Moyer, R.P.; Chappell, A.R.; Briethaupt, J.L.; Lagomasino, D.; Dontis, E.E.; Russo, C.E.; Rosenheim, B.E.; Chambers, L.G.; Peneva-Reed, E.I.; Smoak, J.M. (2023). A spatial model comparing above- and belowground blue carbon stocks in southwest Florida mangroves and salt marshes, Estuaries and Coasts. v. 46, pp. 1536-1556. doi:10.1007/s12237-023-01217-7.
Times cited: 1

82. Rosenheim, B.E.; Michaud, A.B.; Broda, J.; Gagnon, A.; *Venturelli, R.A.*; Campbell, T.D.; Leventer, A.; Patterson, M.O.; Siegfried, M.R.; Christner, B.C.; Duling, D.; Harwood, D.; Dore, J.E.; Tranter, M.; Skidmore, M.L.; Priscu, J.C.; SALSA Science Team. (2023). A method for successful collection of multicores and gravity cores from Antarctic subglacial lakes. Limnology and Oceanography Methods. v. 21, n. 5. pp. 279-294. doi:10.1002/lom3.10545.
Times cited: 3

81. Siegfried, M.R.; *Venturelli, R.A.*; Patterson, M.O.; Arnuk, W.; Campbell, T.D.; Gustafson, C.D.; Michaud, A.B.; Galton-Fenzi, B.; Hausner, M.B.; Holzschuh, S.N.; Huber, B.; Mankoff, K.D.; Schroeder, D.M.; Summers, P.; Tyler, S.; Carter, S.P.; Fricker, H.A.; Harwood, D.M.; Leventer, A.; Rosenheim, B.E.; Skidmore, M.L.; Priscu, J.C. and the SALSA Science Team. (2023). The life and death of a subglacial lake in West Antarctica. Geology. v. 51, n. 5. pp. 434-438. doi:10.1130/G50995.1.
Times cited: 8

80. *Venturelli, R.A.*; Boehmann, B.; Davis, C. ; Hawkings, J.R.; Johnston, S.E.; Gustafson, C.D.; Michaud, A.B.; Mosbeux, C.; Siegfried, M.R.; Vick-Majors, T.J.; Galy, V.; Spencer, R.G.M.; Warny, S.; Christner, B.C.; Dore, J.; Fricker, H.A.; Harwood, D.M.; Leventer, A.; Priscu, J.C.; Skidmore, M.L.; Rosenheim, B.E.; the SALSA Science Team. (2023). Origin, age, and cycling of carbon in an Antarctic subglacial lake. AGU Advances. v. 4, e2022AV000846. doi: 10.1029/2022AV000846.
Times cited: 6

79. Davis, C.L., *Venturelli, R.A.*, Michaud, A.B., Hawkings, J.R., Achberger, A.M., Vick-Majors, T.J., Rosenheim, B.E., Dore, J.E., Steigmeyer, A., Skidmore, M.L. Barker, J.D., Benning, L.G., Siegfried, M.R., Priscu, J.C., Christner, B.C. (2023). "Biogeochemical and historical drivers of microbial community composition and structure in sediments from Mercer Subglacial Lake, West Antarctica. IMSE Communications. v.3, n. 1, pp. 8. doi: 10.1038/s43705-023-00216-w.
Times cited: 7

78. *King, T.*, Rosenheim, B.E. (2022, in review). Deep-sea stylasterid $\delta^{18}O$ and $\delta^{13}C$ maps inform sampling scheme for paleotemperature reconstructions. Biogeoscience Discussions. (preprint).
doi:10.5194/bg-2022-180.
Times cited: 0

77. Cui, X.*; Mucci, A.; Bianchi, T.S.; He, D. ; Vaughn, D.; Williams, E.K.; Wang, C.; Smeaton, C.; Koziorowska-Makuch, K.; Faust, J.C.; Plante, A.F.; Rosenheim, B.E. (2022). Global fjords as a transitory reservoir of labile organic carbon. Science Advances. v. 8, n. 46, pp. eadd0610.
doi:10.1126/sciadv.add0610.
Times cited: 14

76. Roseby, Z.A.*; Smith, J.A.; Hillenbrand, C.-D.; Cartigny, M.J.B.; Rosenheim, B.E.; Hogan, K.A.; Allen, C.S.; Leventer, A.; Kuhn, G.; Ehrmann, W.; Larter, R.D. (2022). History of the Anvers-Hugo Trough, western Antarctic Peninsula shelf, since the Last Glacial Maximum. Part I: Deglacial history based on new sedimentological and chronological data. Quaternary Science Reviews. v. 291, pp. 107590.
doi:10.1016/j.quascirev.2022.107590.
Times cited: 4

75. Roseby, Z.A.*; Smith, J.A.; Hillenbrand, C.-D.; Allen, C.S.; Leventer, A.; Hogan, K.A.; Cartigny, M.J.B.; Rosenheim, B.E.; Kuhn, G.; Larter, R.D. (2022). History of the Anvers-Hugo Trough, western Antarctic Peninsula shelf, since the Last Glacial Maximum. Part II: Palaeo-productivity and palaeoceanographic changes during the Last Glacial Transition. Quaternary Science Reviews. pp. 107503.
doi:10.1016/j.quascirev.2022.107503.
Times cited: 0

74. Suzuki, K.*; Yamamoto, M.; Rosenheim, B.E.; Omori, T.; Polyak, L. (2021). New radiocarbon estimation method for carbonate-poor sediments : A case study of ramped pyrolysis ^{14}C dating of postglacial deposits from the Alaskan margin, Arctic Ocean. Quaternary Geology. v. 66. doi:10.1016/j.quageo.2021.101215.
Times cited: 4

73. Rogers, K.L.; Bosman, S.H.; Wildermann, N.; Rosenheim, B.E.; Montoya, J.P.; Hollander, D.H.; Zhao, T.; Chanton, J.P. (2021). Mapping spatial and temporal variation of seafloor

organic matter $\delta^{13}C$ in the northern Gulf of Mexico following Deepwater Horizon oil spill. Marine Pollution Bulletin. v. 164. doi:10.1016/j.marpolbul.2021.112076.
Times cited: 3

72. Breithaupt, J.L.; Smoak, J.M.; Bianchi, T.S.; Vaughn, D.; Sanders, C.J.; Radabaugh, K.R.; Osland, M.J.; Feher, L.C.; Lynch, J.C.; Cahoon, D.R.; Anderson, G.H.; Whelan, K.R.T.; Rosenheim, B.E.; Moyer, R.P.; Chambers, L.G. (2021). Reply to comment by R. Parkinson on "Increasing rates of carbon burial in southwest Florida coastal wetlands. Journal of Geophysical Research: Biogeosciences. v. 126, n. 4. doi:10.1029/2021JG006245.
Times cited: 0

71. *Venturelli, R.A.*; Vick-Majors, T.; Collins, B.; Gagnon, A.; Kasic, K.; Kurz, M.; Li, W.; Priscu, J.C.; Roberts, M.; Rosenheim, B.E.; and the SALSA Science Team. (2021). A framework for transdisciplinary radiocarbon research: Use of natural-level and elevated-level ^{14}C in Antarctic field research. Radiocarbon. v. 63, n. 5. pp. 1555-1568. doi:10.1017/RDC.2021.55.
Times cited: 2

70. Priscu, J. C.; Kalin, J; Winans, J.; Campbell, T.; Siegfried, M.R.; Skidmore, M.; Dore, J.; Leventer, A.; Harwood, D.; Duling, D.; Zook, R.; Burnett, J.; Gibson, D.; Krula, E.; Mironov, A.; Roberts, G.; Rosenheim, B. E.; Christner, B.; Kasic, K.; Fricker, H.A.; Lyons, W.B.; Barker, J.; Bowling, M.; Collins, B.; Davis, C.; Gagnon, A.; Gardner, C.; Gustafson, C.; Li, W.; Michaud, A.B.; Patterson, M.O.; Tranter, M.; Venturelli, R.A.; Vick-Majors, T. (2021). Scientific Access into Mercer Subglacial Lake: Scientific Objectives, Drilling Operations and Initial Observations, Annals of Glaciology v. 62, n. 85-86. pp. 340-352. doi:10.1017/aog.2021.10.
Times cited: 37

69. Smith, J.A.; Hillenbrand, C.-D.; Subt, C.; Rosenheim B.E.; Fredrichs, T.; Ehrmann, W.; Andersen, T.J.; Wacker, L.; Mackinson, K.; Anker, P.; Venables, E.J.; Nicholls, K.J., (2021), History of Larsen C Ice Shelf reconstructed from sub-ice shelf and offshore sediments, Geology. doi:10.1130/G48503.1.
Times cited: 12

68. Shen, Z.; Rosenheim, B.E.; Törnqvist, T.E.; Lang, A. (2021). Engineered continental-scale rivers can drive changes in the carbon cycle. AGU Advances v. 2, e2020AV000273. doi:10.1029/2020AV000273.
Times cited: 8

67. Samperiz, A.; Robinson, L.F.; Stewart, J.A.; Strawson, I.; Leng, M. J.; Rosenheim, B.E.; Ciscato, E.R.; Hendry, K.R.; Santodomingo, Nadiezdha. (2020). Stylasterid corals: A new paleotemperature archive. Earth and Planetary Science Letters, v. 545, p. 116407. doi:10.1016/j.epsl.2020.116407.
Times cited: 12

66. *Venturelli, R.A.*; Siegfried, M. R.; Roush, K.A.; Li, W.; Burnett, J.; Zook, R.; Fricker, H.A.; Priscu, J.C.; Leventer, A.; Rosenheim, B.E. (2020). Mid-Holocene grounding line retreat and readvance at Whillans Ice Stream, West Antarctica. Geophysical Research Letters. doi: 10.1029/2020GL088476.
Times cited: 39

65. Hawkings; J.R., Skidmore, M.L.; Wadham, J.L.; Priscu, J.C.; Morton, P.L.; Hatton, J.E.; Gardner, C.B.; Kohler, T.J.; Stibal, M.; Bagshaw, E.A.; Steigmeyer, A.; Barker, J.; Dore, J.E.; Lyons, W.B.; Tranter, M.; Spencer, R.G.M.; and the SALSA Science Team (incl. B.E. Rosenheim) (2020). Enhanced trace element mobilization by Earth's ice sheets. Proceedings of the National Academy of Science, 117 (50) 31648-31659, doi: 10.1073/pnas.2014378117.
Times cited: 48

64. O'Connor, J.A.; Lu, K.; Guo, L.; Rosenheim, B.E.; Liu, Z. (2020). "Composition and lability of riverine dissolved organic matter: Insights from thermal slicing ramped pyrolysis GC-MS analysis" Organic Geochemistry. v. 149, doi: 10.1016/j.orggeochem.2020.104100.
Times cited: 12

62. Breithaupt, J. L., Smoak, J. M., Bianchi, T. S., Vaughn, D., Sanders, C. J., Radabaugh, K.R., Osland, M.J.; Feher, L.C.; Lynch, J.C.; Cahoon, D.R.; Anderson, G.H.; Whelan, K.R.T.; Rosenheim, B.E.; Moyer, R.P.; Chambers, L.G. (2020). Increasing rates of carbon burial in southwest Florida coastal wetlands. Journal of Geophysical Research: Biogeosciences, 125, e2019JG005349. doi:10.1029/2019JG005349
Times cited: 46

62. Chanton, J.P.; Jaggi, A.; Radović, J.R.; Rosenheim, B.E.; Walker, B.D.; Larter, S.R.; Rogers, K.; Bosman, S.; Oldenburg, T.B.P. (2020). "Mapping Isotopic and Dissolved Organic Matter Baselines in Waters and Sediments of the Gulf of Mexico." In Scenarios and Responses to Future Oil Spills, Springer.
Times cited: 7

61. Jung, J.; Yoo, K.-C.; Rosenheim, B.E.; Conway, T.M.; Lee, J.I.; Yoon, H.I.; Hwang, C.Y.; Yang, K.; Subt, C.; Domack, E.W.; Kim, J. (2019). "Microbial alteration of illite as a potential Fe source responding to depositional environments under the Larsen Ice Shelf C during the Holocene." Nature Communications. 10, 5786. doi:10.1038/s41467-019-13741-x
Times cited: 15

60. Morrison, E., Robinson, D.M., Rosenheim, B.E., He, R., Warrillow, J., Hitchcock, G., Chakraborty, S., Daly, K., Margolin, A.R., Millero, F.J., Redalje, D.G., Ammerman, J.W., Herrera-Silveira, J.A., Knapp, A.N., Krause, J.W., Valdes, D.S., Hayward, A.S., Hayes, C.T., Wen, L.S., Lee, C.P., Santschi, P.H., Johannesson, K.H., Corbett, D.R.,

Walsh, J.P., Osburn, C.L., Guo, L., Hansell, D.A., Chanton, J., Lapham, L., Rogers, K., Hollander, D., Joye, S., Sericano, J.L., Wade, T.L., Vidal Martinez, V.L., Gold-Bouchot, G., Knap, A.H. (2019). Gulf of Mexico Origin, Waters, and Biota: Volume 5, Chemical Oceanography. Ed. T.S. Bianchi. Texas A&M University Press, College Station, Texas.
Times cited: 1

59. Peterson, S.V.; Defliese, W.F.; Saenger, C.; Daëron, M.; Huntington, K.W.; John, C.M.; Kelson, J.R.; Bernasconi, S.M.; Coleman, A.S.; Kluge, T.; Olack, G.A.; Schauer, A.J.; Bajnai, D.; Bonafacie, M.; Breitenback, S.F.M.; Fiebig, J.; Fernandez, A.B.; Henkes, G.A.; Hodell, D.; Katz, A.; Kele, S.; Lohmann, K.C.; Passey, B.H.; Peral, M.Y.; Petrizzo, D.A.; Rosenheim, B.E.; Tripati, A.; Venturelli, R.; Young, E.D.; Winkelstern, I.Z. (2019). "Effects of improved ^{17}O correction on inter-laboratory agreement in clumped isotope calibrations, estimates of mineral-specific offsets, and temperature dependence of acid digestion fractionation." Geochemistry, Geophysics, Geosystems. V. 20, n. 7, p. 3495-3519. doi: 10.1029/2018GC008127.
Times cited: 187

58. Rogers, K.L.; Bosman, S.H.; Lardie-Gaylord, M.; McNichol, A.; Rosenheim, B.E.; Montoya, J.P.; Chanton, J.P. (2019). "Petrocarbon evolution: ramped pyrolysis/oxidation and isotopic studies of contaminated oil sediments from the Deepwater Horizon oil spill in the Gulf of Mexico." PLoS One. V. 14, n. 2. e02120433, doi: 10.1371/journal.pone.0212433
Times cited: 8

57. *Venturelli, R.A.*; Rosenheim, B.E. (2019). "Compositional and beam-size-dependent effects on pressure baseline in clumped isotope mass spectrometry." Rapid Communications in Mass Spectrometry. v. 33, n. 1. p. 140-148. doi:10.1002/rcm.8303.

Times cited: 2

56. *Reynolds, C.E.*, Richey, J.N., Fehrenbacher, J.S.; Rosenheim, B.E.; Spero, H.J. (2018). "Environmental controls on the geochemistry of *Globorotalia truncatulinoides* in the Gulf of Mexico: Implications for paleoceanographic reconstructions." Marine Micropaleontology. v. 142. p. 92-104. doi:10.1016/j.marmicro.2018.05.006.
Times cited: 14

55. Bart, P.J.; DeCesare, M.; Rosenheim, B.E.; Majewski, W.; McGlennan, A. (2018). "A centuries-long delay between a paleo-ice-shelf collapse and grounding-line retreat in the Whales Deep Basin, eastern Ross Sea, Antarctica." Scientific Reports. v. 8, n. 1. doi: 10.1038/s41598-018-29911-8.
Times cited: *45*

54. Bacosa, H.P.; Erdner, D.L.; Rosenheim, B.E.; Shetty, P.; Seitz, K.W.; Baker, B.J.; Liu, Z. (2018). "Hydrocarbon degradation and response of seafloor sediment bacterial

community in the northern Gulf of Mexico to light Louisiana sweet crude oil." The ISME Journal. v. 12, n. 10. p. 2532-2543. doi:10.1038/s41396-018-0190-1.
Times cited: 132

53. Jacotot, A.; Marchand, C.; Rosenheim, B.E.; Domack, E.W.; Allenbach, M. (2018). "Mangrove sediment carbon stocks along an elevation gradient: Influence of the late Holocene marine regression (New Caledonia)." Marine Geology. v. 404. p. 60-70. doi:10.1016/j.margeo.2018.07.005.
Times cited: 20

52. Seeley, M.E.; Wang, Q.; Bacosa, H.; Rosenheim, B.E.; Liu, Z**.** (2018). "Environmental petroleum pollution analysis using ramped pyrolysis-gas chromatography-mass spectrometry." Organic Geochemistry. v. 124. p. 180-189. doi:10.1016/j.orggeochem.2018.07.012.
Times cited: 30

51. *King, T.*; Domack, E.W.; Post, A.; Gabris, T.; Burt, T.; Rosenheim, B.E. (2018). "Mid-19th century intrusion of Circumpolar Deep Water on Antarctic margin recorded by Stylasterid corals." Paleoceanography and Paleoclimatology. v. 33, n. 11. p. 1306-1321. doi:10.1029/2018PA003439.
Times cited: 12

50. Waite, A.; Swart, P.K.; Rosenheim, B.E.; Rosenberg, A.D. (2018). "Re-evaluating Sr/Ca-derived records of post-industrial era warming from the sclerosponge *Ceratoporella nicholsoni*." Chemical Geology. v. 488. p. 56-61. doi:10.1016/j.chemgeo.2018.03.005.
Times cited: 4

49. McNichol, A.; Rosenheim, B.E.; Galy, V. (2017). "Turning up the heat on organic matter to track carbon." Eos. v. 98. doi:10.1029/2017EO080771
Times cited: 0

48. Dassié, E.; DeLong, K.; Kilbourne, H.; Williams, B.; Abram, N.J.; Brenner, L.; Brahmi, C.; Cobb, K.M.; Correge, T.; Dissard, D.; Emile-Geay, J.; Evangelista, H.; Evans, M.N.; Farmer, J.; Felis, T.; Gagan, M.; Gillikin, D.P.; Goodkin, N.; Khodri, M.; Lavaningo, A.C.; LaVigne, M.; Lazareth, C.; Linsley, B.; Lough, J.; McGregor, H.; Nurhati, I.S.; Oullette, G.; Perrin, L.; Raymo, M.; Rosenheim, B.; Sandstrom, M.; Schöne, B.R.; Sifeddine, A.; Stevenson, S.; Thompson, D.M.; Waite, A.; Wanamaker, A.; Wu, H. (2017). "Saving our marine archives." Eos. v. 98, n. 9. p. 32-36. doi: 10.1029/2017EO068159
Times cited: 8

47. Zhang, X.; Bianchi, T.; Cui, X.; Rosenheim, B.E. ; Ping, C.-L.; Hanna, A.; Kanevskiy, M.; Schreiner, K.; Allison, M. (2017). "Permafrost organic carbon mobilization from the watershed to the Colville River delta: evidence from ^{14}C ramped pyrolysis and biomarkers." Geophysical Research Letters. v. 44, n. 11. p. 11,491-11,500. doi: 10.1002/2017GL075543.

Times cited: 19

46. Walker, B.W.; Druffel, E.; Kolasinski, J.; Roberts, B.; Xu, X.; Rosenheim, B.E. (2017). "Stable and radiocarbon isotopic composition of dissolved organic matter in the Gulf of Mexico." Geophysical Research Letters. v. 44, n. 18. p. 8424-8434. doi: 10.1002/2017GL074155.
Times cited: 22

45. *Subt, C.*; Yoon, H.I.; Yoo, K.C.; Lee, J.I.; Leventer, A.; Domack, E.W.; Rosenheim, B.E. (2017). "Sub-ice shelf sediment geochronology utilizing novel radiocarbon methodology for highly detrital sediments." Geochemistry, Geophysics, Geosystems. v. 18. doi:10.1002/2016BC006578.
Times cited: 27

44. Vetter, L.; Rosenheim, B.E.; *Fernandez, A.*; Törnqvist, T. (2017). "Short organic carbon turnover time and narrow ^{14}C age spectra in early Holocene wetland paleosols." Geochemistry, Geophysics, Geosystems. v. 18, n. 1. doi:10.1002/2016GC006526.
Times cited: 14

43. Evans, M.; Liu, J.; Bacosa, H.; Rosenheim, B.E.; Liu, Z. (2017). "Petroleum hydrocarbon persistence following the Deepwater Horizon oil spill as a function of shoreline energy." Marine Pollution Bulletin. doi:10.1016/j.marpolbul.2016.11.022
Times cited: 33

42. Schwing, P.T.; Romero, I.C.; Larson, R.A.; O'Malley, B.J.; Fridrick, E.E.; Goddard, E.A.; Brooks, G.R.; Hastings, D.W.; Rosenheim, B.E.; Hollander, D.J.; Grant, G.; Mulhollan, J. (2016). "Sediment core extrusion method at millimeter resolution using a calibrated, threaded-rod." Journal of Visualized Experiments. Chemistry, n. 114. 7 pp. doi:10.379/54363.
Times cited: 29

41. Adhikari, P.L.; Maiti, K.; Overton, E.B.; Rosenheim, B.E.; Marx, B.D. (2016). "Distributions and accumulation rates of polycyclic aromatic hydrocarbons in the northern Gulf of Mexico sediments." Environmental Pollution. v. 212, p. 413-423, doi:10.1016/j.envpol.2016.01.064.
Times cited: 74

40. Spooner, P.; Guo, W.; Robinson, L.F.; Thiagarajan, N.; Hendry, K.; Rosenheim, B.E.; Leng, M.J.; (2016). "Clumped isotope composition of cold-water corals: A role for vital effects?" Geochimica et Cosmochimica Acta. doi: 10.1016/j.gca.2016.01.023.
Times cited: 84

39. *Subt, C.*; Fangman, K.*; Wellner, J.; Rosenheim, B.E.. (2016). "Sediment chronology in Antarctic deglacial sediments: Reconciling organic carbon ^{14}C ages to carbonate ^{14}C ages using Ramped PyrOx." The Holocene. v. 26, n. 2, p. 265-273. doi: 10.1177/0959683615608688

Times cited: 37

38. Rosenheim, B.E.; *Pendergraft, M.A.*; Flowers, G.C.; Carney, R.; Sericano, J.; Amer, R.M.; Chanton, J.; Dincer, Z.; Wade, T.L. (2016). "Employing extant stable carbon isotope data in Gulf of Mexico sedimentary organic matter for oil spill studies." Deep Sea Research II, v. 129, pp. 249-258. doi:10.1016/j.dsr2.2014.03.020.
Times cited: 24

37. Bianchi, T.S.; Galy, V.; Rosenheim, B.E.; Shields, M.; Cui, X. (2015). "Paleoreconstruction of organic carbon inputs to an oxbow lake in the Mississippi River watershed: Effects of dam construction and land-use change on regional inputs." Geophysical Research Letters. v. 42, n. 19, p. 7983-7991, doi: 10.1002/2015GL065595.
Times cited: 24

36. *Williams, E.K.*; Rosenheim, B.E. (2015). "What happens to soil organic carbon as coastal marsh ecosystems change in response to increasing salinity? An exploration using ramped pyrolysis." Geochemistry, Geophysics, Geosystems. v. 16, n. 7, doi: 10.1002/2015GC005839
Times cited: 41

35. *Fernandez, A.B.*; Lapen, T.J.; Andreasen, R. ; Swart, P.K.; White, C.D.; Rosenheim, B.E. (2015). "Ventilation timescales of the N. Atlantic Subtropical Cell revealed by coral radiocarbon from the Cape Verde Islands." Paleoceanography. v. 30, n. 7, p. 938-948, doi: 10.1002/2015PA002790
Times cited: 5

34. Tornqvist, T.E.; Rosenheim, B.E.; Hu, P.; *Fernandez, A.B.* (2015). "Radiocarbon dating and calibration." In Handbook of Sea-Level Research, eds. Shennan, I.; Long, A.G.; Horton, B.P. John Wiley and Sons, London, 1st edition, p. 347-360.
Times cited: 82

33. *Williams, E.K.*; Rosenheim, B.E.; Allison, M.A.; McNichol, A.P.; Xu, L. (2015). "Quantification of refractory organic material in Amazon mudbanks of the French Guiana Coast." Marine Geology. v. 363, p. 93-101, doi:10.1016/j.margeo.2015.02.009
Times cited: 15

32. Chanton, J.P.; Zhao, T.; Rosenheim, B.E. ; Joye, S.; Bosman, S.; Mickel, A.; Brunner, C.; Hollander, D. (2015). "Radiocarbon Tracing of the Flux of Petrocarbon to the Sea Floor Associated with the Deep Water Horizon Event." Environmental Science and Technology. v. 49, n. 2, p. 847-854, doi:10.1021/es5046524.
Times cited: 213

31. Özgökmen, T.; Beron-Vera, F.J.; Bogucki, D.; Chen, S.S.; Dawson, C.; Dewar, W.; Griffa, A.; Haus, B.K.; Haza, A.C.; Huntley, H.; Iskandarani, M.; Jacobs, G.; Jagers, B.; Kirwan, Jr., A.D.; Laxague, N.; Lipphardt, Jr., B.; MacMahan, J.; Mariano, A.J.; Olascoaga, J.; Novelli, G.; Poje, A.C.; Reniers, A.J.H.M.; Restrepo, J.M.; Rosenheim, B.; Ryan, E.H.;

Smith, C.; Soloviev, A.; Ventkataramani, S.; Zha, G.-C.; Zhu, P. (2014). "Research overview of the consortium for advanced research on transport of hydrocarbon in the environment (CARTHE)." International Oil Spill Conference Proceedings. v. 2014, n. 1. p. 544-560.
Times cited: 9

30. *Fernandez, A.;* Santos, G.M.; *Williams, E.K.; Pendergraft, M.A.*; Vetter, L.; Rosenheim, B.E. (2014). "Blank corrections for ramped pyrolysis radiocarbon dating of sedimentary organic carbon." Analytical Chemistry. v. 86, n. 24, p. 12085-12092, doi: 10.1021/ac502874j
Times cited: 32

29. *Williams, E.K.;* Rosenheim B.E., McNichol, A.P., Masiello, C.A. (2014). "Charring and non-additive chemical reactions during ramped pyrolysis: Applications to the characterization of sedimentary and soil organic material." Organic Geochemistry. v. 77, p. 106-114, doi:10.1016/j.orggeochem.2014.10.006.
Times cited: 40

28. *Pendergraft, M.A.*; Rosenheim B.E. (2014). "Varying relative degradation rates of oil in different forms and environments revealed by ramped pyrolysis." Environmental Science and Technology. v. 48, n. 18, p. 10966-10974, doi:10.1021/es501354c.
Times cited: 35

27. Broadbent, E.N.; Almeda-Zambrano, A.M.; Asner, G.P.; Field, C.B.; Rosenheim, B.E.; Kennedy-Bowdoin, T.; Balaji, A.; Knapp, D.; Burke, D.; Giardana, C.; Cordell, S. (2014). "Predicting leaf trait variation in a Hawaiian rainforest understory: a microclimate approach based on fusion of airborne LIDAR and hyperspectral imagery." Ecosphere, v. 5, n. 5, article 57, 37pp.
Times cited: 14

26. Schreiner, K.L.; Bianchi, T.A.; Rosenheim, B.E. (2014). 'Evidence for permafrost thaw and transport from an Alaskan North Slope watershed." Geophysical Research Letters, doi:10.1002/2014GL059514
Times cited: 46

25. Tang, J., *Fernandez, A.B.;* Dietzel, M.; Rosenheim, B.E. (2014). "Evaluation of kinetic effects on clumped isotope fractionation (Δ_{47}) during inorganic calcite precipitation." Geochimica et Cosmochimica Acta. v. 134, p. 120-136, doi:10.1016/j.gca.2014.03.005.
Times cited: 154

24. *Fernandez, A.;* Tang, J.; Rosenheim, B.E. (2014). "Siderite clumped isotope thermometry: A new paleoclimate proxy for humid continental environments." Geochimica et Cosmochimica Acta, v. 126, p. 411-421. doi: 10.1016/j.gca.2013.11.006
Times cited: 102

23. Johannesson, K.H.; Telfayan, K.; Chevis, D.A.; Rosenheim, B.E.; Leybourne, M.I.; (2014). "Rare Earth Elements in Stromatolites: 1. Evidence that Modern Terrestrial Stromatolites Fractionate Rare Earth Elements During Incorporation from Ambient Waters." In: Y. Dilek and H. Furnes (eds.) Evolution of Archean Crust and Early Life. Springer (Dordrecht), p. 385-411.
Times cited: 40

22. *Pendergraft, M.A.;* Dincer, Z.; Sericano, J.; Wade, T.L.; Kolasinski, J.; Rosenheim, B.E. (2013). "Linking ramped pyrolysis isotope data to oil content through PAH analysis." Environmental Research Letters. v. 8, n. 4, doi:10.1088/1748-9326/8/4/044038
Times cited: 26

21. Duan, S., Allison, M.A.; Bianchi, T.S.; McKee, B.A.; Shiller, A.M.; Guo, L.; Rosenheim, B.E. (2013). "Sediment, organic carbon, nutrients, and trace elements: Sources, transport, and biogeochemical cycles in the lowermost Mississippi River." In Biogeochemical Dynamics at Major River-Coastal Interfaces: Linkages with Global Change. Eds. Bianchi, T.S.; Allison, M.A.; Cai, W.-J. Cambridge University Press, New York, NY. 658p.
Times cited: 10

20. Rosenheim, B.E.; Tang, J.; *Fernandez, A.*; (2013). "Measurement of multiply-substituted isotopologues of CO_2 using a 5kV mass spectrometer." Rapid Communications in Mass Spectrometry. v.27, p. 1847-1857.
Times cited: 27

19. Rosenheim, B.E.**;** Santoro, J; Domack, E.W. (2013). "Improving Antarctic sediment ^{14}C dating using ramped pyrolysis: An example from the Hugo Island Trough." Radiocarbon. v. 55, n. 1. p. 115-126.
Times cited: 65

18. Rosenheim, B.E.**;** *Roe, K.;* Roberts, B.J.; Kolker, ; Allison, M.A.; Johannesson, K.H.; (2013), "River discharge influences on particulate organic carbon age structure in the Mississippi/Atchafalaya River System." Global Biogeochemical Cycles. doi:10.1002/gbc.20018. 13pp.
Times cited: 78

17. Rosenheim, B.E.**;** Galy, V. (2012). "Direct measurement of terrigenous carbon age structure." Geophysical Research Letters. v. 39, n. 19, doi:10.1029/2012GL052883
Times cited: 84
featured in Nature Geoscience News and Views – "Biogeochemistry: River Carbon Unraveled," (2012) v. 5, p. 684

16. Datta, S; Neal, A.W.; Mohajerin, T.J.; Ocheltree, T.; Rosenheim, B.E.; White, C.D.; Johannesson, K.H. (2011). "Perennial ponds are not an important source of water or dissolved organic matter to groundwaters with high arsenic concentrations in West Bengal, India." Geophysical Research Letters. v. 38., L20404, 5pp.

Times cited: 106

15. Roberts, M.L.**;** Burton, J.R.; Elder, K.L.; Longworth, B.E.; McIntyre, C.P.; Han, B.X.; Rosenheim, B.E.; Jenkins, W.J.; Galutschek, E.; McNichol, A.P. (2010). "A high performance ^{14}C accelerator mass spectrometry system." Radiocarbon. v. 52, n. 2. p. 228-235
Times cited: 63

14. Swart, P.K.; Greer, L.; Rosenheim, B.E.; Moses, C.S.; Waite, A.J.; Winter, A.; Dodge, R.; Helmle, K. (2010). "^{13}C Suess effect in scleractinian corals mirror changes in the anthropogenic CO_2 inventory of the surface oceans." Geophysical Research Letters. v. 37. pp. L02603.
Times cited: 142

13. Rosenheim, B.E.; Swart, P.K.; Willenz, Ph. (2009). "Calibration of sclerosponge oxygen isotope records to temperature using high-resolution $\delta^{18}O$ data." Geochimica et Cosmochimica Acta. v.73. p. 5308-5319.
Times cited: 22

12. Rosenheim, B.E.; Thorrold, S.R.; Roberts, M.L. (2008). "Accelerator mass spectrometer ^{14}C determination in CO_2 produced from laser decomposition of aragonite." Rapid Communications in Mass Spectrometry. v. 22, n. 21. p. 3443-3449.
Times cited: 12

11. Rosenheim, B.E.; Day, M.B.; Domack, E.W.; Schrum, H.; Benthien, A;. Hayes, J.M. (2008). "Antarctic sediment chronology by programmed temperature pyrolysis: methodology and data treatment" Geochemistry Geophysics Geosystems. v.9.
Times cited: 156

10. von Reden, K.F.**;** Roberts, M.L.; Jenkins, W.J.; Rosenheim, B.E.; McNichol, A.P.; Schneider, R.J. (2008). "Software development for continuous-gas-flow AMS." Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms. v. 266, n. 10. P. 2233-2237.
Times cited: 11

9. Roberts, M.L.**;** Schneider, R.J.; von Reden, K.F.; Wills, J.S.C.; Han, B.X.; Hayes, J.M.; Rosenheim, B.E.; Jenkins, W.J. (2007). "Progress on a gas-accepting ion source for continuous-flow accelerator mass spectrometry." Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms. v. 259, n. 1. p. 83-87.
Times cited: 35

8. Rosenheim, B.E.; Swart, P.K.; Eisenhauer, A. (2007). "Constraining initial ^{230}Th activity in incrementally-deposited, biogenic aragonite from the Bahamas" Geochimica et Cosmochimica Acta. v. 71. pp. 4025-4035.
Times cited: 7

7. Rosenheim, B.E.**;** Swart, P.K. (2007). "Caribbean sclerosponge radiocarbon measurements re-interpreted in terms of U/Th age models." Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms. v. 259. pp. 474-478. doi:10.1016/j.nim.b2007.01.235.
Times cited: 7

6. Moses, C.S.; Rosenheim, B.E.; Swart, P.K. (2006). "Evidence of multi-decadal salinity variability in the eastern tropical North Atlantic" Paleoceanography. v. 21, PA3010. doi: 10.1029/ 2006PA001257.
Times cited: 24

5. Rosenheim, B.E.; Swart, P.K.; Thorrold, S.R. (2005). "Minor and trace elements in sclerosponge *Ceratoporella nicholsoni*: Biogenic aragonite near the inorganic endmember?" Palaeogeography Palaeoclimatology Palaeoecology. v. 228, n. 1-2. pp. 109-129. DOI 10.1016/j.palaeo.2005.03.055.
Times cited: 63

4. Rosenheim, B.E.; Swart, P.K.; Thorrold, S.R.; Willenz, P. (2005). "Salinity change in the subtropical Atlantic: Secular increase and teleconnections to the North Atlantic Oscillation." Geophysical Research Letters. v. 32, n. L02603. doi: 10.1029/2004GL021499.
Times cited: 48

3. Rosenheim, B.E.; Swart, P.K.; Thorrold, S.R.; Willenz, P.; Berry, L.; Latcozky, C. (2004). "High-resolution Sr/Ca records in sclerosponges calibrated to temperature in situ." Geology, v.32, n.2. p. 145-148. doi 10.1130/G20117.1
Times cited: 80

2. Swart, P.K.: Thorrold, S.; Rubenstone, J.; Rosenheim, B.; Harrison, C.G.A.; Grammer, M.; Latkoczy, C. (2002). "Intra-annual variation in stable oxygen and carbon and trace element composition of sclerosponges." Paleoceanography, v.17. 12p. doi:10.1029/2000PA000622
Times cited: 61

1. Mehrtens, C.; Rosenheim, B.E.; Modley, M.; Young, R. (2001). "Reef morphology and sediment attributes, Roatan, Bay Islands, Honduras." Carbonates and Evaporites, v.16, n.2. p. 131-140. doi:10.1007/BF03175831
Times cited: 22

Data Products

Shen, Z.; Rosenheim, B.E.; Törnqvist, T.E.; Lang, A. 2020. Anthropogenically expedited transit reduces organic carbon loss in the Lower Mississippi River: dataset. https://digitalcommons.coastal.edu/science-data-sets/1/

Breithaupt, J. L., J. M. Smoak, T. S. Bianchi, D. Vaughn, C. J. Sanders, K. R. Radabaugh, M. J. Osland, L. C. Feher, J. C. Lynch, D. R. Cahoon, G. H. Anderson, K. R. T. Whelan, B. E. Rosenheim, R. P. Moyer, and L. G. Chambers. 2020, January 22. Dataset: Increasing rates of carbon burial in southwest Florida coastal wetlands. https://doi.org/10.25573/serc.9894266.v1

Hemingway, J.D., Schafer C., Rosenheim B.E. 2018. A compiled database of published ramped pyrolysis/oxidation results, 2018-, http://pypi.python.org/pypi/RPO_Database, doi. 10.5281/zenodo.1158742 .

Kolasinski, J. and Rosenheim, B.E. 2015. CARTHE PE15-01 Cruise Report - Water Column Sampling Summer 2014. Consortium for Advanced Research on Transport of Hydrocarbon in the Environment (CARTHE). doi:10.7266/N7TM782X

Rosenheim, Brad E. 2013. CARTHE: Historical stable carbon isotope ($\delta^{13}C$) data from bottom sediments in the Gulf of Mexico (1963 to 2010). Consortium for Advanced Research on Transport of Hydrocarbon in the Environment (CARTHE). doi:10.7266/N77P8W99

Moses, C.S.; Swart, P.K.; Rosenheim, B.E., http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::::P1_STUDY_ID:6184, National Climatic Data Center.

Rosenheim, B.; Swart, P.K.; Thorrold, S.R.; Willenz, P.; Berry, L.; Latkoczy, C., http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::::P1_STUDY_ID:1921, National Climatic Data Center

Swart, P.K.; Torrold, S.; Esienhauer, A.; Rosenheim, B.; Harrison, C.G.A.; Grammer, M.; Latkoczy, C., http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::::P1_STUDY_ID:1887, National Climatic Data Center

Rosenheim, B.; Swart, P.K.; Thorrold, S.R.; Eisenhauer, A.; Willenz, P., http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::::P1_STUDY_ID:1922, National Climatic Data Center

Rosenheim, B.; Swart, P.K.; Thorrold, S.R., http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::::P1_STUDY_ID:1922, National Climatic Data Center

Abstracts, Presentations, and Non-Refereed Publications – Last 5 Years

(Advised student authors in italics, *graduate student presenting, °undergraduate student presenting)

2023

Lindburg, K.*; Thomas, E.K.; Rosenheim, B.E.; Miller, G.H.; Sepúlveda, J.; Firesinger, D.; DeWet, G. (2023). “Holocene mobilization of permafrost organic carbon within a

northeastern Baffin Island lake catchment modulated by climate and postglacial soil development." Abstract 202-1, GSA Connects 2023, Pittsburgh, Pennsylvania, 15-18 October, 2023.

Meyne, R.; Kaiser, E.; Shevenell, A.; Noble, T.; Leventer, A.; Rosenheim, B.E. (2023). "Using diatom assemblages from deglacial to recent to study ice-ocean interactions offshore of the Totten Glacier, East Antarctica." Abstract 237-13, GSA Connects 2023, Pittsburgh, Pennsylvania, 15-18 October, 2023.

2022

Lindburg, K.*; Thomas E.K.; Rosenheim, B.E.; Sepúlveda, J.; Miller, G. (2022). "Holocene terrestrial and lacustrine carbon cycling history of northeastern Baffin Island, Arctic Canada." Abstract 96-6, GSA Connects 2022, Denver, Colorado, 9-12 October, 2022.

Boehman, B.; *Monahan, K.*; Rosengard, S.; Aller, R.C.; Rosenheim, B.E.; Galy, V. (2022). "Selective Preservation of Terrestrial Organic Carbon in the Guianas Mudbanks Offshore the Amazon River" Abstract EP56B-05, 2022 Fall Meeting, AGU, Chicago, Illinois, 12-16 December, 2022.

Venturelli, R.A.; Boehman, B.; Davis, C.; Hawkings, J.; Johnston, S.E.; Gustafson, C.; Michaud, A.B.; Mosbeux, C.; Siegfried, M.; Vick-Majors, T.; Galy, V.; Spencer, R.G.; Warny, S.; Christner, B.C.; Dore, J.E.; Fricker, H.A.; Harwood, D.M.; Leventer, A.; Priscu, J.C.; Skidmore, M.L.; Rosenheim, B.E. (2022). "Constraints on the timing and extent of deglacial grounding line retreat in West Antarctica from subglacial sediments (invited)." Abstract C42B-01, 2022 Fall Meeting, AGU, Chicago, Illinois, 12-16 December, 2022.

2021

*King, T.M.**; Rosenheim B.E. (2021). "Stable isotope maps of $\delta^{18}O$ and $\delta^{13}C$ from Southern Ocean Stylasterid corals support two-stage biomineralization." Abstract B35K-1546, 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

Siegfried, M.; *Venturelli, R.A.*; Patterson, M.O.; Arnuk, W.; Campbell, T.; Gustafson, C.; Michaud, A.B.; Galton-Fenzi, B.; Hausner, M.B.; Holzsuch, S.; Huber, B.; Mankoff, K.D.; Schroeder, D.M.; Summers, P.; Tyler, S.; Carter, S.P.; Fricker, H.A.; Harwood, D.M.; Leventer, A.; Rosenheim, B.E.; Skidmore, M.L.; Priscu, J.C.; SALSA Science Team. (2021). "The life and death of a subglacial lake in West Antarctica." Abstract C22A-08, 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

Venturelli, R.A.; Goehring, B.M.; Rosenheim, B.E.; SALSA Science Team. (2021). "Drilling into the past: Using sub-ice archives to assess Holocene (in)stability of the West Antarctic Ice Sheet." Abstract C42B-01. 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

*King, T.M.**; Rosenheim, B.E.; Bohaty, S.M.; Courtillat, M.; Wellner, J.; Gohl, K.; Kulhanek, D.K.; Scientific Team of IODP Expedition 379. (2021). "Verifying glacial-interglacial cycles in the Pleistocene drillcore sequence from IODP site U1532, Amundsen Sea,

Antarctica." Abstract PP52B-06. 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

Shen, Z.; Rosenheim, B.E.; Tornqvist, T.E.; Lang, A. (2021). "Embankment reduces oxidative riverine organic carbon loss and changes the carbon cycle." Abstract B15F-1494. 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

Davis, C.; Venturelli, R.A. ; Hawkings, J. ; Michaud, A.B. ; Dore, J.E. ; Kim, O.-S. ; Rosenheim, B.E. ; Priscu, J.C.; Christner, B. (2021). "Historical and environmental drivers of microbial community structure in West Antarctica subglacial sediments." Abstract B55J-1316. 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

Mukherjee, U.; Tornqvist, T.E.; Vetter, L.; Steponaitis, E.; Rosenheim, B.E.; Cahil, Naimh, Milne, G.A.; Tarasov, L.; Lecavalier, B. (2021). "Partitioning early Holocene North American v. Antarctic ice melt from high-resolution reconstructions of sea level rise and glacial isostatic adjustment modeling." Abstract PP51A-01. 2021 Fall Meeting, AGU, New Orleans, Louisiana, 13-17 December, 2021.

2020

*Monahan, K.**; Rosenheim, B.E.; Galy, V.; Boehman, B. (2020). "Muddying the river-ocean carbon budget: synthesis of previous work on Guianas Mudbanks organic carbon in preparation for a new expedition." Abstract EP002-0011, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

*Venturelli, R.A.**; Vick-Majors, T.; Siegfried, M.; Leventer, A.; Christner, B.; Priscu, J.; Davis, C.; Wei, L.; Barker, J.D.; Harwood, D.M.; Fricker, H.A.; Rosenheim, B.E.; SALSA Science Team. (2020). "On the origin and cycling of Holocene-aged carbon beneath the West Antarctic Ice Sheet." Abstract C024-04, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

Neuhaus, S.; Tulaczyk, S.M.; Stansell, N.; Coenen, J.J.; *Venturelli, R.A.*; Scherer, R.P.; Mikucki, J.; Rosenheim, B.E.; Powell, R.D. (2020). "Mid-Holocene Retreat and Late Holocene Re-advance of the Grounding Line in the Ross Sea Sector." Abstract C024-05, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

*King, T.M.**; Rosenheim, B.E.; Shevenell, A.; Ingalls, A.E.; Carlson, L. (2020). "New East Antarctic margin radiocarbon chronologies reveal younger deglacial timing than previously dated carbonate-poor sediments." Abstract C037-0006, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

Davis, C.; Barker, J.D.; Dore, J.E.; Hawkings, J.; Leventer, A.; Patterson, M.O.; Rosenheim, B.E.; Steigmeyer, A.; Christner, B.; Achberger, A.; Campbell, T.; Harwood, D.M.; Kim, O.-S.; Michaud, A.B.; Priscu, J.C.; Skidmore, M.L.; *Venturelli, R.A.*; SALSA Science Team (2020). "Influence of past climate change on subglacial microbial communities and biogeochemical processes beneath Siple Coast ice streams, West Antarctica." Abstract

B086-04, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

Rosenheim, B.E.; *Venturelli, R.A.; Subt, C.; Browne, I.M.; King, T.M.*; Campbell, T.; Bart, P.J.; Dore, J.E.; Harwood, D.M.; Kingslake, J.; Lee, J.I.; Leventer, A.; Michaud, A.B.; Patterson, M.; Shevenell, A.; Siegfried, M.; Skidmore, M.L.; Yoo, K.-Y.; Yoon, H.I. (2020). "What can advances in Antarctic deglacial sediment 14C dating tell us about grounding line evolution?" PP014-03, 2020 Fall Meeting, AGU, Online due to COVID-19 Pandemic, 1-17 December 2020.

2019

Smoak, J.M.; Breithaupt, J.; Moyer, R.P.; Radabaugh, K.; Bianchi, T.S.; Vaughn, D.; Rosenheim, B.E.; *Schafer, C.*; Chambers, L.G.; Hartlung, S,; Kominoski, J.S. (2019). "Sea-level rise and storms alter soil carbon dynamics of southwest Florida mangrove forests." Abstract GC51H-0989, 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

Priscu, J.C.; Barker, J.D.; Campbell, T.; Christner, B.C.; Davis, C.; Dore, J.E.; Fricker, H.A.; Gardner, C.B.; Harwood, D.M.; Leventer, A.; Li, W.; Lyons, W.B.; Michaud, A.B.; Patterson, M.; Rosenheim, B.E.; Siegried, M.; Skidmore, M.L.; Tranter, M.; *Venturelli, R.A.*; Vick-Majors, T.; Zook, B.; (2019). "SALSA: An Integrated Program Focusing on Carbon Transformations in Mercer Subglacial Lake located ~1100 m beneath the West Antarctic Ice Sheet." Abstract P53B-03. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

Siegfried, M.; Fricker, H.A.; Gustafson, C.; Key, K.; Leventer, A.; Dore, J.E.; Huber, B.A.; Mankoff, K.; Priscu, J.C.; Rosenheim, B.E.; (2019). "Anatomy of a draining subglacial lake in West Antarctica." Abstract C12A-07. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

Tornqvist, T.E.; Jankowski, K.L.; Stepanoitis, E.; Rosenheim, B.E.; Li, Z.; Shen, Z.; Vetter, L. (2019). Going beyond blue carbon: Organic carbon storage rates in clastic strata outpace rates in organic-rich strata in freshwater deltaic environments." Abstract EP41A-08. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

Priscu, J.C.; Bhartia, R.; Malaska, M.; Eshelman, E.J.; Abbey, W.; Zacny, K.; Li, W.; Hand, K.P.; Michaud, A.B.; Rosenheim, B.E.; Skidmore, M.L.; Vick-Majors, T. (2019). "Subglacial Antarctic Lakes: What they tell us about the exploration of Ocean Worlds Beyond Earth (Invited)." Abstract P51B-01. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

*Schafer, C.**; Rosenheim, B.E.; Smoak, J.M.; Breithaupt, J.; Moyer, R.P. (2019). "Increased Accommodation Space and OC Stabilization Enhance the Efficiency of the Mangrove

Blue Carbon Sink." Abstract B21K-2353. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

DeVry, J.°; *King, T.M.*; Rosenheim, B.E. (2019). "Analyzing the Effects of Grain Size on Activation Energy in Antarctic Margin Sediments." Abstract PP41B-1545. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

*Venturelli, R.A.**; Rosenheim, B.E. ; Leventer, A. ; Harwood, D.M ; Patterson, M.O.; Campbell, T.; Siegfried, M.; Fricker, H.A. (2019). "A Dynamic Holocene Grounding Line: In situ sedimentary evidence from Whillans and Mercer ice streams, West Antarctica." Abstract C21E-1505. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019.

Campbell, T.; Patterson, M.O.; Skidmore, M.L.; Leventer, A.; Michaud, A.B.; Rosenheim, B.E.; Harwood, D.M.; Dore, J.E.; Tranter, M.; *Venturelli, R.A.*; Priscu, J.C. (2019). "Physical and chemical characterization of sediments from Mercer Subglacial Lake, West Antarctica." Abstract C53B-1342. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019

Rosenheim, B.E.; Suzuki, K.; *King, T.M.*; Polyak, L.; Yamamoto, M.; Shevenell, A.; Ingalls, A.E. (2019). "Unmixing mixtures of carbon for accurate ages of ice-proximal glaciomarine continental margin sediments." Abstract C53B-1352. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019

Rivera, R.; Vadman, K.J.; Shevenell, A.; Leventer, A.; Rosenheim, B.E.; Gulick, S.P.S.; Huber, B.A. (2019). "Holocene to recent sediment transport on the Sabrina Coast: Grain-size analysis via laser diffraction." Abstract PP53C-1450. 2019 Fall Meeting, AGU, San Francisco, CA 9-13 December 2019

Rosenheim, B.E.; Michaud, A.; Broda, J.; Gagnon, A.; Dore, J.; Leventer, A.; Patterson, M.; Campbell, T.; *Venturelli, R.A*.; Skidmore, M.; Christner, B.; Priscu, J.P.; SALSA Science Team. (2019). "Challenges and successes coring sediments from Mercer Subglacial Lake." Abstract 323, XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

Siegfried, M.; Fricker, H.; Gustafson, C.; Key, K.; Leventer, A.; Dore, J.; Huber, B.; Mankoff, K.; Priscu, J.P.; Rosenheim, B.E.; SALSA Science Team. (2019). "Physical properties of a draining subglacial lake." Abstract 285, XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

Roseby, Z.; Smith, J.; Hillenbrand, C.-D.; Allen, C.; Leventer, A.; Cartigny, M.; Larter, R.; Hogan, K.; Rosenheim, B.E.; Kuhn, G. (2019). "Deglacial history of the Anvers-Hugo Island Trough, western Antarctic Peninsula." Abstract 154, XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

*Venturelli, R.**; Rosenheim, B.E.; Roush, K.; Michaud, A.; Priscu, J.; Skidmore, M.; Dore, J.; Li, W.; Leventer, A.; Harwood, D.; SALSA Science Team; WISSARD Science Team.

(2019). “Subglacial carbon pathways associated with Whillans and Mercer Ice Streams: A SALSA and WISSARD sedimentary perspective.” Abstract 284, XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

King, T.; Rosenheim, B.; Shevenell, A.; Ingalls, A.; Truxal Carlson, L; Leventer, A. (2019). “Have we been right about the timing of the last deglacial in Antarctica?” Abstract 461, XIII International Symposium on Antarctic Earth Sciences, Incheon, Republic of Korea.

Academic Activities

Courses Taught

OCC6050 (USF): Chemical Oceanography. Co-taught with Kristen Buck, Robert Byrne, and Timothy Conway. This course is part of the core curriculum. I cover radioisotopes in the ocean, stable isotopes, carbon cycling, and other topics as needed. I have flipped my portion of this course.

OCG6051 (USF): Geological Oceanography. Co-taught with Amelia Shevenell and Alastair Graham. This course is part of the core curriculum. I cover sediment transport to the ocean, deep sea sedimentation, regional geologic oceanography (Gulf of Mexico), and biogeochemistry/diagenesis. I have flipped my portion of this course.

OCE6934 (USF): Geochemistry. A survey of geochemistry incorporating units on reactions, stable isotope, radionuclides, and mixing. The course featured lectures on the board, including derivations of common geochemical concepts as well as challenging in-class exercises that were often open-ended. The course featured problem sets, take-home exams, and in-class exams for a broad array of assessment.

OCE6934 (USF): Stable Isotope Geochemistry. This course features condensed intensive lectures with problem sets for 9 weeks, with simultaneous development of an independent research project for graduate students. After a mid-term exam, the class switches to a laboratory research and seminar module. Students present primary literature summaries that are important to their research, they carry out cutting edge research projects in the laboratory, they prepare a manuscript-type report, and they present their findings orally in front of the class.

OCE6934 (USF): Quaternary Marine Geochronology. It relies heavily on laboratory capabilities of the Ramped PyrOx system as students are expected to work collaboratively on geochronological analyses. The students are assessed using a mid-term take-home examination and a collaborative manuscript that is to be publication-ready.

OCE6972 (USF): Directed Research: I teach graduate students individually when they need to learn special topics intensively or for which there is not enough demand to warrant a formal course. Students design syllabi for these courses and I help them prepare learning outcomes, schedules of activities, and assessment in an iterative process. With limited

TAs at CMS, this is valuable for learning curriculum development. We then use that syllabus as a template to conduct advanced literature research (with writing of an introduction to a manuscript as assessment), laboratory experiments (with writing manuscript drafts as an exercise for assessment), and research expeditions (for students that need to spend a large portion of the semester at sea, usually involving a presentation at sea graded by expedition participants).

OCE6971 (USF): Thesis: Masters. Mentoring of M.S. students as primary adviser. This involves weekly progress meetings and filing of progress forms so that students participate actively in formulating goals and evaluating their performance.

OCE7910 (USF): Doctoral Dissertation Research. Mentoring of Ph.D. students as primary adviser. This involves weekly progress meetings and filing of progress forms so that students participate actively in formulating goals and evaluating their performance. Additional professional development is carried out in the form of expecting Ph.D. students to mentor other students in the research group, publication of peer-reviewed journal articles as lead author, and presentations at national and international conferences and workshops.

EENS 6210 (Tulane University): Carbon Cycle Seminar. This course uses David Archer's Carbon Cycle monograph as a basis to explore the literature concerning changes in the Earth's carbon cycle over several time scales in relation to current changes. It is discussion and writing intensive.

EENS 6080 (Tulane University): Climatology and Paleoclimatology of the Common Era. This seminar course is designed to familiarize graduate and advanced undergraduate students with literature concerning very Late Holocene climate and to acclimate students to use of large, publicly available data sets to analyze climate. The course involves literature surveys with a Matlab seminar once per week.

EENS 1300 (Tulane University): Earth: A Living Planet. This course was designed and implemented as an introductory environmental science course. A laboratory section of the course was designed by myself, Dr. Nicole Gasparini, Dr. Gerhard Piringer, and Dr. George Flowers, and implemented by Dr. Flowers in spring of 2010.

EENS/EBIO 6240 (Tulane University): Stable Isotopes in the Environment. This course is designed to familiarize upper level majors and graduate students with the theories and applications of stable isotope measurement in natural levels found in the environment. Half of the class involves lectures and problem sets, while the second half involves performing laboratory analyses for a final class project.

EENS/EBIO 2230 (Tulane University): Introductory Oceanography. This course is aimed at science majors, but accessible to non-majors as well. It involves 3 lectures per week, plus a field trip to LUMCON to perform oceanographic measurements aboard a coastal research vessel.

MSC 101 (University of Miami): Introduction to Oceanography, Non-Science Majors. This course gave me the opportunity to teach lectures on topics as broad as wave physics to coral physiology in a delivery suitable for all backgrounds. I have received excellent reviews from students in these classes and have succeeded in presenting both traditional blackboard lectures and multi-media presentations.

Students Advised Directly

Alejandra Aguilar, Ph.D., in progress USF
Orion Schomber, M.S., in progress, USF
Thea Bartlett, M.S., in progress, USF
Kiersten Monahan, Ph.D., in progress, USF
Theresa King, Ph.D., in progress, USF
Nicola Guisewhite, M.S., in progress, USF
Tynisha Martin, M.S., 2022, USF
Ryan Venturelli, Ph.D., 2021, USF
Carolyn Schafer, M.S., 2021, USF
Caitlin Reynolds, M.S., 2018, USF
Devon Firesinger, M.S., 2017, USF
Cristina Subt, Ph.D., 2017, USF
Alvaro Fernandez, Ph.D., 2015, Tulane University
Elizabeth Williams, Ph.D., 2014, Tulane University
Matthew Pendergraft, M.S., 2013, Tulane University
Emily Cardarelli, B.S. with honors, 2012, Tulane University
Kimberly Roe, M.S. 2011, Tulane University
Gabriella March, B.S. with honors, 2010, Tulane University
Jennifer Douglass, B.S. with honors, 2009, Tulane University

Visiting Scholars Hosted

USF-CMS
Laura Kattein, Universitaet Bremen, Germany - February 2024
Emily Watkins, University of Florida, United States – April 2023
Hailey Sinon, University of Pittsburgh, United States – March 2022
Kurt Lindberg, University of Buffalo, United States – June 2021
Cathy Ginnane, GNS Science, New Zealand (Rafter Radiocarbon Laboratory) – September 2019
Ryan Clarke, Tulane University, United States – June 2019
Dayang Sun, Zhejiang University, China – September 2018 – March 2019
Simon Reeve, University of Otago, New Zealand – August 2018
Xingqian Cui, University of Florida – June-July 2018, May 2019
Zoe Roseby, British Antarctic Survey, United Kingdom – June-July 2017
Kenta Suzuki, Hokkaido University, Japan – September 2016, May 2017.
Usman Muhammed, ETH-Zurich, Switzerland – August 2016
Rebecca Parker, University of Otago, New Zealand – June-July 2016
Thomas Andro, Université de Brest Occidentale, France – February – July 2015
Alexis Cuvillier, Université de la Réunion, France – October 2014

Tulane University
Kimberly Allison Fangman, University of Houston, United States – May-June 2011
Jennifer Santoro, Hamilton College, United States – May – August 2010

Students Advised on Thesis or Dissertation Committee

Delfina Navarro-Estrada, Ph.D., in progress, USF
Laura Kattein, Ph.D., in progress, Universitaet Bremen, Germany
Emily Kaiser, Ph.D., in progress, USF
Jordan Meyer, Ph.D., in progress, USF
Imogen Browne, Ph.D., in progress, USF
April Ellis, Ph.D., in progress, USF
Calyn Crawford, M.S., USF, 2023
Brianna Michaud, Ph.D., USF, 2022
Michelle Guitard, Ph.D., USF, 2021
Kara Vadman, Ph.D., USF, 2021
Jonathan Sharp, Ph.D., USF, 2020
Julie Vecchio, Ph.D., USF, 2019
Travis Mellett, Ph.D., USF, 2019
Jongjin Lee, M.S., USF, 2018
Selena Johnson, Ph.D., USF 2019
Yingli Zhu, Ph.D., USF, 2019
Rebekka Larson, Ph.D., USF, 2018
Joshua Breithaupt, Ph.D., 2017, USF
Sean Murray, Ph.D., 2016, U. of Miami Rosenstiel School of Marine and Atmospheric Science
Meredith Moss Evans, M.S., 2016, University of Texas Marine Science Institute
Michelle Guitard, M.S., 2015, USF
Victoria Troeger, B.S. with honors, 2013, Tulane University
Kimberly A. Mead, M.S., 2012, University of Houston
Rebecca L. Freeman, Ph.D., 2011, Tulane University
Benjamin Jones, B.S. with honors, 2011, Tulane University
Frida Zink, B.S. with honors, 2011, Tulane University
Charlotte Sprehn, B.S. with honors, 2011, Tulane University
Amy Cone, M.S., 2010, Louisiana State University
Johanna Nevitt, B.S. with honors, 2009, Tulane University

Professional Service

National/International

2022-present	Associate Editor in Geochemistry, Frontiers in Earth Science
2021 – 2024	USF team leader, All-ABOARD (Alliance-Building Offshore to Achieve Resilience and Diversity) program; one of four teams selected nationally
2021 – present	Member, College of Marine Science Diversity, Equity, and Inclusion (DEI) Committee

2021	Member – College of Marine Science URGE Pod
2021-present	Elected, second vice chair of the Geochronology Division of the Geological Society of America – 3-year term cycling through vice chair and chair positions.
2022-2023	Member – AgeS Steering Committee, representative from the Geochronology Division
2021 – present	Member laboratory – AGeS Geochronologic laboratories available for funding competition for students in the Geological Society of America
2018-2019	National-Level Survey and Compiled Letter to the National Science Foundation regarding reporting of harassment in remote field stations and research vessels
2017-2020	Member, Organic Geochemistry Board, Geochemical Society
2014-2016	Advisory and Planning Board, National Ocean Sciences Accelerator Mass Spectrometer, Woods Hole Oceanographic Institution (Chair, 2017).
2016-2019	Member, College of Marine Science Representative – Research Council (distributes overhead funds through several different grant programs within USF system)
2016	Session Convener, American Geophysical Union Ocean Sciences Meeting, Rates of ice retreat and insights into a warming Earth from Antarctic sedimentary and ice records - Dating, chronology, regional correlations, and environmental change
2016	1st Ramped Pyrolysis Radiocarbon Workshop – Woods Hole Oceanographic Institution. Convener.
2016	National Science Foundation Marine Geology and Geophysics Proposal Review Panel
2015-2016	Host, 5th International Clumped Isotope Workshop, USF-CMS, Saint Petersburg, Florida
2015-2018	AGU-Paleoclimatology and Paleoceanography Dansgaard Award committee
2015	Session Convener, Goldschmidt Conference, Global Changes in the Fluxes and Reactivity of Riverine Organic Carbon from Channel to Coastal Margin
2015	Session Convener, American Geophysical Union Fall Meeting, Global Changes in the Fluxes and Reactivity of Riverine Organic Carbon from Channel to Coastal Margin
2014-2015	Faculty Search Committee – Biological Oceanography
2014	Session Convener, American Geophysical Union Fall Meeting, Global Changes in the Fluxes and Reactivity of Riverine Organic Carbon from Channel to Coastal Margin
2013	Session Convener, Gulf of Mexico Oil Spill and Ecosystem Conference, Models and observations working together to understand the Deepwater Horizon oil spill
2011	National Science Foundation Marine Geology and Geophysics Proposal Review Panel

2011	Technical Session Chair – South Central Sectional Meeting Geologic Society of America, New Orleans
2008	Session Convener, 11th International Coral Reef Symposium, Coral Reef Organisms as Recorders of Local and Global Environmental Change
2007	Session Convener, American Geophysical Union Fall Meeting, Understanding Tropical Climate Variability: Combining Observations, Models, and Paleoclimate Records

College/Departmental

Faculty Senate Council on Racial Justice – 2023-present

Phytoplankton Ecologist Search Committee - 2022

Diversity, Equity, and Inclusion Committee of the College of Marine Science – 2021-2023

College of Marine Science Dean Search Committee – 2019-2020

Chair, Geological Oceanography Search Committee – 2018-2019

Chair, USF-CMS Web Committee – 2015-present

USF Research Council – 2016-2019

USF-CMS Conduct and Grievance Committee – 2017-current

Chemical Oceanography Search Committee – USF-CMS, 2016

Biological Oceanography Faculty Search Committee – USF-CMS, 2015

Machine Shop Action Committee – Tulane University, 2012

Chair, Departmental Graduate Studies Committee – Tulane University 2009-2012

School of Science and Engineering Graduate Committee – Tulane University 2009-2012

Journal Referee

Proceedings of the National Academy of Science

Nature Communications

Nature Climate Change

Geophysical Research Letters

Geology

Geochimica et Cosmochimica Acta

Radiocarbon

Crystal Structure

Marine Chemistry

Palaeogeography, Palaeoclimatology, Palaeoecology

Paleoceanography

Earth and Planetary Review Letters

Coral Reefs

Geochemistry, Geophysics, Geosystems

AGU Books

Proceedings, International Coral Reef Symposium

Invited Seminars

2024 What happens to terrestrial organic matter in the ocean? Solving the mystery behind an iconic question – Geotopics Lecture Series, University of Miami Rosenstiel School of Marine and Atmospheric Sciences, February 13, 2024.

2022 (Postponed since 2020 due to COVID) Schweppe Lecture, University of Texas Marine Science Institute – November 20-24, 2022.

2021 Microbial messages of mantle viscosity – deciphering the signal of Holocene marine incursion, University of Virginia, November 12, 2021

2021 Redefining expectations of a good date: Sacrificing precision for accuracy (when necessary), Woods Hole Oceanographic Institution, October 4, 2021

2015 Time Matters: Refining regional deglacial chronology from Antarctic marginal marine sediments, University of Kentucky, November 11, 2015

2014 Paleoclimatology at the Human Timescale, Eckerd College, St. Petersburgh, Florida, May 7, 2014

2014 How to ruin a perfectly good (radiocarbon) date – Ramped pyrolysis and age spectra of riverine POC, University of Florida, Gainesville, Florida, April 11, 2014

2014 How to ruin a perfectly good (radiocarbon) date – Ramped pyrolysis and age spectra of riverine POC, Northwestern University, Chicago, Illinois, February 21, 2014

2013 Paleoclimatology at the Human Timescale, University of South Florida, College of Marine Science, St. Petersburg, Florida, March 17, 2013

2010 Burn, baby, Burn! Using refined pyrolysis techniques and radiocarbon to improve our understanding of the carbon cycle, University of Southern Mississippi, Stennis, Mississippi, May 21, 2010

2009 Burn, baby, burn: Insights from Pyrolysis/Combustion Radiocarbon Chronology of Sediments, University of Houston, Houston, Texas, January 30, 2009

2008 Secrets in Secretions, Louisiana Universities Marine Consortium, Chauvin, Louisiana, December 4, 2008

2008 Burn, Baby, Burn! Pyrolysis Radiocarbon Dating applied to Questions of Chronology and Carbon Cycling, Louisiana State University, Wilbur Lecture series (co-hosted by Geology and Oceanography Departments), Baton Rouge, Louisiana, September 18, 2008

2007 Climate Change, Carbon, and Chronology, University of Vermont, Department of Geology Seminar Series, Burlington, Vermont, October 8, 2007

2007 The Burning Question of Antarctic Sediment Chronology, Brown University, Providence, Rhode Island, February 26, 2007

2007 Revealing the spectrum of ages in bulk-dated organic material from Antarctic Penninsula sediment cores using programmed temperature pyrolysis, University of Miami (RSMAS), Key Biscayne, Florida, Division of Marine Geology and Geophysics Geotopics Series, February 13, 2007

Laboratory Experience and Supervision

Isotope Ratio Mass Spectrometry. I have experience using state of the art IRMS technology. I have used systems from VG Isogas, Thermo-Finnigan (Delta Plus), Finnigan MAT (251), Europa Geo (20/20) to analyze carbonates and waters. I have developed standardized laboratory computation programs for correction of isotope data and I have performed standardization of the Thermo-Finnigan Delta Plus with Kiel III carbonate device to overcome heterogeneities associated with small sample size capabilities. I have successfully adapted an Isoprime mass spectrometer to make clumped isotope measurements at the same precision as more expensive instrumentation, broadening the base of scientists who will participate in developing this method.

Accelerator Mass Spectrometry. I was part of a team which built a novel continuous flow accelerator mass spectrometer at the National Ocean Science Accelerator Mass Spectrometry facility at the Woods Hole Oceanographic Institution. I wired components for the system, designed a magnet cooling system for the high energy magnet, and wrote the control software for the instrument using LabVIEW environment.

Radiocarbon Determination and Organics. My laboratory group currently runs two Programmed Temperature Combustion systems. We use this system for radiocarbon dating applied to questions of chronology and carbon cycling, as well as oil pollution in sediments.

Laser Ablation/Decomposition. I have used laser ablation as a fine scale subsampling tool for paleoceanographic studies. I have made several advances toward developing a technique to use CO2 generated from laser decomposition of carbonate mineral surfaces for direct AMS determination of 14C.

Minor and Trace Element Spectrometry and Spectroscopy. I experienced in operation of an Inductively Coupled Plasma spectroscope. I have used ICP-AE and OE spectrometers in both industry and academia. Most recently, I was responsible for standardizing a newly acquired Varian Vista Pro ICP-OES axial spectrometer to analyze large carbonate samples for trace elements and small carbonate samples for minor elements. I have performed standardization with seawater samples of various strengths. I have experience with ICP-MS, especially interfaced with a laser micro-sampling device.

Microscopy. I operated both epifluorescence and scanning electron microscopes for minor parts of my Ph.D. dissertation. I am familiar with the principles of these technologies and able to use them autonomously.

Fieldwork Experience

May – July 2023: Chief Scientist. Led expedition to Brazil, French Guiana, and Suriname. Traveled overland with frozen samples and sampling equipment from Brazil to French Guiana due to interdiction of U.S. inspected vessels entering Brazil coastal waters within 12 nautical miles, met U.S. flagged R/V F.G. Walton Smith and multinational scientific party in Cayenne, French Guiana. Led ocean-going portion of the expedition aboard the R/V F.G. Walton Smith, sampling in Brazil, France, and Surinam coastal waters.

December 2018 – January 2019: Deployed to deep field camp at Mercer Subglacial Lake in Antarctic as an executive committee member and sediment team member for the Subglacial Antarctic Lakes Scientific Access (SALSA) project. Designed and deployed a sediment corer that was able to take the longest subglacial sediment core at the time (1.79 m).

May 2017 – present: Ongoing small boat operations and sediment coring in the Ten Thousand Islands mangrove ecosystem of Southwest Florida.

July 7 – July 10, 2014: co-Chief Scientist. PE15-01 Water Column Sampling Cruise, R.V. Pelican, Consortium for the Advanced Research of Transport of Hydrocarbon in the Environment.

June 24 – June 29, 2013: Chief Scientist. PE13-33 Benthic Observations Cruise, R.V. Pelican. Consortium for the Advanced Research of Transport of Hydrocarbon in the Environment.

October 7- October 31, 2012: Shipboard Scientist. LMG12-11 LARISSA Cruise, Antarctic Peninsula. Gravity, piston, and kasten cores of paleo ice stream drape sediment.

June 30 – July 3, 2012: Chief Scientist. PE12-33 Benthic Observations Cruise, R.V. Pelican. Consortium for the Advanced Research of Transport of Hydrocarbon in the Environment.

April 2008 - present: Survey boat surveying and sampling of Mississippi River (lower reaches) and Atchafalaya River. The research was originally carried out under an NSF SGER grant for sampling of suspended sediment and new sedimentation. The goal of continued research is to characterize this sediment in terms of the spectra of radiocarbon ages present both before and after deposition and to compare between to normal and low flow stages.

August, 2008 – July 2009: Sedimentation and reef survey, Lana'i, Hawaii. These research involves pilot funds from Tulane University (post Hurricane Katrina research enhancement funds) to commence a research collaboration in Hawai'i involving characterization of erosional processes in terms of land use change and climate change. Sedimentation and carbon transport from the ridges of the volcanoes to the reefs is the goal of measurement and quantification.

June, 2007: Submersible research cruise, Key West to Fort Lauderdale, Florida, in collaboration with the University of Miami and Harbor Branch Oceanographic Institution. Several submersible dives were made for collection of marine species living at depths less than 990m and of interest in paleoceanographic studies and pharmaceutical research.

May-June, 2003: Exploration of French Antilles for scuba-accessible sclerosponge specimens. Three week scuba exploration of all areas of the coast with either submarine grottoes or steep walls, both conducive to cryptic sclerosponge habitat.

October-November, 2002: Caribbean Atlantic Salinity Experiment (CASE-02) Cruise aboard the R/V Suncoaster. I participated in both legs of a month-long coral core collection expedition spanning the Bahamas to the St. Vincent Grenadines. Responsible for drilling corals by scuba using a hydraulic drill tethered to a small dinghy launched from the main vessel. Corals located using physical geography and existing literature to explore each island by snorkel.

August, 2002: Sequence Stratigraphy of the Madison formation. Field Assistant for the Comparative Sedimentology Laboratory of the U. of Miami. Measured stratigraphic section of the Madison formation outcropping in Montana.

May, 2002: Stage II of NSF-funded Sclerosponge Calibration Project, Discovery Bay, Jamaica. Sclerosponges were sampled after an incubation period of nearly 3 years. Other sclerosponges were re-stained with Calcein and thermistors were swapped and re-calibrated. Corals were also sampled to compare with proximal sclerosponge records.

September, 2001: Geochemical Classification of Bahamas Bank Sediment cruise, R/V Bellows. This cruise gridded the NW Great Bahamas Bank, sampling sediment and water every 10km. Analysis for salinity, grain type, and skeletal makeup of waters and sediment performed on-board.

May, 2001: Carbonate petrography class trip to Andros Island in the Bahamas. Studied Aeolian and shallow water carbonate deposits from the Pleistocene and Holocene as a class project. I took part in explorations of the supratidal mud flats of western Andros Island and sampled dolomite crusts forming in these unique environments.

August, 2000: Exploration of the Commonwealth of Dominica for mature coral colonies. Explored the leeward coast of Dominica for large heads of Siderastraea sideraea suitable for climate records and potential sclerosponge environments by scuba. Several S. Sideraea colonies were drilled pneumatically and brought back to Miami. No sclerosponges were found. Also assisted in surveying reef to quantify and monitor corals with known diseases.

August, 1999: Initiation of NSF funded Sclerosponge Calibration Project, Discovery Bay, Jamaica. Installed and calibrated temperature thermistors in submarine reef enclosure and stained sclerosponge surfaces using Calcein, a fluorochrome. Operations performed by scuba.

June-July 2000: Relocation of sediment traps and levels, Roatan, Honduras. I took part in the final part of an abiotic reef survey, relocating sediment measuring devices and recording reef transects for changes since the project was started.

July, 1999: Post-Hurricane Mitch abiotic reef assessment, Roatan, Honduras. This trip was planned to assess catastrophic changes to sections of reef due to the passing of Hurricane Mitch the previous year. Sedimentation measuring devices and coral transects were located by snorkel and scuba.

July, 1998: Sampling of *Montastraea annularis* for my undergraduate honors thesis, Roatan, Honduras. Land use patterns of the island were assessed and corals were sampled from long-disturbed area, recently-disturbed area, and pristine offshore control site.

Scientific Workshops Attended and Hosted

2022 Safety in Ocean Sciences Workshop – Consortium of Ocean Leadership

2021 Korean Polar Research Institute Symposium, *invited speaker*

2021 Workshop for Safety in Field Sciences – Consortium of Ocean Leadership, online.

2016 1st Ramped Pyrolysis Radiocarbon Workshop – Woods Hole Oceanographic Institution. Convener.

2015 Host, 5th International Clumped Isotope Workshop, St. Petersburg, Florida, U.S.A.

2014 SOM6 – 6th International Workshop on Soil Organic Matter Stabilization and Destabilization, Kiawah Island, South Carolina

2014 4th International Clumped Isotope Workshop, ETH Zurich, Zurich, Switzerland

2014 Korean Polar Research Institute Symposium, *invited speaker*.

2013 MOSSFA Working Group Meeting, Florida State University, Tallahassee, Florida

2013 3rd International Clumped Isotope Workshop, Harvard University, Boston, Massachusetts

2011 International Workshop on Small Scale Radiocarbon Analysis, ETH, Zurich, Switzerland

2010 1st International Clumped Isotope Workshop, University of Washington, Seattle, Washington

2006 IODP Caribbean Gateway Workshop, Austin, Texas

2006 CLIVAR Salinity Workshop, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts

Outreach

2024 Quoted in New York Times article on the demise of the Anthropocene Epoch as an official geological division of time, using my statement as chair of the Geochronology Division of the Geological Society of America https://www.nytimes.com/2024/03/20/climate/anthropocene-vote-upheld.html?ugrp=u&unlocked_article_code=1.fU0.m6X4.eGP8oz0f6bv0&smid=url-share

2024 Interviewed for New York Times article on sclerosponge temperature records as a scientist uninvolved with highlight study (McCulloch et al., 2024, Nature Climate Change). https://www.nytimes.com/2024/02/05/climate/global-warming-sponges.html?ugrp=u&unlocked_article_code=1.gU0.bVw9.KPSOWRD9SaSk&smid=url-share

2023 Release of "The Lake at the Bottom of the World", a document about the Subglacial Antarctic Lakes Scientific Access (SALSA) project, streaming on major video platforms like Amazon Prime, YouTube

2023 Film screening, "The Lake at the Bottom of the World" at the St. Petersburg Science Festival

2021 Team leader, All-ABOARD program ("A Bull's Eye for JEDI). Leading intergenerational team of USF STEM personnel to establish roadmaps for success for minoritized students and for administrators supporting students, ultimately aiming to create an REU site proposal here at CMS.

2014–2019. Paleoceanography booth at the Saint Petersburg Science Festival, serving 25,000 students from around the region. I develop content and participate in the booth.

2011 National Public Radio Interview "In Cleaning Oiled Marshlands, A Sea of Unknowns" (http://www.npr.org/2011/04/20/135571426/in-cleaning-oiled-marshlands-a-sea-of-unknowns)

2010 National Geographic News "Exxon Valdez Lessons Applied in Gulf Coast Cleanup." (http://news.nationalgeographic.com/news/2010/12/101203-nsf-gulf-oil-weathered-vin-video/)

2010 Public Broadcasting System Televised Panel "Science of the Spill." (https://www.youtube.com/watch?v=Q_G0qu0eUKw)

2008 - 2011 NOLA S.M.I.L.E. (New Orleans, Louisiana, Science and Mathematics Inquiry Learning and Experience). Workshop for 3rd and 4th grade teachers in Southeast Louisiana focusing on Earth Science.