

John Christopher Lehrter

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EDUCATION

2003	Ph.D.	Biology	University of Alabama
1996	M.S.	Biology	University of Alabama
1990	B.S.	Biology	University of North Alabama

PROFESSIONAL APPOINTMENTS

2022 - present	Senior Marine Scientist III, Dauphin Island Sea Lab, Dauphin Island, AL
2021 - present	Professor, School of Marine & Environmental Sciences, University of South Alabama, Mobile, AL
2020 - 2021	Senior Marine Scientist II, Dauphin Island Sea Lab, Dauphin Island, AL
2016 - 2021	Associate Professor, Department of Marine Sciences, University of South Alabama, Mobile, AL
2016 - 2020	Senior Marine Scientist I, Dauphin Island Sea Lab, Dauphin Island, AL
2016	Supervisory Research Ecologist GS-14, US Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL
2016	Research Ecologist GS-14, US Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL

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- 2008 - 2016 Research Ecologist GS-13, US Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL
- 2006 - 2008 Research Ecologist GS-12, US Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL
- 2004 - 2006 Postdoctoral Ecologist GS-11, U.S. Environmental Protection Agency, Office of Research and Development, Gulf Breeze, FL
- 2002 - 2004 Environmental Scientist, Strand Associates Inc., Mobile, AL
- 1998 - 1999 Farmer, Courtland, AL
- 1996 - 1997 Research Director, Ecosystems Database Design, Inc., Seattle, WA
- 1990 - 1993 Fisheries Observer, Alaskan Observers Inc., Dutch Harbor, AK

PUBLICATIONS

- Le, C., H. Sun, J. Lehrter, X. Jia, and Z-P. Jiang (In revision for resubmission), Linking Greenland atmospheric blocking to winter-spring phytoplankton blooms in the Canary upwelling system. *Journal of Geophysical Research: Oceans*.
- Le, C., Chen, Y., Lehrter, J.C., Hu, C., Bouman, H., Cai, W.J. and Qi, L., (2021). Greenland blocking promotes subtropical North Atlantic spring blooms. *Geophysical Research Letters*, 48(13), p.e2020GL092252.
- Coogan, J., Dzwonkowski, B., Lehrter, J., Park, K. and Collini, R.C., (2021). Observations of dissolved oxygen variability and physical drivers in a shallow highly stratified estuary. *Estuarine, Coastal and Shelf Science*, 259, p.107482.
- Wang, F., D. Tian, L. Lowe, L. Kalin, J. Lehrter (2021), Deep learning for daily precipitation and temperature downscaling. *Water Resources Research* 57, e2020WR029308 <https://doi.org/10.1029/2020WR029308>.
- Jarvis, B., R. Greene, Y. Wan, J. Lehrter, L. Lowe, D.S. Ko (2021), Contiguous formation of low oxygen waters between the continental shelf hypoxic zone and nearshore coastal waters of Louisiana, USA. *Environmental Science and Technology*. <https://dx.doi.org/10.1021/acs.est.0c05973>.
- Greer, A.T., J. Lehrter, B. Binder, A. Nayak, R. Barua, A. Rice, J. Cohen, M. McFarland, A. Hagemeyer, N. Stockley, and K. Boswell (2020). High-resolution sampling of a broad marine life size spectrum in relation to shelf biophysical characteristics. *Frontiers in Marine Science*, 7, p.1125.

- Wang, H., J. Lehrter, K. Maiti, K. Fennel, A. Laurent, N. Rabalais, N. Hussain, Q. Li, and WJ Cai (2020), Benthic respiration in hypoxic waters enhances bottom water acidification in the northern Gulf of Mexico. *Journal of Geophysical Research: Oceans* 10.1029/2020JC016152.
- Jarvis, B., J. Lehrter, L. Lowe, J. Hagy, Y. Wan, M. Murrell, D. Ko, B. Penta, and R. Gould (2020), Modeling spatiotemporal patterns of ecosystem metabolism and organic carbon dynamics affecting hypoxia on the Louisiana continental shelf. *Journal of Geophysical Research: Oceans*, 125, e2019JC015630.
- Pauer, J. W. Melendez, T. Feist, J. Lehrter, B. Rashleigh, L. Lowe, and R. Greene (2020), The Impact of alternative nutrient kinetics and computational grid size on model predicted primary production and hypoxic area in the northern Gulf of Mexico. *Environmental Modelling and Software*. 126, 104661, 1-12.
- Alvaro, L., J. Lehrter, and M. Fung (2019), Spatial patterns of particulate organic carbon concentrations and isotopic signatures across a salinity gradient in a river dominated estuary. *Gulf and Caribbean Research*, 30 (1), SC47-SC51.
- Jiang, Z-P., W-J. Cai, J. Lehrter, B. Chen, Z. Ouyang, C. Le, B. Roberts, N. Hussain, M. Scaboo, J. Zhang, and Y. Xu (2019), Spring net community production and its coupling with the CO₂ dynamics in the surface water of the northern Gulf of Mexico, *Biogeosciences*. 16, 3507-3525.
- Coogan, J., B. Dzwonkowski, and J. Lehrter (2019), Effects of coastal upwelling and downwelling on hydrographic variability and dissolved oxygen in Mobile Bay. *Journal of Geophysical Research: Oceans*, 124, 791-806.
- Devereux, R., J. Lehrter, G. Cicchetti, D. L. B. Beddick Jr, D. F. Yates, B.M. Jarvis, J. Aukamp, and M. Hoglund (2019), Spatially variable bioturbation and physical mixing drive the sedimentary biogeochemical seascape in the Louisiana continental shelf hypoxic zone. *Biogeochemistry*, 143, 151-169.
- Le, C., Y. Gao, W-J. Cai, J. Lehrter, Y. Bai, and Z-P. Jiang (2019), Estimating summer sea surface pCO₂ on a river-dominated continental shelf using a satellite-based semi-mechanistic model. *Remote Sensing of Environment*, 225, 115-126.
- Laurent, A., K. Fennel, D.S. Ko, and J. Lehrter (2018), Climate change projected to exacerbate impacts of coastal eutrophication in the northern Gulf of Mexico. *Journal of Geophysical Research: Oceans*. 123. [https://doi.org/ 10.1002/2017JC013583](https://doi.org/10.1002/2017JC013583).
- Beck, M. W., J. Lehrter, L. L. Lowe, and B. M. Jarvis (2017), Parameter sensitivity and identifiability for a biogeochemical model of hypoxia in the northern Gulf of Mexico, *Ecological Modelling*, 363, 17-30.
- Chen, Y., J. Cebrian, J. Lehrter, B. Christiaen, J. Stutes, and J. Goff (2017), Storms do not alter long-term watershed development influences on coastal water quality, *Marine Pollution Bulletin*, 122(1-2), 207-216.

- Conmy, R. N., B. A. Schaeffer, J. Schubauer-Berigan, J. Aukamp, A. Duffy, J. Lehrter, and R. M. Greene (2017), Characterizing light attenuation within Northwest Florida Estuaries: implications for RESTORE Act water quality monitoring, *Marine Pollution Bulletin*, 114(2), 995-1006.
- Le, C., J. Lehrter, C. Hu, H. MacIntyre, and M. W. Beck (2017), Satellite observation of particulate organic carbon dynamics on the Louisiana continental shelf, *Journal of Geophysical Research: Oceans*, 122(1), 555-569.
- Lehrter, J., and C. Le (2017), Satellite derived water quality observations are related to river discharge and nitrogen loads in Pensacola Bay, Florida, *Frontiers in Marine Science*, 4, 274, 1-17.
- Lehrter, J., D. Ko, L. Lowe, and B. Penta (2017), Predicted effects of climate change on northern Gulf of Mexico hypoxia, in *Modeling Coastal Hypoxia: Numerical Simulations of Patterns, Controls and Effects of Dissolved Oxygen Dynamics*, Justic, D., Rose, K.A., Hetland, R.D., Fennel, K. (Eds.), pp. 173-214, Springer International Publishing.
- Christiaen, B., J. Lehrter, J. Goff, and J. Cebrian (2016), Functional implications of changes in seagrass species composition in two shallow coastal lagoons, *Marine Ecology Progress Series*, 557, 111-121.
- Feist, T. J., J. J. Pauer, W. Melendez, J. Lehrter, P. A. DePetro, K. R. Rygwelski, D. S. Ko, and R. G. Kreis Jr (2016), Modeling the relative importance of nutrient and carbon loads, boundary fluxes, and sediment fluxes on Gulf of Mexico hypoxia, *Environmental Science & Technology*, 50(16), 8713-8721.
- Fennel, K., A. Laurent, R. Hetland, D. Justic, D.S. Ko, J. Lehrter, M. Murrell, L. Wang, L. Yu, and W. Zhang (2016), Effects of model physics on the hypoxia simulations for the northern Gulf of Mexico: A model Intercomparison, *Journal of Geophysical Research: Oceans*, 121(8), 5731-5750.
- Ko, D. S., R. W. Gould, B. Penta, and J. Lehrter (2016), Impact of satellite remote sensing data on simulations of coastal circulation and hypoxia on the Louisiana Continental Shelf, *Remote Sensing*, 8(5), 435, 1-16.
- Laurent, A., K. Fennel, R. Wilson, J. Lehrter, and R. Devereux (2016), Parameterization of biogeochemical sediment-water fluxes using in situ measurements and a diagenetic model, *Biogeosciences*, 13, 77-94.
- Le, C., J. Lehrter, B. A. Schaeffer, C. Hu, M. C. Murrell, J. D. Hagy, R. M. Greene, and M. Beck (2016), Bio-optical water quality dynamics observed from MERIS in Pensacola Bay, Florida, *Estuarine, Coastal and Shelf Science*, 173, 26-38.
- Le, C., J. Lehrter, C. Hu, and D. R. Obenour (2016), Satellite-based empirical models linking river plume dynamics with hypoxic area and volume, *Geophysical Research Letters*, 43(6), 2693-2699.

- Pauer, J. J., T. J. Feist, A. M. Anstead, P. A. DePetro, W. Melendez, J. Lehrter, M. C. Murrell, X. Zhang, and D. S. Ko (2016), A modeling study examining the impact of nutrient boundaries on primary production on the Louisiana continental shelf, *Ecological Modelling*, 328, 136-147.
- Devereux, R., J. Lehrter, D. L. Beddick, D. F. Yates, and B. M. Jarvis (2015), Manganese, iron, and sulfur cycling in Louisiana continental shelf sediments, *Continental Shelf Research*, 99, 46-56.
- Fry, B., D. Justic, P. Riekenberg, E. M. Swenson, R. E. Turner, L. Wang, L. Pride, N. N. Rabalais, J. Kurtz, and J. Lehrter (2015), Carbon dynamics on the Louisiana continental shelf and cross-shelf feeding of hypoxia, *Estuaries and Coasts*, 38(3), 703-721.
- Grigas, D., J. Lehrter, J. Cebrian, Y. Chen, B. Ehmen, and M. Woodrey (2015), Effects of stormwater pipe size and rainfall on sediment and nutrients delivered to a coastal bayou, *Water Environment Research*, 87(9), 796-804.
- Le, C., J. Lehrter, C. Hu, B. Schaeffer, H. MacIntyre, J. D. Hagy, and D. L. Beddick (2015), Relation between inherent optical properties and land use and land cover across Gulf Coast estuaries, *Limnology and Oceanography*, 60(3), 920-933.
- Yu, L., K. Fennel, A. Laurent, M. Murrell, and J. Lehrter (2015), Numerical analysis of the primary processes controlling oxygen dynamics on the Louisiana shelf, *Biogeosciences*, 12(7), 2063-2076.
- Barnes, B. B., C. Hu, J. P. Cannizzaro, S. E. Craig, P. Hallock, D. L. Jones, J. Lehrter, N. Melo, B. A. Schaeffer, and R. Zepp (2014), Estimation of diffuse attenuation of ultraviolet light in optically shallow Florida Keys waters from MODIS measurements, *Remote Sensing of Environment*, 140, 519-532.
- Hill, B. H., C. M. Elonen, L. E. Anderson, and J. Lehrter (2014), Microbial respiration and coenzyme activity in sediments from the Gulf of Mexico hypoxic zone, *Aquatic Microbial Ecology*, 72(2), 105-116.
- Le, C., J. Lehrter, C. Hu, M. C. Murrell, and L. Qi (2014), Spatiotemporal chlorophyll-a dynamics on the Louisiana continental shelf derived from a dual satellite imagery algorithm, *Journal of Geophysical Research: Oceans*, 119(11), 7449-7462.
- Lehrter, J., B. Fry, and M. C. Murrell (2014), Microphytobenthos production potential and contribution to bottom layer oxygen dynamics on the inner Louisiana continental shelf, *Bulletin of Marine Science*, 90(3), 765-780.
- Pauer, J. J., P. A. DePetro, A. M. Anstead, and J. Lehrter (2014), Application of a one-dimensional model to explore the drivers and lability of carbon in the northern Gulf of Mexico, *Ecological Modelling*, 294, 59-70.
- Barnes, B. B., C. Hu, B. A. Schaeffer, Z. Lee, D. A. Palandro, and J. Lehrter (2013), MODIS-derived spatiotemporal water clarity patterns in optically shallow Florida Keys waters: A new

- approach to remove bottom contamination, *Remote Sensing of Environment*, 134, 377-391.
- Genthner, F., D. Marcovich, and J. Lehrter (2013), Estimating Rates of Denitrification Enzyme Activity in Wetland Soils with Direct Simultaneous Quantification of Nitrogen and Nitrous Oxide by Membrane Inlet Mass Spectrometry, *Journal of Microbial and Biochemical Technology*, 5(4), 95-101.
- Lehrter, J., D. S. Ko, M. C. Murrell, J. D. Hagy, B. A. Schaeffer, R. M. Greene, R. W. Gould, and B. Penta (2013), Nutrient distributions, transports, and budgets on the inner margin of a river-dominated continental shelf, *Journal of Geophysical Research: Oceans*, 118(10), 4822-4838.
- Murrell, M. C., R. S. Stanley, J. Lehrter, and J. D. Hagy (2013), Plankton community respiration, net ecosystem metabolism, and oxygen dynamics on the Louisiana continental shelf: Implications for hypoxia, *Continental Shelf Research*, 52, 27-38.
- Lehrter, J., D. L. Beddick, R. Devereux, D. F. Yates, and M. C. Murrell (2012), Sediment-water fluxes of dissolved inorganic carbon, O₂, nutrients, and N₂ from the hypoxic region of the Louisiana continental shelf, *Biogeochemistry*, 109(1-3), 233-252.
- Schaeffer, B. A., J. D. Hagy, R. N. Conmy, J. Lehrter, and R. P. Stumpf (2012), An approach to developing numeric water quality criteria for coastal waters using the SeaWiFS satellite data record, *Environmental Science & Technology*, 46(2), 916-922.
- Cai, W.-J., X. Hu, W.-J. Huang, M. C. Murrell, J. Lehrter, S. E. Lohrenz, W.-C. Chou, W. Zhai, J. T. Hollibaugh, and Y. Wang (2011), Acidification of subsurface coastal waters enhanced by eutrophication, *Nature Geoscience*, 4(11), 766-770.
- Murrell, M. C., and J. Lehrter (2011), Sediment and lower water column oxygen consumption in the seasonally hypoxic region of the Louisiana continental shelf, *Estuaries and Coasts*, 34(5), 912-924.
- Oliver, L., J. Lehrter, and W. Fisher (2011), Relating landscape development intensity to coral reef condition in the watersheds of St. Croix, US Virgin Islands, *Marine Ecology Progress Series*, 427, 293-302.
- Schaeffer, B. A., G. A. Sinclair, J. Lehrter, M. C. Murrell, J. Kurtz, R. W. Gould, and D. F. Yates (2011), An analysis of diffuse light attenuation in the northern Gulf of Mexico hypoxic zone using the SeaWiFS satellite data record, *Remote Sensing of Environment*, 115(12), 3748-3757.
- Lehrter, J., and J. Cebrian (2010), Uncertainty propagation in an ecosystem nutrient budget, *Ecological Applications*, 20(2), 508-524.
- Greene, R. M., J. Lehrter, and J. D. Hagy (2009), Multiple regression models for hindcasting and forecasting midsummer hypoxia in the Gulf of Mexico, *Ecological Applications*, 19(5), 1161-1175.

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Lehrter, J., M. C. Murrell, and J. Kurtz (2009), Interactions between freshwater input, light, and phytoplankton dynamics on the Louisiana continental shelf, *Continental Shelf Research*, 29(15), 1861-1872.

Penta, B., D. Ko, R. Gould, R. Arnone, R. Greene, J. Lehrter, J. Hagy, B. Schaeffer, M. Murrell, and J. Kurtz (2009), Using coupled models to study the effects of river discharge on biogeochemical cycling and hypoxia in the northern Gulf of Mexico, *OCEANS 2009, MTS/IEEE Biloxi-Marine Technology for Our Future: Global and Local Challenges, IEEE*.

Lehrter, J. (2008), Regulation of eutrophication susceptibility in oligohaline regions of a northern Gulf of Mexico estuary, Mobile Bay, Alabama, *Marine Pollution Bulletin*, 56(8), 1446-1460.

Hagy, J. D., J. Lehrter, and M. C. Murrell (2006), Effects of hurricane Ivan on water quality in Pensacola Bay, Florida, *Estuaries and Coasts*, 29(6), 919-925.

Lehrter, J. (2006), Effects of land use and land cover, stream discharge, and interannual climate on the magnitude and timing of nitrogen, phosphorus, and organic carbon concentrations in three coastal plain watersheds, *Water Environment Research*, 78(12), 2356-2368.

Carey, A. E., W. B. Lyons, J-C. Bonzongo, and J. Lehrter (2001), Nitrogen budget in the Upper Mississippi River watershed, *Environmental & Engineering Geoscience*, 7(3), 251-265.

Lehrter, J., J. R. Pennock, and G. B. McManus (1999), Microzooplankton grazing and nitrogen excretion across a surface estuarine-coastal interface, *Estuaries and Coasts*, 22(1), 113-125.

RESEARCH GRANTS AND FUNDING

2021 Using shelf monitoring to assess multi-stressor impacts on dissolved oxygen dynamics and hypoxia in a changing coastal climate, Alabama Center of Excellence, Nov 1, 2021 – Oct 30, 2024, co-PI with Brian Dzwonkowski (PI) and Di Tian, Total \$449,774, Lehrter budget \$182,245

2021 Modeling connections between ecosystem condition and ecosystem services to increase resilience of environmental systems in the northern Gulf of Mexico, NSF XSEDE HEC & ECSS Resources, April 28, 2021 – April 27, 2022, co-PI with Lisa Lowe (PI), Latif Kalin, Henrique Haas, Di Tian, Fang Wang, Brian Dzwonkowski, Total: \$348,087

2020 Linking changes in hydrology, climate, and nutrient loading to expressions of eutrophication in Weeks Bay, Alabama, NOAA Margaret A. Davidson Graduate Fellowship, Sep 1, 2020 – Aug 31, 2022, PI with my Ph.D. student, Mai Fung, Total: \$120,000, Lehrter budget \$120,000

2020 A coupled natural-human framework for assessing the risk of land-use and climate change on coastal communities, National Academies Healthy Ecosystems 4, Sep 1,

- 2020 – Aug 31, 2023, co-PI with Chris Anderson (PI), Latif Kalin, Sanjiv Kumar, Wayde Morse, Kelly Dunning, Richard Hall, and Puneet Dwivedi, Total: \$1,104,709, Lehrter budget \$148,608
- 2019 Building resilience for oysters, blue crabs, and spotted seatrout to environmental trends and variability in the Gulf of Mexico, NOAA Restore Science Program, Sep 1, 2019 – Aug 31, 2024, PI with co-PIs Ronal Baker, Just Cebrian, Brian Dzwonkowski, Latif Kalin, Lisa Lowe, Dan Petrolia, Sean Powers, Di Tian, and Seong Yun, Total: \$2,887,250, Lehrter Budget \$820,506
- 2019 Hypoxia mapping and oxygen process study in Mobile Bay, Center for Environmental Resiliency, May 1 2019 – Oct 31, 2020, PI with co-PI Brian Dzwonkowski, Total: \$99,966, Lehrter Budget \$49,983
- 2018 Do natural organosulfur compounds make marine plastic debris taste good to consumers? Center for Environmental Resiliency, September 1, 2018 – Feb 29, 2020, PI, Total: \$19,952,
- 2018 Effects of watershed discharges and loads on mercury accumulation in sediments and fish of coastal Alabama, Center for Environmental Resiliency, Sep 1, 2018 – Feb 29, 2020, PI, Total: \$19,808
- 2018 Coastal General Ecology Model (CGEM) optimization and training, NSF XSEDE HEC & ECSS Resources, April 17, 2018 – April 16, 2020, PI, Total: \$51,666
- 2018 Predicting intermediate trophic level abundance and behavior in relation to ocean eddies, fronts, and primary production, USA Research and Scholarly Development Grant, April 1, 2018 – Mar 20, 2019, PI, Total: \$24,914
- 2018 Fowl River, Alabama Marsh Study, Mobile Bay National Estuary Program, Jan 1 – Dec 31, 2018, co-PI with Just Cebrian (PI), Brian Dzwonkowski, Ruth Carmichael, Alex Beebe, Tim Thibaut, and Marlon Cook, Total: \$240,000, Lehrter budget \$40,000
- 2017 Collaborative research: A RAPID response to Hurricane Harvey's impacts on coastal carbon cycle, metabolic balance and ocean acidification, NSF Chemical Oceanography, Oct 1, 2017 – Sep 30, 2018, co-PI with Wei-Jun Cai (PI), Kanchan Maiti, Brian Roberts, and Steven Lohrenz, Total: \$200,000, Lehrter budget \$40,507
- 2017 Inter-comparison of hypoxia models for the northern Gulf of Mexico, NOAA Coastal Ocean Modeling Testbed, Sep 1, 2017 – Aug 31, 2018, co-PI with Katja Fennel (PI), Dubravko Justic, Dong Ko, and Rob Hetland, Total: \$300,000, Lehrter budget \$25,000
- 2017 Development of a predictive capability for ocean physical and biogeochemical processes in the Gulf of Mexico, NSF XSEDE HEC Resources, Apr 1, 2017 – Mar 31, 2018, co-PI with Ruoying He (PI) and Katja Fennel, Total: \$38,000, Lehrter budget \$12,000
- 2014 Ecosystem response and recovery to nutrients, EPA Office of Research and

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Development, Oct 2014 – Aug 2016, PI, \$720,000

- 2011 Modeling the biophysical controls on hypoxia in the northern Gulf of Mexico, EPA Office of Research and Development, Oct 2011 – Sep 2015, PI, \$1,500,000
- 2010 Satellite Earth image products applied to the development of water quality standards, NASA Applied Sciences, Oct 2010 – Sep 2013, PI, \$1,200,000
- 2010 Coastal General Ecosystem Model (CGEM) development, EPA Office of Environmental Information, Oct 2010 – Aug 2016, PI, \$3,600,000
- 2006 Application of ocean color data and ecosystem modeling to Gulf hypoxia, EPA Advance Monitoring Initiative, Oct 2006 – Sep 2008, PI, \$250,000
- 2005 Northern Gulf of Mexico (NGOMEX) hypoxia research, EPA Office of Research and Development, Oct 2005 – Sep 2011, PI, \$1,800,000
- 2000 National Estuarine Research Reserves PhD Fellowship, NOAA, Sep 2000 – Aug 2002, PI, \$60,000
- 1999 Alabama Space Grant PhD Fellowship, NASA, Sep 1999 – Dec 2002, PI, \$90,000

AWARDS

- 2016 Bronze Medal, U.S. Environmental Protection Agency: For operationalizing the use of satellite data in EPA water quality decision-making
- 2016 Exceptional/Outstanding Technical Assistance, U.S. Environmental Protection Agency: For exceptional support for EPA's Role as a National Resource Damage Assessment trustee
- 2016 Science and Technological Achievement Award, U.S. Environmental Protection Agency: For advancing the understanding of sediment biogeochemistry and microbial communities
- 2015 Office of Research and Development Teamwork Award, U.S. Environmental Protection Agency: Nitrogen and Co-Pollutants Research Roadmap Team
- 2014 Science and Technological Achievement Award, U.S. Environmental Protection Agency: For advancing the understanding of nutrient dynamics on the continental shelf as affected by the Mississippi River outflow
- 2014 Science and Technological Achievement Award, U.S. Environmental Protection Agency: For research addressing the issues relating to hypoxia on the Louisiana continental shelf

- 2013 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For an approach to developing numeric water-quality criteria using satellite remote sensing
- 2013 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For effects of hypoxia on sediment oxygen and nutrient cycling
- 2013 Bronze Medal, U.S. Environmental Protection Agency: For advancing innovative space-based sensor technology to monitor water quality in coastal and in-land waters
- 2012 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For quantifying light availability from satellites in the Gulf of Mexico hypoxic zone
- 2012 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For linking human landscape development activity to coral reef condition in St. Croix, US Virgin Islands
- 2011 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For developing error propagation methods to evaluate the uncertainty in ecological information used by decision makers
- 2011 Pathfinder Innovation Project Award, U.S. Environmental Protection Agency: For transformational approach to monitoring water quality sustainability of coastal ecosystems from satellite remote sensing
- 2010 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For providing new models and improved capabilities to evaluate dual nutrient management strategies to address Gulf hypoxia and water quality
- 2010 Science and Technological Achievement Award, U.S. Environmental Protection Agency:
For research to improve EPA's and the States' scientific basis for managing Mississippi River nutrients and gulf hypoxia
- 2009 Bronze Medal, U.S. Environmental Protection Agency: For sustained outstanding achievements in scientific research and technical support leading to the establishment of nutrient criteria in the nation's waters
- 2007 Exceptional/Outstanding Technical Assistance, U.S. Environmental Protection Agency:
For scientific leadership in research to improve the technical guidance for establishing nutrient criteria for estuarine, coastal, and Great Lakes waters
- 2006 Leadership in the Environmental Community Science and Technological Achievement Award, U.S. Environmental Protection Agency: For the Gulf Hypoxia Team, In recognition of their invaluable efforts on the Gulf of Mexico Hypoxia Science Symposium Team

REPORTS

Lehrter, J., B. Spiering, G. Gasser, and J. Harcum (2016), Water Quality Analysis Tool (WQAT). U.S. Environmental Protection Agency, Washington, D.C.

U.S. EPA Office of Research and Development, Nitrogen & Co-pollutants Cross-cutting Research Roadmap (2015), EPA 601/R-15/002

Murrell, M.C., J. R. Aukamp, D. L. Beddick, R. Devereux, R. M. Greene, J. D. Hagy, B. M. Jarvis, J. C. Kurtz, J. Lehrter, and D. F. Yates (2014), Gulf of Mexico hypoxia research program data report: 2002-2007. U. S. Environmental Protection Agency, Washington, DC, EPA/600/R-13/257.

Benway, H. M., and P. G. Coble (eds) (2014), Report of the U.S. Gulf of Mexico carbon cycle synthesis workshop, March 27-28, 2013, Ocean Carbon and Biogeochemistry Program and North American Carbon Program, 67 pp.

Mobile Bay National Estuary Program (2013) Comprehensive Conservation and Management Plan for Alabama's Estuaries and Coast 2013-2018. Mobile Bay National Estuary Program, Mobile, AL. 144 p.

Mississippi River Gulf of Mexico Watershed Nutrient Task Force (2013) Reassessment 2013: Assessing Progress Made Since 2008.
http://water.epa.gov/type/watersheds/named/msbasin/upload/hypoxia_reassessment_508.pdf

Greene, R. M., D. Yates, J. Jackson, J. Lehrter, M. Murrell, J. Hagy, P. Crocker, T. Hendon, and M. Hubner (2010), Development of a Relational Database to Aid in Modeling and Managing Water Quality in the Gulf of Mexico Hypoxia Zone. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-13/076.

Mobile Bay National Estuary Program and Science Advisory Committee (2008) State of Mobile Bay: A Status Report on Alabama's Coastline from the Delta to Our Coastal Waters. Mobile Bay National Estuary Program, Mobile, AL.

Murrell, M. C., R. M. Greene, J. D. Hagy, J. C. Kurtz, and J. Lehrter (2007) Gulf of Mexico Hypoxia: 2002-2005 Survey Report. U.S. Environmental Protection Agency, EPA/600/X-07/016, Washington, DC.

Pennock, J. R., Schroeder W. W., J. Lehrter, J. L. W Cowan, and F. Blythe (1999), Mobile Bay Data Report: MB-35 to MB-58 Cruises (July 1993-August 1995). DISL Technical Report No. 99-002. 123p.

Carey, A. E., J. R. Pennock, J. Lehrter, W. B. Lyons, W. W. Schroeder, and J-C. Bonzongo, (1999), The Role of the Mississippi River in Gulf of Mexico Hypoxia. Final Technical Report. Environmental Institute Publication Number 70. The University of Alabama Press.

INVITED TALKS

The Mobile Bay decadal study linking environmental trends and variability to fisheries, Mobile Bay National Estuary Program, delivered online, January 2021.

Natural and human drivers of carbon cycling across oceanic to estuarine scales, Dauphin Island Sea Lab, delivered online, August 2020.

Building resilience for oysters, blue crab, and spotted trout to environment trends and variability, Mobile Bay National Estuary Program, delivered online, August 2020.

Development and application of a generalizable ecosystem model for predicting coastal carbon, oxygen, nutrients, and plankton communities, Naval Research Laboratory, NASA Stennis Space Center, MS, August 2019.

Getting to the bottom of carbon cycling in coastal sediments, University of Southern Mississippi, NASA Stennis Space Center, MS, January 2018.

Mechanisms regulating diel O₂ dynamics in shallow coastal systems: Results from field and modeling studies. EPA National Nutrient Criteria Seminar Series, Washington D.C. (webinar), October 2017.

Linking Mississippi River loads to oxygen, carbon, and nutrient cycling in the northern Gulf of Mexico using field, satellites, and model analyses. Texas A&M at Galveston, Galveston, TX, March 2017.

Nutrient enhanced coastal acidification and hypoxia. Auburn University, Auburn, AL, March 2016.

Relating watershed nutrient loads to satellite derived estuarine water quality. AGU Fall Meeting, San Francisco, CA, 2015.

What should we monitor? Indicators of human disturbance and ecological impact, Bays and Bayous Meeting, Mobile, AL, 2015.

Application of the coastal general ecosystem model (CGEM) to assess the impacts of a future climate scenario on northern Gulf of Mexico hypoxia, ASLO, Granada, Spain, 2015.

Use of satellites to improve coastal hypoxia prediction, Gregory G. Leptoukh, 2nd Online Giovanni Workshop, Silver Springs, Maryland, 2014.

Modeling hypoxia in the northern Gulf of Mexico, Puget Sound Environmental Monitoring and Modeling Program, Seattle, WA, 2014.

Combining satellite data and a new eutrophication modeling system (CGEM) to improve hypoxia prediction, USEPA Western Ecology Division, Corvallis, OR, 2014.

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Testing the waters: Remote sensing applications to water quality management in Florida, webinar to NASA Applied Sciences Program Workshop, Silver Springs, MD, 2014.

Understanding, assessing, and managing nutrient loadings in coastal systems, Coastal Resilience: The Environment, Infrastructure, and Human Systems, New Orleans, LA, 2014.

Remote sensing applications to water quality standards development in Florida, webinar to NASA Applied Sciences Program Workshop, Lincoln, NE, 2013.

GEM3D: model verification and uncertainties, Forum for Gulf of Mexico Hypoxia Research Coordination and Advancement, Stennis Space Center, MS, 2013.

Patterns of carbon, oxygen, and nutrient cycling on the Louisiana shelf, Hypoxia State of the Science Meeting, Bay St. Louis, MS, 2012.

Gulf hypoxia research and modeling, EPA Gulf Hypoxia Workgroup, Washington, D.C., 2011.

Adding remote sensing data products to the nutrient management decision support toolbox. Gulf of Mexico Alliance, New Orleans, LA, 2011.

Gulf of Mexico hypoxia research, analysis, and modeling: improving the science to support decision-making, Symposium on Large Aquatic Ecosystems, Washington, DC, 2010.

Satellite Earth image products applied to the development of regulatory water quality standards. NASA Earth Science for Decision Making: Gulf of Mexico Region, New Orleans, LA, 2009.

Benthic-pelagic coupling on the Louisiana Shelf, Louisiana State University School of Energy, Coast, and the Environment, Baton Rouge, LA, 2009.

EPA research in the "Dead Zone": Big rivers, a big ocean, and a big ship, Institute of Human and Machine Cognition, Pensacola, FL, 2007.

Life in the Dead Zone: Sediment biogeochemistry beneath the Mississippi River Plume, American Chemical Society, Pensacola, FL, 2007.

Estuarine interception of watershed nutrients, University of West Florida, 2007.

A comparative analysis of watershed-estuarine nutrient and organic matter dynamics in the sub-estuaries of Mobile Bay, Weeks Bay National Estuarine Research Reserve, 2005.

Estuarine ecosystem metabolism regulation by balance of nitrate and organic matter loads, Dauphin Island Sea Lab, 2002.

Dynamics of nutrients and organic matter in Mobile Bay, Alabama, NASA Ames Research Center, 2001.

Estuarine sediment denitrification of coastal watershed nutrient loads, University of Maryland, 2001.

SELECTED CONFERENCE ABSTRACTS AND PRESENTATIONS

- Dzwonkowski, B., Coogan, J., Fournier, S., Park, K., Lockridge, G., Greer, A., Lehrter, J. Addressing cross-scale problems in the marine environment: Ocean to shelf to estuary connectivity. Gulf of Mexico Conference (GOMCON), April 2021.
- Liu, Z., Dzwonkowski, B., Lehrter, J., Ralston, D., Lowe, L., and Coogan, J., Physical-biogeochemical response to climate change and sea level rise in the Mobile Bay, Alabama. AGU Fall Meeting, December 2020.
- Wang, F., Tian, D., Lowe, L., Kalin, L., Lehrter, J.C. and Dzwonkowski, B., Deep Learning for Daily Precipitation and Temperature Downscaling. AGU Fall Meeting, December 2020.
- Alvaro, L., Lehrter, J., Fung, M., Spatial variability in organic matter stocks and sources in a river-dominated estuary during wet and dry seasons, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Cai, W-J, Jiang, Z-P, Wang, H., Qian, L, Scaboo, M., Hussain, N., Chen, B., Fennel, K., Laurent, A., Lehrter, J., Roberts, B., Maiti, K., Rabalais, N. Physical and biogeochemical controls on O₂, CO₂ and pH in the northern Gulf of Mexico: A synthesis of field research between 2006 and 2018, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Coogan, J., Dzwonkowski, B., Lehrter, J., Observations from a 24-hour survey examining exchange between a deep shipping channel and shallow estuary in a microtidal system, Mobile Bay, AL, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Greer, A., Lehrter, J., Binder, B., Nayak, A., Rice, A., Cohen, J., McFarland, M., Hagemeyer, A., Stockley, N., Boswell, K., Shulman, I., deRada, S., Penta, B., High-resolution sampling of a broad marine life size spectrum to examine shelf biophysical coupling, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Hagemeyer, A., Greer, A. Penta, B., Lehrter, J., In situ analysis of appendicularian distribution in relation to planktonic biomass and community composition, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Lehrter, J., Devereux, R., Roberts, B., Cai, W-J, Temporal and spatial variability of sediment fluxes of carbon and nutrients on a river dominated shelf, Ocean Sciences Meeting, San Diego, CA, February 2020.
- Penta, B., Rice, A., Shulman, I., Hagemeyer, A., Greer, A., Lehrter, J., McFarland, M., Nayak, A., Stockley, N., Binder, B., Boswell, K. Physical-biological interactions resultant from the confluence of water masses on the New Jersey-Delaware continental shelf, Spring 2018, Ocean Sciences Meeting, San Diego, CA, February 2020.

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Wood, H., Hagemeyer, A., Greer, A., Penta, B., Lehrter, J., Physical and biological community characteristics of planktonic veliger patches in the southern Mid-Atlantic Bight, Ocean Sciences Meeting, San Diego, CA, February 2020.

Bam, W., Maiti, K., Bentley, S., Lehrter, J. Hurricane driven sediment deposition and remobilization in the northern Gulf of Mexico, CERF Biannual meeting, Mobile, AL, November 2019.

Coogan J., B. Dzwonkowski, J. Lehrter, K. Park, and R. Collini. Physical drivers of dissolved oxygen in a shallow-highly stratified estuary, CERF Biannual meeting, Mobile, AL, November 2019.

Fung, M., Clemo, W., Lehrter, J., and Mortazavi, B. Sediment organic matter lability along an estuarine habitat gradient from coastal marsh to subtidal bay sediments, CERF Biannual meeting, Mobile, AL, November 2019.

Hagemeyer, A., Lehrter, J., Penta, B. Greer, A. Appendicularian organism and house abundances in relation to coastal ocean fronts and phytoplankton production gradients, CERF Biannual meeting, Mobile, AL, November 2019.

Lehrter, J.C., Cai, W-J., Maiti, K., Roberts, B., Hussain, N., Chen, B., Qian, L. Fung, M., Chelsky, A., and W. Bam. Hurricane Harvey and Nate impacts on coastal carbon and oxygen cycling, CERF Biannual meeting, Mobile, AL, November 2019.

Murrell, M. and J. Lehrter. Water column vertical structure and plankton process the Louisiana continental shelf: role of sub-surface chlorophyll maxima and occurrence of hypoxia in the euphotic zone, CERF Biannual meeting, Mobile, AL, November 2019.

Webb, B., A. Beebe, R. Carmichael, J. Cebrian, J. Coogan, M. Cook, B. Dzwonkowski, J. Goff, E. Hieb, H. Horne, J. Kudulis, J. Lehrter, S. Smallegan, T. Thibaut. An Interdisciplinary Collaboration Leads to an Assessment of Marsh Health in Fowl River, Alabama. Alabama Water Resources Conference, Orange Beach, AL, September 2019.

Dzwonkowski, B., S. Fournier, J. Coogan, S. Milroy, A. T. Greer, A. M. Shiller, S. L. Dykstra, I. Soto, K. Park, J. T. Reager, J. Lehrter, and V. Sanial. Shelf bottom dissolved oxygen conditions and their impacts on adjacent estuarine systems in a region of fresh water influence, Mississippi Bight, northern Gulf of Mexico. GOMOSSES, New Orleans, LA, February 2019.

Penta, B., A. Rice, I. Shulman, S. Anderson, I. Martens, W. Goode, J. Cohen, K. Hudson, A. Greer, J. Lehrter, A. Hagemeyer, B. Binder, M. McFarland, A. Nayak, N. Stockley. Autonomous Lagrangian observations of biophysical parameters offshore of Delaware Bay, USA. ASLO Aquatic Sciences, San Juan, PR, February 2019.

Maiti, K., Bam, W., Lehrter, J., Fung, M., Cai, W., Li, Q., Roberts, B.J., Lohrenz, S. E. Impact of named tropical storms on sediment transport and coastal biogeochemistry along the Louisiana-Texas shelf in the northern Gulf of Mexico. American Geophysical Union Fall Meeting, Washington, D.C., December 2018.

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Lehrter, J., Hagemeyer, A., Cebrian, J., Dzwonkowski, B., and Coogan, J. Characterization of marsh spit hydrographic variability in relation to marsh vegetation type. Bays & Bayous, Mobile, AL, November 2018.

Fung M., Lehrter J. Nearshore metabolism patterns on the Louisiana continental shelf. University of South Alabama Graduate Research Forum, Mobile, AL, March 2018.

Hagemeyer A., Hare M., Lehrter J. An experimental assessment of the effects of pH on phytoplankton growth and grazing rates. University of South Alabama Graduate Research Forum, Mobile AL, March 2018.

Fung M., Lehrter J. Nearshore phytoplankton production on the Louisiana shelf. Graduate Student Symposium 2018, Dauphin Island AL, February 2018.

Hagemeyer A., Hare M., Lehrter J. Phytoplankton growth and grazing rates across a range of saltwater pH. Graduate Student Symposium 2018, Dauphin Island AL, February 2018.

Laurent, A., Fennel, K., Ko, D., Lehrter, J. Projected effects of anthropogenic CO₂ emissions on eutrophication-induced hypoxia and acidification in the northern Gulf of Mexico. Ocean Sciences Meeting, Portland, OR, February 2018.

Lehrter, J.C., Cai, W-J., Chen, B., Jiang, Z-P., Roberts, B., Chelsky, A., Maiti, K., Bam, W., Chakraborty, S., Lohrenz, S. Hurricane impacts on coastal carbon and oxygen cycling. Ocean Sciences Meeting, Portland, OR, February 2018.

Fung M, Lehrter J, Nearshore phytoplankton production on the Louisiana continental shelf. AGU Fall Meeting, New Orleans, LA, December 2017.

Lehrter J, Fung M, Primary production and respiration in the Louisiana coastal current drives patterns of metabolism and oxygen on the Louisiana shelf. AGU Fall Meeting, New Orleans, LA, December 2017.

Lehrter J, Modeling sediment diagenetic controls on sediment-water exchanges of oxygen and alkalinity during hypoxia. ASLO Aquatic Sciences Meeting, Honolulu, HI, March 2017.

Lehrter J, Le C. Satellite-derived estuarine water quality time-series data are related to watershed loads of nitrogen, phosphorus, organic matter, and sediments. Bays & Bayous, Biloxi, MS, November 2016.

Jarvis B, Hagy J, Lehrter J, Murrell M. Modeling diel oxygen dynamics and ecosystem metabolism in a shallow, eutrophic estuary. GERS Fall 2016 Meeting, Pensacola Beach, FL, November 2016.

Lehrter J, Devereux R, Jarvis B, Beddick D. Constraining a sediment diagenesis models with observations: Which observations can be fit and which cannot? GERS Fall 2016, Pensacola Beach, FL, November 2016.

Jarvis B, Hagy J, Lehrter J, Murrell M., Yates, D., & Craven, G. Modeling diel oxygen dynamics

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and ecosystem metabolism in Weeks Bay, Alabama. Weeks Bay Research Symposium, Weeks Bay, AL, August 2016.

Lehrter J, Lowe L, Ko D, Laurent A, Fennel K, Justic D, Wang L, Pauer J, Jarvis B, Beddick D, Devereux R, Cai W-J. Model structural uncertainties in the representation of sediment-water exchanges for modeling coastal acidification and hypoxia. Ocean Sciences Meeting, New Orleans, LA, February 2016.

Lehrter J, Devereux R, Murrell MC, Beddick DL, Yates DF, Jarvis B. Sediment-water oxygen exchanges and feedbacks with sediment oxic, suboxic, and anoxic processes. ASLO Aquatic Sciences Meeting, New Orleans, LA, 2013.

Lehrter J, Schaeffer B, Hagy J, Spiering B, Barnes B, Hu C, Le C, McEachron L, Underwood L, Ellis C, Fisher B. Remote sensing applications to water quality management in Florida. AGU Fall Meeting, San Francisco, CA, 2013.

Lehrter J, Ko DS, Murrell MC, Greene RM, Gould RW, Penta B. A high-resolution 3D hypoxia model for the Louisiana shelf. AMS Annual Meeting, New Orleans, LA, 2012.

Lehrter J, Ko DS, Murrell MC, Hagy JD, Greene RM. The practical limitations of a 3-D hydrodynamic model and the implication for simulating bottom-water hypoxia on the Louisiana shelf. ASLO, San Juan, Puerto Rico, 2011.

Lehrter J, Beddick DL, Yates DF, Hagy JD. The importance of stream discharge and land-use/land-cover to Pensacola Bay watershed nutrient and organic matter dynamics. Bays and Bayous Symposium, Mobile, Alabama, 2010.

Lehrter J, Nutrient fluxes and ecological responses in the sub-estuaries of Mobile Bay, Alabama. Gulf of Mexico Alliance Nutrient Criteria Research Framework Workshop, New Orleans, LA, 2009

Lehrter J, Devereux R, Beddick DL, Yates DF, Murrell MC, Hagy JD, Kurtz J. Benthic-pelagic coupling on the Louisiana Shelf. AGU Union Joint Assembly, Toronto, Canada, 2009.

Lehrter J, Devereux R, Eldridge P, Beddick D, Quarles B, Fry B. Sediment metabolism on the Louisiana Continental Shelf. Ocean Sciences Meeting, Orlando, FL, 2008.

Lehrter J, Linking nutrients with their effects in Mobile Bay and its sub-estuaries. Gulf of Mexico Alliance, St. Petersburg, FL, 2007.

Lehrter J, Murrell M, Kurtz J, Hagy J, Greene R. Primary production and community respiration rates on the Louisiana Continental Shelf indicate carbon subsidies. CERF, Providence, RI, 2007.

Lehrter J, Nutrient sources, transport, and fate in coupled watershed-estuarine systems of coastal Alabama. Bays and Bayous Symposium, Mobile, AL, 2006.

Lehrter J, Murrell M, Hagy J, Stanley R, Campbell J, Greene R. Primary production, respiration,

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and net ecosystem metabolism on the Louisiana Continental Shelf. ASLO Summer Meeting, Victoria, Canada, 2006.

Lehrter J, Pennock JR. Sources and transport of nutrients in coastal plain watersheds and effects on estuarine ecosystems. EPA Science Forum, Washington, D.C., 2005.

Lehrter J, J. Cebrian J, Stutes J, Stutes A, Hunter A, Corcoran A, Patterson D. Nitrogen loads and residence times as regulators of nitrogen accumulation in three coastal lagoons in the Northern Gulf of Mexico. CERF, Norfolk, VA, 2005.

Lehrter J, Pennock J, Kiene R. A comparative analysis of nutrient loading, estuarine nutrient fluxes and net ecosystem metabolism in three tidal river estuaries differing predominately by their watershed land-use types. CERF, Norfolk, VA, 2005.

Lehrter J, Cebrian J, Stutes J, Stutes A, Hunter A, Corcoran A. Standing stocks and loading rates of total dissolved nitrogen for three coastal lagoons in the northern Gulf of Mexico. GERS, Pensacola Beach, FL, 2005.

Lehrter J. Site specific reference conditions determined as functions of watershed attributes: implications for criteria development. SETAC, Baltimore, MD, 2005.

Lehrter J, The Magnitude and timing of nitrogen, phosphorus, organic carbon and suspended sediment concentrations in three coastal plain watersheds. WEFTEC04, New Orleans, LA, 2004.

Lehrter J, Pennock J, Hornstra H, Craig L. The effectiveness of estuaries as filters under varying degrees of human-mediated disturbance. Saving Our Coastal Heritage: Restore America's Estuaries Inaugural National Conference on Coastal and Estuarine Habitat Restoration, Baltimore, MD, 2003.

Lehrter J, Non-point source nitrogen, phosphorus, organic carbon, and suspended sediment loading rates for three coastal plain watersheds adjacent to Mobile Bay, Alabama. Alabama Water Resources Conference, Orange Beach, AL, 2003.

Lehrter J, Pennock J. Regulation of nitrogen cycling process rates by degree of freshwater influence. ASLO Summer Meeting, Victoria, Canada, 2002.

Lehrter J, Pennock J. The magnitudes of nitrogen cycling processes in three coastal plain estuaries. CERF, St. Petersburg Beach, FL, 2001.

Lehrter J, Pennock J, Cowan J. Carbon, nitrogen and phosphorus dynamics in a pulsed river-dominated estuary: Mobile Bay, Alabama (USA). ASLO, Santa Fe, NM, 1999.

Lehrter J, Pennock J, McManus G. Microzooplankton grazing and nitrogen excretion across an estuarine/coastal interface. CERF, Corpus Christi, TX, 1995.

TEACHING

Graduate Courses (* taught remotely via Zoom)

- 2019, 2021* Chemical Oceanography – a required core course for Ph.D. students
- 2017, 2019 Marine Resource Management – a required core course for M.S. MCRM students
- 2017, 2019 Marine Ecosystem Modeling – an elective graduate course I developed
- 2017 Marine Sciences Seminar: Ocean Acidification and Hypoxia

Undergraduate Courses (* taught remotely via Zoom)

- 2018, 2020* Marine Sciences I – junior-senior level students, a required core course for an undergraduate minor in Marine Sciences

GRADUATE STUDENTS AND POSTDOCTORAL RESEARCH ASSOCIATES ADVISED

2021 - present	Ashley Hild	M.S. Advisor
2020 - present	Dr. Zhilong Liu	Postdoctoral Advisor
2020 - present	Allison Fletcher	Ph.D. Advisor
2020 - present	Chris Mikolaitis	M.S. Advisor
2017 - present	Mai Fung	Ph.D. Advisor
2021 - present	Hannah Ehrmann	Ph.D. Committee
2021 - present	Debbrota Mallick	Ph.D. Committee
2021 - present	Ryan Roseburrough	Ph.D. Committee
2020 - present	Alexandra Smith	Ph.D. Committee
2019 - present	Alex Leynse	Ph.D. Committee
2017 - present	Anika Knight	M.S. Committee
2017 - present	Kara Gaden	Ph.D. Committee

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2018 - 2021	Alexis Hagemeyer	M.S. Advisor
2019 - 2020	Emmett Carstens	M.S. Advisor
2019 - 2020	Dr. Jeff Coogan	Postdoctoral Advisor
2019 - 2020	Dr. Aaron Macy	Ph.D. Advisor
2019 - 2020	Dr. Rebecca Pickering	Ph.D. Committee
2018 - 2020	Cassandra Bates	M.S. Advisor
2018 - 2020	Aubrey Bianco	M.S. Advisor
2018 - 2020	Charlotte Falls	M.S. Advisor
2018 - 2020	Cassandra Eldredge	M.S. Advisor
2019 - 2020	Allison Fletcher	M.S. Advisor
2018 - 2020	Grace Forster	M.S. Advisor
2018 - 2020	Kiara Knight	M.S. Advisor
2018 - 2020	Katelyn Woddail	M.S. Advisor
2018 - 2020	Ashley Frith	M.S. Committee
2017 - 2019	Liesl Cole	M.S. Committee
2017 - 2019	Dr. Jeff Coogan	Ph.D. Committee
2015 - 2016	Dr. Marcus Beck	Postdoctoral Advisor
2015	Dr. Brad Blackwell	Postdoctoral Advisor
2013 - 2015	Dr. Chengfeng Le	Postdoctoral Advisor
2010 - 2013	Dr. Bart Christiaen	Ph.D. Committee
2009 - 2011	Dr. Robyn Conmy	Postdoctoral Advisor
2007 - 2009	Dr. Blake Schaeffer	Postdoctoral Advisor

UNDERGRADUATE RESEARCH INTERNSHIPS ADVISED

2021	Elexuzz Davis	Alabama State (NSF REU)
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2020	Marco Pastrana	University of Michigan (NSF REU)
2019	Lauren Alvaro	Florida Gulf Coast University (NSF REU)
2018 - 2021	Hannah Wood	University of the South
2017	Alexis Hagemeyer	Central Methodist University
2017	Megan Hare	Central Methodist University

SERVICE

Academic Service

College Level

2020 - present	University of South Alabama, College of Arts and Sciences, Faculty Awards Committee
2020 - present	University of South Alabama, College of Arts and Sciences, Graduate Curriculum Committee
2017 - present	University of South Alabama, College of Arts and Sciences, Graduate Coordinator for M.S. in Marine Conservation and Resource Management
2017 - present	University of South Alabama, College of Arts and Sciences, Graduate Academic Standards Committee

Department Level

2021	University of South Alabama, Department of Marine Sciences, Chair of two Mid-Tenure Review Committees
2020 - present	Dauphin Island Sea Lab, Committee to design a new multiple stressor experimental system in a new wet lab building at the lab
2020 - 2021	University of Alabama and Dauphin Island Sea Lab, Member of the Search Committee for Department of Biology faculty position
2019 - present	University of South Alabama, Department of Marine Science, Curriculum Committee
2019 - 2020	University of Alabama and Dauphin Island Sea Lab, Member of the Search Committee for Department of Biology faculty position

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- 2019 University of South Alabama, Department of Marine Sciences, Chair of a Tenure and Promotion Committee
- 2019 University of South Alabama, Department of Marine Sciences, Chair of the Search Committee for the instructor position
- 2018 University of Alabama and Dauphin Island Sea Lab, Member of the Search Committee for Department of Biology faculty position
- 2017 - present University of South Alabama, Department of Marine Sciences, 2018 Wiese Distinguished Lecture Committee
- 2017 University of South Alabama, Department of Marine Sciences, Faculty Search Committee for Fisheries Scientist position

Professional Service

- 2019 Session chair, Coastal and Estuarine Research Federation, Mobile, AL
- 2018 - present Associate Editor, *Marine and Freshwater Research*
- 2018 - present Review Editor, *Frontiers in Marine Science*, *Frontiers in Chemistry*, *Frontiers in Earth Science*
- 2018 - present Co-chair, Mobile Bay National Estuary Program, Science Advisory Committee
- 2018 Session chair, Ocean Sciences Meeting, Portland, OR
- 2017 - 2019 Member, NOAA, Fisheries Monitoring Workgroup for assessing impacts of hypoxia
- 2017 Session chair, ASLO Spring Meeting, Honolulu, HI
- 2016 Member, NOAA Coastal Ocean Modeling Testbed (COMT), Technical Steering Group
- 2016 Session chair, Ocean Sciences Meeting (AGU/ASLO/TOS), New Orleans, LA
- 2015 Organizing committee and session chair, Bays and Bayous Meeting, Mobile, AL
- 2014 - 2016 Member, Inter-Agency Working Group supporting reauthorizing legislation for the Harmful Algal Blooms and Hypoxia Research and Control Act (HABHRCA)
- 2014 - 2015 Member, US Integrated Ocean Observing System (IOOS), Modeling Strategy Writing Team

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- 2014 Panelist, London Convention and London Protocol
- 2013 - 2016 Member, US National Ocean Policy
- 2013 Member, NSF Ocean Carbon Budget Study, Gulf of Mexico Coastal Carbon Synthesis Primary Production Workgroup writing team
- 2013 Session chair, ASLO Aquatic Sciences Meeting, New Orleans, LA
- 2012 - 2013 Member, Mississippi River Gulf of Mexico Watershed Nutrient Task Force (Hypoxia Task Force) 2013 Hypoxia Reassessment Report
- 2012 - 2013 Lead, Mobile Bay National Estuary Program, Water Quality Committee
- 2012 Co-organizer and session chair, Hypoxia Monitoring and Modeling Workshop, Bay St. Louis, MS
- 2011 Session chair, Bays and Bayous Meeting, Mobile, AL
- 2010 - 2016 Partner, NOAA Coastal Ocean Modeling Testbed (COMT), Shelf Hypoxia
- 2010 Co-organizer and session chair, Large Aquatic Ecosystems Modeling Workshop, Washington, D.C.
- 2007 - 2011 Member, Gulf of Mexico Alliance, Nutrient Team
- 2007 Session chair, Coastal and Estuarine Research Federation Meeting, Providence, RI
- 2006 - 2007 Member, National Estuarine Expert Workgroup for developing estuarine nutrient criteria
- 2006 Co-organizer and panelist, EPA/NOAA Gulf of Mexico Hypoxia Reassessment Meeting, New Orleans, LA
- 2006 - present Committee member, Mobile Bay National Estuary Program, Science Advisory
- 2005 - present Proposal Peer Reviewer (1-2 per year), selected: NOAA, NASA, EPA, Sea Grant, Mobile Bay National Estuary Program, Netherlands Organization for Scientific Research
- 2004 - present Manuscript Peer Reviewer (5-10 per year), selected journals: *Biogeochemistry*, *Biogeosciences*, *Deep Sea Research*, *Ecological Modelling*, *Estuaries & Coasts*, *Estuarine, Coastal & Shelf Science*, *Environmental Management*, *Environmental Software and Modelling*, *Geophysical Research Letters*, *Journal of Geophysical Research*, *Limnology and Oceanography*, *Marine Chemistry*, *Marine Ecology Progress Series*, *Science of Total Environment*, *Water Resources Research*

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Society Membership

American Geophysical Union (AGU)

Association for the Sciences of Limnology and Oceanography (ASLO)

Coastal and Estuarine Research Federation (CERF)

Gulf Estuarine Research Society (GERS)