

Curriculum Vitae – Z. George Xue (phonetically: shweh)

Professor

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Highlights

- Leads/co-Leads major research projects with over \$46.4 million in grants from NSF, NOAA, NASA, BOEM, NASEM, ONR, and others (since 2014)
- Leads one of the largest ocean modeling research groups in US universities; Mentored 12 graduate students, 4 postdocs, and 3 research professors.
- LSU Rain-Maker Mid-Career Scholar in STEM (2023, one awardee campus-wide) for outstanding research and scholarship
- Invited author for the U.S. Carbon Cycle Science Plan; Regional Lead for OCB's Marine Carbon Dioxide Removal working group.
- Published over 70 peer-reviewed journal papers and book chapters, including >30 as the lead and/or corresponding author.
- Inventor of the Gulf of Mexico/America Coastal Hazards Forecast System (flood.lsu.edu).

Education

08/2005-05/2010	North Carolina State University	Ph.D. Marine Sciences (minor in Statistics)
09/2002-06/2005	First Institute of Oceanography, SOA	M.S. Environmental Sciences
09/1998-06/2002	Ocean University of China	B.E. Hydro & Engineering Geology

Professional Experiences

08/2024-present	Professor (with accelerated promotion)	Louisiana State Univ., Baton Rouge, LA
08/2020-08/2024	Associate Professor	Louisiana State Univ., Baton Rouge, LA
08/2014-07/2020	Assistant Professor	Louisiana State Univ., Baton Rouge, LA
08/2012-07/2014	Research Assistant Professor	North Carolina State Univ., Raleigh, NC
05/2010-08/2012	Postdoc Research Associate	North Carolina State Univ., Raleigh, NC

Research Interests

- Hydrological and Biogeochemical Dynamics in the Land-Ocean Interaction Zone
- Coupled Regional Earth System Modeling (Land-Ocean-Atmosphere)
- Sediment, Nutrient, and Carbon Dynamics from Watershed to Coastal Ocean
- Climate and Human Impact on Large River and Delta Systems
- High-Performance Computing and Operational Flood and Hurricane Forecast

Selected Research Projects

Duration	Funding Agency	Project Title	Total Award to LSU	Award to LSU	Role
2023-2028	NASEM	Mississippi River Delta Transition Initiative (MissDelta)	\$22 M	\$22 M	co-PI
2023-2028	NOAA	A Real-time System to Track Louisiana Coastal Hazards: High Frequency Radar Ocean Observing Network	\$5 M	\$5 M	co-PI
2022-	NASA	Impacts of Transient Events on Ecosystem Resistance and	\$1.4 M	\$1.4 M	lead-PI

2025		Resilience along Western Gulf of Mexico Coast				
2022-2027	BOEM	Offshore Analysis of Seafloor Instability and Sediments (OASIS Partnership) with Applications to Offshore Safety and Marine Archaeology	\$3.8 M	\$3.8 M	co-PI	
2021-2025	NOPP (ONR)	Coupled Ocean Atmosphere Waves Sediment Transport Waves, Sediment, Surge and Structure Response Forecasting System	\$1.4M	\$343K	LSU PI	
2021-2024	NSF	Collaborative Research: Larval Orientation, Dispersal and Connectivity in a Brachyuran Crab under Ocean Acidification and Elevated Temperature	\$992K	\$992K with Sub	co-PI	
2021-2024	NOAA	Coupled Ocean Modeling Testbed (COMT) Platform for Physics and Contaminant Exchange through the River - Estuary - Ocean Continuum	\$899K	\$899K with Sub	co-PI	
2021-2023	USGS	Assess Hydrological and Sediment's Response to Hurricane Florence (2018)	\$300K	\$300K	lead PI	
2020-2023	BOEM	Impact of Nonlinear Sedimentation on Dredge Area Benthic Ecosystem on Louisiana Shelf	\$353K	\$353K	lead PI	
2019-2023	NSF	Collaborative: Synergistic Effects of Petroleum Production and Ocean Environmental Changes on Oyster Health	\$500K	\$292K	LSU PI	
2018-2022	NASA & LA Board of Regents	Understanding and Quantifying Carbon Export to Coastal Oceans through Deltaic Systems	\$1.5M	\$1.4M with Sub	lead PI	
2016-2020	NOAA	NGOMEX 2016-Using Linked Models to Predict the Impacts of Hypoxia on Gulf Coast Fisheries Under Scenarios of Watershed and River Management	\$1.1M	\$1.1M with Sub	co-PI	
2017-2020	BOEM	Development of a Monitoring Program for Water Quality and Biogeochemical Processes of Louisiana Sediment Borrow Areas	\$579K	\$579K	co-PI	
2015-2019	NSF	CyberCEES: A Coastal Resilience Collaboratory: Cyber-enabled Discoveries for Sustainable Deltaic Coasts	\$1.2M	\$1.2M	co-PI	
2016-2019	NSF	Collaborative Research: Fate of Coastal Wetland Carbon Under Increasing Sea Level Rise: Using the Subsiding Louisiana Coast as a Proxy for Future World-Wide Sea Level Projections	\$500K	\$250K	co-PI	

Publications (peer-reviewed journal papers and book chapter)

70+ peer-reviewed papers, >30 as lead/corresponding author, and an h-index of 25 (*denotes papers led by my student or postdoc; citation as of Dec 2025: 2130).

Under Review/Revision

- [73] Zhao, X., Xue, Z.G.*, Ou, Y., Zang, Z., Bao, D., Yu, W., Yang, E., Zhang, L., Geonova, M.F., Lei, Z., & Wang, Y. *An integrated modeling platform for the land-coast-ocean continuum: The Gulf of America Coastal Hazards Forecast System (GAm-CHFS)*. Environ. Model. Softw., submitted (2025).
- [72] Adeagbo*, O., Ou, Y., Xue, Z. G., Holstein, D., Gravinese, P. M., Zhang, L., & Craft, H. Detangling the elevated sea-surface pCO₂ trend in a river-dominated continental shelf using a high-resolution regional ocean model. Journal of Geophysical Research: Biogeosciences. JGR Biogeosciences (submitted and under review)
- [71] Zhang, L.*., Xue, Z., Maiti, K., Hu, X., White, J., Lagomasino, D., Quantifying Ecosystem Resilience and CO₂ flux of a River-dominated Shelf under Hurricanes: A Case Study of Ida, JGR Biogeosciences (submitted and under review)

Published

[70] Warner, J.C., Sherwood, C.R., Carson, M., Manzella, E., Olabarrieta, M., Subgranon, A., Klepac, S., Zambon, J.B., He, R., Xue, Z.G., *et al.* Inundation processes, barrier island breaching, and structure impacts during Hurricane Michael (2018). *Earth Space Sci.* 12, e2025EA004446 (2025). <https://doi.org/10.1029/2025EA004446>

[69] Ou, Y.*, Xue, Z.G., Mukhopadhyay, S. *et al.* Forecasting coastal hypoxia using a blend of mechanistic and artificial intelligence models. *Sci Rep* 15, 31452 (2025). <https://doi.org/10.1038/s41598-025-17053-7>

[68] Bao, D.*, Xue, Z., Hiatt, M. *et al.* A machine learning-based prediction-to-map framework for rapid and accurate spatial flood prediction. *npj Nat. Hazards* 2, 71 (2025). <https://doi.org/10.1038/s44304-025-00122-2>

[67] Zhao, X.*, Xue, Z., Bao, D., Warner, J., Ou, Y., Investigating Hurricane-induced Salt Variation Across the Land-Estuary-Ocean Continuum Using a Dynamically Coupled Hydrological-Ocean Model, *Journal of Geophysical Research: Oceans*, 129, e2024JC022011. <https://doi.org/10.1029/2024JC022011>

[66] Warner, J. C., Sherwood, C. R., Hegermiller, C. A., Defne, Z., Zambon, J., He, R., Xue, Z.G., Bao, D., Yin, D., Moulton, M. Numerical Simulation of Sound-Side Barrier-Island Inundation and Breaching During Hurricane Dorian (2019), (2025). *Journal of Geophysical Research: Earth Surface*. 130(6), e2025JF008309. <https://doi.org/10.1029/2025JF008309>

[65] Ou, Y.*, Xue, Z., Hu, X. (2025). A numerical assessment of ocean alkalinity enhancement efficiency on a river-dominated continental shelf—a case study in the northern Gulf of Mexico. *Environmental Research Letter*. <https://doi.org/10.1088/1748-9326/adaa8b>

[64] Bao, D.*, Xue, Z., & Warner, J. (2024). Quantifying compound and nonlinear effects of hurricane-induced flooding using a dynamically coupled hydrological-ocean model. *Water Resources Research*, 60, e2023WR036455. <https://doi.org/10.1029/2023WR036455>

[63] Ou, Y.*, & Xue, Z. (2024). Hydrodynamic and biochemical impacts on the development of hypoxia in the Louisiana–Texas shelf – Part 1: Roles of nutrient limitation and plankton community. *Biogeosciences*, 21, 2385–2397. <https://doi.org/10.5194/bg-21-2385-2024>

[62] Moulton, M., Zambon, J. B., Xue, Z. G., Warner, J. C., Bao, D., & Yin, D. (2024). Modeled coastal-ocean pathways of land-sourced contaminants in the aftermath of Hurricane Florence. *Journal of Geophysical Research: Oceans*, 129, e2023JC019685. <https://doi.org/10.1029/2023JC019685>

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[58] Rivera-Monroy, V., Zhao, X., Wang, H., & Xue, Z. (2022). Are existent modeling tools useful to evaluate outcomes in mangrove restoration and rehabilitation projects? A minireview. *Forests*, 13(10), 1638. <https://doi.org/10.3390/f13101638>

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[55] Ou, Y.*, Li, B., & Xue, Z. (2022). Hydrodynamic and biochemical impacts on the development of hypoxia in the Louisiana–Texas shelf – Part II: Statistical modeling and hypoxia prediction. *Biogeosciences*, 19, 3575–3593. <https://doi.org/10.5194/bg-2022-4>

[54] Zhao, X., Rivera-Monroy, V. H., Li, C., Vargas Lopez, I., Rohli, R.V., Xue, Z., Castañeda-Moya, E., & Coronado-Molina, C. (2022). Temperature across vegetation canopy-water-soil interfaces is modulated by

hydroperiod and extreme weather in coastal wetlands. *Frontiers in Marine Science*, 9, 852901. <https://doi.org/10.3389/fmars.2022.852901>

[53] Yin, D.*, Xue, Z., Warner, J., & Bao, D. (2021). Hydrometeorology and hydrology of flooding in Cape Fear River Basin during Hurricane Florence in 2018. *Journal of Hydrology*, 603, 127139. <https://doi.org/10.1016/j.jhydrol.2021.127139>

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[41] Ou, Y.*, Xue, Z., Li, C., Xu, K., White, J., Bentley, S. J., & Zang, Z. (2020). A 3-dimensional numerical study of salinity variations in the Barataria Estuary, Louisiana. *Estuarine, Coastal and Shelf Science*, 107021. <https://doi.org/10.1016/j.ecss.2020.107021>

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[38] Steinmuller, H. E., Hayes, M. P., Hurst, N. R., Sapkota, Y., Cook, R., White, J. R., Xue, Z., & Chambers, L. G. (2020). Does edge erosion alter coastal wetland soil properties? A multi-method biogeochemical study. *CATENA*, 187, 104373. <https://doi.org/10.1016/j.catena.2019.104373>

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[4] Feng, S., Xue, Z., & Chi, W. (2008). Topographic features around Zhongshan Station, southwest of the Prydz Bay. *Oceanologia et Limnologia Sinica*, 26(4), 469–474. <https://doi.org/10.1007/s00343-008-0469-6>

[3] Feng, S., Chi, W., & Xue, Z. (2007). A detailed bathymetric study of Zhongshan Anchorage and top of the Prydz Bay. *Chinese Polar Research*, 19(2). (In Chinese with English abstract).

[2] Yang, M., Xia, D., Gu, D., & Xue, Z. (2005). Geographic environmental evolution in the Qingdao coastal area under the influence of global change. *Advances in Marine Science*, 3. (In Chinese with English abstract).

[1] Xue, Z., Yin, P., & Wang, W. (2005). Research on the transportation and movement of the sediment in the southwest of Yangma Island. *Chinese Coastal Engineering*, 24(1). (In Chinese with English abstract).

Peer-Reviewed Conference Proceedings and Book Chapters

[2] Xue, Z. G., Bao, D., Yin, D., & Warner, J. C. (2023). A novel dynamically coupled land–river–ocean modeling suite for hurricane-induced compound flooding. *Coastal Sediments 2023*, pp. 2659–2668. https://doi.org/10.1142/9789811275135_0243

[1] Justic, D., Duke-Sylvester, S. M., Visser, J. M., Xue, Z., & Liang, J. (2016). Coastal ecosystem modeling in the context of climate change: An overview with case studies. In J. Sven Erik (Ed.), *Developments in Environmental Modelling* (Vol. 28, pp. 227–260). Elsevier. <https://doi.org/10.1016/B978-0-444-63623-2.00011-6>

Conference & Workshop Abstracts (more than >100, only list presentations led by Xue)

[41] Xue, Z.G., Bao, D., Zhao, X., Warner, J. Beyond Boundaries: Dynamically 2-Way Coupled Hydrology–Ocean Models for Coastal Hazard Forecasting Across the LEO Continuum. AGU Fall Meeting, New Orleans, 2025. **Invited Talk**.

[40] Xue, Z., Ou, Y., Maiti, K., Hu, X., Zhang, L., Adeagbo, O. Carbon on a River-Dominated Shelf: Past, Present, and Future. AGU Fall Meeting, Washington DC, 2024, Poster Presentation

[39] Xue, Z., Bao, D. Hybrid Approach for Rapid and Accurate Hurricane-Induced Compound Flood Prediction. AGU Fall Meeting, Washington DC, 2024, Poster Presentation

[38] Xue, Z. The Gulf of Mexico Coastal Hazards Forecast System. NOAA Unifying Innovations in Forecasting Capabilities Workshop, Jackson, MS, 2024. Oral Presentation

[37] Xue, Z., Ou, Y., Hu, X., Crooks, S., Stieghorst, L., Swainbank, B. Applying High-Resolution Regional Ocean Model to Assess Efficiency of Ocean Alkalinity Enhancement. AGU Ocean Sciences, New Orleans, LA, 2024. Oral Presentation

[36] Xue, Z., Bao, D., Zhao, X., Warner, J. Determining water level and salinity impacts of hurricane-induced compound flooding with a 3D process-based numerical model. AGU Fall Meeting, San Francisco, CA, 2023. Poster Presentation

[35] Xue, Z., Bao, D., Warner, J. A novel dynamically coupled land-river-ocean modeling suite for hurricane-induced compound flooding. NOAA Unifying Innovations in Forecasting Capabilities Workshop, Boulder, CO, 2023. Poster Presentation

[34] Xue, Z. Gulf-COAWST: A Regional Earth System Modeling Platform for the Gulf of Mexico. State of The Coast Conference, New Orleans, LA, 2023. Oral Presentation

[33] Xue, Z., Bao, D., Yin, D., Warner, J. A novel dynamically coupled land-river-ocean modeling suite for hurricane-induced compound flooding. Coastal Sediments, New Orleans, LA, 2023. Oral Presentation

[32] Xue, Z., Bao, D., Yin, D., Warner, J. A novel dynamically coupled ocean-river modeling suite for hurricane-induced compound flooding. NOAA Unifying Innovations in Forecasting Capabilities Workshop, College Park, MD, 2022. Oral Presentation

[31] Xue, Z., Yin, D., Warner, J., Bao, D. Assess hydro- and sediment dynamics of hurricane-induced compound flooding using a dynamically coupled ocean-river modeling suite. AGU Frontier in Hydrological Science, San Juan, PR, 2022. Poster Presentation

[30] Xue, Z. Gulf-COAWST: A Regional Earth System Modeling Platform for the Gulf of Mexico. Gulf of Mexico Conference, Baton Rouge, LA, 2022. Oral Presentation

[29] Xue, Z., Maiti, K., Rivera-Monroy, V., D'Sa, E., Zhu, N., Zhang, L. Quantify Carbon Export through Sinking Deltaic Systems. AGU Ocean Science, 2022. Oral Presentation

[28] Xue, Z. Assessing hydro- and sediment dynamics of hurricane-induced compound flooding using a dynamically coupled ocean-river modeling suite. AGU Fall Meeting, 2021. Poster Presentation

[27] Xue, Z. Quantify Carbon Export through Sinking Deltaic Systems. Fall LaSPACE Council Meeting, 2021. Oral Presentation

[26] Xue, Z. Assessing hydro- and sediment dynamics of hurricane-induced compound flooding using a dynamically coupled ocean-river modeling suite. NOAA Ocean and Coastal Community Modeling Workshop, 2021. Oral Presentation

[25] Xue, Z. Untangling atmosphere, ocean and river's role in a hurricane-induced compound flooding event using a dynamically coupled modeling suite. NOAA The Coastal Coupling Community of Practice webinar, 2021. Oral Presentation

[24] Xue, Z. Cross the boundaries: Inter-disciplinary Studies of Coastal Hazards using Coupled Numerical Modeling. Louisiana Space + Sea Grant Meeting, 2021. Invited Talk

[23] Xue, Z., Zang, Z., Yin, D., Xu, K., Chen, J., Bentley, S., Gochis, D. Using Coupled Modeling Suites to Understand Sediment Dynamics in the Land Ocean Interaction Zone. AGU Ocean Sciences, San Diego, CA, 2020. Oral Presentation.

[22] Xue, Z., Zang, Z., Yin, D., Xu, K., Chen, J., Bentley, S., Gochis, D. Using Coupled Modeling Suites to Understand Sediment Dynamics in the Land Ocean Interaction Zone. CERF2019 25th Biennial Conference, Mobile, AL, 2019. Oral Presentation

[21] Xue, Z., Yin, D., Gochis, D. Introducing a sediment module to the National Water Model (WRF-Hydro). Community Surface Dynamics Modeling System Annual Meeting, Boulder, CO, 2019. Poster Presentation

[20] Xue, Z., Rivera-Monroy, V., D'Sa, E., Maiti, K. Understanding Carbon Export from Global Deltas. Ocean Carbon and Biogeochemistry Workshop, Woods Hole, MA, 2019. Oral Presentation

[19] Xue, Z. Understanding and Quantifying Carbon Export to Global Oceans through Deltaic Systems (CEDS). LaSPACE Fall Council Meeting, Shreveport, LA, 2018. Oral Presentation

[18] Xue, Z. Understanding Carbon Export from Global Deltas. NASA EPSCoR Director's National Meeting, Baltimore, MD, 2018. Oral Presentation

[17] Xue, Z., Gochis, D., Yu, W., Keim, B., Zang, Z. Assessing Hydroclimatic Change in Southwest Louisiana Rivers using WRF-Hydro. AGU Fall Meeting, New Orleans, LA, 2017. Poster Presentation

[16] Xue, Z. Assess Impacts of Climate Change on Louisiana Rivers using a Coupled Climate-Hydrological Model. Louisiana Groundwater, Surface Water & Water Resources Symposium, Baton Rouge, LA, 2016. Oral Presentation

[15] Xue, Z., Gochis, D., Yu, W., Zang, Z., Sampson, K., Keim, B. Assessing Climate Change's Impact on Coastal Rivers using a Coupled Climate-Hydrology Model. AGU Fall Meeting, San Francisco, CA, 2016. Poster Presentation

[14] Xue, Z., He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, W.J., Tian, H., Ren, W. Connecting the Mississippi River with Carbon Variability in the Gulf of Mexico. AGU Ocean Science, New Orleans, LA, 2016. Oral Presentation

[13] Xue, Z., Zang, Z., Tao, J., Jin, D., Chen, J. SIMULOCEAN Science Gateway for COAWST. COAWST Modeling Workshop, Woods Hole, MA, 2016. Oral Presentation

[12] Xue, Z., Zang, Z. Connecting Regional Climate, River, and Ocean using High Resolution Numerical Models. South Central Climate Center Workshop, Fort Worth, TX, 2015. Oral Presentation

[11] Xue, Z., Liu, J., He, R., DeMaster, D., Leithold, E. L., Nguyen, L., Ta, T. A Source-to-Sink Study of the Mekong River Delta: Hydrology, Delta Evolution, and Sediment Transport Modeling. IAHS/ICCE International Symposium, New Orleans, LA, 2014. Oral Presentation

[10] Xue, Z., He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, W. J., Tian, H. Modeling pCO₂ variability in the Gulf of Mexico. Coastal CARbon Synthesis (CCARS) Community Workshop, Woods Hole, MA, 2014. Poster Presentation

[9] Xue, Z., He, R., Fennel, K., Cai, W., Lohrenz, S., Huang, W. J., Tian, H. Modeling pCO₂ Variability in the Gulf of Mexico. AGU Fall Meeting, San Francisco, CA, 2014. Poster Presentation

[8] Xue, Z., He, R., Fennel, K., Cai, W., Lohrenz, S. Modeling Seasonal and International Variability of Ocean Circulation and Biogeochemical Variables in the Gulf of Mexico. AGU Ocean Sciences Meeting, Honolulu, HI, 2014. Oral Presentation

[7] Xue, Z., He, R., Liu, J., Warner, J. Modeling transport and deposition of the Mekong River sediment. COAWST Modeling Workshop, Woods Hole, MA, 2014. Oral Presentation

[6] Xue, Z., He, R., Fennel, K., Cai, W., Lohrenz, S. Modeling Seasonal and Interannual Variability of Circulation and Biogeochemical Processes in the Gulf of Mexico. AGU Ocean Sciences Meeting, Salt Lake City, UT, 2012. Oral Presentation

[5] Xue, Z., He, R., Liu, J., Warner, J. Modeling Transport and Deposition of Mekong River Sediment. Gordon Research Conference, South Hadley, MA, 2011. Poster Presentation

[4] Xue, Z., Liu, J., DeMaster, D., He, R., Leithold, E. L. A Source-to-Sink Study of the Mekong Subaqueous Delta. AGU Ocean Science, Portland, OR, 2010. Oral Presentation

- [3] Xue, Z., Yao, Z., He, R. Multi-level Model Downscaling of Coastal Ocean Responses in Face of a Warming Climate: Carolina Perspective. 35th Climate Diagnostics and Prediction Conference, Raleigh, NC, 2010. Poster Presentation
- [2] Xue, Z., Liu, J., Dave, D., Nguyen, L., Ta, T. A Preliminary Study of Sedimentation in the Mekong Subaqueous Delta, Southern Vietnam. AGU Fall Meeting, San Francisco, CA, 2008. Poster Presentation
- [1] Xue, Z., Yin, P., Wang, W. Vertical Distribution of the Sediment in the Surf Zone. International Symposium on Coastal Resource-Environmental System and Management Strategies, Qingdao, China, 2004. Oral Presentation

Invited Talk and Seminars/Webinars

- [38] University of Southern Mississippi, 2025 (seminar)
- [37] NOAA Coastal Modeling Seminar Series, 2025 (webinar)
- [36] Tulane University, 2023 & 2024 (seminar)
- [35] University of Texas, 2024 (seminar)
- [34] NOAA Coupled System and Dynamics Seminar, 2022 (webinar)
- [33] Texas A&M University-Galveston, 2022 (seminar)
- [32] World River and Delta Systems Source-to-Sink Webinar Series, 2022 (webinar)
- [31] Progress Meeting of the Mega-Delta Programme, UN Ocean Decade, 2022 (webinar)
- [30] NOAA Coastal Modeling Seminar Series, 2022 (webinar)
- [29] South China Sea Institute of Oceanology, Chinese Academy of Sciences, 2021 (webinar)
- [28] Louisiana Space + Sea Grant Meeting, 2021 (webinar)
- [27] BRICS Ocean and Polar Youth Forum, 2021 (webinar)
- [26] NOAA Coastal & Ocean Community Modeling Workshop, 2021 (webinar)
- [25] LaSPACE Fall Council meeting, Louisiana, 2018, 2020 (invited talk)
- [24] NASA EPSCoR Director's National Meeting, Baltimore, Maryland, 2018 (invited talk)
- [23] NASA Goddard Center, NLDAS team, Baltimore, Maryland, 2018 (seminar)
- [22] NLDAS monthly teleconference (WebEx), 2018 (seminar)
- [21] Jilin University, Changchun, China, 2017 (seminar)
- [20] Northeast Institute of Geography and Agroecology, Changchun, China, 2017 (seminar)
- [19] East China Normal University, Shanghai, China, 2016 (seminar)
- [18] Yangon University, Yangon, Myanmar, 2015 (seminar)
- [17] Ho Chi Minh University of Science, Ho Chi Minh City, Vietnam, 2015 (seminar)
- [16] NSF Lower Mekong Basin Workshop, Can Tho University, Can Tho, Vietnam, 2015 (invited talk)
- [15] Louisiana State University, Dept. of Geology and Geophysics, Baton Rouge, LA, 2015 (seminar)
- [14] University of Southern Mississippi, Stennis Center, MS, 2015 (seminar)
- [13] Qingdao Institute of Marine Geology, Qingdao, China, 2014 (seminar)
- [12] Ocean University of China, Qingdao, China, 2014 (seminar)
- [11] Second Institute of Oceanography, Hangzhou, China, 2014 (seminar)
- [10] First Institute of Oceanography, Qingdao, China, 2014 (seminar)
- [9] Institute of Marine Environment and Resources (VAST), Hai Phong, Vietnam, 2014 (seminar)
- [8] National University of Vietnam, Hanoi, Vietnam, 2014 (seminar)
- [7] N-H-I Mekong Delta Workshop, Ho Chi Minh City, Vietnam, 2013 (invited talk)
- [6] Louisiana State University, Dept. of Oceanography and Coastal Sciences, Baton Rouge, 2013 (seminar)
- [5] University of Georgia, Athens, GA, 2013 (seminar)
- [4] Virginia Institute of Marine Science, Gloucester Point, VA, 2013 (seminar)
- [3] Woods Hole Oceanographic Institution, MA, 2009 (seminar)
- [2] Coastal Carolina University, Conway, SC, 2008 (seminar)
- [1] Institute of Oceanology, Chinese Academy of Sciences, Qingdao, China, 2008 (seminar)

Teaching and Mentoring

Courses taught as a lead instructor

- Introductory Oceanography-online (2024 fall)

- Introductory Oceanography (undergraduate level; 2015 fall, 2016 spring, 2017 fall, 2018 fall, 2019 spring, 2019 fall, 2020 fall, 2021 spring, 2021 fall, 2022 spring, 2022 fall, 2023 spring, 2023 fall, 2024 spring)
- Introduction to Coupled Ocean, Atmosphere, Wave, and Sediment Transport modeling system (graduate level, lead instructor; 2015 spring, 2017 spring, & 2018 spring)

Courses taught as a guest instructor

- Ecosystem Modeling (graduate level, 2016 spring, 2017 spring, 2018 spring, 2019 spring)
- Oceanography Field and Lab Method (undergraduate level, 2019 spring, 2019 fall)
- Observational Methods and Data Analysis in Marine Physics (undergraduate level, 2013 spring)
- Geological Oceanography (undergraduate/graduate level, 2013 spring, 2013 fall)
- Introduction to Coastal Environments (undergraduate level, 2011 spring)
- Student Oceanographic Cruise (undergraduate level, 2008 summer, 2009 summer)

Committee chair of

Graduated

- [1] Christopher Kunz, M.S., transferred in Spring 2015, graduated in Summer 2015
- [2] Zhengchen (Johnny) Zang, Ph.D., started in Spring 2015, graduated in Winter 2019
- [3] Xiaochen Zhao, Ph.D. started in Fall 2016, graduated in Fall 2021 (co-chair with Rivera-Monroy)
- [4] Dongxiao (Allen) Yin, Ph.D. started in Fall 2017, graduated in Spring 2022
- [5] Pengfei Wang, M.S., started in Summer 2021, graduated in Spring 2022
- [6] Yanda (Dan) Ou, Ph.D. started in Spring 2018, graduated in Fall 2022
- [7] Daoyang Bao, Ph.D. started in Spring 2020, graduated in Fall 2024 (**LSU Distinguished Dissertation Award, one awardee university-wide annually**)
- [8] Le (May) Zhang, Ph.D. started in Fall 2018, graduated in Fall 2024

Ongoing

- [9] Yixuan Wang, Ph.D. candidate, Spring 2022 to present
- [10] Ogooluwa Adeagbo, Ph.D. candidate, Spring 2022 to present
- [11] Ziyian Lei, Ph.D. candidate, Fall 2023 to present
- [12] Muhamud Farid Geonova, M.S. candidate, to start in Spring 2024 to present

Committee member of

Graduated

- [1] Patrick Robichaux, M.S. graduated in Spring 2018, chaired by Kehui Xu
- [2] Joseph Harris, Ph.D. graduated in Spring 2019, chaired by Robert Rohli
- [3] Cihad Ayberk Doner, M.S., graduated in Summer 2018, chaired by Frank Tsai
- [4] Lindsey Green, M.S. graduated in Summer 2015 summer, chaired by John White
- [5] Linlin Cui, Ph.D. graduated in Fall 2018, chaired by Haosheng Huang
- [6] Guandong Li, M.S. graduated in Spring 2020, chaired by Kehui Xu
- [7] Haoran Liu, Ph.D. graduated in Spring 2020, chaired by Kehui Xu
- [8] Michelle Anderson, M.S. graduated in Spring 2020, chaired by Kanchan Maiti
- [9] Jocelyn Foresman, M.S. graduated in Spring 2021, chaired by Kanchan Maiti
- [10] Yadav Sapkota, Ph.D., graduated in Fall 2021, chaired by John White
- [11] Ali Heidarizhaleh, Ph.D., graduated in Fall 2021, chaired by Clint Wilson, as Dean's Rep
- [12] Robert Feder, M.S., graduated in Spring 2023, chaired by John White
- [13] Wenqiang Zhang, Ph.D., graduated Spring 2024, chaired by Kehui Xu
- [14] Aya B Mohamed, Ph.D., chaired by Frank Tsai, Dean's Rep
- [15] Mohammed Elkharrakany. Ph.D., chaired by Frank Tsai

Ongoing

- [16] Erin Rooney, Ph.D., started in Fall 2022, chaired by Clint Wilson

[17] Rongqing Du, Ph.D., chaired by Kehui Xu

Postdoc advised [1] Kim Cuong Nguyen, 2017; [2] Xiaochen Zhao, 2022-2024; [3] Yanda Ou, 2023-present; [4] Daoyang Bao, 2025-present

Research Professor advised [1] Zhengchen Zang, 2023-present; [2] Xiaochen Zhao, 2025-present; [3] Yanda Ou, 2026-present

Services

Service to the Discipline and Profession

- OCB Working Group on Marine Carbon Dioxide Removal (mCDR), Gulf of Mexico Regional Lead, 2023
- Invited Author of the Third Decadal U.S. Carbon Cycle Science Plan
- Deltas 2024 Program Committee

Proposal Panelist and Reviewer

Invited proposal review panelist for NSF (multi programs), NASA (IDS), NOAA (NCOOS), & California Sea Grant; Invited proposal reviewer for NSF, NOAA, Rhode Island Sea Grant, the Water Institute of the Gulf, NASA EPSCoR (Montana Office), the Natural Environment Research Council (UK), and LSU Office of Research and Economic Development

Invited manuscript reviewer

Journal of Geophysical Research; Marine Geology; (Nature) Scientific Report; Journal of Marine System; Deep Sea Research (I); Quaternary Research; Marine Geodesy; Journal of Hydrological Environmental Research; Estuarine, Coastal and Shelf Science; Journal of Hydrology; Applied Geography; Journal of Coastal Research; Biogeosciences; Continental Shelf Research; IAS Special Publications; Journal of Hydrologic Engineering; Journal of Marine Science and Engineering; Quaternary International; Journal of Ocean University of China; Wetland; Acta Oceanologica Sinica; PLOS ONE; Wetland; Journal of Advances in Modeling Earth System; Global Biogeochemical Cycle

Department Committee Department Academic Affairs and Admissions Committee (2015 to present); Department Webpage Committee (Chair in 2020-2021); Department Academic Program Review Committee (2020-2021); Department Faculty Search Committee (for five positions and as hosts of four candidates since 2014); Mentoring Committee for Assistant Professors. Faculty Development (2025-present)

University Committee; Center for Computation and Technology, External Review Committee (2025); Research, Economic Development, and Intellectual Property AI working group (2023-2024); BS in Data Science Committee (2023-2024); LSU A/AAPI Faculty and Staff Caucus (2020-2022, Vice President); LSU Faculty and Staff Subcommittee for Internationalization (co-Chair since 2021); LSU Accelerating Discovery through Artificial Intelligence, Machine Learning, and Computational + Data Science (2021); LSU HPC Allocation Committee (since 2019); Fulbright Scholar Committee (2016).

University Leadership: Invited by university leadership to present my lab's work to LSU system chancellors, the LSU Board of Supervisors, and LSU Foundation National Board.

Media Coverage and Public Engagement

[9] The Advocate, The Times-Picayune, and NOLA.com – “AI key to LSU’s new flood prediction model”, Sept 2025

[8] Louisiana Public Broadcast (Television Feature) – “How New LSU Technology Could Transform Flood Insurance Pricing,” August 2025

[7] Fox Weather (Live Interview) – “New flood model uses AI to improve predictions”, August 2025

[6] The Weather Channel (Live Interview) – “Using AI-Powered Tools to Improve Flood Forecasting”,

August 2025

- [5]WAFB Channel 9 (Television Feature) – “Exclusive: LSU researchers use A.I. to predict flooding”, July 2025
- [4]Baton Rouge Business Report – “LSU researchers developed a breakthrough flood forecasting tool”, July 2025
- [3]WBRP – “Mornings with Brian Haldane” (Live Radio Interview), September 2024, October 2025
- [2]WRKF/WWNO – “Louisiana Considered” (Radio Interview), February 2023
- [1]LSU.edu Homepage Feature – “Coastal Champion”, October 2021

Honors, Awards, and Social Activities

- [13] Selected Participant, *LSU Academy for Scholars as Leaders Program* (Second Cohort), 2025
- [12] LSU Rain-Maker Mid-Career Scholar (one awardee per category campus wide), March, 2023
- [11] Vice President, LSU AAPI Caucus, 2021-2023
- [10] LSU Alumni Association Rising Faculty Research Award, 2019
- [9] Phi Kappa Phi Non-Tenured Achievement Award (LSU Chapter), 2018
- [8] President of the Chinese Friendship Association of Baton Rouge, 2014-2015
- [7] AGU Ocean Science Meeting, travel grant, Portland, Oregon, 2010
- [6] NSF Margins Program, Source to Sink workshop, travel grant, New Zealand, 2009
- [5] NSF Margins Program, Source to Sink workshop, travel grant, California, 2006
- [4] President of Graduate Student Board, First Institute of Oceanography, China, 2004-2005
- [3] President of Undergraduate Student Board, College of Marine Geosciences, Ocean University of China, 2001-2002
- [2] Scholarship with honor (3%), Ocean University of China, awarded four times in 1999/2000/2001/2002
- [1] State Excellent Undergraduate Student, Shan-Dong Province (State Level), China, 2000-2001