Meng Xia, Ph.D.

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Education

Ph.D.,	Physical Oceanography, North Carolina State University, 2007
M.S.,	Physical Oceanography, First Institute of Oceanography, State Oceanic Administration, China, 2002
B.S.,	Physical Oceanography, Ocean University of Qingdao, 1999

Professional experience & Services

08/2021 – Present	Professor (with tenure), University of Maryland Eastern Shore, Princess Anne, MD
08/2016 – 07/2021	Associate Professor (with tenure), University of Maryland Eastern Shore, Princess Anne, MD
07/2018 – Present	Summer Visiting Professorship, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences
08/2011 – 07/2016	Assistant Professor (Tenure Track), University of Maryland Eastern Shore, Princess Anne, MD
05/2013 – present	Regular graduate faculty, University of Maryland Marine Estuarine Environmental Sciences Graduate Program (www.mees.umd.edu) & University of Maryland Eastern Shore, Princess Anne, MD
12/2011 – 05/2013	Associate graduate faculty, University of Maryland Marine Estuarine Environmental Sciences Graduate Program (www.mees.umd.edu) & University of Maryland Eastern Shore, Princess Anne, MD
10/2008 – 08/2011	Research Investigator (Principal Investigator), University of Michigan/ NOAA GLERL, Anne Arbor, MI
10/2007 – 10/2008	Water Resource Scientist, Dynamics Solution LLC, Knoxville, TN
05/2007 – 10/2007	Postdoctoral Research Associate, North Carolina State University, Raleigh, NC

Sponsored Research Projects

1. Grants awarded (total amount: $~1.6M at UMES for Dr. Xia)

- PI: **Meng Xia**
  Hydrodynamic modeling to support estimates of impact of placement activities in Wolf Trap on blue crab, **$100K (for years 1-2)**, **Maryland Port Administration/University of Maryland Center for Environmental Sciences**, 2020-2025.

- PI: **Meng Xia** (Dr. Anna Wargula of US Navy Academy is sub-contractor)
  Wave effects on the dynamics of a multiple-inlet bay system during storms, **$600K**, **NSF**, 2019-2022.

- PI: **Meng Xia**
  The application of numerical model to St. Martin River and Maryland Coastal Bay two inlets, **$25K**, **Maryland Coastal Bay Program,** 2017-2018.

- PI: **Meng Xia**
  Configuration of a global storm surge model, **$10K**, **KatRisk LLC,** 2017-2018.

- PIs: Paulinus Chigbu, Ali Ishaque, **Meng Xia**, Maggie Sexton, Salina Parveen
  CREST Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region, **$5M**, **NSF,** 2017-2022.

- PIs: **Meng Xia**, Xiaohai Yan (University of Delaware)
  Impact of climate changes on water quality of Chesapeake Bay, **$30K**, **Delmarva Land Grant Institution Cooperative Research Seed Funding Program**, 2016-2018.

- PI: **Meng Xia**
  Geophysical surveys of the continental shelf offshore Ocean City, Maryland, **$7.5K**, **Coastal Planning & Engineering, INC,** 2015-2016.

- PI(D)s: Joseph Pitula, **Meng Xia**
  Student Internship Program at Assateague Island National Seashore, **$37K**, **NPS,** 2014-2017.

- PI(D)s: Moses Kairo, Eric May, **Meng Xia**, Tracie Bishop
  Development of a model to predict short-term impacts of climate change on Delmarva's coastal, wetland and upland forests, **$330K**, **National Inst. for Food and Agriculture**, 2013-2016

- PI: **Meng Xia**
  The Geophysical Survey at the Maryland Coastal Ocean, **$125K**, **Maryland Energy Administration,** 2013-2015.

- PI: **Meng Xia**
  The effect of climate change to the coastal bay dynamics, **$9K**, **Maryland Sea Grant,** 2013-2014.

- PI: **Meng Xia**
  Impact of wave on the dynamics of a coastal plume, **$200K**, **NSF,** 2012-2015.

- PI: **Meng Xia**
  A linkage development for EFDC and RCA, **$5K**, **Virginia Institute of Marine Sciences,** 2013.

- PIs: **Meng Xia** (UMES); Kevin Pangle (Co-lead, University of Central Michigan) and Stu Ludsin (OSU); Ed Rutherford and Doran Mason (NOAA GLERL); Michael Wiley (UM SNRE)
  Biophysical model to forecast yellow perch recruitment success in Lake Erie, **$200K**, **Great Lakes Fishery Commission,** 2011-2013.

2. Grants Pending – Total amount: $581.7K

- PI: **Meng Xia**
  NSF Large-scale CoPe: REACCT: Resilient, Adaptable Communities facing, **$345,615K**, **NSF/University of Delaware**, 2022-2027.

- PI: **Meng Xia**
  The role of wave-current-ice interaction to a freshwater plume dynamics, **$500K**, **NSF**, 2022-2025.

- PI: **Meng Xia**
  The Sensitivity of Wind Stress Formula to Estuarine and Coastal Ocean Modeling By Using FVCOM for the Chesapeake Bay, **$500K**, **DoD**, 2022-2025.

3. Grant Awards Before Coming to UMES – Total amount: $1.095M

- PIs: **Meng Xia**, Dimitry Beletsky (UM SNRE), David Schwab (NOAA GLERL)
  Wave-current Interaction and its influence to the ecosystem at the Grand Haven River and adjacent Lake Region, **$20K**, **NOAA,** 2009-2010.
- PIs: David Schwab, Gary Fahnenstiel, Juli Dyble Bressie (NOAA GLERL), Allen Burton, Tom Johengen, **Meng Xia** and David Rockwell (UM CILER)
  Develop Forecasting Predictive Models Improving Coastal and Human Health and Beach, Forecasting, **$835K**, **NOAA,**2010-2011.
- PIs: Leonard J. Pietrafesa, Machuan Peng, Shaowu Bao, **Meng Xia**, Huiqing Liu (NCSU)
  The building of Chesapeake Community Model, **$200K**, **University of Maryland,** 2007-2009.
- PIs: Leonard J. Pietrafesa, **Meng Xia**, Machuan Peng, Shaowu Bao (NCSU)
  Coastal, Inland Flood Observation and Warning, **$40K**, **NOAA NSSL**, 2007-2008.

4. Super Computer-Computational core-hours proposals awarded (total: 2,332,209 hrs.= $ amount ~ $99.5K: Paid by National Science Foundation)

- Numerical modeling of Great Lakes and Coastal Ocean, TACC OCE120008, 207667 core-hours (~ $7.19K), funded in 06/2016
- Hydrodynamics and water quality simulation in the Maryland Coastal Bays under climate change, CISL UMES0003, 355000 core-hours (~ $17.8K), funded in 05/2015
- Numerical modeling of Great Lakes and Coastal Ocean, TACC OCE120008, 488768 core-hours (~ $16.9K), funded in 12/2014
- The effect of wave to the nearshore particle transport, CISL UMES0001, 380000 core-hours (~ $19K), funded in 10/2014
- Numerical Modeling of hydrodynamics and water quality process at the Maryland Coastal Bay and adjacent coastal ocean and the Grand Haven at Lake Michigan, TACC OCE120008, 170000 core-hours (~ $6K), funded in 02/2014
- Surface Water Quality Modeling, TACC OCE130011, 100000 core-hours (~3.5K), funded in 10/2013
- Understanding the effect of wave to the nearshore plume dynamics, CISL UMES0001, 466000 core-hours (~ $23.3K), funded in 10/2013

Publications and Presentations

Refereed Journal Publication (* indicates my graduate student at UMES)

1. Publications to be submitted in 2022

1. **Xia, M.** et al. (2022). "How Chesapeake Bay plume was impacted by potential climate change?" *Journal of Geophysical Research: Oceans*.
2. **Xia, M.**, Liu, H, Tamburri, M., Miller, T., (2022). "How Sediments from Chesapeake Bay Dredging Placement Sites moving?" *Estuaries and Coasts*
3. Marin Jarrin, J.R., Ludsin S., **Xia, M.,** Mason D., Rutherford E., Pangle K. (2022). "Combining particle tracking models and otolith chemistry to study the swimming behavior of larval fish in the Great Lakes," *Ecological Applications*.
4. Peng, J., Mao M. *, & **Xia, M.** (2022). "Dynamics of wave generation and dissipation processes during cold wave events in the Bohai Sea" *Ocean Modelling*

2. Publications submitted for publication & under review/revision

5. Kang, X., Mou, L., & **Xia, M.** (2022). Water exchange dynamics in Bohai Sea using a Lagrangian view, *Progress in Oceanography (submitted)*
6. Fitzenreiter, K. *, Mao, M. *, & **Xia, M.** (2022) Characteristics of surface currents in a shallow lagoonal system revealed by drifter observations, *Estuaries and Coasts (In revision)*
7. Mou, L., Niu, Q., & **Xia, M.** (2022) The roles of wind and density driven transport in the seasonal and interannual cross-isobath water exchange variability within the Bohai Sea, *Estuarine, Coastal and Shelf Sciences. (In revision)*
8. Mao M. , & **Xia, M.** (2022). Seasonal dynamics of water circulation and transports in a shallow lagoonal system, *Ocean Modelling (In review)*

3. Peer-reviewed publications

9. Arora-Williams, K., Holder, C., Secor, M., Ellis, H., **Xia, M.**, Gnanadesikan, A., Preheim, S. (2022) Sulfide oxidizers are abundant and persistent water column populations responsive to hypoxia in the Chesapeake Bay, *Environmental Microbiology (In press)*
10. Kang, X. *, & **Xia, M.** (2022). "Stratification variability in a lagoon system in response to a passing storm" *Limnology and Oceanography*, 67, 511-521.
11. Allen, T., Behr, J., Bukvic, A., Calder, R., Caruson, K., Connor, C., D'Elia, C., Dismukes, D., Ersing, R., Franklin, R., Goldstein, J., Hemmerling, S., Irish, J., Goodall, J., Lazarus, S., Loftis, D., Luther, M., McCallister, S., McGlathery, K., Mitchell, M., Moore, W., Nichols, C., Nunez, K., Reidenbach, M., Shortridge, J., Weisberg, R., Weiss, R., Wright, D., **Xia, M.**, Xu, K., Young, D., Zarillo, G., Zinnert, J., (2021) Anticipating and Adapting to the Future Impacts of Climate Change on the Health, Security and Welfare of Low Elevation Coastal Zone (LECZ) Communities in Southeastern USA, *Journal of Marine Science and Engineering*, *9*(11), 1196
12. Niu, Q. *, **Xia, M.** (2021) **"**The behavior and wind-driven dispersions of two dynamically distinctive limnetic river plumes in a semi-enclosed basin," *Estuarine, Coastal and Shelf Sciences.* 258(C9):107408 DOI: 10.1016/j.ecss.2021.107408

13. Sahoo, B., Mao, M., & **Xia, M.** (2021). "Projected climatological circulation in Lake Michigan under RCP scenarios" *Journal of Geophysical Research: Oceans* https://doi.org/10.1029/2020JC016651
14. Mao, M. *, & **Xia, M.** (2020). "Particle dynamics in the nearshore of Lake Michigan revealed by an observation-modeling system," *Journal of Geophysical Research: Oceans* https://doi.org/10.1029/2019JC015765
15. Sun, L., Liang, X, **Xia, M.** (2020). "Developing the Coupled CWRF-FVCOM Modeling System to Understand and Predict Atmosphere-Watershed Interactions over the Great Lakes Region," *Journal of Advances in Modeling Earth Systems htt*ps://doi.org/10.1029/2020MS002319
16. Mao, M. *, & **Xia, M.** (2020). "Monthly and episodic dynamics of summer circulation in Lake Michigan," *Journal of Geophysical Research: Oceans* https://doi.org/10.1029/2019JC015932
17. **Xia, M.,** Mao, M.*, Niu, Q.* (2020). "Implementation and comparison of the recent three-dimensional radiation stress theory and vortex force formulism in an unstructured-grid coastal model," *Estuarine, Coastal and Shelf Sciences*, 189, 1-16.
18. Veeramony, J., Li, C., Sheremet, A., Myers III, E. P, **Xia, M.**, Mitchell, S. (2020). "Estuarine and coastal natural hazards: An introduction and synthesis," *Estuarine, Coastal and Shelf Sciences*, 237, 1-16.
19. Kang, X.*, & **Xia, M.** (2020). "The study of the hurricane-induced storm surge and bay-ocean exchange using a nesting model," *Estuaries and Coasts,* 43, 1610-1624, https://doi.org/10.1007/s12237-020-00695-3
20. Mao, M.*, & **Xia, M.** (2018). "Wave-current dynamics and interactions near the two inlets of a shallow lagoon-inlet-coastal ocean system under hurricane conditions," *Ocean Modelling*, 129, 124-144.
21. Niu, Q.*, **Xia, M.**, Ludsin, S.A., Chu, P.Y., Mason, D.M., Rutherford, E.S. (2018). "High-urbidity events in Western Lake Erie during ice-free cycles: Contributions of river-loaded vs. resuspended sediments," *Limnology and Oceanography*, 00, 1-18.
22. Jiang, L.* & **Xia, M.** (2018). "Modeling investigation of the nutrient and phytoplankton variability in the Chesapeake Bay outflow plume," *Progress in Oceanography*, 162, 290-302.
23. Niu, Q.*, & **Xia, M.** (2017). "The role of wave-current interaction in Lake Erie's seasonal and episodic dynamics," *Journal of Geophysical Research: Oceans*, 122.
24. Jiang, L.*, & **Xia, M.** (2017). "Wind effects on the spring phytoplankton dynamics in the middle reach of the Chesapeake Bay," *Ecological Modelling*, 363, 68-80.
25. Kang, X.*, **Xia, M.**, Pitula, S.J., Chigbu, P. (2017). "Dynamics of water and salt exchange at Maryland Coastal Bays," *Estuarine, Coastal and Shelf Sciences*, 189, 1-16.
26. Mao, M.*, & **Xia, M.** (2017). "Dynamics of wave-current-surge interactions in Lake Michigan: A model comparison," *Ocean Modelling*, 110, 1-20.
27. **Xia, M.,** & Jiang, L.* (2016). "Application of an unstructured grid-based water quality model to Chesapeake Bay and its adjacent coastal ocean," *Journal of Marine Science and Engineering*, 4, 52.
28. Niu, Q.*, & **Xia, M.** (2016). "Wave climatology of Lake Erie based on an unstructured-grid wave model," *Ocean Dynamics*, 66(10), 1271-1284.
29. Mao, M.*, Andre Van der Westhuysen, **Xia, M.**, David J. Schwab, Arun Chawla (2016). "Modeling wind waves from deep to shallow waters in Lake Michigan using unstructured SWAN," *Journal of Geophysical Research: Oceans*, 121, 3836-3865.

30. Jiang, L.*, & **Xia, M.** (2016). "Dynamics of the Chesapeake Bay outflow plume: Realistic plume simulations and its seasonal, interannual variability," *Journal of Geophysical Research: Oceans*, 121, 1424-1445.
31. Irby, I. D., Friedrichs, M.A.M., Friedrichs, C.T., Bever, A.J., Hood, R.R., Lanerolle, L.W.J., Scully, M.E., Sellner, K., Shen, J., Testa, J., Li, M., Wang, H., Wang, P., L. Lewis, **Xia, M.** (2016). "Challenges associated with modeling low-oxygen waters in Chesapeake Bay: A multiple model comparison," *Biogeosciences*, 13(7), 2011-2028.
32. **Xia, M.**, & Jiang, L.* (2015). "Influence of wind and river discharge on the hypoxia in a shallow bay," *Ocean Dynamics*, 65(5), 665-678.
33. Niu, Q.*, **Xia, M.**, Rutherford, E.S., Mason, D.M., Anderson, E.J., Schwab, D.J. (2015). "Investigation of interbasin exchange and interannual variability in Lake Erie using an unstructured-grid hydrodynamic model," *Journal of Geophysical Research: Oceans*, 120, 2212-2232.
34. Jiang, L.*, **Xia, M.**, Ludsin, S.A, Rutherford, E.S., Mason, D.M., Pangle, K.L., Marin Jarrin, J.R. (2015). "Biophysical modeling assessment of the drivers for plankton dynamics at western Lake Erie," *Ecological Modelling*, 308, 18-33. **(Best Paper Award)**
35. **Xia, M.**, Xie, L., Pietrafesa, L.J., Whitney, M.M. (2011). "The ideal response of a Gulf of Mexico estuary plume to wind forcing: Its connection with salt flux and a Lagrangian view," *Journal of Geophysical Research*, 116, C08035.
36. **Xia, M.**, Craig, P.M., Wallen, C.M., Stoddard, A., Mandrup-Poulsen, J., Peng, M., Schaeffer, B., Liu, Z. (2011). "Numerical simulation of salinity and dissolved oxygen at Perdido Bay and adjacent coastal ocean," *Journal of Coastal Research*. 27(1), 73-86.
37. **Xia, M.**, Xie, L., Pietrafesa, L.J. (2010). "Winds and the orientation of a coastal plane estuary plume," *Geophysical Research Letters*, 37, L19601.
38. **Xia, M.**, Craig, P.M., Schaeffer, B., Stoddard, A., Liu, Z., Peng, M., Zhang, H., Wallen, C.M., Bailey, N., Mandrup-Poulsen, J. (2010). "Influence of physical forcing on bottom-water dissolved oxygen within Caloosahatchee River Estuary, Florida," *Journal of Environmental Engineering*, 136(10), 1032-1044.
39. Liu, Z., Choudhury, S. H., **Xia, M.**, Holt, J., Wallen, C. M., Yuk, S., Sanborn, S. C. (2009). "Water quality assessment of coastal Caloosahatchee River watershed, Florida," *Journal of Environmental Science and Health Part A*, 44(10), 972-984.
40. Liu, Z., Hashim, N.B., Kingery, W.L., Huddleston, D.H., **Xia, M.** (2008). "Hydrodynamic modeling of St. Louis Bay estuary and watershed using EFDC and HSPF," *Journal of Coastal Research*, 52, 107-116.
41. **Xia, M.**, Xie, L., Pietrafesa, L.J., Peng, M. (2008). "A numerical study of storm surge in the Cape Fear River Estuary and adjacent coast," *Journal of Coastal Research*, *24*(sp3), 159-167.
42. **Xia, M.**, Xie, L., Pietrafesa, L.J. (2007). "Modeling of the Cape Fear River estuary plume," *Estuaries and Coasts*, 30(4), 698-709.
43. Peng, M., Pietrafesa, L.J., Bao, S., Liu, H., **Xia, M.**, Yan, T. (2007). "LIDAR vs. GEODAS land elevation data in hurricane induced inundation modelling," *Ocean Science Discussions*, 4(2), 399-414.
44. **Xia, M.**, Xie, L., Pietrafesa, L.J. (2006). "Cape Fear River Estuary plume modeling: Model configuration and sensitivity experiments," In *Proceedings of the Ninth International Conference on Estuarine and Coastal Modeling, Charleston, South Carolina*, 66-84.

45. Zhang, Q., **Xia, M.**, Qu, Y. (2002). "The solution for the Yellow Sea cold water mass circulation," *The national hydrodynamics conference 16*, *Ocean publication*. 659-668.
46. Zhang, Q., & **Xia, M.** (1999). "A layer model of the Kuroshio Flow on the east of Taiwan: The solution of steady state," *Journal of Hydrodynamics*, 14(4), 68-75.

Peer Reviewed Conference Publication and Invited Papers (* indicates my graduate student at UMES)

1. Invited seminars or talks

1. Modeling Lake Michigan's storm surge, particle transport, nearshore and offshore interaction, and its response to climate change, **NOAA Great Lakes Environmental Research Lab** (Dec, 2021)
2. The impact of climate change to Chesapeake Bay and adjacent Coastal Ocean. **St. Mary's College of Maryland** (Dec, 2021).
3. Wave-current-surge modeling system for a shallow lagoon-inlet-coastal system. **John Hopkins University** (Sep., 2019, CEAFM seminar talk).
4. The Physical Conditions of the Maryland Coastal Bays and its impact on the Recruitment of the Blue Crab Larvae. **University of Texas Austin** (Mar., 2019).
5. The impact of climate change to Chesapeake Bay and adjacent Coastal Ocean. **University of North Carolina Chapel Hill** (Nov., 2018).
6. The development of a wave-current based hydrodynamics and ecological modeling system to Chesapeake Bay and adjacent Coastal Ocean. **John Hopkins University** (Nov., 2018, atmosphere and ocean group talk).
7. A numerical simulation of dissolved oxygen dynamics for the Caloosahatchee River Estuary, FL. **Florida Gulf Coastal University** (Oct., 2018).
8. The development of a wave-current based hydrodynamics and ecological modeling system to Chesapeake Bay, Maryland Coastal Bays and adjacent Coastal Ocean. **Shantou University, China** (May, 2018).
9. The development of a wave-current based hydrodynamics and ecological modeling system to Chesapeake Bay, Maryland Coastal Bays and adjacent Coastal Ocean. **Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences** (Apr., 2018).
10. The development of a wave-current based hydrodynamics and ecological modeling system to Chesapeake Bay, Maryland Coastal Bays and adjacent Coastal Ocean. **North Carolina A&T State University** (May., 2018).
11. The development of a wave-current based hydrodynamics and ecological modeling system to Chesapeake Bay, Maryland Coastal Bays and adjacent Coastal Ocean. **University of Maryland College Park** (Apr., 2018).
12. How we benefit the understanding of Maryland Coastal Bays from a coupled wave-current-surge-water quality modeling system? **Stony Brook University** (Sep., 2017).
13. How to help us to fully understand the effect of climate change to the Chesapeake Bay and its plume by 2090? **Dalian Maritime University** (Jul., 2017).
14. How to help us to fully understand the effect of climate change to the Chesapeake Bay and its plume by 2090? **University of Maryland College Park** (Apr., 2017).
15. Application of a coupled physical-biological model to Lake Erie fish recruitment. **Nanjing University, China** (Mar., 2016).

16. A coupled physical-biological model to forecast larval yellow perch distributions, growth rates, and potential recruitment in Lake Erie". **Great Lakes Fishery Commission** (Mar., 2015).
17. The Lake Erie modeling system development. **NOAA/NCEP** (Dec., 2014).
18. The wave-current interaction and its impact to water quality dynamics. **NOAA/NCEP** (Sep., 2014).
19. The development of bio-physical modeling system to Lake Erie. **John Hopkins University** (Apr., 2014, atmosphere and ocean group talk).
20. The development of bio-physical modeling system to Lake Erie. **Chesapeake Biological Lab, UMCES** (Apr., 2014).
21. Numerical modeling of Perdido Bay system. **University of Maryland Eastern Shore** (May, 2011).
22. The Cape Fear River Estuary modeling system. **University of North Carolina Wilmington** (Apr., 2011).
23. The response of hypoxia and plume to the wind forcing. **State University of New York: Stony Brook** (Apr., 2011).
24. A coupled wave-current model and its application to the Grand Haven, Lake Michigan. **Grand Valley State University** (Apr., 2010).
25. A coupled watershed and water quality modeling and its application to the Caloosahatchee River Estuary, FL. **University of Virgin Islands** (Aug., 2009).
26. A TMDL model for the Caloosahatchee River Estuary, FL. **Nanjing University** (Mar., 2009).
27. A numerical simulation of dissolved oxygen dynamics for the Caloosahatchee River Estuary, FL. **East Carolina University** (Mar., 2009).
28. A Numerical Simulation of Dissolved Oxygen Dynamics for the Caloosahatchee River Estuary, FL. **University of Central Florida** (Dec., 2008).
29. The summary of plume distribution: An application to Cape Fear. **University of Michigan/NOAA Great Lakes Environmental Research Lab**. (Jan., 2008).
30. The Cape Fear River Estuary Plume Dynamics. **Louisiana State University**. (Apr., 2007).

2. Recent Conference presentations (62 after coming to UMES)

1. **Xia, M.**, Liu, H.*, Tamburri, M., & Miller, T. "Sediments Transport Simulation in Chesapeake Bay Dredging Placement Site" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021
2. Liu, H.*, & **Xia, M.** "Predicting algae blooms in Maryland coastal bays using a 3-D biophysical model " 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021
3. Kang, X., Mou, L., & **Xia, M.** "The observation and simulation of the water exchange among the Bohai Sea's subbasins" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021
4. Mao, M., Peng, J., & **Xia, M.** "Study on the evolution of typhoon waves in the Bohai Sea" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021.
5. Quan N.T., Mao M., & **Xia M**., "Study of wave breaking processes over the nearshore based on a Boussinesq-type wave model" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021.

6. Kittell-Porter, L.*, Wargula, A., Nimni, N.F., Mao, M., Kang, X., & **Xia, M.** "Hydrodynamic impacts of winter storms on two-inlet systems" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021. (Poster)
7. Peng, J., Mao, M., & **Xia, M.** "Study on the evolution of wave dynamics during cold wave events in the Bohai Sea" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021. (Poster)
8. Nimni, N.F.*, & **Xia, M.** "Coupled modeling of storm surge and fluvial flooding of Maryland Coastal Bays" 26th Biennial CERF Conference, Richmond, VA (Virtual), Nov. 1-11, 2021. (Poster)
9. Kang, X., & **Xia, M**. "Response to channel deepening of lagoon hydrodynamics under a calm weather condition and an extreme weather event" 7th International Conference o n Estuaries and Coasts: Anthropocene Coasts, Shanghai, China, OCt. 18-21, 2021. (Oral)
10. Peng, J., Mao, M., & **Xia, M.** "Spatial and temporal evolutions of wave dynamics durin g cold wave eventsin the Bohai Sea" 7th International Conference on Estuaries and Coasts: Anthropocene Coasts. Shanghai, China, Oct. 18-21, 2021. (Poster)
11. Mou, L., Niu, Q.,& **Xia, M.** "Investigation on the driving mechanisms of cross-isobath water exchange in the Bohai Sea during icefree cycles" 7th International Confer ence on Estuaries and Coasts: Anthropocene Coasts. Shanghai, China, Oct. 18-21, 2021. (Poster)
12. Quan N.T., Mao M., **Xia M**., "Numerical modeling of wave propagation over the nears hore of the Yellow River Delta" 7th International Conference on Estuaries and Coasts: Anthropocene Coasts. Shanghai, China, Oct. 18-21, 2021. (Oral)
13. Mao, M., Peng, J.,& **Xia, M.** "Dynamics of typhoon waves with various tracks in the B ohai Sea" 7th International Conference on Estuaries and Coasts: Anthropocene Coasts. Shanghai, China, Oct. 18-21, 2021. (Oral)
14. Kittell-Porter, L.*, Wargula, A., **Xia, M.** "Hydrodynamic Impacts of Winter Storms and Hurricanes on Two-Inlet Systems," American Geophysical Union 2020 Fall Meeting (AGU), Virtual, Dec. 1-17, 2020. (Poster)
15. **Xia. M.,** Niu, Q, & Xu, Y*. "Investigation of wave dynamics in Chesapeake Bay using an unstructured-grid wave model" 2020 Chesapeake Bay Modeling Symposium. Annapolis, MD, Jun. 8-10, 2020. (Oral)
16. **Xia, M.,** & Kang, X*. "Impact of local and remote wind forcing on surge level in small lagoon system," 25th Biennial CERF Conference, Mobile, AL, Nov. 3-7, 2019. (Oral)
17. Kang, X.*, & **Xia, M. "**Are the shallow lagoon system well mixed?" 25th Biennial CERF Conference, Mobile, AL, Nov. 3-7, 2019. (Oral)
18. Liu, H.*, & **Xia, M.** "Water quality modeling for Maryland Coastal Bays.," 25th Biennial CERF Conference, Mobile, AL, Nov. 3-7, 2019. (Poster)
19. Fitzenreiter, K.G.*, & **Xia, M.** "Surface circulation patterns and current velocities derived from drifters in the coastal waters of Maryland and Virginia," Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, San Juan, Puerto Rico, Feb. 23-Mar. 2, 2019. (Oral)
20. Fitzenreiter, K.G.*, & **Xia, M.** "Uncovering patterns of circulation and bay-ocean exchange in Maryland's coastal waters," 33rd Annual Meeting of the American Fisheries Society Tidewater Chapter, Salisbury, Maryland, Feb. 7-9, 2019. (Oral)

21. **Xia, M.,** Mao, M.*, Kang, X.* "The role of wave to a shallow bay storm surge modeling," American Geophysical Union 2018 Fall Meeting (AGU), Washington, D.C., Dec. 10-14, 2018. (Poster)
22. Mao, M.*, & **Xia, M.** "Numerical and observational studies of summer circulation dynamics and particle trajectories during storm events in Lake Michigan," American Geophysical Union 2018 Fall Meeting (AGU), Washington, D.C., Dec. 10-14, 2018. (Oral)
23. Kang, X.*, & **Xia, M.** "Storm surge simulation of Maryland Coastal Bays: A case study of Hurricane Sandy," American Geophysical Union 2018 Fall Meeting (AGU), Washington, D.C., Dec. 10-14, 2018. (Poster)
24. **Xia, M.,** Mao, M.*, Kang, X.* "Wave-current based storm surge modeling of a shallow lagoon-inlet-coastal system," 15th Estuarine and Coastal Modeling Conference (ECM), Seattle University, Seattle, WA, June 25-27, 2018. (Oral)
7. **Xia, M.** "The effect of climate change to the Chesapeake Bay plume dynamics," The effects of climate change on the world's ocean, 4th international Symposium, Washington DC, June 4-8, 2018. (Poster)
8. Kang, X.*, & **Xia, M.** "Exchange dynamics at Maryland Coastal Bays under the effect of climate change," The effects of climate change on the world's ocean, 4th international Symposium, Washington DC, June 4-8, 2018. (Poster)
9. **Xia, M.,** Jiang, L.*, Kang, X.* "The effect of climate change to the Chesapeake Bay and its plume until year 2090," 24th Biennial CERF Conference, Providence, RI, Nov. 5-9, 2017. (Oral)
10. Kang, X.*, & **Xia, M.** "Storm surge simulation of Maryland Coastal Bays: A case study of Hurricane Sandy," 24th Biennial CERF Conference, Providence, RI, Nov. 5-9, 2017. (Oral)
11. **Xia, M.** "Numerical Modeling of Chesapeake Bay and its plume dynamics," Mid-Atlantic Bight Physical Oceanography and Meteorology Conference, Wanchese, NC, Oct. 28, 2017. (Oral)
12. Kang, X.*, & **Xia, M.** "A numerical study of wind and tidal mixing in Maryland Coastal Bays," The 49th Liège Colloquium on Ocean Dynamics and the 8th Warnemünde Turbulence Days meeting, University of Liège, Liège, Belgium, May 22-26, 2017. (Poster)
13. **Xia, M.,** Jiang, L.*, Kang, X.* "How climate changed driven turbulent mixing impact the water quality dynamics: A case study in Chesapeake Bay, USA," The 49th Liège Colloquium on Ocean Dynamics and the 8th Warnemünde Turbulence Days meeting, University of Liège, Liège, Belgium, May 22-26, 2017. (Poster)
14. **Xia, M.,** & Jiang, L.* "Development of a biophysical model for Chesapeake Bay and its adjacent coastal ocean," 14th Estuarine and Coastal Modeling Conference (ECM), University of Rhode Island, Kingston, RI, June 13-15, 2016. (Oral)
15. **Xia, M.,** & Mao, M.* "The application of a coupled-wave current model to Lake Michigan," 14th Estuarine and Coastal Modeling Conference (ECM), University of Rhode Island, Kingston, RI, June 13-15, 2016. (Poster)
16. Niu, Q.*, & **Xia, M.** "Wave Dynamics in Lake Erie: Inter-basin propagation, seasonality, and potential susceptibility to climate change," 14th Estuarine and Coastal Modeling Conference (ECM), University of Rhode Island, Kingston, RI, June 13-15, 2016. (Oral)

17. Niu, Q.*, & **Xia, M.** "Sediment plume behaviors in the Western Lake Erie: Typical patterns, seasonal, and interannuval variability," 14th Estuarine and Coastal Modeling Conference (ECM), University of Rhode Island, Kingston, RI, June 13-15, 2016. (Poster)
18. Kang, X.*, & **Xia, M.** "Dynamics of water and salt exchange in Maryland Coastal Bays," 14th Estuarine and Coastal Modeling Conference (ECM), University of Rhode Island, Kingston, RI, June 13-15, 2016. (Poster)
19. Mao, M.*, & **Xia, M.** "Understanding the multi-scale circulation in Lake Michigan: A Lagrangian view," 48th Liège Colloquium on Ocean Dynamics, University of Liège, Liège, Belgium, May 23-27, 2016 (Poster)
20. **Xia, M.**, & Jiang, L.* "A linked hydrodynamic-biogeochemical model implemented for Chesapeake Bay: Model development and evaluation," The International Society for Ecological Modeling Global Conference 2016, Baltimore, MD, May 8-12, 2016. (Poster)
21. Jiang, L.*, **Xia, M.,** Ludsin, S.A., Rutherford, E.S., Mason, D.M., Marin Jarrin, J., Pangle, K.L. "Biophysical modeling assessment of the drivers for plankton dynamics in dreissenid-colonized western Lake Erie," The International Society for Ecological Modeling Global Conference 2016, Baltimore, MD, May 8-12, 2016. (Oral, **Invited**)
22. Irby I., Friedrichs M.A., Friedrichs C.T., Bever A.J., Hood R.R., Lanerolle L.W., Scully M.E., Sellner K., Shen J., Testa J.M., Li M., Wang H., Wang P., Linker L., **Xia M.** "Challenges associated with modeling low-oxygen waters in Chesapeake Bay: A multiple model comparison," 2016 Ocean Sciences Meeting, New Orleans, LA, Feb. 21-26. (Oral or Poster)
23. **Xia, M.**, & Jiang L.* "The response of the Chesapeake Bay phytoplankton plume to the climate change," Water Monitoring Conference, Baltimore, MD, Nov. 13, 2015. (Poster)
24. Jiang, L.*, & **Xia, M.** "Simulation of realistic Chesapeake Bay outflow plume and its seasonal and interannual variability," 23rd Biennial CERF Conference, Portland, OR, Nov. 8-12, 2015. (Poster)
25. Niu, Q.*, & **Xia, M.** "Wave climate and the influence of wave-current interaction in Lake Erie," 23rd biennial Coastal and Estuarine Research Federation Conference, Portland, OR, Nov. 8-12, 2015. (Oral)
26. **Xia, M.**, Mao M.*, Kang X.* "The dynamics of Maryland Coastal Bay, Maryland," 23rd biennial Coastal and Estuarine Research Federation Conference, Portland, OR, Nov. 8-12, 2015. (Poster)
27. **Xia, M.,** & Jiang, L.* "Development of a biophysical model for Chesapeake Bay," Mid-Atlantic Bight Physical Oceanography and Meteorology Conference, Cape May, NJ, Oct. 28, 2015. (Poster)
28. Mao, M.*, & **Xia, M**. "Investigation of shallow and deep water wave dynamics using unstructured SWAN: An application to Lake Michigan," PICES 2015 Annual Meeting Change and Sustainability of the North Pacific, Qingdao, China, Oct. 22, 2015. (Poster)
29. **Xia, M.**, Mao M.*, Kang X.* The dynamics of Maryland Coastal Bay, Maryland. Water Monitoring Conference, Baltimore, MD, Nov. 21, 2014. (Oral)
30. **Xia, M.**, Niu, Q.*, Jiang, L.*, Rutherford, E., Schwab, D. "The application of an unstructured based bio-physical model to understand Lake Erie dynamics," 7th National Summit on Coastal and Estuarine Restoration and 24th Biennial Meeting of The Coastal Society, Washington D.C, USA, Nov. 1-6, 2014. (Poster)
31. **Xia, M.**, Mao, M.*, Niu, Q.*, Jiang, L.* "The effect of wave to the estuarine and coastal ocean dynamics," 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Poster)

32. Niu, Q.*, & **Xia, M.** "Dynamics of spring sediment plumes in the western Lake Erie," 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Oral)
33. Jiang, L., & **Xia, M.** "Simulating phytoplankton dynamics of Chesapeake Bay," 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Oral)
34. Mao, M.*, & **Xia, M.** "Investigation on inlet wave current dynamics in a two-inlet coastal lagoon using unstructured wave-current coupled models," 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Oral)
35. Pangle, K., Marin Jarrin, J.R., **Xia, M.**, Ludsin, S., Mason, D., Rutherford, E. "Combining particle tracking models and otolith chemistry to study the swimming behavior of larval Yellow Perch in western Lake Erie," 144th American Fisheries Society Annual Meeting, Quebec, Canada, Aug. 17-21, 2014. (Oral)
36. **Xia**, **M.**, Schwab D.J., Mao, M.* "Understanding nearshore circulation using a coupled Lake Michigan and Grand Haven near shore wave-current based model," AOGS 11th Annual Meeting, Sapporo, Hokkaido, Japan, Jul. 28-Aug. 1, 2014. (Poster)
37. **Xia, M.**, Niu, Q.*, Jiang, L.*, Rutherford, E., Schwab, D. "The development of an unstructured based bio-physical model to Lake Erie yellow perch recruitmen," IMBER Future Oceans Conference, Bergen, Norway, Jun. 23-27, 2014. (Oral)
38. **Xia, M.**, Schwab, D.J., Mao, M.* "Understanding near shore circulation using a coupled Lake Michigan and Grand Haven near shore wave-current based model," IMBER Future Oceans Conference, Bergen, Norway, Jun. 23-27, 2014. (Poster)
39. Mao, M.*, & **Xia, M.** "Application of unstructured grid wave models to Lake Michigan," 57th Annual Conference on Great Lakes Research, Hamilton, Ontario, May 26-30, 2014. (Poster)
40. **Xia, M.**, Niu, Q.*, Jiang, L.*, Rutherford, E., Schwab, D., Anderson, E., Pangle, P., Marin Jarrin, J.R., Ludsin, S., Mason, D.M. "The application of an unstructured based bio-physical model to Lake Erie," 57th Annual Conference on Great Lakes Research, Hamilton, Ontario, May 26-30, 2014. (Oral)
41. Jiang, L.*, & **Xia, M.** "Hydrodynamics study and outflow plume dynamics of Chesapeake Bay using unstructured-grid FVCOM," Chesapeake Bay Modeling Symposium. Annapolis, MD, May 28-29, 2014. (Oral)
42. Niu, Q.*, **Xia, M.**, Schwab, D.J. "Application of a finite volume coastal ocean model to Lake Erie," Chesapeake Bay Modeling Symposium. Annapolis, MD, May 28-29, 2014. (Poster)
43. Mao, M.*, & **Xia, M.** "Application of unstructured grid wave models to Lake Michigan," Chesapeake Modeling Symposium 2014, Annapolis, MD, May 28-29, 2014. (Oral)
44. Marin Jarrin, J.R., Pangle, K., **Xia, M**., Ludsin, S., Mason, D., Rutherford, E. "Combining particle tracking models and otolith chemistry to study the swimming behavior of larval Yellow Perch in western Lake Erie," Joint Aquatic Science Meeting, Portland, OR. May 18-23, 2014. (Oral)
45. **Xia, M.**, Schwab, D.J., Mao, M.* "Understanding grand haven near shore circulation using a coupled wave-current based model," Ocean Sciences Meeting. Honolulu, HI, Feb. 23-28, 2014. (Poster)
46. Mao, M.* & **Xia, M.** "Application of unstructured wave model to Lake Michigan and its tributary Grand Haven," 22nd Biennial Conference of the Coastal and Estuarine Research Federation. San Diego, CA, Nov 3-7, 2013. (Poster)

47. **Xia, M.**, Niu, Q.*, Cao, Z.*, Jiang, L.*, Rutherford, E., Schwab, D., Anderson, E., Pangle, P., Marin Jarrin, J.R., Ludsin, S., Mason, D.M. "The application of an unstructured based bio-physical model to Lake Erie," 13th International Conference on Estuarine and Coastal Modeling, San Diego, Nov. 4-6, 2013 (Oral)
48. **Xia, M.** "The importance of physical forcing to a Gulf estuary hypoxia," Knowledge for the future-IAHS-IAPSO-IASPEI Joint Assembly, Gothenburg, Sweden, Jul. 21-26, 2013. (Oral)
49. **Xia, M.**, & Jiang, L.* "The response of hypoxia to river discharge in Perdido Bay, Florida," Gordon Research Conference, Biddeford, ME, USA, June 9-14, 2013. (Poster)
50. Marin Jarrin, J.R., Pangle, K., **Xia, M**., Ludsin, S., Mason, D., Rutherford, E. "Linking river discharge and wind-driven currents to the success of larval yellow perch in western Lake Erie: Working through assumptions and unknowns," 56th Annual Conference of the International Association for Great Lakes Research. West Lafayette, IN, Jun. 2-6, 2013. (Oral)
51. **Xia, M.**, Schwab, D.J., Mao, M.* "Understanding near shore circulation using a coupled Lake Michigan and Grand Haven near shore wave-current based model," 56th Annual Conference of the International Association for Great Lakes Research. West Lafayette, IN, June 2-6, 2013. (Oral)
52. Marin Jarrin, J.R., Pangle, K., **Xia, M.**, Ludsin, S., Mason, D., Rutherford, E. "Linking river discharge and wind-driven currents to the success of larval yellow perch in western Lake Erie," 56th Annual Conference of the International Association for Great Lakes Research. West Lafayette, IN, June 2-6, 2013. (Oral)
53. **Xia, M.**, & Jiang, L.* "The response of a Gulf estuary primary production to wind forcing and river discharge," 45th International Liege Colloquium on Ocean Dynamics, Liege, Belgium, May 13-17, 2013. (Poster)
54. **Xia, M.,** Jiang, L.*, Schaeffer, B.A. "The impact of wind forcing and river discharge to a gulf estuary hypoxia," ASLO 2013 Aquatic Sciences Meeting, New Orleans, LA, Feb.16-23, 2013. (Oral)
55. **Xia, M.**, Jiang, L.*, Schaeffer B.A. "The effect of wind to a Gulf estuary hypoxia variation," IMBER (Integrated Marine Biogeochemistry and Ecosystem Research) III, Goa, India, Jan. 28-31, 2013. (Poster)
56. **Xia, M.** "The effect of climate change to a Gulf estuary plume and its hypoxia variation," 2nd Int. Symposium on "Effects of Climate Change on the World's Oceans, Yeosu, South Korea, May 13-19, 2012. (Oral)
57. **Xia, M.**, & Schwab, D.J. "The development of coupled ice-wave-current, large-to-coastal scale operational system," IPY 2012, From Knowledge to Action Conference, Montreal, Canada, Apr. 23-28, 2012. (Poster)
58. **Xia, M.**, & Schwab, D.J. "Development of a coupled lake scale and near shore high-resolution wave-current coupled model: An application to Grand Haven of Lake Michigan," AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2011. (Oral)
59. **Xia, M.**, & Schwab, D.J. "An application of high resolution wave-current model," Great Lakes Estuarine and Coastal Federation Conference, Daytona Beach, FL, Nov., 2011. (Oral)
60. **Xia, M.**, & Schwab, D.J. "An application of high resolution wave-current model," Great Lakes, Estuarine and Coastal Modeling 12, St. Augusta, FL, Nov., 2011. (Oral)

61. **Xia, M.** "The response of a Gulf estuarine plume and hypoxia to wind forcing," 38th MABPOM, Cambridge, MA, Oct. 10-11, 2011. (Oral)
62. **Xia, M.** "The response of a Gulf estuary plume and hypoxia to wind forcing," ICES Annual Science Conference, Gdańsk, Poland, Sep. 18-24, 2011. (Oral)
63. **Xia, M.** & Schwab, D.J. "A high-resolution hydrodynamics-eutrophication model application to Great Lakes," Coastal Zone 2011, Chicago, IL, Jul., 2011. (Oral)
64. **Xia, M.** "The response of the Gulf plume to the wind forcing," Joint Liège Colloquium on Ocean Dynamics-Geotraces meeting, Liege, Belgium, May 1-7, 2011. (Poster)
65. **Xia, M.** "The response of northern Gulf of Mexico estuary plume, water exchange to wind forcing: A model-guided mechanism study to Perdido Bay," International workshop on Multiscale (Un)-structured mesh numerical ocean modeling. Cambridge, MA, Aug. 17-20, 2010. (Oral)
66. **Xia, M.**, & Schwab D.J. "A numerical study of wave-current interaction using Finite Volume Coastal Ocean Model (FVCOM): An application to Grand Haven of Lake Michigan," 11th international Conference on estuarine and coastal modeling, Seattle, WA, Nov. 3-6, 2009. (Oral)
67. **Xia, M.**, Craig, P., Wallen, C., Stoddard, A. "The influence of physical forcing to the bottom DO with the Caloosahatchee River Estuary, FL," 20th Biennial Conference of the Estuarine Research Federation, Portland, OR, Nov. 1-5, 2009. (Oral)
68. **Xia, M.**, Schwab, D.J., Anderson, E.J. "The Application of FVCOM to Great Lakes," IAGLR's 52nd Annual Conference on Great Lakes Research, Toledo, OH, May 18-22, 2009. (Oral)
69. **Xia, M.**, Craig, P., Wallen, C., Stoddard, A. "The influence of physical forcing to the bottom DO with the Caloosahatchee River Estuary, FL," Golden Research Conference, New London, NH, Jun. 7-12, 2008. (Poster)
70. **Xia, M.**, Pietrafesa, L.J., Xie, L., Peng, M., Bao, S. "The hydrodynamic modeling of Croatan-Albemarle-Pamlico estuary system," 19th Biennial Conference of the Estuarine Research Federation, Providence, RI, Nov. 4-8, 2007. (Oral)
71. **Xia, M.**, Pietrafesa, L.J., Peng, M., Bao, S. "The modeling of Croatan-Albemarle-Pamlico estuary system," 10th international Conference on estuarine and coastal modeling, Newport, RI, Nov. 5-7, 2007. (Oral)
72. **Xia, M.**, Xie, L., Pietrafesa, L.J. "Hydrodynamics modeling of Cape Fear River Estuary and adjacent coastal ocean," Joint AERS and SEERS Spring 2007 Meeting, Pine Knoll Shores, NC, Mar. 15-17, 2007. (Oral)
73. **Xia, M.**, Pietrafesa, L.J., Peng, M., Bao, S. "The water quality modeling and its application to CI-FLOW Project," The 3rd NOAA in Carolinas Meeting, Charleston, SC, Feb. 28-Mar.1, 2007. (Oral)
74. **Xia, M.**, Xie, L., Pietrafesa, L.J. "A numerical study of the plume in Cape Fear River Estuary and adjacent coastal ocean," The AGU fall meeting, San Francisco, CA, Dec. 11-15, 2006. (Oral)
75. **Xia**, **M.**, Xie, L., Pietrafesa L.J. "Plume modeling in the Cape Fear River Estuary and adjacent ocean," MABPOM, Chapel Hill, NC, Oct. 30-31, 2006. (Oral)
76. **Xia, M.,** Xie, L., Pitrefesa, L.J. "The Cape Fear River Estuary Plume modeling system," 9th international Conference on Estuarine and Coastal Modeling, Charleston, SC, Oct. 31-Nov. 2, 2005. (Oral)

77. **Xia, M.**, Xie, L., Pietrafesa, L.J., Peng, M. "The Cape Fear River Estuary modeling system," 18th Biennial Conference of the Estuarine Research Federation. Norfolk, VA, Oct. 16-21, 2005. (Oral)

3. Local symposium presentations

1. Kang, X. *, & **Xia, M**. "Impacts of winds and tides on the exchange dynamics and mixing in Maryland coastal bays," 2019 MEES Colloquium, Baltimore, MD, Oct. 4-5, 2019. (Oral)
2. **Xia, M.,** Mao, M.*, Kang, X.*, Fitzenreiter, K.G.* "Mixing and Transport in the Maryland Coastal Bays with emphasis on the St. Martins River," Maryland Coastal Bays Program's Science and Technical Advisory Committee Meeting, Cambridge, MD, Jan. 17, 2019. (Oral, **Invited**)
3. Fitzenreiter, K.G.*, & **Xia, M.** "Investigating the relationship between wind forcing and drifter velocities in Maryland's coastal waters," NOAA's 9th Biennial EPP Forum, Washington, DC, Mar. 18-20, 2018 (Poster)
4. Fitzenreiter, K.G.*, & **Xia, M.** "Application of Lagrangian surface drifters to track surface currents in Maryland's coastal waters," Marine Estuarine and Environmental Science (MEES) Colloquium, University of Maryland Center for Environmental Science, Horn Point Lab, Cambridge, MD, Sept. 22-23, 2017. (Oral)
5. Kang, X.*, & **Xia, M.** "A numerical study of wind and tidal mixing in Maryland Coastal Bays," Marine Estuarine and Environmental Science (MEES) Colloquium, University of Maryland Center for Environmental Science, Horn Point Lab, Cambridge, MD, Sept. 22-23, 2017. (Poster)
6. Fitzenreiter, K.G.*, & **Xia, M.** "Assessing the exchange of materials between Maryland's Coastal Bays and the Coastal Atlantic Ocean," UMES American Fisheries Society Tidewater Chapter Symposium: DelMarVa's Aquatic Resources and Ecosystems, Berlin, MD, Apr. 28, 2017. (Poster)
7. Niu, Q.*, & **Xia, M.** "Sediment Plume Behaviors in the western Lake Erie: Typical patterns, seasonal, and interannual variability," Marine Estuarine and Environmental Science (MEES) Colloquium, University of Maryland, College Park, MD, Oct. 7-8, 2016. (Poster)
8. Mao, M.*, & **Xia, M**. "Application of unstructured wave models to Lake Michigan," Marine Estuarine and Environmental Science (MEES) Colloquium, University of Maryland, College Park, MD, Oct. 7-8, 2016. (Poster)
9. Mao, M.*, & **Xia, M**. "Understanding the multi-scale circulation in Lake Michigan: A Lagrangian view," 7th Annual 2016 Regional Research Symposium, University of Maryland Eastern Shore, Princess Anne, MD, Apr. 18, 2016. (Oral)
10. Kang, X.*, & **Xia, M**. "Dynamics of water and salt exchange in Maryland Coastal Bays," Marine Estuarine and Environmental Science (MEES) Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)
11. Niu, Q.*, & **Xia M.** "Hydrodynamics in Lake Erie: Interannual variability and inter-basin water exchange during ice-free cycles," Marine Estuarine and Environmental Science (MEES) Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)
12. Jiang, L.*, & **Xia, M.** "Simulation of realistic Chesapeake Bay outflow plume and its seasonal and interannual variability," Marine Estuarine and Environmental Science (MEES) Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)

13. Mao, M.*, & **Xia, M.** "Wave and current simulation in a two-inlet lagoon using coupled FVCOM," UMES Regional Research Symposium, Princess Anne, MD, Apr. 21, 2015. (Oral)
14. Kang, X.*, & **Xia, M.** "Dynamics of water and salt exchange in Maryland Coastal Bays," UMES Regional Research Symposium, Princess Anne, MD, Apr. 21, 2015. (Oral)
15. Jiang, L.*, **& Xia, M.** "Dynamics of the Chesapeake Bay outflow plume: Its seasonal, interannual variability," UMES Regional Research Symposium, Princess Anne, MD, Apr 21, 2015. (Oral)
16. Niu, Q.* **& Xia, M.** "Interannual variability and climatological maps of hydrodynamics in Lake Erie," UMES Regional Research Symposium, Princess Anne, MD, Apr. 21, 2015. (Oral)
17. Kang, X.* & **Xia, M.** "Dynamics of water and salt exchange in Maryland Coastal Bays," Marine Estuarine and Environmental Science (MEES) Colloquium, Chesapeake Biological Laboratory, Solomons, MD, Oct. 24-25, 2014. (Poster)
18. Niu, Q.*, & **Xia, M.** "Dynamics of spring sediment plume and summer circulation in Lake Erie," Marine Estuarine and Environmental Science (MEES) Colloquium, Chesapeake Biological Laboratory, Solomons, MD, Oct. 24-25, 2014. (Poster)
19. Mao, M.*, & **Xia, M.** "Investigation on inlet wave current dynamics in a two-inlet coastal lagoon using unstructured wave-current coupled models," Marine Estuarine and Environmental Science (MEES) Colloquium, Chesapeake Biological Laboratory, Solomons, MD, Oct. 24-25, 2014. (Poster)
20. Mao, M.*, & **Xia, M.** "Application of unstructured grid wave models to Lake Michigan," UMES Regional Research Symposium, Princess Anne, MD, Apr. 17, 2014. (Oral)
21. Niu, Q.*, **Xia, M.**, Schwab, D.J. "Application of a finite volume coastal ocean model to Lake Erie," UMES Regional Research Symposium, Princess Anne, MD, Apr. 17, 2014. (Oral)
22. Mao, M.*, & **Xia, M.** "Application of unstructured wave models to Lake Michigan," Marine Estuarine and Environmental Science (MEES) Colloquium, Horn Point Laboratory, Cambridge, MD, Sep. 27-28, 2013. (Poster)
23. Niu, Q.*, & **Xia, M.** Schwab D.J. "Application of a finite volume coastal ocean model to Lake Erie," Marine Estuarine and Environmental Science (MEES) Colloquium, Horn Point Laboratory, Cambridge, MD, Sep. 27-28, 2013. (Poster)

4. Technical reports

- **Xia, M.**, Pangle, K.L., Marin Jarrin, J.R., Ludsin, S.A., Mason, D.M., Rutherford, E.E., Wiley, M. (2014). "A coupled physical-biological model to forecast larval yellow perch distributions, growth rates, and potential recruitment In Lake Erie," *Great Lakes Fishery Commission*.
- Brady, D.C., DePinto, J.V., Chapra, S.C., DiToro, D.M., Friedrichs, M.A.M., Gray, M.W., Jordan, T., **Xia**, **M.** (2017). "Scientific and Technical Advisory Committee Water Quality and Sediment Transport Model (WQSTM) Review," STAC Publication Number 17-009, Edgewater, MD
- **Xia, M.**, Mao, M, Kang, X (2018). "The St. Martin River and Maryland Coastal Bays inlet circulation and their sediment dynamics with the consideration of the ground water", Maryland Coastal Bay Program, 22PP

- Kang, X., Sahoo, B., Mao, M., **Xia, M.** (2020) "Marine Environmental Characterization": A Practical Book for Marine Scientists and Engineers. Morgan & Claypool Publishers

Courses Taught

- MEES688-0601 Hydrodynamics Modeling of Estuarine and Coastal Ocean (3 cr., Fall, 2012; Spring, 2014; Spring, 2016; Spring, 2019)
- MEES688-0501 Surface Water Quality Modeling (3 cr., Spring, 2012; Spring, 2013; Spring, 2015; Spring, 2017; Spring, 2018)
- MEES608 Special Topic in oceanography
- (1 cr., spring, 2013; fall, 2013; Spring, 2018; Fall, 2018)
- ENVS202 Oceanography & ENVS204 Oceanography Lab
- (3 cr. and 1 cr. for lab, every fall since 2011)
- ENVS101-0101 Introduction to Environmental Sciences (3 cr., every semester since spring 2012)
- ENVS101-online**:** Introduction to Environmental Sciences (3 cr., every semester since spring 2014)

Student Advisees

1. Graduate students I am currently advising at UMES

1) Haoran Liu, (Ph.D student, 2017-present expected graduation spring, 2023)
2) Nishat Farzana Nimni, (Ph.D student, 2019-present, expected graduation spring, 2024)
3) Lauren Kittell-Porter, (M.S. student, 2019-present, expected graduation spring, 2022)

MEES graduate students who have graduated (under my guidance) from UMES

1) Qianru Niu, (M.S., 2012-2015, then Ph.D at UMES)
2) Miaohua Mao, (M.S., 2013-2016, then Ph.D at UMES)
3) Long Jiang, (Ph.D, 2012-2017, Immediate Position: Post-Doc at Royal Netherlands Institute for Sea Research)
4) Qianru Niu, (Ph.D, 2015-2017, Immediate Position: Assistant Professor, Shenzhen University, P.R. China)
5) Miaohua Mao, (Ph.D, 2015-2018, Immediate Position: Assistant Professor, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences)
6) Xinyi Kang, (Ph.D, 2013-2019, Immediate Position: Assistant Researcher, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences)
7) Katie Fitzenreiter, (M.S., 2016-2019, Immediate Position: NOAA)
8) Yiyang Xu, (M.S, 2017-2019)

MEES graduate students I served/am currently serving as advisory committee member

1) Tracie Bishop, (Ph.D. student, 2014-present, expected graduation spring, 2021)
2) Lycett Kristen, (Ph.D, 2013-2017)

NON-MEES graduate students I served/am currently serving as external examiner

1) Shangfei Lin, (Dalhousie University, Canada, Ph.D, April 2021)

NON-MEES graduate students I am currently serving as advisory committee member

1) Jie Peng, (Ph.D student, 2019-present, Yantai Institute of Coastal Zone Research, CAS)
2) Quan T. Nguyen, (M.S student, 2019-present, Yantai Inst. of Coastal Zone Research, CAS)
3) Liying Mou, (M.S student, 2019-present, Yantai Institute of Coastal Zone Research, CAS)

2. UMES undergraduates

- **ENVS498/499 (Independent Study and Undergraduate research):**

1) Nikiah Abdul-Khaliq, ENVS498, Spring 2012
2) Katherine Fitzenreiter, ENVS499, Spring 2012, Fall 2012
3) Melissa Freese, ENVS499, Spring 2012, Fall 2012, Spring 2013, Fall 2013
4) Viviana Taylor, ENVS499, Spring 2012, Fall 2012, Fall 2013
5) Briana Jones, ENVS499, Fall 2012
6) Michelle Schreiber, ENVS498, Spring 2013
7) Olivia Skeen, ENVS498, Spring 2013, Fall 2014
8) Megan Bock, ENVS499, Fall 2013
9) Kendra Wood, ENVS498, Spring 2014

- **Advisees (average around 30 per semester), below are examples:**

Richard Brown, Casey Cox, Danielle Esenwine, Tierra Faulk, Lexus Ford, Danielle Forehand, Aaliyah Gathright, Deasia Gloria, Thailynn Glover, Kiana Gracien, Sharriff Graham-Bey, Alex Grogan, JoEllen Holland, Deja Keys, Jennifer Kneas, Sarah Ober, Jeanne Pak, Katherine Phillips, Daniel Rude, Tyler Russell, Ciara Schnyder, Olivia Skeen, Andrew Slavik, Carli Smith, Bradley Steward, Lemar Taylor, Marquizes Turner, Summer Washburn, Tyler Wojciechowski

3. Visiting students/scholars:

10) Shuangshang Zhang: Oct. 2018-now: Visiting UMES; from Hohai University
9) Shuo Wang: Sep., 2018-Sep., 2019
Visiting UMES; from State Key Laboratory of Estuarine and Coastal Research
8) Jichao Wang: Aug., 2018-Aug., 2019
Visiting UMES; from China University of Petroleum (East China)
7) Zengan Deng: Jul., 2018-Mar., 2019: Visiting UMES; from Tianjin University
6) Lei Sun: Feb.-Mar., 2018: Visiting UMES; from University of Maryland College Park
5) Yandong Xu: Jan.-Apr., 2013:
Visiting UMES; from Yan Tai Institute of Oceanography, China
4) Yan Jia: May-Jul., 2011: Visiting NOAA GLERL; from University of South Carolina
3) Steven Walterscheid: Jun.-Aug., 2010:
Visiting NOAA GLERL; from Kansas State University
2) Xiaoyan He: Jun.-Oct., 2009
Visiting NOAA GLERL; from Nanjing University, China
1) Likui Zhang: Jun.-Sep., 2009
Visiting NOAA GLERL; from Ocean University of China, China

4. NSF REU Students:

1) Crommarty Khari, Hampton University, 2018
2) Alexis Humphrey, University of Texas Austin, 2017

3) Daniel Hernandez, San Diego State University, 2013

Professional Contributions

1. Editorial professional service

Associate Editor, Estuarine, Coastal and Shelf Science (2017-now)
Associate Editor, Progress in Oceanography (2018-now)

Manuscript reviewer for: Geophysical Research Letter, Journal of Geophysical Research-Ocean, Journal of Geophysical Research-Biogeosciences**,** Estuaries and Coasts, Limnology and Oceanography, Water Resources Research, Continental Shelf Research, Journal of Marine System, Ocean Modelling**,** Environmental Fluid Dynamics, Estuarine, Coastal and Shelf Science, Sciences of total environments, Biogeosciences, Sciences in China et al.

Proposal reviewer

1. National Science Foundation (NSF - 2013, 2014, 2015, 2016, 2017, 2019, 2021)
2. Delaware Sea Grant (2015)
3. Delmarva Land Grant Institution Collaborative Research Seed Funding Program (2014)
4. NOAA Great Lakes Observing System (2010)
5. Louisiana Board of Regents (2008)
6. Sultan Qaboos University (2017)

Book reviewing for A User's Guide to Planet Earth
Panel review for EPA Chesapeake Bay Phase 6 water quality sediment transport model, Maryland Sea Grant proposal 2021, NASA proposal 2021, NSF proposal 2022
External evaluator for Tenure and Promotion from Michigan Technological University, Florida Gulf Coastal University
Consultant for: Paradigm Inc (2019-now)

2. Other service

I have served UMES DNS by participating on science committees (2011-2013), search committee for new faculty and staff members, post tenure reviews, and I also helped several UMES enrollment 101 sessions, judge for UMES Research Day, DNS 499 undergraduate poster contest; and writing numerous reference letters in support of students' graduate school applications, or job seeking.

1. Information Management and Communication Committee for Maryland Department of the Environment, 2021
2. Session chair in in American Geophysical Union (AGU) Fall meeting, New Orleans, LA, Dec 13-17th, 2021. (Hybrid)
3. Session chair in 26th International Conference on Estuarine and Coastal Research Federation (CERF), Richmond VA, Nov 7-11th, 2021 (Virtual)
4. University of Maryland MEES Program Committee, 2020-Now
5. Founder, Bonnie Branch Math Circle, 2020-Now
6. Ocean Sciences Outstanding Student Presentation Award (OSPA) coordinators for AGU Fall Meeting, San Francisco CA, Dec 9-13th, 2019; AGU Fall Meeting, & Washington D.C, Dec 9-14th, 2018

7. Session chair in 25th International Conference on Estuarine and Coastal Research Federation (CERF), Mobile AL, Nov 3-7th, 2019.
8. Session co-chair in IMBER Ocean Science Conference, Brest, France, Jun 17-21st, 2019.
9. Session chair in American Geophysical Union (AGU) Fall meeting, Washington D.C, Dec 9-14th, 2018.
10. Session chair in 15th International Conference on Estuarine and Coastal Modeling, Seattle, WA, June 25-27, 2018.
11. Session co-chair in 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR, Nov 8-12, 2015.
12. Judge for poster and oral papers for 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR, 2015, 24th CERF at Providence, RI, 2017, 25th CERF at Mobile, AL, 2019, 26th CERF at Richmond, VA, 2021 (Virtual)
13. Mentor for the graduate students at 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR, 2015 and 24th CERF at Providence, RI, 2017.
14. Judge for poster DNS 499 (spring, 2015; fall, 2015).
15. Mentor for graduate students at IMBER Future Oceans Conference, Norway, 2014.
16. Session co-chair in Chesapeake Bay Modeling Symposium. Annapolis, MD, May 28-29, 2014.
17. Judge for poster and oral papers for 57th Annual Conference of the International Association for Great Lakes Research, 2014.
18. Session chair in 13th International Conference on Estuarine and Coastal Modeling, San Diego, CA, Nov 4-6, 2013.
19. Judge for poster and oral papers for 56th Annual Conference of the International Association for Great Lakes Research, 2013.
20. Judge for poster and oral papers for ASLO meeting, 2013, UMES Regional Research Symposium, 2013.