Meng Xia, Assistant Professor
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I. Education

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

II. Professional experience

08/2011 – present   Assistant Professor (Tenure Track). University of Maryland Eastern Shore, Princess Anne, MD
05/2013 – present   Regular graduate faculty, University of Maryland Eastern Shore, Princess Anne, MD
12/2011 – 05/2013   Associate graduate faculty, 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

III. Research

A. Major research interests

Improving the understanding of estuarine and coastal dynamics with the help of measurement data and numerical modeling including:

• River plume and estuary dynamics
• Ecological, biogeochemistry and larval transport process, TMDL modeling
• Near-shore wave-current dynamics and sediment transport process

B. Publications (* indicates my graduate student at UMES)

1. Publications in preparation and to be submitted in 2016

33) Jiang, L.* & **Xia, M.** (2016), Numerical modeling of Chesapeake Bay Phytoplankton and its response to potential climate change. *Ocean Dynamics*

32) **Xia, M.** et al. (2016) Unstructured model based Wave-Current Interaction study and its application to Grand Haven Area of Lake Michigan. *Journal of Geophysical Research: Ocean*.

31) Kang, X*, & **Xia, M.** (2016). Dynamics of water and salt exchange in Maryland Coastal Bays. *Journal of Marine Science and Engineering*.

30) Mao, M.*, & **Xia, M.** (2016). Wave-Current Interaction in Maryland Coastal Bay. *Ocean Modeling*.

29) Marin Jarrin, J.R., Ludsin S., **Xia. M.**, Mason D., Rutherford E., Pangle K. (2016). Combining particle tracking models and otolith chemistry to study the swimming behavior of larval fish in the Great Lakes. *Ecological Applications*.

28) Niu, Q.* & **Xia, M.** (2016). Interaction of Detroit River plume and Maumee River Plume. *Journal of Geophysical Research: Ocean*.

27) Niu, Q.* & **Xia, M.** (2016). Wave-Current interaction in the Lake Erie. *Journal of Geophysical Research: Oceans*.

26) **Xia, M. &** Jiang, L.* (2016). Development of FVCOM based water quality model for Chesapeake Bay. *Journal of Marine Science and Engineering*.

25) Niu, Q.* & **Xia, M.** (2016). Wave Modeling in the Lake Erie. *Journal of Marine Science and Engineering*.

2. Publications submitted for publication & under review/revision

24) Mao, M.*, & **Xia, M.** (2016). Dynamics of wave-current-surge interactions in Lake Michigan: a model comparison, *Ocean Modeling*.

23) Jiang, L.* & **Xia, M.** (2016), Dynamics of the Chesapeake Bay outflow plume: Characterization and its response to potential climate change. *Estuaries and Coasts*

22) Mao, M.*, Andre Van der Westhuysen & **Xia, M.,** David J. Schwab, Arun Chawla (2016) The application of an unstructured grid based wave model to Lake Michigan. *Journal of Geophysical Research: Oceans*. (Accepted with revision)

3. Paper Accepted for publication

21) Jiang, L.* & **Xia, M.** (2016), Dynamics of the Chesapeake Bay outflow plume: Realistic plume simulations and its seasonal, interannual variability. *Journal of Geophysical Research: Ocean*.

4. Peer-reviewed publications

20) **Xia, M.**, & Jiang, L.* (2015). Influence of wind and river discharge on the hypoxia in a shallow bay. *Ocean Dynamics*, 65(5), 665-678. doi: 10.1007/s10236-015-0826-x

19) 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.** (2015) Challenges associated with modeling low-oxygen waters in Chesapeake Bay: a multiple model comparison. Biogeosciences Discuss, 12, 20361-20409, doi:10.5194/bgd-12-20361-2015

18) Jiang, L.*, **Xia, M.**, Ludsin, S. A., Rutherford, E. S., Mason, D. M., Jarrin, J. M., Pangle, K. L. (2015). Research summary: Dreissenid mussel impacts on plankton dynamics in western Lake Erie. *Lake Scientist*, http://www.lakescientist.com/.

17) 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. doi: 10.1016/j.ecolmodel.2015.04.004

16) 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. doi: 10.1002/2014JC010457

15) **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: Oceans (1978–2012)*, *116*(C8). doi: 10.1029/2010JC006689

14) **Xia, M.**, Craig, P. M., Wallen, C. M., Stoddard, A., Mandrup-Poulsen, J., Peng, M., ... & 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. doi: 10.2112/JCOASTRES-D-09-00044.1

13) **Xia, M.**, Xie, L., & Pietrafesa, L. J. (2010). Winds and the orientation of a coastal plane estuary plume. *Geophysical Research Letters*, *37*(19). doi: 10.1029/2010GL044494

12) **Xia, M.**, Craig, P. M., Schaeffer, B., Stoddard, A., Liu, Z., Peng, M., ... & 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. doi: 10.1061/(ASCE)EE.1943-7870.0000239

11) 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. doi: 10.1080/10934520902996872

10) 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*, 107-116. doi: http://dx.doi.org/10.2112/1551-5036-52.sp1.107

9) **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. doi: http://dx.doi.org/10.2112/06-0795.1

8) **Xia, M.**, Xie, L., & Pietrafesa, L. J. (2007). Modeling of the Cape Fear River estuary plume. *Estuaries and Coasts*, *30*(4), 698-709. doi: 10.1007/BF02841966

7) 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. doi:10.5194/osd-4-399-2007

6) **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.

5) 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.

4) Zhang, Q., **Xia, M.**, Qu, Y. (2001). The boundary solution for the complex oceanic region. *The national hydrodynamics conference 15, Ocean publication*, 16-19.

3) Zhang, Q., **Xia, M.**, Qu, Y. (2001). The spectrum method in the assimilation. *The National Fluid Mechanics Conference 5, Meteorological Publication*, 382-385.

2) 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.

1) Zhang, Q. & **Xia, M.** (1999). A two-layer model of the Kuroshio at the east of Taiwan: The numerical calculation. *Advanced Res 5*, *Science and Engineering Computation Book*, 91-95.

C. 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*.

D. Contracts and grants

1. Proposals under review (total $ amount: $5.54 M)

15) CREST Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region, **5M**, 2015-2018, **NSF**. PIs: Paulinus Chigbu, Ali Ishaque, Maggie Sexton, **Meng Xia**, Salina Parveen

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

13) Development a remote sensing/numerical modeling system for Chesapeake Bay, Maryland Coastal Bay and adjacent coastal ocean, **510K**, 2016-2019, **ONR**. PI: **Meng Xia**

2. Grants awarded (total $ amount: $913.5K at UMES)

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

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

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

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

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

7) Impact of wave on the dynamics of a coastal plume, **200K**, 2012- 2014, **NSF**. PI: **Meng Xia**.

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

5) Biophysical model to forecast yellow perch recruitment success in Lake Erie, **200K**, 2011-13, **Great Lakes Fishery Commission**. 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).

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

4) Wave-current Interaction and its influence to the ecosystem at the Grand Haven River and adjacent Lake Region, **20K**, 2009-2010, **NOAA**. PIs: **Meng Xia**, Dimitry Beletsky (UM SNRE), David Schwab (NOAA GLERL).

3) Develop Forecasting Predictive Models Improving Coastal and Human Health and Beach, Forecasting, **835K**, 2010-2011, **NOAA**. PIs: David Schwab, Gary Fahnenstiel and Juli Dyble Bressie (NOAA GLERL); Allen Burton, Tom Johengen, **Meng Xia** and David Rockwell (UM CILER).

2) The building of Chesapeake Community Model, **200K**, 2007-2009, **University of Maryland**. PIs: Leonard J. Pietrafesa, Machuan Peng, Shaowu Bao, **Meng Xia**, Huiqing Liu (NCSU).

1) Coastal, Inland Flood Observation and Warning, **40K**, 2007-2008, **NOAA NSSL**. PIs: Leonard J. Pietrafesa, **Meng Xia**, Machuan Peng, Shaowu Bao (NCSU).

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

7) Hydrodynamics and water quality simulation in the Maryland Coastal Bays under climate change, CISL UMES0003, 355000 core-hours (~ $17.8K), funded in 05/2015

6) Numerical modeling of Great Lakes and Coastal Ocean, TACC OCE120008, 488768 core-hours (~ $16.9K), funded in 12/2014

5) The effect of wave to the nearshore particle transport, CISL UMES0001, 380000 core-hours (~ $19K), funded in 10/2014

4) 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

3) Surface Water Quality Modeling, TACC OCE130011, 100000 core-hours (~3.5K), funded in 10/2013

2) Understanding the effect of wave to the nearshore plume dynamics, CISL UMES0001, 466000 core-hours (~ $23.3K), funded in 10/2013

1) 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, 372441 core-hours (~ $13K), funded in 09/2013

E. Presentations and talks

1. Invited seminars or talks (5 after coming to UMES +1 at UMES and 9 before)

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).

The Lake Erie modeling system development. **NOAA/NCEP** (Dec., 2014).

The wave-current interaction and its impact to water quality dynamics. **NOAA/NCEP** (Sep., 2014).

The development of bio-physical modeling system to Lake Erie. **John Hopkins University** (Apr., 2014).

The development of bio-physical modeling system to Lake Erie. **Chesapeake Biological Lab** (Apr., 2014).

Numerical modeling of Perdido Bay system. **University of Maryland Eastern Shore** (May, 2011).

The Cape Fear River Estuary modeling system. **University of North Carolina Wilmington** (Apr., 2011).

The response of hypoxia and plume to the wind forcing. **State University of New York: Stony Brook** (Apr., 2011).

A coupled wave-current model and its application to the Grand Haven, Lake Michigan. **Grand Valley State University** (Apr., 2010).

A coupled watershed and water quality modeling and its application to the Caloosahatchee River Estuary, FL. **University of Virgin Islands** (Aug., 2009).

A TMDL model for the Caloosahatchee River Estuary, FL. **Nanjing University** (Mar., 2009).

A numerical simulation of dissolved oxygen dynamics for the Caloosahatchee River Estuary, FL. **East Carolina University** (Mar., 2009).

A Numerical Simulation of Dissolved Oxygen Dynamics for the Caloosahatchee River Estuary, FL. **University of Central Florida** (Dec., 2008).

The summary of plume distribution: an application to Cape Fear. **University of Michigan/NOAA Great Lakes Environmental Research Lab**. (Jan., 2008).

The Cape Fear River Estuary Plume Dynamics. **Louisiana State University**. (Apr., 2007)

2. Conference presentations (* indicates my graduate students; 40 after coming to UMES, 3 set in 2016)

1. **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)

2. 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**)

3. 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)

4. **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)

5. 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)

6. 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)

7. **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)

8. **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)

9. 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)

10. **Xia, M.**, Mao M.*, Kang X.*, The dynamics of Maryland Coastal Bay, Maryland. Water Monitoring Conference, Baltimore, MD, Nov. 21, 2014. (Oral)

11. **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)

12. **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)

13. Niu, Q.*, **Xia, M.**, Dynamics of spring sediment plumes in the western Lake Erie. 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Oral)

14. Jiang, L., **Xia, M.**, Simulating phytoplankton dynamics of Chesapeake Bay. 41st MABPOM, Gloucester Point, VA, Oct. 30-31, 2014. (Oral)

15. 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)

16. 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)

17. **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)

18. **Xia, M.**, Niu, Q.*, Jiang, L.*, Rutherford, E., Schwab, D., The development of an unstructured based bio-physical model to Lake Erie yellow perch recruitment. IMBER Future Oceans conference, Bergen, Norway, Jun. 23-27, 2014. (Oral)

19. **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)

20. 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)

21. **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)

22. 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)

23. 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)

24. Mao, M.*, X**ia, M.**, Application of unstructured grid wave models to Lake Michigan. Chesapeake Modeling Symposium 2014, Annapolis, MD, May 28-29, 2014. (Oral)

25. 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)

26. **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)

27. 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)

28. **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)

29. **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)

30. **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)

31. 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)

32. **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)

33. 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)

34. **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)

35. **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)

36. **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)

37. **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)

38. **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)

39. **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)

40. **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)

41. **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)

42. **Xia, M.**, The response of a Gulf estuarine plume and hypoxia to wind forcing. 38th MABPOM, Cambridge, MA, Oct. 10-11, 2011. (Oral)

43. **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)

44. **Xia, M.**, Schwab, D.J., A high-resolution hydrodynamics-eutrophication model application to Great Lakes, Coastal Zone 2011, Chicago, IL, Jul., 2011. (Oral)

45. **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)

46. **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)

47. **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)

48. **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)

49. **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)

50. **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)

51. **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)

52. **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)

53. **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)

54. **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)

55. **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)

56. **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)

57. **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)

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

5. Local symposium presentation

1. Kang X.*, **Xia, M**., Dynamics of water and salt exchange in Maryland Coastal Bays. MEES Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)

2. Niu, Q.*, **Xia M.**, Hydrodynamics in Lake Erie: interannual variability and inter-basin water exchange during ice-free cycles. MEES Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)

3. Jiang, L.*, **Xia, M.**, Simulation of realistic Chesapeake Bay outflow plume and its seasonal and interannual variability. MEES Colloquium, Annapolis, MD, Oct. 30-31, 2015. (Poster)

4. 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)

5. 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)

6. 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)

7. 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)

8. Kang, X.*, **Xia, M.**, Dynamics of water and salt exchange in Maryland Coastal Bays, MEES Colloquium, Solomons, MD, Oct. 24-25, 2014. (Poster)

9. Niu, Q.*, **Xia, M.**, Dynamics of spring sediment plume and summer circulation in Lake Erie. MEES Colloquium, Solomons, MD, Oct. 24-25, 2014. (Poster)

10. Mao, M.*, **Xia, M.**. Investigation on inlet wave current dynamics in a two-inlet coastal lagoon using unstructured wave-current coupled models. MEES colloquium, Solomons, MD, Oct. 24-25, 2014. (Poster)
11. Mao, M.*, **Xia, M.**, Application of unstructured grid wave models to Lake Michigan. UMES Regional Research Symposium, Princess Anne, MD, Apr. 17, 2014. (Oral)

12, 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)

13. Mao, M.*, **Xia, M.,** Application of unstructured wave models to Lake Michigan. MEES colloquium, Cambridge, MD, Sep 27-28, 2013. (Poster)

14. Niu, Q.*, **Xia, M.,** Schwab D.J., Application of a finite volume coastal ocean model to Lake Erie. MEES colloquium, Cambridge, MD, Sep 27-28, 2013. (Poster)

IV. Teaching and training

A. Advising and mentoring

1. **MEES graduate students I am currently advising at UMES**

    1) Long Jiang, (Ph.D. student, 2012-present, expected graduation spring, 2017)
    2) Qianru Niu, (Ph.D student, 2015-present expected graduation fall, 2017)
    3) Miaohua Mao, (Ph.D student, 2016-present expected graduation spring, 2018)
    4) Xinyi Kang, (M.S. student, 2013-present expected graduation spring, 2016)

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

    1) Qianru Niu, (M.S., 2012-2015)
    2) Miaohua Mao, (M.S., 2013-2015)

3. **MEES graduate students I am currently serving as advisory committee member at UMES**

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

4. **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 for fall, 2015 (average around 30 per semester):**

    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

5. Previous visiting students/scholars:

1) Yandong Xu (Visiting UMES; from Yan Tai Institute of Oceanography, China), Jan.-Apr., 2013
2) Yan Jia (Visiting NOAA GLERL; from University of South Carolina), May-Jul., 2011
3) Steven Walterscheid (Visiting NOAA GLERL; from Kansas State University), Jun.-Aug., 2010
4) Xiaoyan He (Visiting NOAA GLERL; from Nanjing University, China), Jun.-Oct., 2009
5) Likui Zhang (Visiting NOAA GLERL; from Ocean University of China, China), Jun.-Sep., 2009

B. Courses taught

MEES688-0601 Hydrodynamics Modeling of Estuarine and Coastal Ocean (3 credits, Fall, 2012; Spring, 2014; Spring, 2016)
MEES688-0501 Surface Water Quality Modeling (3 cr., spring, 2012; spring, 2013; spring, 2015)

MEES608 Special Topic in oceanography (1 cr., spring, 2013; fall, 2013)

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 from spring 2012 to fall, 2015)

ENVS101**-online:** Introduction to Environmental Sciences (3 cr., every semester since spring 2014)

V. Outreach and service

A. Editorial professional service

(i)   Manuscript reviewer for:
1. Geophysical Research Letter,
2. J. of Geophysical Research-Ocean,
3. Estuaries and Coasts
4. Water Resources
5. Research, Estuarine Coastal and Shelf Sciences,
6. Coastal Lagoon (Book),
7. Estuarine and Coastal Modeling,
8. Environmental Management,

9. Marine Geodesy,
10. International J. of Geosciences,
11. Monitoring and Modeling the Deepwater Horizon Oil Spill (Book),
11. Environmental Modeling and Software,
12. J. of Coastal Research, Environmental Sciences and Technology,
13. Hydrological Sciences Journal,
14. Journal of Marine Science and Engineering,
15. Continental Shelf Research,
16. J. of Marine System,
17. J. of Ocean University of China,
18. KSCE Journal of Civil Engineering,
19. Aquatic Ecosystem Health & Management,
20. International Journal of Oceanography,
21. Special issue of Human & Ecological Risk Assessment on Advanced Information Technology for Risk Analysis

(ii)   Proposal reviewer

1. National Science Foundation (NSF - 2013, 2014, & 2015)
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)

B. Other service

I have served UMES DNS by participating on science committees (2011-13), 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. Session co-chair in 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR, Nov 8-12, 2015.

2. Judge for poster and oral papers for 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR.

3. Mentor for the 2 graduate students at 23rd International Conference on Estuarine and Coastal Research Federation (CERF), Portland, OR.

4. Judge for poster DNS 499 (spring, 2015; fall, 2015).

5. Mentor for graduate students at IMBER Future Oceans Conference, Norway, 2014.

6. Session co-chair in Chesapeake Bay Modeling Symposium. Annapolis, MD, May 28-29, 2014.

7. Judge for poster and oral papers for 57th Annual Conference of the International Association for Great Lakes Research.

8. Session chair in 13th International Conference on Estuarine and Coastal Modeling, San Diego, CA, Nov 4-6, 2013.

9. Judge for poster and oral papers for 56th Annual Conference of the International Association for Great Lakes Research.

10. Judge for poster and oral papers for ASLO meeting, 2013, UMES Regional Research Symposium, 2013.