

Curriculum Vitae of Mingshun Jiang

Associate Research Professor

Harbor Branch Oceanographic Institute, Florida Atlantic University

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Education

Ph.D., Physical Oceanography, Ocean University of Qingdao, Qingdao, P.R. China, 1994

B.S., Applied Mathematics, Peking University, Beijing, P.R. China, 1986

Employment

<i>2013-present</i>	<i>Assoc. Research Professor</i>	<i>Harbor Branch Oceanographic Institute, Florida Atlantic University</i>
<i>2010-present</i>	<i>Adjunct professor</i>	<i>School for the Environment (previous EEOS), University of Massachusetts at Boston</i>
<i>2002-2013</i>	<i>Research Associate</i>	<i>School for the Environment (previous EEOS), University of Massachusetts at Boston</i>
<i>2012</i>	<i>Consultant</i>	<i>Deltares-USA, Inc.</i>
<i>1999-2001</i>	<i>Post-Doctoral Associate</i>	<i>School of Marine Sciences, University of Maine</i>
<i>1998</i>	<i>Visiting scholar</i>	<i>Dept. of Marine Sciences, Univ. of Georgia</i>
<i>1996-1998</i>	<i>Associate Scientist</i>	<i>Institute of Atmospheric Physics, P.R. China</i>
<i>1994-1996</i>	<i>Post-Doctoral Associate</i>	<i>Dept. of Geophysics, Peking University, PRC</i>
<i>1989-1994</i>	<i>Teaching Assistant</i>	<i>Ocean University of Qingdao, P.R. China</i>
<i>1986-1989</i>	<i>Lecturer</i>	<i>Nanjing Institute of Meteorology, P.R. China</i>

Research Interests

- *Development of ocean coupled physical-biogeochemical-ecological models*
- *Modeling estuarine, coastal and shelf hydrodynamic and meso-scale dynamics*

- *Modeling coastal water quality and phytoplankton blooms including harmful algal blooms (HABs)*
- *Modeling ocean Fe cycle and phytoplankton blooms in the Southern Ocean*
- *Observation and modeling of carbonate chemistry over shallow, mesophotic, and deep coral reefs*
- *Coastal inundation and impacts of climate change and sea level rise (SLR)*

Research Grants

- *Observation and modeling of transport and dispersion of waters and pollutants from South Florida watersheds to Florida Keys, **Mingshun Jiang** and Laurent Cherubin, January 1, 2022-December 31, 2023, EPA, \$350,000.*
- *Development of a physical-biogeochemical model for predicting HABs and water quality in southwest Florida coastal waters, **M. Jiang** (PI), J. Beckler, and M. McFarland, HBOIF, \$550,000, 7/1/2021-6/30/2024,*
- *Observation and modeling of water transformation and Microcystis blooms in C-44 canal, **Mingshun Jiang** and Jordon Beckler, March 1, 2021-February 28, 2024, EPA, \$260,646.*
- *Observation and Modeling of Hg Distributions in the Indian River Lagoon for Protecting Wild Dolphin, **Mingshun Jiang**, Jordon Beckler, Peter McCarthy, Annie Page-Karjian, A. Schaefer, Jul 1, 2021-June 30, 2022, Florida Special License Plate – Protect Wild Dolphin, \$180,000.*
- *Observation and Modeling of Hg Distributions in the Indian River Lagoon for Protecting Wild Dolphin, **Mingshun Jiang**, Jordon Beckler, Peter McCarthy, Annie Page-Karjian, A. Schaefer, Jul 1, 2020-June 30, 2022, Florida Special License Plate – Protect Wild Dolphin, \$120,000.*
- *Harmful Algal Blooms Innovative Technology: the Harmful Algal Blooms Assessment of Lake Okeechobee System (HALO), Florida DEP, J. Beckler (PI), Jordon Beckler (PI), **Mingshun Jiang**, Malcolm McFarland, Dennis Hanisak, Tim Moore, Adi Nayak, and Yufei Tang, July 1, 2020-January 31, 2022, \$2.2M.*
- *Florida Center for Coastal and Human Health, HBOIF, Amy Wright (PI), co-PIs **Mingshun Jiang** and 12 others, 7/1/2019-9/30/2022, ~\$2.5M.*
- *Precipitation, water management, and algae blooms in South Florida estuaries, NASA, PI: Chuanmin Hu, co-PIs: **Mingshun Jiang** (HBOI lead), Brian Lapointe, Malcolm McFarland, 7/15/2019-7/14/2024, \$1.2M.*
- *Exploration and characterization of fine-scale physical-biogeochemical environment over deep coral reefs on the west Florida Slope using integrated ROV-lander-sensor system, NOAA OER,*

*Aleck Wang (PI), co-PIs: **Mingshun Jiang** and Sandra Brooke (FSU), 9/1/2018-8/31/2021, \$469,003.*

- *Observation and modeling phytoplankton responses to freshwater inputs from the Everglades to Florida Bay, PIs: **Mingshun Jiang** and Brian Lapointe, SOS SLP, 7/1/2018-9/30/2019, \$35,000.*
- *Development of Florida Center for Coastal and Human Health, HBOIF, Amy Wright (PI), co-PIs **Mingshun Jiang** et al. 7/1/2018-6/30/2019, \$650,000.*
- *The connectivity and retention of Antarctic krill in the northern Antarctic Peninsula, Scotia Sea, and South Georgia, **Mingshun Jiang** (PI) and Christian Reiss (NOAA), Antarctic Wildlife Research Fund, 10/1/2017-12/31/2018, \$74,524.*
- *Integration and Deployment of pCO₂/pH sensors on a ROV for Collecting Carbonate Chemistry Data in Mesophotic and Deep Coral Reef Ecosystems, **Mingshun Jiang** (PI), Fraser Dalgleish, and Leticia Barbero (AOML), CIOERT/NOAA, 7/1/2016-6/30/2018, \$50,341.*
- *Modeling ecosystem dynamics in the Indian River Lagoon and assessing the potential impacts of climate change, EPA Indian River Lagoon National Estuary Program, **Mingshun Jiang** (PI), 10/1/2016-9/31/2017, \$34,957.*
- *Water quality impacts of St. Lucie river plume on northern end of the Florida Reef Tract, **Mingshun Jiang** (PI) and Brian Lapointe, NOAA CRCP program, 7/1/2015-12/31/2016, \$59,556.*
- *An Initiative to Design and Demonstrate a Prototype Integrated Multi-Trophic Aquaculture System for Sustainable Land-Based Aquaculture, Paul Wills (PI), **Mingshun Jiang**, and Anni Vuorenkoski-Dalgleish, SLP Aquaculture License Plate, July 1, 2015-June 30, 2016, \$100k.*
- *The ventilation rate of Indian River Lagoon, Florida, Laurent Cherubin (PI), **Mingshun Jiang**, Fraser Dalgleish, Anni Dalgleish, and Bing Ouyang, State of Florida Save of Our Sea License Plate, 10/1/2015-7/30/2016, \$100k.*
- *Connectivity of the Pulley Ridge - South Florida Coral Reef Ecosystem: AUV/ROV Supplement, Fraser Dalgleish (PI) and **Mingshun Jiang** (co-PI), NOAA/CIOERT, July 1, 2014-June 30, 2016, \$250K.*
- *Boston Harbor-Mass Bay: Laboratory for Urban and Coastal Environmental Science (LUCES), PIs: William Robinson et al., **Mingshun Jiang** (senior scientist), UMass President S&T fund, 07/01/2013-06/30/2014, \$120K.*
- *Development of a coupled physical-biological model and investigation of the inter-annual and long-term changes of plankton abundances in the Gulf of Maine, **Mingshun Jiang** (PI), Zhongping Lee, and Meng Zhou, Healey Endowment Grant, 07/01/2012-06/30/2013, \$12K.*

- Collaborative data mining research center (DMRC) on cyber-enabled discovery and innovation, University of Massachusetts President's Science and Technology Fund 2012, PIs: Dan Simovici (PI), Wei Ding, **Mingshun Jiang**, Melissa Morabito, and Meng Zhou, 08/01/2011-07/31/2012, \$125K.
- Collaborative Research: Modeling and synthesis study of a natural iron fertilization site in the Southern Drake Passage. Meng Zhou (PI) and **Mingshun Jiang** (co-PI), NSF, 08/01/2010-07/31/2013, \$176,459.
- Iron Sources and Transport in the Southern Drake Passage, **Mingshun Jiang** (PI), Matt Charette, Chris Measures, Meng Zhou, NOAA/GCC, 8/1/2009-7/31/2013, \$270,814.
- Modeling Massachusetts Bay ecosystem and studying the impacts of Boston outfall effluent on Alexandrium bloom in 2005. Meng Zhou (PI), **Mingshun Jiang** (co-PI). Massachusetts Water Resource Authority (10/1/2007-06/30/2008), \$64,651.
- Developing the forecasting model-GIS system for the physical environment in Massachusetts Bay. M. Zhou (PI), Y.Q. Tian, **Mingshun Jiang**, University of Massachusetts, President Fund, 7/2005-6/2006, \$39,773.
- The contribution of Lagrangian transport to the formation of a high nutrient pool in central Cape Cod Bay during summer: A trajectory study. **Mingshun Jiang** (PI), Joseph P. Healey Endowment (4/2004-6/2005), \$3,000.
- The multi-fractal characteristics of finestructures in the western equatorial Pacific Ocean. National Science Foundation of China (NSFC), Mingshun Jiang (PI), 1/96-12/98, 130,000 RMB (~\$16,000).
- The multi-fractal characteristics of marine finestructures. Chinese Ministry of Education Post Doctoral Research Fellowship, Mingshun Jiang (PI), 1995, 20,000 RMB (~\$2,500).

Field Surveys

- NOAA OER Gulf of Mexico 2nd Cruise, Sept. 1-4, 2020, 4 days
- NOAA OER Gulf of Mexico Cruise, October 11-19, 2019, 9 days
- Cuban Twilight Zone, Cuba, May 17-29, 2017, 13 days
- Ft. Lauderdale, Florida, July 14, 2016, 1 day (chief scientist)
- St. Lucie Estuary, Florida, Sept. 2014-present, 12 days (chief scientist)
- Eastern Florida Shelf, August 8-13, 2015, 6 days (co-chief scientist)
- Florida Straits, 2014, 1 day
- Boston Harbor, 2012, 1 day

- *Boston Harbor, 2008, 1 day*
- *Massachusetts and Cape Cod Bay, 2004, 1 day*
- *North Sea (Guangxi, China), 1992, 2 days*
- *East China Sea, 1991, 7 days*

Societies and Professional Affiliations

- *American Geophysical Union (AGU)*
- *American Society of Limnology and Oceanography (ASLO)*
- *The Oceanography Society (TOS)*
- *Coastal and Estuary Research Federation (CERF)*
- *Chinese American Oceanic and Atmospheric Association (COAA)*

Journal Review

Acta Oceanologica Sinica, Advanced in Atmospheric Sciences, Biogeosciences, Chinese Journal of Oceanography and Limnology, Continental Shelf Research, Deep-Sea Research I & II, Endangered Species Research, Fisheries Oceanography, Geophys. Research Letters, Journal of Geophysical Research-Oceans, Journal of Marine Research, Journal of Marine Systems, Journal of Oceanography, Journal of Plankton Research, Mar. Ecol. Prog. Ser., Northeastern Naturalist, Ocean Dynamics, Progress in Oceanography, Tellus

Proposal Review

NSF, NOAA, NASA, NERC-UK, WHOI Sea Grant, New York Sea Grant

Peer-reviewed Publications

1. **Jiang, M.**, J. Salisbury, and J H. VanZwieten, 2023, *Eddies and frontal processes drive phytoplankton blooms in the Florida Straits and carbon export to the deep coral reefs*, *Geophys. Res. Lett.* (to be submitted).
2. **Jiang, M.** et al. 2023, *Short-terms variability of water properties and phytoplankton blooms along the central eastern Florida shelf edge*, *Deep-Sea Research I* (under review)

3. **Jiang, M.**, 2023, *Modeling water residence and connectivity in northern Indian River Lagoon*, *Estuaries and Coasts*, <https://doi.org/10.1007/s12237-023-01199-6>.
4. Tang, Y., Y. Feng, S. Fung, V. R. Xomchuk, **M. Jiang**, T. Moore, and J. Beckler, 2022, *Spatiotemporal Deep-Learning-Based Algal Bloom Prediction for Lake Okeechobee Using Multisource Data Fusion*, *IEEE J. of Applied Earth Observations and Remote Sensing*, Vol. 15 10.1109/JSTARS.2022.3208620.
5. Liu, T., Z.-P. Lee, S.-L. Shang, P. Xiu, F. Chai, and **M. Jiang**, 2020, *Impact of transmission scheme of visible solar radiation on temperature and mixing in the upper water column with inputs for transmission derived from ocean color remote sensing*. *Journal of Geophysical Research: Oceans*, 125, e2020JC016080. <https://doi.org/10.1029/2020JC016080>
6. **M. Jiang**, C. Pan, L. Barbero, J. Reed, J. Salisbury, J. VanZwieten, and Rik Wanninkhof, 2020, *Variability of bottom carbonate chemistry over the deep coral reefs in the Florida Straits and the impacts of mesoscale processes*, *Ocean Modeling*, 101,555.
7. **Jiang, M.**, C.I. Measures, M.A. Charette, M. Kahru, and M. Zhou, 2019, *Transport of shelf Fe from the Antarctic Peninsula to the southern Drake Passage and Scotia Sea: A modeling study*, *Deep-Sea Research I*, <https://doi.org/10.1016/j.dsr.2019.06.006>.
8. Reed, John K., et al. 2018, *Cuba's mesophotic reefs and associated fish communities*. *Revista de Investigaciones Marinas*, 38(1): 56-125.
9. Pan C., **M. Jiang**, F. Dalgleish, and J. Reed, 2017, *Modeling the Impacts of the Loop Current on Circulation and Water Properties over the Pulley Ridge Area on the Southwest Florida Shelf*, *Ocean Modeling*, 112: 48-64.
10. Bundy R.M., **M. Jiang**, M. Carter, and K. A. Barbeau, 2016, *Iron-binding ligands in the southern California Current System: Mechanistic studies*, *Frontiers in Marine Science*. DOI: 10.3389/fmars.2016.00027.
11. Borkman, D., P.S. Libby, M. Mickelson, J.T. Turner, and **M. Jiang**, 2016, *Variability of Winter-spring bloom *Phaeocystis pouchetii*, abundance in Massachusetts Bay*, *Estuaries and Coasts*, DOI 10.1007/s12237-016-0065-5.
12. Detweiler, C., S. Banerjee, M. Doniec, **M. Jiang**, F. Peri, R. F. Chen and D. Rus, 2014, *Adaptive Decentralized Control of Mobile Underwater Sensor Networks and Robots for Modeling Underwater Phenomena*, *J. Sens. Actuator Network*. 2014, 3, 113-148; doi:10.3390/jsan3020113.
13. **Jiang, M.S.**, David Townsend, M. Zhou, D. Borkman, and S. Libby, 2014, *Nutrient inputs and the competition between diatoms and *Phaeocystis* in Massachusetts Bay spring bloom*, *Journal of Marine Systems*. 134, 29–44.

14. Zhou, M., C.I. Measures, M. Hatta, M.A. Charette, S.T. Gille, M. Frants, **M.S. Jiang**, and B.G. Mitchell, 2013, *Winter mesoscale circulation on the shelf slope region of the southern Drake Passage*, *Deep-Sea Research II*, DOI.10.1016/j.dsr2.2013.02.041.
15. **Jiang, M.S.**, M.A. Charette, C.I. Measures, Yiwu Zhu, and M. Zhou, 2013, *Seasonal cycle of circulation in the Antarctic Peninsula and the off-shelf transport of shelf waters into Southern Drake Passage and Scotia Sea*, *Deep-Sea Research II*, DOI.10.1016/j.dsr2.2013.02.029.
16. **Jiang, M.S.**, K. Barbeau, F. Azam, K. Buck, C. I. Measures, G. Mitchell, K. Selph, and M. Zhou, 2013, *The role of Fe ligands in controlling Fe cycle and phytoplankton productivity in the Antarctic Peninsula*, *Deep-Sea Research II*, 10.1016/j.dsr2.2013.01.029.
17. Lee, Z.P., **M.S. Jiang**, C. Davis, N. Pahlevan, Y. Ahn, and R. Ma, 2012, *Impact of multiple satellite ocean color samplings in a day on assessing phytoplankton dynamics*, *Ocean Science Journal*, 47(3): 323-329.
18. **Jiang, M.S.**, M. Zhou, S. Libby, and D. Anderson, 2011, *Dynamics of a meso-scale eddy off Cape Ann, Massachusetts in May 2005*. *Deep-Sea Research I*, 58, 1130-1146.
19. Detweiler, C., M. Doniec, **M.S. Jiang**, R.F. Chen, M. Schwager, and D. Rus, 2010, *Adaptive decentralized control of underwater sensor networks for modeling underwater phenomena*. *SenSys '10 Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems*. November 3–5, 2010, Zurich, Switzerland.
20. Li L., F. Pala, **M.S. Jiang**, C. Krahforst, G.T. Wallace, 2010, *Three-dimensional modeling of Cu and Pb distributions in Boston Harbor, Massachusetts and Cape Cod Bays*, *Estuarine, Coastal and Shelf Sciences*, 88: 450-463
21. **Jiang, M.S.**, M.W. Brown, J.T. Turner, R.D. Kenney, C.A. Mayo, Z. Zhang, M. Zhou, 2007, *Springtime transport and retention of Calanus finmarchicus in Cape Cod Bay and implications to North Atlantic right whale foraging*, *Marine Ecology Progress Series*, 349: 183-197, doi: 10.3354/meps07088.
22. **Jiang, M.S.**, M. Zhou, S. Libby and C. Hunt, 2007, *Influences of GOM intrusion on the Massachusetts Bay spring bloom*, *Continental Shelf Research*, 27: 2465–2485.
23. F. Chai, **M.S. Jiang**, R.C. Dugdale, F. Chavez, and R.T. Barber, 2007, *Modeling responses of diatom productivity and biogenic silica export to iron enrichment in the equatorial Pacific Ocean*. *Global Biogeochemical Cycles*, 21, GB3S90, doi:10.1029/2006GB002804.
24. **Jiang, M.S.**, G.T. Wallace, M. Zhou, S. Libby, and C. Hunt, 2007, *Summer formation of a high nutrient low oxygen pool in Cape Cod Bay, USA*. *J. Geophys. Res.-Oceans*, 112 (C5), C05006, 10.1029/2006JC003889.

25. **Jiang, M.S.** and F. Chai, 2006, *Physical control on the seasonal cycle of surface pCO₂ in the equatorial Pacific*, *Geophys. Res. Lett.* **33**, L23608, doi:10.1029/2006GL027195.
26. McKinley, G.A., T. Takahashi, E. Buitenhuis, F. Chai, J.R. Christian, S.C. Doney, **M.S. Jiang**, K. Lindsay, K. Moore, C. Le Quere, I. Lima, R. Murtugudde, L. Shi, and P. Wetzel. 2006, *North Pacific Carbon Cycle Response to Climate Variability on Seasonal to Decadal Timescales*. *J. Geophys. Res.* **111**, C07S06, doi:10.1029/2005JC003173.
27. **Jiang, M.S.**, and F. Chai, 2005, *Physical and biological controls on the asymmetry of surface nutrients and pCO₂ in the central and eastern equatorial Pacific*, *J. Geophys. Res.*, **110**, C06007, doi:10.1029/2004JC002715.
28. **Jiang, M.S.** and M. Zhou, 2004, *The summer Ekman pumping and its implications to the deep water renewal in Massachusetts and Cape Cod Bays*, *Proceedings of the 8th Estuarine and Coastal Modeling (ECM8)*, San Francisco, Nov. 3-5, 2003, p929-948.
29. **Jiang, M.S.**, F. Chai, 2004, *Iron and silicate regulation of new and export production in the equatorial Pacific: A physical-biological model study*, *Geophys. Res. Lett.* **31**, No. 7, L07307, 10.1029/2003GL018598.
30. **Jiang, M.S.**, F. Chai, R. C. Dugdale, F.P. Wilkerson, T-H, Peng and R.T. Barber, 2003, *A nitrate and silicate budget in the Eastern Equatorial Pacific Ocean*. *Deep-Sea Research II*, **50**, 2971-2996.
31. Chai, F., **M. S. Jiang**, R. T. Barber, R. C. Dugdale, and Y. Chao, 2003, *Interdecadal Variation of the Transition Zone Chlorophyll Front, A Physical-Biological Model Simulation between 1960 and 1990*. *Journal of Oceanography*, **59**, 461-475.
32. Dugdale, R.C., A.G. Wischmeyer, F.P. Wilkerson, R.T. Barber, F. Chai, **M.S. Jiang** and T-H, Peng, 2002, *Meridional asymmetry of source nutrients to the equatorial upwelling ecosystem and modeling of the impact on ocean-atmosphere CO₂ flux*. *Deep Sea Res. II*, **49**(13-14), 2513-2531
33. Chen, C., R. Ji, D. J. Schwab, D. Beletsky, G. L. Fahnenstiel, **M.S. Jiang**, T. H. Johengen, H. Vanderploeg, B. Eadie, J. W. Budd, M. H. Bundy, W. Gardner, J. Cotner and P. J. Lavrentyev. 2002, *A model study of the coupled biological and physical dynamics in Lake Michigan*, *Ecological Modeling*, **152**(2-3): 145-168.
34. Fang X.H., **M.S. Jiang** and T. Du, 2000, *Dispersion relation of internal waves in the western Equatorial Pacific Ocean*. *Acta Oceanologica Sinica*, **19**(4): 37-45.
35. **Jiang, M.S.** and X.H. Fang, 1999. *The multifractal characteristics of temperature finestructures in the western equatorial Pacific Ocean*. *Acta. Oceanologica Sinica*. **17**(3), 293-310.
36. Zhang, A.J. and **M.S. Jiang**, 1999, *Characteristics analysis of tidal current, temperature and salinity in the Southwestern Dongsha water*, *Tropical Ocean*, **18**(1), 23-30. (in Chinese)

37. **Jiang, M.S.** and A.J. Zhang, 1998, Study on finestructures of temperature in the eqautorial western Pacific Ocean using wavelet transform. *Acta. Oceanologica Sinica*, **17**(3): 293-304.
38. **Jiang, M.S.** and S.D. Liu, 1997, Scaling behaviors of velocity and temperature in a shell model for thermal convective turbulence, *Phys. Rev. E*, **56**(1), 441.
39. Liu, S.D, S.G. Liu and **M.S. Jiang**, 1997, The generalized self-similarity and scaling invariance of fluid motions, *Chinese Science Bulletin*, **42**(1), 61.
40. **Jiang, M.S.** and Fang, X.H 1996, A two-dimensional vorticity model of internal tides generated on the continental shelf/slope, *Chin. J. Oceanol. Limnol.*, **14**(3), 201.
41. **Jiang, M.S.** and X.H. Fang, 1996, An exact solution of sub-inertial baroclinic waves. *Chin. J. Oceanol. Limnol.* **14**(1), 79
42. **Jiang, M.S.** and X.H. Fang, 1995, An exact solution of internal tides generated at continental slope. *Chin. J. Oceanol. Limnol.* **13**(4), 289
43. **Jiang, M.S.** X.H. Fang, Z.Q. Shang, and M.J. Wei, 1995, A two-dimensional three-layer model of internal tides generated at continental shelf/slope. *J. Ocean Univ. of Qingdao*, **25**(3), 277-285 (in Chinese with English abstract).
44. Fang X.H., Y.L. Zhang, **M.S. Jiang** and J.M. Wang, 1994, On lag-correction of CTD data gathered in the upper ocean. *Collected Works on Physical Oceanography in the Region of Nansha Islands, I.*, 137-146 (in Chinese with English abstract).
45. **Jiang, M.S.** and X.H. Fang, 1992, Progress of studies on the internal tide generated by the passage of barotropic tide over continental shelf/slope. *Chin. J. Oceanol. Limnol.* **10**(2): 119-134.

Non-Peer Reviewed Publications

- **Jiang M**, Zhou M. 2008. *Massachusetts Bay Eutrophication Model: 2005 simulation*. Boston: Massachusetts Water Resources Authority. Report 2008-13. 82 p.
- **Jiang M**, Zhou M. 2008. *The Massachusetts and Cape Cod Bays hydrodynamic model: 2005 simulation*. Boston: Massachusetts Water Resources Authority. Report 2008-12. 58 p.
- **Jiang M**, Zhou M. 2007. *User's guide to the water-quality part of the Bays Eutrophication Model (BEM)*. Boston: Massachusetts Water Resources Authority. Report 2007-09. 36 p.
- **Jiang M**, Zhou M. 2006. *Massachusetts Bay Eutrophication Model: 2002-2004 Simulation*. Boston: Massachusetts Water Resources Authority. Report 2006-13. 126p.
- **Jiang M**, Zhou M. 2006. *The Massachusetts and Cape Cod Bays hydrodynamic model: 2002-2004 simulation*. Boston: Massachusetts Water Resources Authority. Report 2006-12. 128 p.

- M. Zhou, **M.S. Jiang** and Z. Zhang, 2005, *Short-term and seasonal changes in transport and retention of biota in Massachusetts and Cape Cod Bays*. Thusty, M.F., Halvorson, H.O., Smolowitz, R. and Sharma, U. (eds.) *Lobster Shell Disease Workshop. Aquatic Forum Series 05-1*. New England Aquarium, Boston, Massachusetts. p131-136.
- **M.S., Jiang** and M. Zhou, 2004, *Calibration of the Massachusetts and Cape Cod Bays Hydrodynamic Model: 2000-2001*. Massachusetts Water Resources Authority, ENQUAD 2004-08. 71pp.
- **M.S. Jiang** and M. Zhou, 2004, *Bays Eutrophication Model (BEM) Model Verification for the Period 2000-2001*. Massachusetts Water Resources Authority, ENQUAD 2004-09. 90pp.
- **M.S. Jiang** and Zhou M. 2003. *Massachusetts Bay hydrodynamic model and water quality model results in 1998-99: comparison report between HydroQual and University of Massachusetts Boston runs*. Boston: Massachusetts Water Resources Authority. Report 2003-10. 42 p.
- Shi, M., **M.S. Jiang**, J.P. Xu, F. Chai and H. Xue, 2001, *General Circulation in the Southwestern South China Sea*. *Oceanography in China*. **13**, H. Xue, F. Chai, M. Shi, and J. Xu (Editors), p57-63 (in Chinese with English abstract)
- Shi, M., **M.S. Jiang**, F. Chai and H. Xue, 2001, *Formation of the Guiren-Jinlan Anticyclonic Gyre and the Circulation in Deep Basins of the South China Sea*. *Oceanography in China*. **13**, H. Xue, F. Chai, M. Shi, and J. Xu (Editors), p90-104 (in Chinese with English abstract)

Presentations (*student presentation)

- **M. Jiang**, Y. Zhang, J. Beckler, M. McFarland, and C. J. Madden, 2023, *Development of a physical-biogeochemical model for predicting HABs and water quality in greater Florida Bay, Greater Everglades Ecosystem Research*, Apr. 17-20, 2023, Corals Spring, FL.
- **M. Jiang**, 2022, *Winds and topographic controls on the connectivity in the northern Indian River Lagoon*, Indian River Lagoon Symposium, Apr. 21-22, 2022. Fort Pierce, FL.
- Lapointe, B.E., Brewton, R.A., McFarland, M.N., **Jiang, M.**, Cannizzaro, J.P., Hu, C. *Nutrient availability across the Lake Okeechobee Waterway: relations to Microcystis blooms in the St. Lucie and Caloosahatchee estuaries*. 11th US Symposium on Harmful Algae. Albany, NY.
- **M. Jiang**, 2022, J. Beckler, M. McFarland, and T. Moore, *Dynamics of Microcystis aeruginosa blooms in Lake Okeechobee and the impacts of sediment inputs*, JASM, May 14-20, 2022, Grand Rapids, MI.
- **M. Jiang**, B. Lapointe, M. McFarland, A. Brereton, R. Brewton, D. Hanisak, and N. Stockley, 2021, *Development of a coupled hydrodynamic-biogeochemical-Microcystis model for the St.*

Lucie estuary, FL, Indian River Lagoon Symposium, Feb. 18-19, 2021. HBOI, Fort Pierce, FL (virtual).

- **M. Jiang** and A. Brereton, 2021, *Modeling the ventilation and connectivity in the Indian River Lagoon, Indian River Lagoon Symposium, Feb. 18-19, 2021, HBOI, Fort Pierce, FL (virtual).*
- *Robertson, I., **M. Jiang**, James VanZwieten, 2021, *Eddies and Ocean Energy Potential in Southeast Florida, International Conference on Ocean Energy (ICOE) Apr 28-30, 2021 (virtual).*
- M. Ringham, A.Z. Wang, **M. Jiang**, S. Brooke, 2021, *Exploration of fine-scale physical-biogeochemical environment over deep coral reefs on the West Florida slope using integrated ROV-lander-sensor systems, 16th Deep-Sea Biology Symposium, May 13-16, 2021, Brest, France (hybrid).*
- ***T. Liu**, T. S. Kalra, B. T. Furman, Z.-P. Lee, C. J. Madden, S.-L. Shang, M. Jiang, 2020, *Modeling the Florida Bay Ecosystem Using a Coupled Physical-Biogeochemical-Seagrass Model, Ocean Science meeting, Feb. 16-21, San Diego, CA.*
- **M. Jiang**, E. J. Philips, S. Badylak, J. Beckler, C. A. Jacoby, and B. E. Lapointe, 2020, *Development of a biogeochemical model for understanding nutrient cycles and phytoplankton blooms in the northern Indian River Lagoon, Indian River Lagoon Symposium, Feb. 13-14, 2020, Fort Piece, FL.*
- **M. Jiang**, 2019, *Gulf Stream meandering and associated eddies drive strong upwelling and biogeochemical responses over deep coral reefs in the Florida Straits, Gordon Research Conference, July 14-19, Holderness, NH.*
- **M. Jiang**, 2019, *Sea Ice, Algae, and Antarctic Krill, Department of Geoscience, Florida Atlantic University, April 5, 2019 (invited).*
- **M. Jiang**, C. Pan, L. Barbero, J. Reed¹, J. Salisbury, J. VanZwieten, and R. Wanninkhof, 2019, *Modeling and observations of environmental conditions over deep coral reefs in the Florida Straits, ASLO, Feb. 25-Mar. 1, 2019, San Juan, Puerto Rico.*
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- **M.S. Jiang**, R.F. Chen, and M. Zhou, 2009, *Modeling and Forecasting for Boston Harbor and Massachusetts Bay Environment*, CESN09, July 24, 2009, UMass Boston.
- **M. S. Jiang**, M. Charette, C. Measures, and M. Zhou, 2009, *Model circulation and Fe transport in Antarctic Peninsula and southern Scotia Sea*, Ocean Biogeochemistry workshop, WHOI, July 22-25, 2009, Woods Hole, Massachusetts.
- **M.S. Jiang**, 2009, *When is Boston Harbor Open to Massachusetts Bay and Beyond?* April 15, 2009, Department of Environmental, Earth and Ocean Sciences, UMass Boston (*invited*).
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- **M.S. Jiang**, M. Zhou, G.T. Wallace, Y. Zhu and G.B. Gardner, 2004, *Modeling the Massachusetts Bay system: An overview*. Massachusetts Bay Symposium, May 6-7, 2004, Boston, Massachusetts, USA (**invited**).

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Teaching

- *OCE4006: Introduction to Oceanography*

Advisors

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References

Available upon request