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EDUCATION

University of Miami, Ph.D. in Applied Marine Physics, May 2014

Dissertation Title: *Observations and Modeling of Microbial Water Quality at Recreational Beaches* Co-advisers: Professors Ad Reniers and Brian Haus

Louisiana State University, Master of Science in Oceanography and Coastal Sciences, August 2009

Thesis Title: *Hydrodynamic Response to Cold Fronts along the Louisiana Coast*
Adviser: Professor Chunyan Li

Nanjing University, Bachelor of Science in Geography, June 2007

Thesis Title: *An Estimate of the Tidal Flat Accretion and Shoreline Progradation in Central Jiangsu Coast, China*
Adviser: Professor Shu Gao

PROFESSIONAL EXPERIENCE

August 2014 – Present: Postdoctoral Investigator, Biology Department, **Woods Hole Oceanographic Institution (WHOI)**, co-advised by Dr. Carin Ashjian and Dr. Rubao Ji.

August 2009 – July 2014: Research and teaching Assistants, Rosenstiel School of Marine and Atmospheric Science (RSMAS), University of Miami.

August 2007 – June 2009: Research Assistant, Department of Oceanography and Coastal Sciences, Louisiana State University.

RESEARCH INTERESTS

Marine ecosystem dynamics, biological and physical interactions, polar oceanography, individual-based modeling, zooplankton biogeography, pelagic-benthic coupling, coastal processes, recreational water quality, oceans and human health.

AWARDS & HONORS

- Graduate Student Scholarship for the Community Surface Dynamics Modeling Systems (CSDMS) Annual Meeting, 2014

- Excellent Graduate of Nanjing University, Nanjing University, 2007
- People's Scholarship Second Prize, Nanjing University, 2006
- Geography Scholarship Second Prize, Nanjing University, 2006
- Excellent Student of Nanjing University, Nanjing University, 2006
- People's Scholarship for Social Work First Prize, Nanjing University, 2005
- Geography Scholarship Second Prize, Nanjing University, 2005
- People's Scholarship Third Prize, Nanjing University, 2004

TEACHING & OTHER EXPERIENCE

- Teaching assistant in Fluid Mechanics, University of Miami, August-December 2010
- Visiting scholar at Deltares, Delft, Netherlands, June 2012
- Mentored undergraduate and graduate students at University of Miami (Matthew Phillips, Rafael Hernandez, Yasiel Hernandez, Allison Donohue, Elizabeth Kelly, Noha Abdel-Mottaleb, Laura Vogel, Yifang Zhang, etc.) and Woods Hole Oceanographic Institution (Stephan Elliott and Benjamin Jones).

PROFESSIONAL AFFILIATIONS

- American Geophysical Union (AGU)
- Association for the Sciences of Limnology and Oceanography (ASLO)
- American Association for the Advancement of Science (AAAS)

PUBLICATIONS

Papers in Referenced Journals

- **Feng Z.**, R. Ji, C.J. Ashjian, R.G. Campbell, and J. Zhang, 2017. Biogeographic responses of the copepod *Calanus glacialis* to a changing Arctic marine environment, *Global Change Biology*, doi:10.1111/gcb.13890.
- Donahue A., **Z. Feng**, E. Kelly, A. Reniers, and H.M. Solo-Gabriele, 2017. Significance of beach geomorphology on fecal indicator bacteria levels, *Marine Pollution Bulletin*, 121, 160-167.
- Ji. R., **Z. Feng**, B.J. Jones, C. Thompson, C. Chen, N.R. Record, and J.A., Runge, 2017. Coastal Amplification of Supply and Transport (CAST): a new hypothesis about the persistence of *Calanus finmarchicus* in the Gulf of Maine, *ICES Journal of Marine Science*, doi: 10.1093/icesjms/fsw253.
- **Feng Z.**, R. Ji, R.G. Campbell, C.J. Ashjian, and J. Zhang, 2016b. Early ice retreat and ocean warming may induce copepod biogeographic boundary shifts in the Arctic Ocean, *Journal of Geophysical Research-Oceans*, 121, 6159-6183. doi: 10.1002/2016JC011784.
- Elliott S.M., C.J. Ashjian, **Z. Feng**, B. Jones, C. Chen, and Y. Zhang, 2016. Physical control on distributions of a key Arctic copepod in the northeast Chukchi Sea, *Deep Sea Research II*, doi: /dx.doi.org/10.1016/j.dsr2.2016.10.001.
- **Feng Z.**, A. Reniers, B.K. Haus, H.M. Solo-Gabriele, and E.A. Kelly, 2016a. Wave energy level and geographic setting correlate with Florida beach water quality,

Marine Pollution Bulletin, 104, 54-60.

- **Feng Z.**, A. Reniers, B.K Haus, H.M. Solo-Gabriele, J.D. Wang, and L.E. Fleming, 2015. A predictive model for microbial counts on beaches where intertidal sand is the primary source, *Marine Pollution Bulletin*, 94, 37-47.
- Phillips, M.C., **Z. Feng**, L.J., Vogel, A.J.H.M. Reniers, B.K. Haus, A.A. Enns, Y. Zhang, D.B. Hernandez, and H.M. Solo-Gabriele, 2014. Microbial release from seeded beach sediments during wave conditions, *Marine Pollution Bulletin*, 79, 114-122.
- Hernandez, R.J., Y. Hernandez, N.H. Jimenez, A.M. Piggot, J.S. Klaus, **Z. Feng**, A. Reniers, and H.M. Solo-Gabriele, 2014. Effect of full-scale beach renovation on fecal indicator levels in shoreline sand and water, *Water Research*, 48, 579-591.
- **Feng, Z.**, A. Reniers, B.K. Haus, and H.M. Solo-Gabriele, 2013. Modeling sediment-related enterococci loading, transport and inactivation at an embayed non-point source subtropical beach. *Water Resources Research*, 49, 693-712.
- Fiorentino, L.A., M.J. Olascoaga, A. Reniers, **Z. Feng**, F.J. Beron-Vera, and J.H. MacMahan, 2012. Using Lagrangian coherent structures to understand coastal water quality, *Continental Shelf Research*, 47, 145-149.
- Enns, A.A., L.J. Vogel, A.M. Abdelzaher, H.M. Solo-Gabriele, L.R.W. Plano, M.L. Gidley, M.C. Phillips, J.S. Klaus, A.M. Piggot, **Z. Feng**, A.J.H.M. Reniers, B.K. Haus, S.M. Elmir, Y. Zhang, N.H. Jimenez, N. Abdel-Mottaleb, M.E. Schoor, A. Brown, S.Q. Khan, A.S. Dameron, N.C. Salazar, and L.E. Fleming, 2012. Spatial and temporal variation in indicator microbe sampling is Influential in beach management decisions, *Water Research*, 46, 2237-2246.
- **Feng, Z.**, and C. Li, 2010. Cold-front-induced flushing of the Louisiana bays. *Journal of Marine Systems*, 82, 252-264.
- **Feng, Z.**, X. Luo, and S. Gao, 2007. Dynamics in the Core Area of the Yancheng Natural Reserve, Jiangsu Province: A Preliminary Remote Sensing Study. *Marine Science Bulletin*, 26 (6), 68-74 (in Chinese).

Pending Manuscripts

- Kelly E.A., **Z. Feng**, M.L. Gidley, C.D. Sinigalliano, N. Kumar, A.G. Donahue, A. Reniers, and H.M. Solo-Gabriele, 2017. Effect of beach management policies on recreational water quality, submitted to *Journal of Environmental Management*.

GRANTS & PROPOSALS

- *Formation and persistence of benthic biological hotspots in the Pacific Arctic*, NSF Polar Programs, 08/01/2016 - 07/31/2019, co-PI, in collaboration with Rubao Ji, Carin Ashjian, Jinlun Zhang, Robert Campbell, and Jackie Grebmeier.
- *Miami Oceans and Human Health Center*, NIH/NSF, co-PI, subcontract from University of Miami to WHOI, pending proposal.

PRESENTATIONS & CONFERENCES

Invited Presentations

- Physical and biological coupling in the Arctic marine ecosystem, University of Massachusetts Dartmouth, School for Marine Science & Technology (SMAST) invited seminar, September 6, 2017, New Bedford, MA.
- Life beneath the ice: how tiny ocean “bugs” fuel Arctic Ocean ecosystems, WHOI Science Made Public Lecture Series, August 22, 2017, Woods Hole, MA.
- Copepod biogeography in a changing Arctic Ocean, WHOI Biology Thursday Seminar, Department of Biology, February 23, 2017, Woods Hole, MA.
- Copepod biogeography in a changing Arctic marine environment, Institute of Physical Oceanography Seminar, Ocean College, Zhejiang University, November 15, 2016, Zhoushan, China.
- Copepod biogeography in a changing Arctic marine environment, State Key Laboratory of Estuarine and Coastal Science (SKLEC), East China Normal University, June 26, 2016, Shanghai, China.
- Observations and modeling of microbial water quality at Florida recreational beaches, WHOI Biology Thursday Seminar, Department of Biology, January 15, 2015, Woods Hole, MA.
- Microbial water quality studies: from a case study beach to the entire state of Florida, South China Sea Institute, Chinese Academy of Science, June 16, 2014, Guangzhou, China.
- Microbial water quality studies: from a case study beach to the entire state of Florida, WHOI COFDL (Coastal & Ocean Fluid Dynamics Laboratory) Seminar, Department of Applied Ocean Physics and Engineering, November 8, 2013, Woods Hole, MA.
- Microbial water quality modeling with XBeach, Deltares Lunch Seminar, Deltares, June 21, 2012, Delft, Netherlands.
- Recent progress in beach water quality modeling, Coastal Ocean Science Seminar, School of Geographic and Oceanographic Sciences, Nanjing University, January 6, 2012, Nanjing, China.
- Observations and modeling of microbial water quality at a non-point source subtropical marine beach, Third Institute of Oceanography, State Oceanic Administration, December 25, 2011, Xiamen, China.

Conference Presentations

- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, R. Campbell, and J. Grebmeier. Modeling the sympagic-pelagic-benthic coupling processes in the St. Lawrence Island Polynya region, northern Bering Sea, Ocean Carbon & Biogeochemistry (OCB) Summer Workshop 2017, June 26-29, 2017, Woods Hole, MA (poster).
- Feng Z., R. Ji, **C. Ashjian**, J. Zhang, R. Campbell, and J. Grebmeier. Modeling the sympagic-pelagic-benthic coupling processes in the St. Lawrence Island Polynya region, northern Bering Sea, 2017 ESSAS Open Science Meeting, June 11-15, 2017, Tromsø, Norway (poster).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, R. Campbell, and J. Grebmeier. Benthic biological hotspots in the Pacific Arctic Region: distribution and potential drivers, 3rd PICES/ICES Early Career Scientists Conference, May 30-June 2, 2017, Busan, South Korea (oral).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, R. Campbell, and J. Grebmeier. Contrast two

major benthic biological hotspots in the Pacific Arctic Region: St. Lawrence Island Polynya versus Northeast Chukchi Sea, Gordon Research Conference in Polar Marine Science, March 26-31, 2017, Ventura Beach, CA (poster).

- **Feng Z.**, R. Ji, C. Ashjian, R. Campbell, and J. Zhang. Copepod biogeography in a changing Arctic marine environment: interannual variability and decadal trends. Gordon Research Seminar: Advancing the Physical-Biological Understanding of Polar Marine Ecosystems Through Innovative Technology, March 25-26, 2017, Ventura Beach, CA (poster). Invited to serve as a session discussion leader.
- **Feng Z.**, R. Ji, C. Ashjian, R. Campbell, and J. Zhang. Copepod biogeography in a changing Arctic marine environment. 5th Forum for Arctic Modeling and Observational Synthesis (FAMOS) School and Meeting, November 1-4, 2016, Woods Hole, MA (oral).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, and R. Campbell. The response of the biogeographic distribution of the copepod *Calanus glacialis* to a changing Arctic marine environment, ICES/PICES 6th Zooplankton Production Symposium, May 9-13, 2016, Bergen, Norway (poster).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, and R. Campbell. The response of the biogeographic distribution of the copepod *Calanus glacialis* to a changing Arctic marine environment, 2016 Ocean Sciences Meeting, February 21-26, 2016, New Orleans, LA, USA (oral).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, and R. Campbell. Early ice retreat and ocean warming may shift copepod biogeographic boundaries in the Arctic Ocean, 4th FAMOS School and Meeting, November 3-6, 2015, Hyannis, MA, USA (poster).
- **Feng Z.**, R. Ji, B. Jones, C. Chen, N Record, and J. Runge. Upstream sources that sustain diapausing copepod populations in the Gulf of Maine: an individual-based modeling study, Regional Association for Research on the Gulf of Maine (RARGOM) Annual Science Meeting, October 14, 2015, Portsmouth, NH, USA (poster).
- **Feng Z.**, R. Ji, C. Ashjian, J. Zhang, and R. Campbell. Early ice retreat may shift biogeographic boundary of *Calanus glacialis* in the Arctic Ocean, Ecosystem Studies of Sub-Arctic Seas (ESSAS) Annual Science Meeting, June 15-17, 2015, Seattle, WA, USA (poster).
- **Feng Z.**, A. Reniers, B. Haus, and H. Solo-Gabriele. Modeling sediment-related loading, transport, and inactivation of fecal indicator bacteria at a nonpoint source beach, Community Surface Dynamics Modeling System (CSDMS) Annual Meeting, May 20-22, 2014, Boulder, CO, USA (poster).
- **Feng Z.**, A. Reniers, B. Haus, H. Solo-Gabriele, and E. Kelly. What we learned from ten years of water quality monitoring through the Florida Healthy Beaches Program, 2014 Ocean Sciences Meeting, February 23-28, 2014, Honolulu, HI, USA (poster).
- **Feng Z.**, A. Reniers, B. Haus, E. Kelly, and H. Solo-Gabriele. Impact of climate change, hydrology, and beach characteristics on microbial water quality throughout the Florida coast, 7th Graduate Climate Conference, November 1-3, 2013, Woods Hole, MA, USA (poster).
- **Feng Z.**, A. Reniers, B. Haus, H. Solo-Gabriele, L. Fiorentino, M. Olascoaga, and J. MacMahan. Modeling microbial water quality at a beach impacted by multiple

non-point sources, 33rd International Conference on Coastal Engineering (ICCE), July 1-6, 2012, Santander, Spain (oral).

- **Feng Z.**, A. Reniers, B. Haus, E. Kelly, and H. Solo-Gabriele. Modeling release, transport, and inactivation of fecal indicator bacteria at an embayed non-point source subtropical beach, 2012 Ocean Sciences Meeting, February 19-24, 2012, Salt Lake City, UT, USA (oral).
- **Feng Z.**, A. Reniers, B. Haus, H. Solo-Gabriele. Observations and modeling of enterococci release and transport in the inter-tidal zone of a non-point source subtropical recreational beach, EPA National Beach Conference, March 15-17, 2011. Miami, FL, USA (poster).
- **Feng Z.**, A. Reniers, B. Haus, J. Wang, R. Zepp, E. White, M. Molina, C. Sinigalliano, M. Gidley, and D. Aranda. Modeling of the release of enterococci from beach sands by waves and currents, 2010 Ocean Sciences Meeting, February 22-26, 2010, Portland, OR, USA (poster).
- **Feng Z.**, C. Li, and N. Walker. Cold-front-induced flushing of the Louisiana estuaries, Northern Gulf Institute Annual Conference, May 20-21, 2009, Mobile, AL, USA (oral).
- **Feng Z.** and C. Li. Cold-front-induced water exchange between bays and inner shelf along the Louisiana Coast, Northern Gulf of Mexico, 2008 AGU Fall Meeting, December 15-19, 2008, San Francisco, CA, USA (poster).

FIELDWORK PARTICIPATION

- August 2016, 4-day zooplankton net tows and Video Plankton Recorder (VPR) sampling in the Gulf of Maine, R/V Gulf Challenger, New Hampshire, USA.
- May 2012, Office of Naval Research (ONR) tidal inlet experiment at New River Inlet, North Carolina, USA.
- June 2010, 10-day intensive field experiment of hydrodynamics, hourly water and sand sampling for beach water quality assessment at Hobie Beach, Miami, Florida, USA.
- January 2009, hydrographic measurements (ship-mounted ADCP surveys and CTD casts) in the Gulf of Mexico, R/V Pelican, Louisiana, USA.
- October and November 2007, ADCP hydrographic surveys at Port Fourchon and Grand Isle, Louisiana, USA.
- July 2007, soil and plant sampling in *Spartina alterniflora* salt marshes at Dafeng, Jiangsu Province, China.
- January 2007, State Oceanic Administration Project-908 Comprehensive Investigation of Coastal Resources in Yellow Sea, China
- October 2006, sediment coring on tidal flats of central Jiangsu coast, China.

PROFESSIONAL SERVICES

- October 2016 – Present, WHOI Postdoctoral Association secretary and department representative.
- August 2010 – May 2013, Committee member of RSMAS Student Travel Fund.

- Paper reviews for the following journals: Environmental Science & Technology, Journal of Environmental Informatics, Journal of Water and Health, Biogeosciences, and Progress in Oceanography.
- Proposal reviews for the funding agency: Northern Pacific Research Board (NPRB) in 2016 and 2017, and National Science Foundation (NSF) in 2016.