

# Peng Wang, Ph.D.

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## Education

- Ph.D. in Meteorology and Physical Oceanography 2016  
University of Miami, Miami, Florida, USA
- B.S. in Marine Sciences 2011  
Ocean University of China, Qingdao, Shandong, China

## Careers

- Postdoctoral Scholar, University of California, Los Angeles, USA 2017 - Present  
(with Prof. James C. McWilliams)
- Postdoctoral Research Associate, University of Miami, USA 2016 - 2017  
(with Prof. Tamay M. Özgökmen)

## Research Interests

- Mesoscale and submesoscale ocean eddies
- Wave-current interaction and Langmuir circulation
- Surf-zone and inner-shelf ocean circulation

## Professional Experiences

- Teaching Assistant for grad course of *Geophysical Fluid Dynamics* 2014 - 2016
- Teaching Assistant for grad course of *Computer Models of Fluid Dynamics* 2013
- Teaching Assistant for undergrad course of *Introduction to Physical Oceanography* 2013
- Drifter deployments for measuring surface circulation in Florida Biscayne Bay 2016

- Hydrological data collection in coastal ocean of South Florida 2014
- Near real-time forecaster for drifter deployments in Gulf of Naples, Italy 2012

## **Computer Skills**

Fortran; MATLAB; Linux/Unix; Nek5000; ROMS; VisIt; GOTM; etc.

## **Awards and Honors**

- Scholarship for Doctoral Student at University of Miami, USA 2011 - 2016
- Honor of Outstanding Student at Ocean University of China 2009 - 2010
- Fellowship of Excellent Academy at Ocean University of China 2008 - 2010
- First Prize of Marine Knowledges Contest for National Undergraduate, China 2008
- Second Prize of Mathematics Contest for National Undergraduate, Shandong, China 2009

## **Reviewer Services**

- U.S. National Science Foundation
- Geophysical Research Letters
- Journal of Ocean University of China

## **Social Services**

- Volunteer for US National Gandhi Day of Service 2015
- Volunteer for UM/RSMAS Fundraising Auction 2015
- Volunteer for Miami Baynanza Beach Cleanup and Exotic Plant Removal 2014
- Co-founder of UM/RSMAS Garden Club 2013
- Committee member of UM/RSMAS MPO Graduate Student Seminar 2013 - 2014

## **Professional Affiliations**

American Geophysical Union (AGU)  
Chinese-American Oceanic and Atmospheric Association (COAA)

## **Publications**

### *Peer-reviewed Articles:*

- Brett, G., Pratt, L., Rypina, I., and **Wang, P.**, 2018. Competition between chaotic advection and diffusion: stirring and mixing in a 3D eddy model. *Nonlinear Process in Geophysics*, DOI: <https://doi.org/10.5194/npg-2018-54>.
- **Wang, P.**, Özgökmen, T. M., 2018. Langmuir circulation with explicit surface waves from moving-mesh modelling. *Geophysical Research Letters*, DOI: [10.1002/2017GL076009](https://doi.org/10.1002/2017GL076009).
- **Wang, P.**, Özgökmen, T. M., Haza, A. C., 2016. Material dispersion by oceanic internal waves. *Environmental Fluid Mechanics*, DOI: [10.1007/s10652-016-9491-y](https://doi.org/10.1007/s10652-016-9491-y).
- **Wang, P.**, Özgökmen, T. M., 2016. Spiral inertial waves radiated from geophysical vortices. *Ocean Modelling*, DOI: [10.1016/j.ocemod.2016.01.001](https://doi.org/10.1016/j.ocemod.2016.01.001).
- **Wang, P.**, Özgökmen, T. M., 2015. How do hydrodynamic instabilities affect 3D transport in geophysical vortices? *Ocean Modelling*, DOI: [10.1016/j.ocemod.2015.01.002](https://doi.org/10.1016/j.ocemod.2015.01.002).
- Rypina, I., Pratt, L. J., **Wang, P.**, Özgökmen, T. M., Mezić, I., 2015. Resonance phenomena in 3D time-dependent volume-preserving flows with symmetries. *Chaos*, DOI: [10.1063/1.4916086](https://doi.org/10.1063/1.4916086).
- Pratt, L. J., Rypina, I. I., Özgökmen, T. M., **Wang, P.**, Childs, H., Bebieva, Y., 2014. Chaotic advection in a steady, three-dimensional, Ekman-driven eddy. *Journal of Fluid Mechanics*, DOI: [10.1017/jfm.2013.583](https://doi.org/10.1017/jfm.2013.583).

### *Conference Papers:*

- Zambianchi, E., Poulain, P., **Wang, P.**, Kalampokis, A., Berta, M., Borghini, M., Buonocore, B., Cianelli, D., Falco, P., Gerin, R., Iermano, I., Mantovani, C., Nicolaides, G., Özgökmen, T., Sofianos, S., Uttieri, M., Zervakis, V., 2013. Surface circulation in the Gulf of Naples during the GELaTo 2012 experiment. *40th CIESM Congress – Marseille, France, October 2013*.

### *Ph.D. Dissertation:*

- **Wang, P.**, 2016. Material dispersion by ocean eddies and waves. *Open Access Dissertations*, Paper 1653.

### **Conferences and Presentations**

- Visiting scholar at Nanjing University of Information Science and Technology  
 --- Nanjing, Jiangsu, China; January 2019  
*Invited talk:* “Wave-current interaction with application to Langmuir circulation”
- Visiting scholar at Ocean University of China  
 --- Qingdao, Shandong, China; December 2018  
*Invited talk:* “Wave-current interaction with application to Langmuir circulation”
- Planetary Boundary Layers in Atmospheres, Oceans, and Ice on Earth and Moons  
 --- KITP, Santa Barbara, CA, USA; April – May 2018
- Sun Yat-sen University Forum of Ocean Sciences for International Young Scholars  
 --- Zhuhai, China; December 2017  
*Oral presentation:* “Material transport inside Langmuir circulation and an unstable eddy”
- East China Normal University Forum of Ocean Sciences for Outstanding Overseas Young Scholars  
 --- Shanghai, China; June 2017  
*Oral presentation:* “Material transport within unstable eddies and Langmuir circulation”
- Consortium for Advanced Research on Transport of Hydrocarbon in the Environment  
 --- Miami, FL, USA; November 2016  
*Oral presentation:* “Simulating Langmuir circulations without phase averaging surface gravity waves”
- AmeriMech Symposium on Fluid Transport and Nonlinear Dynamics  
 --- Woods Hole, MA, USA; May 2016  
*Poster presentation:* “Spiral inertial waves emitted from geophysical vortices”
- AGU Ocean Sciences Meeting  
 --- New Orleans, LA, USA; February 2016  
*Poster presentation:* “Spiral inertial waves emitted from geophysical vortices”
- Dynamical Systems Theory and Lagrangian Data Assimilation in 3D+1 Geophysical Fluid Dynamics  
 --- La Jolla, CA, USA; September 2015  
*Oral presentation:* “Spiral inertial waves emitted from geophysical vortices”
- Visiting scholar at École Polytechnique Université Paris-Saclay, France 2015
- American Geophysical Union Fall Meeting  
 --- San Francisco, CA, USA; December 2014  
*Poster presentation:* “How do hydrodynamic instabilities affect 3D transport in geophysical vortices”

- Dynamical Systems Theory and Lagrangian Data Assimilation in 3D+1 Geophysical Fluid Dynamics  
 --- Miami, FL, USA; November 2014  
*Oral presentation:* “The material transport and wave radiation in a 3D ocean eddy”
- Consortium for Advanced Research on Transport of Hydrocarbon in the Environment  
 --- Hollywood, FL, USA; April 2014  
*Oral presentation:* “3D instability in an isolated geophysical vortex”
- Dynamical Systems Theory and Lagrangian Data Assimilation in 3D+1 Geophysical Fluid Dynamics  
 --- Chapel Hill, NC, USA; February 2013  
*Oral presentation:* “Chaotic advection a periodically-perturbed, three-dimensional rotating cylinder”
- Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics  
 --- Miami, FL, USA; June 2012