**Peng Wang, Ph.D.**

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**Address:** Department of Atmospheric and Oceanic Sciences,

University of California, Los Angeles, CA 90095, USA

**Education**

* 2016. Ph.D. in Meteorology and Physical Oceanography

University of Miami, Miami, Florida, USA

* 2011. B.S. in Marine Sciences

Ocean University of China, Qingdao, Shandong, China

**Careers**

* 2017 – Present. Postdoctoral Scholar, University of California, Los Angeles, USA

(with Prof. James C. McWilliams)

* 2016 – 2017. Postdoctoral Research Associate, University of Miami, USA

(with Prof. Tamay M. Özgökmen)

**Research Interests**

* Wave-current interaction
* Langmuir circulation
* Mesoscale and submesoscale currents
* Nearshore ocean circulation
* Geophysical fluid dynamics

**Professional Experiences**

* 2014 – 2016. Teaching Assistant for grad course of *Geophysical Fluid Dynamics*
* 2016. Drifter deployments for measuring surface circulation in Florida Biscayne Bay
* 2014. Hydrological data collection in coastal ocean of South Florida
* 2013. Teaching Assistant for grad course of *Computer Models of Fluid Dynamics*
* 2013. Teaching Assistant for undergrad course of *Introduction to Physical Oceanography*
* 2012. Near real-time forecaster for drifter deployments in Gulf of Naples, Italy

**Computer Skills**

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

**Awards and Honors**

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

**Reviewer Services**

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

**Social Services**

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

**Professional Affiliations**

American Geophysical Union (AGU)

Chinese-American Oceanic and Atmospheric Association (COAA)

**Publications**

*Peer-reviewed Articles:*

* Li, Q., et al. 2019. Comparing Ocean Surface Boundary Vertical Mixing Schemes Including Langmuir Turbulence. *Journal of Advances in Modeling Earth Systems*, DOI: <https://doi.org/10.1029/2019MS001810>.
* Brett, G., Pratt, L., Rypina, I., and **Wang, P.**, 2019. 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>.
* Zhai, L., Wang, X., Wang, P., Zhang, B., Miralles-Wilhelm, F., Sternberg, L., 2019. Vegetation and location of water inflow affect evaporation in a subtropical wetland as indicated by the deuterium excess method. Ecohydrology, [DOI: https://doi.org/10.1002/eco.2082](https://doi.org/10.1002/eco.2082)
* **Wang, P.**, Özgökmen, T. M., 2018. Langmuir circulation with explicit surface waves from moving-mesh modelling. *Geophysical Research Letters*, [DOI: https://doi.org/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](http://link.springer.com/article/10.1007%2Fs10652-016-9491-y).
* **Wang, P.**, Özgökmen, T. M., 2016. Spiral inertial waves radiated from geophysical vortices. *Ocean Modelling*, [DOI: https://doi.org/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: https://doi.org/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: https://doi.org/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: https://doi.org/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](http://scholarlyrepository.miami.edu/oa_dissertations/1653/).

*Submitted / Preparation:*

* **Wang, P.**, McWilliams, J. C., Uchiyama, Y., and Chekroun, M.. Effects of Wave Streaming and Wave Variations on Nearshore Wave-driven Circulation. *Journal of Physical Oceanography*, in revision Feb. 2020.
* **Wang,P.**, McWilliams, J. C.. An Inner-Shelf Front Induced by Wave Streaming. *Geophysical Research Letters*, in preparation Feb. 2020.

**Conferences and Presentations**

* Ocean Sciences Meeting

--- San Diego, California, USA; February 2020

*Oral Presentation*: “Effects of wave streaming and wave variations on nearshore wave-driven circulation”

* California GFD meeting at California Institute of Technology

--- Pasadena, California, USA; September 2019

*Oral Presentation*: “Effects of wave streaming and wave variations on nearshore wave-

driven circulation”

* Visiting scholar at Institute of Oceanology, Chinese Academy of Sciences

--- Qingdao, Shandong, China; January 2019

*Invited talk*: “Wave-current interaction with application to Langmuir circulation”

* Visiting scholar at National University of Defense Technology

--- Changsha, Hunan, China; January 2019

*Invited talk*: “Wave-current interaction with application to Langmuir circulation”

* The Fourth Xiamen Symposium on Marine Environmental Sciences (XMAS-IV)

--- Xiamen, Fujian, China; January 2019

*Oral Presentation*: “Wave-current interaction with application to Langmuir circulation”

* 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; September 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