Jun A. Zhang
Curriculum Vita

ADDRESS

4301 Rickenbacker Causeway
Email: jun.zhang@noaa.gov

EDUCATION

Ph. D in Applied Marine Physics	Rosenstiel School of Marine and atmospheric Science, University of Miami (2007)
M.S. in Applied Marine Physics	Rosenstiel School of Marine and atmospheric Science, University of Miami (2004)
B.S. in Naval Architecture and Ocean Engineering	Dalian University of Technology (2000)

PROFESSIONAL EXPERIENCE

Associate Scientist
NOAA/AOML/ Hurricane Research Division with
University of Miami/CIMAS
June, 2012- present

Assistant Scientist
NOAA/AOML/ Hurricane Research Division with
University of Miami/CIMAS
January, 2010- May 2012

Postdoctoral Fellow
National Research Council Fellow
NOAA/AOML/ Hurricane Research Division
June 2007 - December 2009

HONORS AND AWARDS

NASA Hurricane and Severe Storm Sentinel Group Achievement Award for HS3 (2015)
University of Miami Gold Medal equivalent to NOAA Gold Medal (2015)
NOAA AOML Outstanding Research Paper Award (2011)
National Research Council Postdoctoral Research Associate Fellowship Award (2008-2010)
Graduate Assistant Scholarship, University of Miami/RSMAS (2003-2007)
University of Miami Fellowship Award (2002-2005)
Baogang Fellowship Award, Shanghai, China (1999-2000)
First Prize Scholarship of Dalian University of Technology (1996-1999)

FUNDED AND PENDING RESEARCH PROJECTS

13. Zawislak, J. A., E., J. Ziper, **J. A. Zhang**, H. Christophersen, and R. F. Rogers, Why do tropical cyclones evolve toward symmetry before intensification? An observational and modeling study. 02/15/2017-02/14-2020, $66,852 (pending).
12. Guimond, S., S. J. Frasier, **J. A. Zhang**, and J. Sapp, Collaborative Research: Understanding Hurricane Dynamics Using Improved IWRAP Radar and Reflectivity Fields. 03/01/2017-02/18/2020, $103,419 (pending).
11. Nolan, D.S., and J.A. Zhang, Investigating the Spectrum of Gravity Waves Radiating from Tropical Cyclones with Observations, Simulations, and Theoretical Modeling (NSF), 02/01/2017-01/31/2020, $678,970 (pending).
10. Zhu, P., and **J. A. Zhang**, Improving HWRF's Ability to Predict Rapid Change in Tropical Cyclone Intensity Governed by Internal Physical Processes (NOAA), 09/01/2016-08/31/2018, $399,160.
9. Zhang, X., A. Aksoy, and **J. A. Zhang**, Services to support the hurricane forecast improvement project. National Oceanic and Atmospheric Administration (NOAA), 10/01/2014-09/30/2015, $1027,950.
8. Dunion, J., A. Aksoy, **J. A. Zhang**, B. Klotz, L. Buchi, and K. Sellwood: Using NOAA unmanned aircraft systems assets to investigate tropical cyclone track, intensity change and cirrus canopy structure. National Oceanic and Atmospheric Administration (NOAA), 06/01/2014-06/31/2017, $637,804.
7. Cione, J., **J. A. Zhang**, E. Uhlhorn, J.-W. Bao, and F. Marks: The impact of emerging observing technologies on future predictions of hurricane structure and intensity change. National Oceanic and Atmospheric Administration (NOAA), 10/01/2014-09/31/2015, $1272,191.
6. Foster, R. and **J. Zhang**, Calculating tropical cyclone inflow and boundary layer processes from ocean vector wind remote sensors. National Aeronautics and Space Administration (NASA), 09/01/2014-08/31/2018, $655,567.
5. Zhu, P., and **J. A. Zhang**, Understanding the impact of sub-grid scale physics in HWRF on the predicted structure and intensity of tropical cyclones. National Oceanic and Atmospheric Administration (NOAA), 08/01/2014-07/31/2016, $333,089.73.
4. **Zhang, J. A.**, D. Nolan, and H. Chen, Addressing deficiencies in forecasting rapid intensifying tropical cyclones in HWRF. National Oceanic and Atmospheric Administration (NOAA), 08/01/2014-07/31/2016, $389,332.
3. Aksoy, A., **J. A. Zhang** and B. Klotz, Investigation of HWRF model error associated with surface-layer and boundary-layer parameterizations to improve vortex-scale, ensemble-based data assimilation using HEDAS, National Oceanic and Atmospheric Administration (NOAA), 02/01/2012-01/31/2014, $233,436.
2. **Zhang, J. A.**, D. Nolan, and S. Lorsolo, Advanced diagnostics of the inner core structure using aircraft observations. National Oceanic and Atmospheric Administration (NOAA), 02/01/2012-01/31/2014, $202,592.
1. Kaplan, J., J. Cione, M. DeMaria, J. Dunion, and **J. A. Zhang**, Enhancements to the SHIPS rapid intensification index. National Oceanic and Atmospheric Administration (NOAA), 07/01/2010-06/30/2012, $92,400.

PUBLICATIONS

Peer-reviewed Journal Papers:

62. **Zhang, J. A.**, J. J. Cione, E. A. Kalina, E. W. Uhlhorn, T. Hock and J. A. Smith, 2017: Novel measurement of sea surface temperature and air-sea interaction in tropical cyclones from GPS dropsondes. *J. Atmos. Ocea. Tech.*, conditionally accepted.
61. Rogers, R. F., P. D. Reasor, and J. A. Zhang, 2017: Reply to comments on "Multiscale structure and evolution of Hurricane Earl (2010) during rapid intensification", *Mon. Wea. Rev.*, in press.
60. **Zhang, J. A**., R. F. Rogers, and V. Tallapragada, 2017: Impact of boundary layer parameterization on tropical cyclone rapid intensification: lessons learned from retrospective HWRF forecasts during physics upgrade, *Mon. Wea. Rev*. conditionally accepted.
59. Bryan, G. H., R. P. Worsnop, J. K. Lundquist, and **J. A. Zhang**, 2016: A simple method for simulating tropical-cyclone boundary layers. *Bound. Layer Meteor*. in press.
58. Aberson, S. D., **J. A. Zhang**, and K. Nuñez Ocasio, 2016: An extreme event in the eyewall of Hurricane Felix on 02 September 2007. *Mon. Wea. Rev*., conditionally accepted.
57. Zhang, G., W. Perrie, X. Li, and **J. A. Zhang**, 2016: A hurricane morphology and surface wind vector estimation model for C-Band crosspolarization SAR. *IEEE Trans. Geosci. Remote Sensing*, conditionally accepted.
56. Worsnop, O. P., G. H. Bryan, J. K. Lundquist, and **J. A. Zhang**, 2016: Spectral and coherence characteristics of a LES modeled hurricane boundary layer for wind turbine applications. *Bound. Layer Meteor.*, conditionally accepted.
55. Smith, R. K., **J. A. Zhang**, and M. T. Montgomery, 2016: The dynamics of intensification in an HWRF simulation of Hurricane Earl (2010). *Quart. Journ. Roy. Met. Soc*., in press.
54. Jin, S., S. Wang, X. Li, L. Jiao, and **J. A. Zhang**, 2016: Center location of tropical cyclones without eyes in SAR images based on salient region detection and pattern matching, *IEEE Trans. Geosci. Remote Sensing*, in press.
53. Mai, M., B. Zhang, X. Li, P.A. Hwang, and **J.A. Zhang**， 2016： Application of AMSR-E and AMSR2 low frequency channel brightness temperature data for hurricane wind retrievals. *IEEE Transactions on Geoscience and Remote Sensing*, 54:4501-4512.
52. Zhang, R., J. Huang, X. Wang, **J.A. Zhang**, and F. Huang. Effects of precipitation on sonic anemometer measurements of turbulent fluxes in the atmospheric surface layer. *Journal of Ocean University of China*, **15**(3):389-398.

51. Rogers, R. F., **J. A. Zhang**, J. Zawislak, H. Jiang, G. R. Alvey III, E. J. Zipser, and S. Stevenson, 2016: Observations of the structure and evolution of Hurricane Edouard (2014) during intensity change. Part II: Kinematic structure and the distribution of deep convection. Mon. Wea. Rev., **144**, 3355-3376.
50. Zawislak, J. H., H. Jiang, G. R. Alvey III, E. J. Zipser, R. F. Rogers, **J. A. Zhang**, and S. Stevenson, 2016: Observations of the structure and evolution of Hurricane Edouard (2014) during intensity change. Part I: Relationship between the thermodynamic structure and precipitation. *Mon. Wea. Rev.*, **144**:3333-3354.
49. Ming, J., and **J.A. Zhang**, 2016: Effects of surface flux parameterization on numerically simulated intensity and structure of Typhoon Morakot (2009). Advances in Atmospheric Sciences, **33**, 58-72.
48. Zhu, P., Z. Zhu, S. Gopalakrishnan, R. Black, F.D. Marks, V. Tallapragada, **J.A. Zhang**, X. Zhang, and C. Gao, 2015: Impact of sub-grid scale processes on eyewall replacement cycle of tropical cyclones in HWRF system. Geop. Res. Lett., ***42***, 10027-10036.
47. Tang, J., D. Byrne, **J.A. Zhang**, Y. Wang, X. Lei, D. Wu, P. Fang, and B. Zhao, 2015: Horizontal transition of turbulent cascade in the near-surface layer of tropical cyclones. *Journal of the Atmospheric Sciences*, **72**, 4915-4925.
46. Kaplan, J., C.M. Rozoff, M. DeMaria, C.R. Sampson, J.P. Kossin, C.S. Velden, J.J. Cione, J.P. Dunion, J.A. Knaff, **J. A. Zhang**, J.F. Dostalek, J.D. Hawkins, T.F. Lee, and J.E. Solbrig, 2015: Evaluating environmental impacts on tropical cyclone rapid intensification predictability utilizing statistical models. *Weather and Forecasting*, **30**, 1374-1396.
45. Li, X., X. Yang, W. Zheng, **J. A. Zhang**, L.J. Pietrafesa, and W.G. Pichel, 2015: Synergistic use of satellite observations and numerical weather model to study atmospheric occluded fronts. *IEEE Transactions on Geoscience and Remote Sensing*, **53**, 5269-5279.
44. **Zhang, J. A.,** D. S. Nolan, R. F. Rogers, and V. Tallapragada, 2015: Evaluating the impact of improvements in the boundary layer parameterizations on hurricane intensity and structure forecasts in HWRF. *Mon. Wea. Rev.*, **143**, 3136-3155.
43. **Zhang, J. A.,** and F. D. Marks, 2015: Sensitivity of tropical cyclone intensity and structure to horizontal diffusion in idealized three-dimensional numerical simulations. *Mon. Wea. Rev.*, **143**, 3981-3995.
42. Ming, J., **J. A. Zhang**, and R. F. Rogers, 2015: Typhoon kinematic and thermodynamic boundary layer structure from dropsonde composites. *J. Geophys. Res. – Atmos.*, **120(8):**3158-3172.
41. Wang, J, K. Young, T. Hock, D. Lauritsen, D. Behringer, M.Black, P. G. Black, J.Franklin, J. Halverson, J. Molinari, L.Nguyen, T. Reale, J.Smith, B. Sun, Q. Wang, **J. A. Zhang**, 2015: A Long-Term, High-quality, High Vertical Resolution GPS Dropsonde Dataset for Hurricane and Other Studies. *Bull. Amer. Meteor. Soc.*, **96**, 961-973.
40. Rogers, R., P. Reasor and **J. A. Zhang**, 2015: Multiscale structure and evolution of Hurricane Earl (2010) during rapid intensification. *Mon. Wea. Rev.*, **143**, 536-562.

39. Montgomery, M. T., **J. A. Zhang**, and R. K. Smith, 2014: An analysis of the observed low-level structure of rapidly intensifying and mature Hurricane Earl (2010). *Quart. J. Roy. Meteor. Soc.*, **140**:2132-2146.

38. Nolan, D.S., **J. A. Zhang**, and E.W. Uhlhorn, 2014: On the limits of estimating the maximum wind speeds in hurricanes. *Mon. Wea. Rev.*, **142,** 2814-2837.

37. **Zhang, J. A.**, M. T. Montgomery, F. D. Marks, Jr., and R. K. Smith, 2014: Comments on "Symmetric and Asymmetric Structures of Hurricane Boundary Layer in Coupled Atmosphere–Wave–Ocean Models and Observations". *J. Atmos. Sci.*, **71**, 2782–2785.

36. Zhang, B., W. Perrie, **J. A. Zhang**, E. W. Uhlhorn, and Y. He, 2014: High resolution hurricane vector winds from wide swath SAR observations. *J. Atmos. Ocean. Tech.*, **31**, 272-268.

35. Ming, J., **J. A. Zhang**, R. F. Rogers, F. D. Marks, Y. Wang, and N. Cai, 2014: Multiplatform observations of boundary layer structure in the outer rainbands of landfalling typhoons. *J. Geophys. Res. – Atmos.*, 119(13):7799-7814.

34. Spund, J., **J. A. Zhang**, M. Pinsky, and A. Khain, 2014: Microphysical Structure of the Marine Atmospheric Mixed Layer under Strong Wind and Sea-Spray Formation as seen from a 2-D Explicit Microphysical Model. Part III: Height Dependent Sea-Spray Droplet Size Distribution Parameterization. *J. Atmos. Sci.*, **71**, 1914-1934.

33. Li, X., W. Zheng, X. Yang, **J. A. Zhang**, W. G. Pichel, and Z. Li, 2013: Coexistence of atmospheric gravity waves and boundary layer rolls observed by SAR. *J. Atmos. Sci.*, **70**, 3448-3459.

32. **Zhang, J. A.,** R. F. Rogers, P. Reasor, E. Uhlhorn, F. D. Marks, 2013: Asymmetric hurricane boundary layer structure from dropsonde composites in relation to the environmental vertical wind shear. *Mon. Wea. Rev.*, **141**, 3968-3984.

31. Byrne, D., and **J. A. Zhang**, 2013: Three- to two-dimensional turbulence transition in the hurricane boundary layer. *Geophys. Res. Lett.*, **40**, 1– 4, doi:10.1002/grl.50335.

30. Cione, J. J., E. A. Kalina, and **J. A. Zhang**, 2013: Observations of air-sea interaction and intensity change in hurricanes. *Mon. Wea. Rev.*, **141**, 2368-2382.

29. Rogers, R., S. Aberson, A. Aksoy, B. Annane, M. Black, J. Cione, N. Dorst, J. Dunion, J. Gamache, S. Goldenberg, S. Gopalakrishnan, J. Kaplan, B. Klotz, S. Lorsolo, F. Marks, S. Murillo, M. Powell, P. Reasor, K. Sellwood, E. Uhlhorn, T. Vukicevic, **J. A. Zhang**, and X. Zhang, 2013: NOAA's Hurricane Intensity Forecasting Experiment (IFEX): A Progress Report. *Bull. Amer. Meteor. Soc.*, **94**, 859-882.

28. Gopalakrishnan, S. G., F. Marks, Jr, **J. A. Zhang**, X. Zhang, J. A., Bao, and V. Tallapragada, 2013: A study of the impacts of vertical diffusion on the structure and intensity of the tropical cyclones using the high resolution HWRF system. *J. Atmos. Sci.*, **70**, 524–541.

27. Li, X., **J. A. Zhang**, X. Yang, W. G. Pichel, M. DeMaria, D. Long, and Z. Li, 2013: Tropical cyclone morphology from spaceborne synthetic aperture radar. *Bull. Amer. Meteor. Soc.*, **94**, 215–230.

26. **Zhang, J. A.**, S. G. Gopalakrishnan, F. D. Marks, R. F. Rogers, and V. Tallapragada, 2012: A Developmental Framework for Improving Hurricane Model Physical Parameterizations Using Aircraft Observations. *Trop. Cycl. Res. Rev*, 1 (**4**): 419, doi: 10.6057/2012TCRR04.01.

25. **Zhang, J. A.,** and W. M. Drennan, 2012: An observational study of vertical eddy diffusivity in the hurricane boundary layer. *J. Atmos. Sci.*, **69**, 3223 - 3236.

24. **Zhang, J. A.,** and E. W. Uhlhorn, 2012: Hurricane sea-surface inflow angle and an observation-based parametric model. *Mon. Wea. Rev.*, **140**, 3587 - 3605.

23. **Zhang, J. A.,** and M. T. Montgomery, 2012: Observational estimates of the horizontal eddy diffusivity and mixing length in the low-level region of intense hurricanes. *J. Atmos. Sci.*, **69**, 1306-1316.

22. Spund, J., **J. A. Zhang**, M. Pinsky, and A. Khain, 2012: Microphysical structure of the marine atmospheric mixed layer under strong wind and sea spray formation as seen from a 2-D Explicit Microphysical Model. Part II: the effect of sea spray. *J. Atmos. Sci.*, **69**, 3501-3514.

21. **Zhang, J. A.,** P. Zhu, F. J. Masters, R. F. Rogers, and F. D. Marks, 2011: On momentum transport and dissipative heating during hurricane landfalls. *J. Atmos. Sci.*, **68**, 1397-1404.

20. **Zhang, J. A.,** R. F. Rogers, D. S. Nolan, and F. D. Marks, 2011: On the characteristic height scales of the hurricane boundary layer. *Mon. Wea. Rev.*, 2523-2535.

19. **Zhang, J. A.,** F. D. Marks, M. T. Montgomery, and S. Lorsolo, 2011: An Estimation of Turbulent Characteristics in the Low-Level Region of Intense Hurricanes Allen (1980) and Hugo (1989). *Mon. Wea. Rev., 139,* 1447-1462.

18. Zhu, P, **J. A. Zhang,** F. J. Masters, 2010: Wavelet analysis of turbulence under hurricane landfalls. *J. Atmos. Sci.*, **67**, 3793-3805.

17. Haus, B., D. Jeong, M. A. Donelan, **J. A. Zhang,** and I. Savelyev, 2010: The relative rates of air-sea heat transfer and frictional drag in very high winds. *Geophys. Res. Lett. ,* **37**, doi:10.1029/2009GL042206.

16. Lorsolo, S.**, J. A. Zhang**, F. D. Marks, and J. Gamache, 2010: Estimation and mapping of hurricane turbulent energy using airborne Doppler measurements. *Mon. Wea. Rev.*, **138**, 3656-3670.

15. **Zhang, J. A.,** 2010: Estimation of dissipative heating using low-level in-situ aircraft observations in the hurricane boundary layer. *J. Atmos. Sci.*, **67**, 1853-1862.

14. **Zhang, J. A.,** 2010: Spectra characteristics of turbulence in the hurricane boundary layer. *Quart. J. Roy. Meteor. Soc.*, DOI:10.1002/qj.610.

13. Nolan, S. D., **J. A. Zhang** and D. P. Stern, 2009: Validation and comparisons of planetary boundary layer parameterizations in Tropical Cyclones by Comparison of in-situ observations and high-resolution simulations of hurricane Isabel (2003). Part I: Initialization, track and intensity, and the outer core boundary layer. *Mon. Wea. Rev.*, **137**, 3651–3674.

12. Nolan, S. D., D. P. Stern**,** and **J. A. Zhang**, 2009: Validation and comparisons of planetary boundary layer parameterizations in Tropical Cyclones by Comparison of in-situ observations and high-resolution simulations of hurricane Isabel (2003). Part II: Inner core boundary layer and eyewall structure. *Mon. Wea. Rev.*, **137**, 3675–3698.

11. **Zhang, J. A.,** W. M. Drennan, P. G. Black, and J. R. French, 2009: Turbulence structure of the hurricane boundary layer between the outer rain bands. *J. Atmos. Sci.*, **66,** 2455-2467.

10. **Zhang, J. A.,** P. G. Black, J. R. French, and W. M. Drennan, 2008: First direct measurements of enthalpy flux in the hurricane boundary layer: The CBLAST results. *Geophys. Res. Lett.* , 35(11):L14813, doi:10.1029/2008GL034374.

9. **Zhang, J. A.,** K. B. Katsaros, P. G. Black, S. Lehner, J. R. French, and W. M. Drennan, 2008: Effects of roll vortices on turbulent fluxes in the hurricane boundary layer. *Boundary-Layer Meteoro.*, 128(2), 173-189.

8. Black, P. G., E. A. D'Asaro, W. M. Drennan, J. R. French, P. P. Niiler, T. B. Sanford, E. J. Terrill, E. J. Walsh, and **J. A. Zhang**, 2007: Air-Sea Exchange in Hurricanes: Synthesis of Observations from the Coupled Boundary Layer Air-Sea Transfer Experiment, *Bull. Amer. Meteor. Soc.*, **88**, 357-374.

7. Drennan, W. M., **J. A. Zhang, J. A.,** R. French, and P. G. Black, 2007: Turbulent Fluxes in the Hurricane Boundary Layer, II. Latent Heat Flux, *J. Atmos. Sci.*, **64**, 1103-1115.

6. French, J. R., W. M. Drennan, **J. A. Zhang**, and P. G. Black, 2007: Turbulent Fluxes in the Hurricane Boundary Layer, I. Momentum Flux, *J. Atmos. Sci.*, **64**, 1089-1102.

5. Wang, J., Y. Liu, Z. Ji, Y. Deng, P. Guo, S. Jin, and **J. Zhang**, 2006: A Comprehensive Line-Heating Process for Automatic Formation of Double-Curved plates. *Selected Papers of Chin. Soc. Naval Architect. Marine Engin., Shipbuild. China*, 17, 180－189.

4. Wang, J., Y. Liu, Z. Ji, Y. Deng, and **J. Zhang**, 2006: Efficient Algorithms for Inspection and Reforming of Double-curved Plate in Line Heating process. *J. Ship Prod.*, **22**, 184-193(10).

3. Wang, J., Y. Liu, Z. Ji, Y. Deng, and **J. Zhang**, 2006: Study on Forced Convection Boundary Condition for Subcooled Water in the Simulation of Line-Heating Process. *J. Ship Prod.*, **22**, 41-47.

2. Wang, J., Y. Liu, Z. Ji, Y. Deng, and **J. Zhang**, 2006: Forced convection boundary condition for subcooled water in the simulation of line heating process. *J. Harbin Engin. Univ.*, **27(2)**, 166-171.

1. Liu Y., T. Chen, **J. Zhang**, and Y. Deng, 2004: Mathematical Models for Dead Load Forming of Hull Saddle Shaped Steel Plates. *Shipbuild. China*, **45**, 73-80.

Thesis and Dissertation:

Zhang, J. A., 2004: Humidity Flux Measurements in Hurricane Conditions, *Master Thesis*, University of Miami. Adviser: Prof. William Drennan

Zhang, J. A., 2007: An Airborne Investigation of the Atmospheric Boundary Layer Structure in the Hurricane Force Wind Regime, *Doctoral Dissertation*, University of Miami. Adviser: Prof. William Drennan

Conference Presentations and Posters:

107. **Zhang, J. A.,** F. D. Marks, J. A. Sippel, X. Zhang, S. Gopalakrishnan, R. F. Rogers, Z. Zhang, and V. Tallapragada, 2017: Improving Physical Parameterizations of the Operational Hurricane Weather and Research Forecast (HWRF) Model Using Aircraft Observations, January, 97th AMS Annual meeting, Seattle, WA.
106. Bucci, L., D. Emmitt, C. O'Handley, **J. A. Zhang**, K. Ryan, and R. Atlas, 2017: Impacts of an Airborne Doppler Wind Lidar on Tropical Cyclone Analyses and Forecasts, January, 97th AMS Annual meeting, Seattle, WA.
105. **Zhang, J. A.,** L. Bucci, K. Ryan, D. Emmitt, C. O'Handley, R. Atlas, and F. D. Marks, 2016: The Boundary Layer of Tropical Storm Erika (2015) Observed by Airborne Doppler Wind Lidar. Proceedings, December, 2016 AGU Fall meeting, San Francisco, CA.
104. Chen, H., S. Gopalakrishnan, and J. A. Zhang, 2016: The role of shallow convection and deep convection in the intensity changes of Hurricanes. Proceedings, December, 2016 AGU Fall meeting, San Francisco, CA.
103. Atlas, R., G.D. Emmitt, L. Bucci, K. Ryan, and **J.A. Zhang**, 2016: Impact of Doppler wind lidar data on hurricane prediction. Proceedings, , June 27-July 1, 18th Coherent Laser Radar Conference, Boulder, CO.
102. **Zhang, J. A.**, J. J. Cione, T. Hock, and J. Smith, 2016: Novel observations of sea surface temperature in hurricanes from GPS dropsonde. May, NOAA AVAPS users group meeting, Boulder, CO.
101. **Zhang, J. A.**, R. F. Rogers, T. Tallapragada, and W. Wang, 2016: Effects of boundary layer vertical diffusion on forecasts of tropical cyclone rapid intensification. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
100. Ming, J., J. A. Zhang, and R. F. Rogers, 2016: Typhon kinematic and thermodynamic boundary layer structure from dropsonde composites. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
99. Chen, H., J. A. Zhang, S. Gopalakrishnan, and Z. Zhan, 2016: Sensitivity of hurricane intensity and structure to planetary boundary layer height in HWRF ensemble forecasts. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.

98. Nolan, D. S., and **J. A. Zhang**, 2016: Simulated and observed gravity waves radiating from tropical cyclone and prospects for remote monitoring. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
97. Zhu, P., Z. Zhu, S. Gopalakrishnan, R. A. Black, F. Marks, T. Tallapragada, **J. A. Zhang**, and X. Zhang, Impact of Sub-grid Scale processes on eyewall replacement cyclone of tropical cyclones in HWRF system. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
96. Montgomery, M. T., R. K. Smith, and **J. A. Zhang**, 2016: The dynamics of intensification in an HWRF simulation of Hurricane Earl (2010). May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
95. Bucci, L., G. D. Emmitt, **J. A. Zhang**, H. Christophersen, K. Ryan, C. O'Handley, A. Aksoy, B. Dahl, and R. Atlas, 2016: Impacts of an airborne Doppler Wind Lidar on tropical cyclone analysis and Forecasts. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
94. Rogers, R. F, **J. A. Zhang**, J. Zawislak, G.R. Alvery III, E. J. Zipser, and H. Jiang, Observations of the structure and evolution of Hurricane Edouard (2014) during intensity change: Kinematic structure and the distribution of the deep convection. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
93. Zawislas, J., G. R. Alvery III, R. F. Rogers, J. A. Zhang, E. J. Zipser, and H. Jiang, 2016: Observations of the structure and evolution of Hurricane Edouard (2014) during intensity change: Relationship between the thermodynamic structure and precipitation. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
92. Foster, R. C., **J. A. Zhang**, and P. G. Black, 2016: Estimates of tropical cyclone surface wind inflow from satellite scatterometers. May, 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, PR.
91. **Zhang, J. A.**, D. Nolan, H. Chen, and R. Rogers, 2016: Update on HFIP-funded project on evaluating HWRF forecasts of tropical cyclone rapid intensification. March, NOAA Hurricane Forecast and Improvement Project meeting, College Park, MA.
90. Chen, H., S. Gopalakrishnan, R. Rogers, **J. A. Zhang**, and G. Alaka, 2016: A study of the influence of shear on the rapid intensification of tropical cyclones using HWRF system, Part II: Why Isaac (2012) didn't intensify rapidly? February, NOAA Hurricane Forecast and Improvement Project meeting, College Park, MA.
89. Bryan, G. H., R. Worsnop, J. K. Lundquist, and J. A. Zhang, 2015: A simple method for simulating tropical-cylcone boundary layers. December, AGU annual meeting, San Francisco, CA.
88. **Zhang, J. A.**, 2015: A developmental framework for improving hurricane model physics. November, Invited talk, Shanghai Typhoon Institute, Shanghai, China.
87. **Zhang, J. A.**, 2015: Improving hurricane model physics using aircraft observations. Invited talk, National Hurricane Center, Miami, FL.
86. Chen, H., S. Gopalakrishnan, **J. A. Zhang**, and R. Rogers, 2015: A study of the influence of shear on the rapid intensification of tropical cyclones using HWRF system. August, Boston, MA.

85. Rogers, R. **J. A. Zhang**, and J. Zawiskak, 2105: The distribution of deep convection in tropical cyclones and its role in intensification. October, NOAA Hurricane Forecast and Improvement Project conference meeting.
84. Zawislak, J. and **J. A. Zhang**, 2015: The thermodynamic and kinematic lifecycle of Hurricane Edouard as seen by dropsonde observations. May, NASA HS3 science team meeting, NASA Research Park, Moffett Field, CA.
83. Rogers, R., **J. A. Zhang**, J. Zawislak, E. Uhlhorn, 2015: Multiscale kinematic structure and evolution of Hurricane Edouard from 14-16 September using Global Hawk dropsonde and P-3 airborne Doppler radar. May, NASA HS3 science team meeting, NASA Research Park, Moffett Field, CA.
82. Shpund, J., A. Khain and **J. A. Zhang**, 2014: Ascent of sea spray in the hurricane boundary layer in the presence of strong rain. July, proceedings at the 14th conference on cloud physics, Boston, MA.
81. Rogers, R. F., P. D. Reasor, **J. A. Zhang**, and S. Guimond, 2014: Aircraft observations of the multiscale structure and evolution of rapidly intensifying tropical cyclones. 30 April, HS3 Science and Development Preparation Meeting, Moffett Field, CA.
80. Byrne, D., and **J. A. Zhang**, 2014: Observed 3D to 2D energy cascade in hurricanes. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
79. Rogers, R. F., P. D. Reasor, and **J. A. Zhang**, 2014: Multiple Structure and Evolution of Earl (2010) during Rapid Intensification. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
78. Li, X., Z. Zhao, B. Liu, **J. A. Zhang**, X. Yang, W. Pichel, and M. DeMaria, 2014: Analysis of hurricane morphology, internal waves and boundary layer rolls observed from satellite SAR images. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
77. Aksoy, A. B. W. Klotz, **J. A. Zhang**, E. Uhlhorn, and J. J. Cione, 2014: Model sensitivity to perturbations of Environment, structure, and model parameters in idealized ocean-coupled tropical cyclone simulations. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
76. Nolan, S. D., **J. A. Zhang**, and E. W. Uhlhorn, 2014: On the limits of measuring the maximum wind speeds in hurricanes. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
75. **Zhang, J. A.,** R. Rogers, P. Reasor, E. Uhlhorn, and F. Marks, 2014: Dropsonde composites of asymmetric hurricane boundary layer structure in relation to environmental vertical wind shear. Proceedings at the 31th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
74. **Zhang, J. A.,** 2013: Turbulent flux observations in the hurricane boundary layer and applications to hurricane models. Invited talk at the Institute of Tropical and Marine Meteorology, 30, October, Guangzhou, China.
73. **Zhang, J. A.,** 2013: A parametric model of hurricane sea-surface inflow angle based on aircraft observations. Invited talk at State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanography, 31, October, Guangzhou, China.

72. **Zhang, J. A.,** 2013: A developmental framework for improving hurricane model physics using aircraft observations. Invited talk at Nanjing University, 1, November, Nanjing, China.
71. **Zhang, J. A.,** 2013: Improving hurricane model physics using aircraft observations. Invited talk at Shanghai Typhoon Institute, 1, November, Shanghai, China.
70. **Zhang, J. A.,** 2013: Diagnostics and comparisons of hurricane intensity and structure using idealized HWRF simulations with GFS and MYJ PBL schemes. Invited talk at Environmental Modeling Center HWRF modeling Meeting. 24 October, College Park, Maryland.
69. **Zhang, J. A.,** 2013: A developmental framework for improving hurricane model physics using aircraft observations. Invited talk at Florida International University, 11, October, Miami, FL.
68. Byrne, D., and **J. A. Zhang**, 2013: Three- to two-dimensional turbulence transition in the hurricane boundary layer. EGU General Assembly, April, Vienna, Austria.
67. Kwon, Y., K., V. Tallapragada, W. Wang and **J. A. Zhang**, 2013: Proposed 2013 PBL upgrade to the operational HWRF. EMC's HWRF internal meeting.
66. Kwon, Y., K. Chanh, W. Wang, S. Trahan, Q. Liu, Z. Zhang, V. Tallapragada, and **J. A. Zhang**, 2013: Potential Upgrades for the Radiation and Boundary Layer Physics in the Operational WRF Model. Preprints at the 67th Interdepartmental Hurricane Conference Tropical Cyclone Research Forum, 5 March, College Park, Maryland.
65. **Zhang, J. A.,** 2012: Investigation of hurricane wind and structure by SAR. SSR Science Team meeting, 25 October, College Park, Maryland.
64. Li, X., **J. A. Zhang**, X. Yang, W. G. Pichel, M. DeMaria, D. Long, and Z. Li, 2012: Ocean surface response to hurricanes observed by SAR. Geosicen and Remote Sensing Symposium (IGARSS), IEEE International, July, Munich, Germany.
63. **Zhang, J. A., 2012**: Evaluation and Improvement of HWRF PBL physcis using aircraft observations. Invited talk at HFIP Regional Modeling Physics Workshop, 18, September, Colleadge Park, Maryland.
62. **Zhang, J. A.,** 2012: Improving the HWRF model physics using observations and model diagnostics. Invited talk at the NOAA Hurricane Forecast Improment Project monthly Teleconference, 25 April, Miami, FL.
61. **Zhang, J. A.,** 2012: Update on observed eddy diffusivity for improving HWRF model physics. Invited talk at the HWRF internal meeting at EMC, 22 May.
60. Bao, J.-W., S. A. Michelson, S. G. Gopalakrishnan, F. Marks, **J. A. Zhang**, and V. Tallapragada, 2012: Comparison and evaluation of two ABL mixing schemes in HWRF. Proceeding at the 66th Interdepartmental Hurricane Conference, 5 March, Atlanta, GA.
59. Mongomery, M. T., N. T. Sanger, **J. A. Zhang**, R. K. Smith, and M. M. Bell, 2012: An observational study of the dynamical spin-up probess of Typhoon Jangmi (2008) and Hurricane Earl (2010). 31 May, NASA GRIP science meeting, Wallops Island, VA.
58. Uhlhorn, E. W., and **J. A. Zhang**, 2012: Friction Residual of the Near-Surface Momentum Budget at the Eyewall: Role of the Radial Momentum Transport. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.

57. Zhang, J. A., R. F. Rogers, P. D. Reasor, J. J. Cione, and E. W. Uhlhorn, 2012: On the low-level inner-core structure in relation to the environmental vertical wind shear. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
56. Zhang, J. A., and E. Uhlhorn, 2012: Hurricane sea-surface inflow angle and an observation-based parametric model of the two-dimensional wind field. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
55. Klotz, B. W., E. W. Uhlhorn, **J. A. Zhang**, and M. Fischer, 2012: Examining Surface Momentum Balance and Boundary Layer Conditions in Extreme Tropical Cyclones. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
54. **Zhang, J. A.**, M. T. Montgomery, F. D. Marks Jr., and S. Lorsolo, 2012: Observational estimates of turbulence characteristics in the low-level troposphere of intense hurricanes. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
53. Uhlhorn, E., M. Fischer, B. W. Klotz, and **J. A. Zhang**, 2012: Dynamical Boundary-Layer Depths in Hurricanes Derived from Surface Wind Observations. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
52. Rogers, R., P. Reasor, S. Lorsolo, and **J. A. Zhang**, 2012:Observations of the Inner-Core Structure of Rapidly Intensifying Tropical Cyclones. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
51. Gruskin, Z., G. J. Tripoli, W. E. Lewis, **J. A. Zhang**, and F. D. Marks Jr., 2012: Helical convective vortices in the hurricane boundary layer simulated with the University of Wisconsin Nonhydrostatic Modeling System (UW-NMS). Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
50. Furst, J., P. Zhu and **J. A. Zhang**, 2012: Characterizing momentum transport, dissipative heating, and turbulence structure in the surface layer of landfalling hurricanes using high resolution tower observations. Proceedings at the 30th Conference on Hurricanes and Tropical Meteorology, Pone Vedra Beach, FL.
49. **Zhang, J. A.,** 2012: Improving boundary layer physics in hurricane models based on observations. Invited talk at AIR Worldwide, March, Boston, MA.
48. **Zhang, J. A.,** 2011: On hurricane boundary layer parameterizations: Lessons learned from observations. Invited talk at the NOAA Hurricane Forecast Improment Project Physics Workshop, 9 August, 2011, Clinton, MD.
47. **Zhang, J. A.,** 2011: Probling the hurricane boundary layer using NOAA's research aricraft. Invited talk at NCAR, June 2, 2011, Boulder, CO.
46. Rogers, R., P. Reasor, S. Lorsolo, and **J. A. Zhang**, 2011: Vortex- and convective-scale evolution during the rapid intensification of Hurricane Earl (2010). NASA GRIP science meeting, 7 June, 2011, Los Angeles, CA.
45. **Zhang, J. A.,** 2011: Flight-level data from the NOAA WP-3D aircraft: An overview of the instrumentaion and erros. Invited talk at the NOAA Hurricane Forecast Improment Project Physics Workshop, 11 May, 2011, Miami, FL.

44. **Zhang, J. A.**, R. Rogers, D. S. Nolan, and F. D. Marks, 2011: On the characteristics of the hurricane boudnary layer, for model evaluation purpose. Proceedings at the 65th Interdepartmental Hurricane Conference, February 23-March 3, 2011, Miami, FL.
43. Rogers, R., P. Reasor, S. Lorsolo, and **J. A. Zhang**, 2011: Tropical cylone inner-core diagnositics. Proceedings at the 65th Interdepartmental Hurricane Conference, February 23-March 3, 2011, Miami, FL.
42. Kaplan, J., J. J. Cione, M. DeMaria, J. Knaff, J. Dunion, J. F. Dostalek, J. E. Solbrig, J. Hawkins, T. F. Lee, E. Kalina, **J. A. Zhang, J. A.,** Dostalek, and P. Leighton, 2011: Enhancements to the SHIPS rapid intensification index. Proceedings at the 65th Interdepartmental Hurricane Conference, February 23-March 3, 2011, Miami, FL.
41. **Zhang, J. A.,** F. D. Marks, M. T. Montgomery, and S. Lorsolo, 2010: Estimation of turbulent characteristics in the low-level eyewall and outer-core regions in intense Hurricanes Allen (1980) and Hugo (1989). Proceedings at the AGU Fall meeting, San Francisco, CA.
40. Aksoy, A., T. Vukicevic, K. J. Sellwood, S. Lorsolo, S. G. Gopalakrishnan, **J. A. Zhang**, S. Aberson, and F.Zhang, 2010: Vortex-scale hurricane data assimilation: OSSE results with airborne Doppler radar and dropsondes using NOAA/AOML/HRD's HWRF Ensemble Data Assimilation System (HEDAS) The 4th Ensemble Kalman Filter Workshop, April 2010, Albany, New York.
39. Kaplan, J., J. J. Cione, M. DeMaria, J. Knaff, J. Dunion, J. F. Dostalek, J. E. Solbrig, J. Hawkins, T. F. Lee, **J. A. Zhang**, E. Kalina, and P. Leighton, 2010: Enhancements of the operational SHIPS rapid intensification index. Proceedings at 64th Interdepartmental Hurricane Conference, March, Savannah, Georgia.
38. **Zhang, J. A.,** J. Stamates, S. Cummings, S. Kimball, and F. Marks, 2010: Shallow water wave measurements in the hurricane environment. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
37. **Zhang, J. A.,** A. Aksoy, S. Lorsolo, R. Rogers, E. Uhlhorn, J. J. Cione, J. Dunion, J. Kaplan, K. Yeh, X. Zhang, S. G. Gopalakrishnan, T. Quirino, J. Cangialosi, and F. Marks, 2010: An observatinal and numerical study of the boundary layer processes during the intensification of Hurricane Bill (2009). Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tuscon, AZ.
36. Kaplan, J., **J. A. Zhang**, S. Aberson, M. L. Black, E. Uhlhorn, J. Dunion, A. Aksoy, and R. Rogers, 2010: A multi-scale analysis of the rapid intensification of Hurricane Paloma (2008). Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
35. Kaplan, J., J. J. Cione, M. DeMaria, J. Knaff, J. Dunion, J. F. Dostalek, J. E. Solbrig, J. Hawkins, T. F. Lee, **J. A. Zhang**, E. Kalina, and P. Leighton, 2010: Enhancements to the operational SHIPS rapid intensification index. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
34. Lorsolo, S., J. F. Gamache, F. Marks, P. Dodge, **J. A. Zhang**, 2010: Retrieval of hurricane turbulence parameters using airborne Doppler radar measurements. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.

33. Cione, J. J., **J. A. Zhang** and E. W. Uhlhorn, 2010: Near-surface temperature and moisture observations from tropical cyclones between 1975 and 2007: Axisymmetric and asymmetric structural analysis. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
32. Zhu, P., **J. A. Zhang** and F. Masters, 2010: Wavelet analyses of turbulence in the hurricane boundary layer during landfalls. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tuscon, AZ.
31. Nolan, D. S., **J. A. Zhang**, M. D. Powell, and F. J. Masters, 2010: Evaluation of the Surface Wind Field in a High-Resolution Simulation of the Landfall of Hurricane Wilma (2005) by Comparison to In Situ Wind Measurements. Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tucson, AZ.
30. Wang, S., Y. Jin, P. Black, and **J. A. Zhang**, 2010: Analysis of NRL COAMPS simulated boundary layer of Hurricane Isabel (2003). Proceedings at the 29th Conference on Hurricanes and Tropical Meteorology, Tuscon, AZ.
29. **Zhang, J. A.,** 2009: Aircraft observations of the hurricane boundary layer structure. Invited presentation at the National Hurricane Center, Miami, FL.
28. Nolan, D., **J. A. Zhang**, and D. Stern, 2009: Evaluation of planetary boundary layer parameterizations in tropical cyclones by comparison of in-situ observations and high-resolution simulations of Hurricane Isabel (2003). Proceedings at the 63rd Interdepartmental Hurricane Conference, St. Petersburg, FL.
27. **Zhang, J. A.,** W. Drennan, and J. French, 2009: Direct measurements of momentum and enthalpy fluxes in the hurricane force wind regime. Proceedings at AMS 89th Annual Meeting, Phoenix, AZ.
26. **Zhang, J. A.,** and W. Drennan, 2009: Spectra and cospectra of turbulence in the hurricane boundary layer over the ocean. Proceedings at AMS 89th Annual Meeting, Phoenix, AZ.
25. Jeong, D., B. K. Haus, M. A. Donelan and **J. A. Zhang**, 2009: Laboratory measurements of the moist enthalpy transfer coefficient. Proceedings at AMS 89th Annual Meeting, Phoenix, AZ.
24. **Zhang, J. A.,** F. Marks, M. Montgomery, S. Lorsolo, and P. Black, 2008: Turbulence and coherent structure in the atmospheric boundary layer near the eyewall of category five Hurricane Hugo (1989). Poster at the AGU annual meeting, San Francisco, CA.
23. **Zhang, J. A.,** 2008: On the determination of the atmospheric boundary layer height in hurricanes. Proceedings at the AGU Assembly, Fort Lauderdale, FL.
22. Zhang, J, and W. M. Drennan, 2008: Aircraft Observations of the turbulence structure in the hurricane boundary layer. Proceedings at the 28th Conference on Hurricanes and Tropical Meteorology, Orlando, FL.
21. **Zhang, J. A.,** P. G. Black and W. M. Drennan, 2008: Vertical profiles of mean structure of the hurricane boundary layer from the GPS dropsondes. Proceedings at the 28th Conference on Hurricanes and Tropical Meteorology, Orlando, FL.
20. Nolan, D. S., **J. A. Zhang**, D. P. Stern, and P. Kozich, 2007: The impacts of resolution and boundary layer paramterization on the structure of the wind field in high resolution simulations of Hurricane Isabel (2003). Proceedings at the 28th Conference on Hurricanes and Tropical Meteorology, Orlando, FL.

19. Lorsolo, S. J. Gamache, F. Marks, P. Dodge and **J. A. Zhang**, 2008: Characterization of hurricane turbulence using airborne Doppler measurements. Extended Abstracts, 28th Conference on Hurricane and Tropical Meteorology, Orlando, FL.
18. Dunkerton, T.J., B.A. Walter, W. Perrie, D.G. Long, **J. A. Zhang**, P. G. Black, and R. Rogers, 2006: Images of Hurricane Katrina (2005) Below the Cloud. Proceedings at the 28th Conference on Hurricanes and Tropical Meteorology, Orlando, FL.
17. Nolan, D. S., **J. A. Zhang**, D. P. Stern, and P. Kozich, 2007: The impacts of resolution and boundary layer paramterization on the structure of the wind field in high resolution simulations of Hurricane Isabel (2003). Poster at AGU 2007 Fall Meeting, San Francisco, CA.
16. **J. A. Zhang**, 2007: Aircraft Observation of the Hurricane Boundary Layer Structure. Invited Presentation at the Department of Earth Science, Florida International University.
15. Black, P.G., W.M. Drennan, **J. A. Zhang, J. A.,** R. French, E.A. D'Asaro, P.P. Niiler, T.B. Sanford, E.J. Terrill, E.J. Walsh, and K. Emanuel, 2006: Observations from the Coupled Boundary Layer Air-Sea Transfer Experiment in Hurricanes. Presentation at the AGU 2006 Fall Meeting, San Francisco, CA.
14. Black, P.G., E.A. D'Asaro, W.M. Drennan, J.R. French, P.P. Niiler, T.B. Sanford, E.J. Terrill, E.J. Walsh, and **J. A. Zhang**, 2006: Air-Sea Exchange in Hurricanes: Synthesis of Observations from the Coupled Boundary Layer Air-Sea Transfer Experiment. Presentation at the 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA.
13. Drennan, W.M., **J. A. Zhang, J. A.,** R. French, and P.G. Black, 2006: Latent Heat Fluxes in the Hurricane Boundary Layer. Presentation at the 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA.
12. Dunkerton, T.J., B.A. Walter, W. Perrie, D.G. Long, J. Zhang, P. G. Black, and R. Rogers, 2006: Images of Hurricane Katrina (2005) Below the Cloud. Presentation at the AGU 2006 Fall Meeting, San Francisco, CA.
11. Jeong, D., B.K. Haus, M.A. Donelan, and **J. A. Zhang**, 2006: Laboratory Measurements of Enthalpy Flux in High Winds. Poster at the AGU 2006 Fall Meeting, San Francisco, CA.
10. French, J.R., W.M. Drennan, **J. A. Zhang**, and P.G. Black, 2006: Direct Airborne Measurements of Momentum Flux in Hurricanes. Presentation at the 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA.
9. **Zhang, J. A.,** W. Drennan, J. French, and P. Black, 2006: Direct Measurements of Sensible and Latent Heat Fluxes in the Hurricane Boundary Layer. Poster at the AGU 2006 Fall Meeting, San Francisco, CA.
8. **Zhang, J. A.,** W.M. Drennan, S. Lehner, K.B. Katsaros, and P.G. Black, 2006: The Effect of Roll Vortices on Turbulent Fluxes in the Hurricane Boundary Layer. Presentation at the 27th Conference on Hurricanes and Tropical Meteorology, Monterey, CA.
7. **Zhang, J. A.,** 2006: Evidence for Roll Vortex Boundary Layer Circulations in Tropical Cyclones. Invited Presentation at the EXTROP Workshop, Miami, FL.

6. Drennan, W.M., **J. A. Zhang**, C.A. McCormick, J. French and P. Black, 2005: Measurements of Humidity flux in Hurricanes Fabian and Isabel. Poster at the 37th International Liège Colloquium on Ocean Dynamics, GAS TRANSFER AT WATER SURFACES, Liège, Belgium.
5. Drennan, W.M., **J. A. Zhang**, C.A. McCormick, J. French and P. Black, 2005: Measurements of Humidity flux in Hurricanes Fabian and Isabel. Poster (EGU05-A-10038) at the 2005 EGU Meeting, Vienna, Austria.
4. Drennan, W.M., **J. A. Zhang, J. A.,** R. French, and P.G. Black, 2005: Humidity Flux Measurements in Hurricane Fabian and Isabel. Presentation at the CBLAST-Hurricane SCIENCE MEETING, Miami, FL.
3. Donelan, M.A., B. K. Haus and **J. A. Zhang**, 2005: Preliminary results from laboratory experiments on the Air-Sea Coupling Coefficients for sensible and latent heat in High Winds. Presentation at the CBLAST-Hurricane SCIENCE MEETING, Miami, FL.
2. French, J.R., W.M. Drennan, **J. A. Zhang**, and P.G. Black, 2005: CD and U* Estimates from Direct Measurements in Hurricanes Using Eddy Correlation. Presentation at the CBLAST-Hurricane SCIENCE MEETING, Miami, FL.
1. Drennan, W. M., C. A. McCormick, **J. A. Zhang, J. A.,** French and P. Black, 2004: Measurements of humidity fluxes in Hurricanes Fabian and Isabel with a modified LICOR hygrometer. Presentation at the 26th Conference on Hurricanes and Tropical Meteorology, Miami, FL.

SYNERGISTIC ACTIVITIES:

Model validation and development scientist for the Hurricane Weather and Research Forecast (HWRF) model as part of the Hurricane Forecast and Improvement Program (HFIP), providing observational and modeling guidance for improving the physical parameterizations of HWRF (2011-2016)

Field project scientist, serving as lead project scientist, radar and dropsonde scientist in the Hurricane Research Division's Hurricane Field Program (2008 – 2016)

Field project scientist, PIs of flight modules for the Hurricane Research Division's Hurricane Field Program (2010 – 2016)

Visiting Scientist of National Center for Atmospheric Research (2012)

Participant of the Coupled Boundary Layer Air-Sea Transfer – Hurricane Experiment, in charge of instrumentation design, maintenance and data analysis (2002-2004)

Reviewer of manuscripts from Journal of the Atmospheric Sciences (2010 – 2015), Monthly Weather Review (2009-2015), Journal of Geophysical Research (2009-2015), Quarterly Journal of the Royal Meteorological Society (2010-2015), Nature (2013-2015), Boundary Layer of Meteorology (2010-2016)

Reviewer of proposals for the Physical and Dynamical Meteorology Division of the National Science Foundation (2013-2015) and for Office of Science of the Department of Energy (2010)

PROFESSIONAL MEMBERSHIP

American Meteorological Society since 2003
American Geophysical Union since 2004