

CURRICULUM VITAE

Haiyan Jiang

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Education

2004 Ph.D. Meteorology, University of Utah
1995 M.S. Atmospheric Remote Sensing, Chinese Academy of Meteorological Sciences (CAMS)
1992 B.S. (with honors) Atmospheric Physics, Nanjing Institute of Meteorology, China

Professional Experience

2010-present: Assistant Professor, Florida International University
2007-2009: Research Assistant Professor, University of Utah
2004-2006: Research Associate, Joint Center for Earth Systems Technology, University of Maryland
Baltimore County, and NASA Goddard Space Flight Center, Greenbelt, MD
2004: Research Associate, University of Utah
2000-2004: Research Assistant, University of Utah
2001: Summer work, NOAA Hurricane Research Division (HRD)
1998-2000: Research Associate, Research Center for Disastrous Weather, CAMS, China
1995-1998: Research Assistant, Institute of Mesoscale Meteorology, CAMS

Honors and Awards

Travel Fellowship for University Corporation of Atmospheric Research Annual Board Meeting	2009
NASA New Investigator Award in Earth Science	2008-2011
Travel Award for the Workshop on Tropical Cyclone and Climate, NSF & Columbia University	2006
NASA Earth System Science Fellowship Award	2003-2004
Excellent Honor Graduate Student, Nanjing Institute of Meteorology, China	1992
Excellent Student, Nanjing Institute of Meteorology, China	1990, 1991, 1992
1 st , 2 nd , 3 rd -class scholarship, Nanjing Institute of Meteorology, China	1989-1992

Funded Research Proposals

- 2011-2014: NASA Earth System Science Fellowship for Cheng Tao: Climatology of Hot Towers in Tropical Cyclones and Their Role in Tropical Cyclone Intensity Changes Based on 12 years of TRMM data. (HJ as the Principal Investigator)
- 2011-2014: NASA Earth System Science Fellowship for Joseph Zagrodnik: Diurnal Cycle of Precipitation Features and Quantitative Comparison of Precipitation Algorithms in Tropical Cyclones. (HJ as the Principal Investigator)
- 2011-2014: NASA Supplemental Education Awards for ROES Investigators: Undergraduate Summer Education and Research Program in Hurricane Monitoring and Forecasting Using Remote Sensing Observations. (Principal Investigator)
- 2011-2013: NOAA Joint Hurricane Testbed (JHT): Enhancement of SHIPS Rapid Intensification (RI) Index Using Satellite 37 GHz Microwave Ring Pattern. (Principal Investigator)
- 2011: FIU Summer Faculty Development Award.
- 2009-2013: NASA Hurricane Science Research Program (HSRP): A TRMM-based Tropical Cyclone Precipitation Feature Database and Its usage on Intensification Study. (Principal Investigator)
- 2008-2011: NASA New Investigator Program (NIP) in Earth Science: The Relationships between Environmental Factors, Convection, and Precipitation in Tropical Cyclones. (Principal Investigator)
- 2008-2011: NASA Precipitation Processing System (PPS): Population of Precipitation Systems Observed by Space-borne Radar and Microwave Radiometers. (Co- Investigator)

- 2007-2010: NASA Precipitation Measuring Mission (PMM): Differences and Similarities of Tropical Cyclone Rainfall Over Land and Sea Using Multisatellite Analyses: Implications for Inland Flooding Prediction. (Principal Investigator)
- 2003-2004: NASA Earth System Science (ESS) Fellowship: Variability of Ice and Liquid Precipitation Contents and Shape of Radar Reflectivity Profiles in Tropical Cyclones. (Principal Investigator)

Teaching and Outreach Experience

Spring 2012: MET 4300, Severe Weather, Florida International University

Summer 2011: NASA/FIU Hurricane and Remote Sensing Summer Education and Research Internship Program (HRSSERP)

Spring 2011: MET 4994/5994, Remote Sensing in Meteorology, Florida International University

Fall 2010: MET 3502, Synoptic Meteorology and Lab, Florida International University

2008-2009: Severe Weather Module Designed for Water, the Environment, Science and Teaching (WEST) Program, University of Utah.

Fall 2008: Co-Instructor, METEO 6310 (Tropical Meteorology), University of Utah.

Fall 2002: Teaching Assistant, METEO 6140 (Radar and Mesoscale Meteorology), University of Utah.

Graduate Student Supervised

Margret Kieper, Ph.D. (in progress)

Joseph Zagrodnik, M.S. Student (in progress)

Cheng Tao, Ph.D Student (in progress)

Ellen Ramirez, M.S. Student

Professional Service and Activities

Panel Review Committee for NASA Advancing Collaborative Connections for Earth System Science (ACCESS) October, 2011

Panel Review Committee for NASA Advancing Collaborative Connections for Earth System Science (ACCESS) August, 2009

Proposal reviewer for NASA 2009

Journal article reviewer for AMS and AGU journals 2003-present

Member, American Meteorological Society 2001-Present

Member, American Geophysical Union 2001-Present

Refereed Publications

15. Jiang, H., 2011: The relationship between tropical cyclone intensity change and the strength of inner core convection. *Mon. Wea. Rev.*, in press.
14. Jiang, H., C. Liu, and E. J. Zipser, 2011: A TRMM-based Tropical Cyclone Cloud and Precipitation Feature Database. *J. Appl. Meteor. Climatol.*, **50**,1255-1274.
13. Xu, W., E. J. Zipser, C. Liu, and H. Jiang, 2010: On the relationships between lightning frequency and thundercloud parameters of regional precipitation systems. *J. Geophys. Res.*, **115**, D12203, doi:10.1029/2009JD013385.
12. Jiang, H., and E. J. Zipser, 2010: Contribution of tropical cyclones to the global precipitation from eight seasons of TRMM data: Regional, seasonal, and interannual variations. *J. Climate.*, **23**, 1526-1543.
11. Jiang, H., J. B. Halverson, and E. J. Zipser, 2008: Effects of environmental moisture on tropical cyclone precipitation: Land/ocean difference. *Geophys. Res. Lett.*, **35**, L17806, doi:10.1029/2008GL034658.
10. Jiang, H., J. B. Halverson, J. Simpson, and E. J. Zipser, 2008: Hurricane "rainfall potential" derived from satellite observations aids overland rainfall prediction. *J. Appl. Meteor. Climatol.*, **47**, 944-959.
9. Jiang, H., J. B. Halverson, J. Simpson, and E. J. Zipser, 2008: On the differences in storm rainfall from Hurricanes Isidore and Lili. Part II: Water budget. *Wea. Forecasting*, **23**, 44-61.
8. Jiang, H., J. B. Halverson, and J. Simpson, 2008: On the differences in storm rainfall from Hurricanes Isidore and Lili. Part I: Satellite observations and rain potential. *Wea. Forecasting*, **23**, 29-43.
7. Jiang, H., and E. J. Zipser, 2006: Retrieval of hydrometeor profiles in tropical cyclones and convection from combined radar and radiometer observations. *J. Appl. Meteor. Climatol.*, **45**, 1096-1115.
6. Jiang, H., P. G. Black, E. J. Zipser, F. D. Marks, and E. W. Uhlhorn, 2006: Validation of rain rate estimation in hurricanes from the Stepped Frequency Microwave Radiometer: algorithm correction and error analysis. *J. Atmos. Sci.*, **63**, 252-267.

5. Jiang, H., R. Ge, and X. Zhu, 2001: Preliminary analysis on the flow structure of heavy precipitation on June 9 in Changle area during HUAMEX, *Quarterly Journal of Applied Meteorology*, Beijing, China, **12(1)**, 97-101.
4. Ge, R., X. Zhu, and H. Jiang, 2000: A method for improving the probing ability of Doppler weather radar in the clear air, *Quarterly Journal of Applied Meteorology*, Beijing, China, **11(3)**, 257-263.
3. Ge, R., H. Jiang, and H. Peng, 1998: Flow structure of hailstorm in Beijing area, *Quarterly Journal of Applied Meteorology*, Beijing, China, **9(1)**, 1-7.
2. Jiang, H. and R. Ge, 1997: A new retrieval technique for single-Doppler radar, *Quarterly Journal of Applied Meteorology*, **8(2)**, Beijing, China, 219-223.
1. Gu, S., H. Jiang, and X. Liu, 1993: Doppler Velocity Display with TVGA Graphics Adaptor, *Journal of Nanjing Institute of Meteorology*, Nanjing, China, **16(4)**, 446-450.

Thesis Supervised

Ramirez, E. M., 2010: Convective and rainfall properties of tropical cyclone inner cores and rainbands in relation to tropical cyclone intensity changes using 12 years of TRMM data. M. S. thesis, University of Utah, Dec. 2010.

Invited Presentations

- Jiang, H. 2011: Satellite Observations of Tropical Cyclone Rainfall. Pre-HFIP workshop in celebration of Frank Marks' 60th birthday, NOAA HRD, November 7.
- Jiang, H. 2009: Toward Improving the Prediction of Hurricane Rainfall and Intensity Change Using TRMM Satellite Observations. Florida International University, March 10.
- Jiang, H. 2008: Precipitation and Convection in Tropical Cyclones: A Vision from TRMM. University of Nebraska Lincoln, December 2.
- Jiang, H. 2008: Severe Weather Teaching Module. *WEST Fall Retreat, University of Utah*, September 20.
- Jiang, H. 2006: Hydrometeor content retrieval and rainfall analysis in tropical cyclones from remote sensing observations. *Cooperative Institute for Meteorological Satellite Studies, University of Wisconsin-Madison*, May 22.
- Jiang, H. 2006: Hydrometeor content retrieval and rainfall analysis in tropical cyclones from remote sensing observations, *Brookhaven National Laboratory*, April 10.
- Jiang, H. 2006: Hydrometeor content retrieval and rainfall analysis in tropical cyclones from remote sensing observations, *CIMSS, University of Wisconsin-Madison*, May 22.
- Jiang, H. and J. B. Halverson, 2004: A TRMM rainfall and water budget study on two tropical cyclones: flooding vs. non-flooding storms. *JCET, University of Maryland Baltimore County*, Nov. 10.
- Jiang, H., 2004: Retrieval of hydrometeor profiles in tropical cyclones and convection by a combined radar-radiometer algorithm. *Mesoscale Atmospheric Processes Branch, NASA Goddard Space Flight Center, Greenbelt, MD*, March 18.

Conference Proceedings, Talks, and Presentations

- Jiang, H., E. M. Ramirez, and D. J. Cecil, 2012: Convective and Rainfall Properties in the Inner Core and Tropical Cyclone Intensity Change Using 11-yr TRMM Data. *30th Conference on Hurricane and Tropical Meteorology*, Ponte Vedra Beach, FL, April 15-20, 2012.
- Kieper, M., and H. Jiang, 2012: The 37 GHz Cyan Ring and Tropical Cyclone Rapid Intensification: What Does the Cyan Color Truly Represent? *30th Conference on Hurricane and Tropical Meteorology*, Ponte Vedra Beach, FL, April 15-20, 2012.
- Tao, C., and H. Jiang, 2012: Climatology of Hot Towers in Tropical Cyclones Based on 12-year TRMM Data. *30th Conference on Hurricane and Tropical Meteorology*, Ponte Vedra Beach, FL, April 15-20, 2012.
- Yun, T., and H. Jiang, 2012: Evaluation of 37 GHz Microwave Ring Pattern for Forecasting Rapid Intensification of Tropical Cyclones from SSM/I, SSMI/S and AMSR-E data. *30th Conference on Hurricane and Tropical Meteorology*, Ponte Vedra Beach, FL, April 15-20, 2012.
- Zagrodnik, J. P., and H. Jiang, 2012: Quantitative Comparison of TRMM Precipitation Algorithms in Tropical Cyclones. *30th Conference on Hurricane and Tropical Meteorology*, Ponte Vedra Beach, FL, April 15-20, 2012.
- Jiang, H., M. Kieper, T. Yuan, E. Zipser, and J. Kaplan, 2011: The 37-GHz Ring Pattern as An Early Indicator of Tropical Cyclone Rapid Intensification. *NASA GRIP Science Team Meeting*, Los Angeles, CA, Jun 6-9.
- Jiang, H., C. Liu, and E. J. Zipser, 2011: The 13-yr TRMM-based Tropical Cyclone Cloud and Precipitation Feature (TCPF) Database. *NASA GRIP Science Team Meeting*, Los Angeles, CA, Jun 6-9.

- Jiang, H., M. Kieper, T. Yuan, E. Zipser, and J. Kaplan, 2011: Improving SHIPS rapid intensification (RI) index using 37 GHz microwave ring pattern around the center of tropical cyclones. *65th Interdepartmental Hurricane Conference*, Miami, FL, Feb. 28-Mar. 3.
- Yuan, T., Jiang, H., and M. Kieper, 2011: Forecasting rapid intensification of tropical cyclones in the Western North Pacific using TRMM/TMI 37 GHz microwave signal. *65th Interdepartmental Hurricane Conference*, Miami, FL, Feb. 28-Mar. 3.
- Jiang, H., 2010: Global distribution of convection in tropical cyclones based on 12 years of TRMM data. *29th Conference on Hurricane and Tropical Meteorology*, Tucson, AZ, May 10-14.
- Ramirez, E. M., H. Jiang, and E. J. Zipser, 2010: Convective Properties of Tropical Cyclone Inner Core and Rainband Precipitation Features for Different Storm Intensity and Intensity Change Stages from 11 years of TRMM Data. *29th Conference on Hurricane and Tropical Meteorology*, Tucson, AZ, May 10-14.
- Jiang, H., E. M. Ramirez, E. J. Zipser, 2009: Comparing the Strength of Eyewall, Inner Rainband, and Outer Rainband Convection Using 10 years of TRMM Data. Poster, *AGU Fall Meeting, San Francisco, CA, December 14-18*.
- Jiang, H., 2009: The diurnal cycle of rainfall and convective intensity in tropical cyclones from 11 years of TRMM observations. Poster, *2009 NASA Precipitation Measurement Missions (PMM) Science Meeting*, Salt Lake City, UT, October 26-29.
- Ramirez, E. M. and H. Jiang, 2009: Relating Outer Band Convective Proxies to Tropical Cyclone Intensity Changes. Oral, *AMS 13th Conference on Mesoscale Processes*, Sheraton Hotel Centre, Salt Lake City, UT, August 17-20.
- Jiang, H., E. J. Zipser, C. Liu, J. B. Halverson, and T. Liu, 2009: A TRMM based tropical cyclone precipitation feature database and its usage on intensification study. Oral, *2009 NASA Hurricane Science Research Team Meeting (GRIP)*, Florida State University, Tallahassee, FL, April 6-8.
- Jiang, H., E. J. Zipser, J. B. Halverson, and R. Rogers, 2009: Use of total precipitable water to aid hurricane rainfall prediction. Poster, *63rd Interdepartmental Hurricane Conference*, St. Petersburg, FL, March 2-5.
- Jiang, H., and E. J. Zipser, 2008: Intense convection in hurricane eyewalls: A predictor or symptom of hurricane intensification? Oral, *2008 AGU Fall Meeting*, San Francisco, CA, December 15-19.
- Jiang, H., C. Liu, E. J. Zipser, and E. Ramirez, 2008: A TRMM based tropical cyclone precipitation feature database. Poster, *2008 NASA Precipitation Measurement Missions (PMM) Science Meeting*, Fort Collins, CO, August 4-7.
- Liu, C., H. Jiang, E. J. Zipser, and E. F. Stocker, 2008: Online applications of the University of Utah TRMM precipitation feature database. Poster, *2008 NASA Precipitation Measurement Missions (PMM) Science Meeting*, Fort Collins, CO, August 4-7.
- Jiang, H., and E. J. Zipser, 2008: Is tropical cyclone intensity change related to the strength of its convective precipitation features? Using 9 years of TRMM data to find an answer. *28th Conference on Hurricane and Tropical Meteorology*, Orlando, FL, April 28-May 2.
- Jiang, H., J. B. Halverson, and E. J. Zipser, 2008: Effects of environmental moisture on tropical cyclone precipitation: Land/ocean difference. Oral, *Third International TRMM Science Conference*, Las Vegas, NV, February 4-8.
- Jiang, H., E. J. Zipser, and B. Kerns, 2008: Contribution of tropical cyclones to the global precipitation from 9 years of TRMM data: Regional, seasonal, and interannual variations. Poster, *Third International TRMM Science Conference*, Las Vegas, NV, February 4-8.
- Jiang, H., J. B. Halverson, and E. J. Zipser, 2007: Study on tropical cyclone rainfall over land and sea using TRMM 3B42: Implications for inland flooding prediction. Poster, *NASA Precipitation Measurement Missions (PMM) Science Team Meeting*, Atlanta, GA, May 7-10.
- Jiang, H., J. B. Halverson, and J. Simpson, 2006: Difference of Rainfall Distribution for Tropical Cyclones Over Land and Ocean and Rainfall Potential Derived from Satellite Observations and Its Implication on Hurricane Landfall Flooding Prediction. Oral, *27th Conference on Hurricane and Tropical Meteorology*, Monterey, CA, April 24-28.
- Jiang, H., J. B. Halverson, and J. Simpson, 2006: Hurricane "Rainfall Potential" Derived from Satellite Observations Aids Landfall Flooding Prediction. Poster, *Workshop on Tropical Cyclones and Climate*, The International Research Institute for Climate and Society of Columbia University, Palisades, NY March.
- Jiang, H., J. B. Halverson, and J. Simpson, 2005: On the difference of storm wetness of Hurricane Isidore and Lili: Satellite Observations, Rain Potential, and Water budget. Poster, *NASA Precipitation Measurement Missions (PMM) Science Team Meeting*, Monterey, CA, December.

- Halverson, J. B., H. Jiang, and J. Simpson, 2005: Use of the Goddard Multi-Satellite Precipitation Analysis (MPA or TRMM 3B42) and a global forecast model to diagnose rainfall intensity and water budget differences on two tropical cyclones. Poster, *59th Interdepartmental Hurricane Conference*, Jacksonville, FL, March.
- Jiang, H. and E. J. Zipser, 2004: Combined radar-radiometer retrieval of hydrometeor profiles in tropical cyclones: A TRMM case study. Poster, *First Symposium for the Earth System Scholars Network*. Adelphi, MD, Water and Energy Cycle Session.
- Jiang, H. and E. J. Zipser, 2004: Combined radar-radiometer retrieval of hydrometeor profiles in tropical cyclones: A TRMM case study. Oral & Preprints, *2nd TRMM International Science Conference*, Tokyo, Japan, Session 3.5.
- Jiang, H. and E. J. Zipser, 2004: Retrieval of hydrometeor profiles in tropical cyclones and convection by a combined radar-radiometer algorithm. Oral & Preprints, *26th Conference on Hurricane and Tropical Meteorology*, Miami, FL, Amer. Meteor. Soc., Session 6D.1, pp 194-195.
- Jiang, H. and E. J. Zipser, 2003: A combined radar-radiometer algorithm to estimate hydrometeor profiles in tropical cyclones. Oral & Preprints, *31st International Conference on Radar Meteorology*, Seattle, Washington, Session 6.3, pp 379-382.
- Zipser, E. J. and H. Jiang, 2003: Variability of ice and liquid precipitation contents and shape of radar reflectivity profiles in tropical cyclones. Oral & Preprints, *31st International Conference on Radar Meteorology*, Seattle, Washington, Session 6.2, pp 375-379.
- Jiang, H., P. G. Black, E. W. Uhlhorn, P. A. Leighton, E. J. Zipser, and F. D. Marks, 2002: Optimal rain rate estimation tropical cyclones: Validation of SFMR remote sensing rain rates. Oral & Preprints, *25th Conference on Hurricane and Tropical Meteorology*, San Diego, CA, Session 12A.1, pp 475-476.
- Zipser, E. J., and H. Jiang, 2002: Large storm-to-storm variations in estimated ice water content and liquid water content: how do Chantal, Erin, and Humberto (EDOP data) compare with a larger sample from TRMM? Oral, *CAMEX Workshop*, Huntsville, Alabama, November 20-22, Microphysics and Lightning Session.
- Jiang, H., R. Ge, and X. Zhu, 2000: Primary Analysis on the Flow Structure of the Strong Precipitation on June 9 in Changle Area During HUAMEX (IOP#6). Oral & Preprints, *4th International Conference on East Asia and Western Pacific Meteorology and Climate*, Hangzhou, China.
- Jiang, H. and R. Ge, 2000: A new retrieval technique for single-Doppler radar. Oral & Preprints, *WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observations (TECO-2000)*, Beijing, China, Session 1.3(7); *WMO Instruments and Observing Methods Report*, No. 24, 269-272.
- Ge, R., X. Zhu, H. Jiang, and L. Wang, 2000: China new generation radar. Oral & Preprints, *WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observations (TECO-2000)*, Beijing, China, Session 1.3(5); *WMO Instruments and Observing Methods Report*, No. 24, 262-264.
- Jiang, H. and R. Ge, 1997: A new technique retrieval for single-Doppler radar. Oral & Preprints, *International Seminar on Mesoscale Meteorology and Radar Meteorology*, Taegu, Korea, 27-32.
- Jiang, H. and R. Ge, 1996: Retrieving 2-D horizontal wind field from single Doppler radar data by Vorticity-Divergence method. Oral & Preprints, *Conference on Atmospheric Probing Technique*, Lu Mountain, Jiangxi, China