Hui Su

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Education

- **Ph.D.** Atmospheric Sciences**,** University of Washington (1998)
- **B.S. (**summa cum laude**),** Atmospheric Dynamics**,** Peking University (1991)

Employment

2022-present **Weather Discipline Program Manager**, JPL/Caltech
2017-present **Principal**, Engineering and Science Directorate, JPL/Caltech
2005-present **Scientist,** JPL/Caltech
2015-present **Assistant Director,** Joint Institute for Regional Earth System Science and Engineering (JIFRESSE), University of California, Los Angeles, CA (UCLA)
2016-present **Adjunct Professor**, Dept. of Atmos. & Oceanic Sci., UCLA
1998-2005 **Assistant Researcher**, Dept. of Atmos. Sci., UCLA
1993-1998 **Research Assistant,** Dept. of Atmos. Sci., University of Washington, Seattle, WA

Reseach Experience

- Extensive research experience in atmospheric sciences with primary interests on convection and clouds, large-scale circulation, energy and water cycle, and aerosol-cloud interactions. Over 120 peer-reviewed publications. Served as Principal Investigator or Co-Investigator for over 30 research grants.

Selected Awards

- **Fellow of American Meteorological Society** *(2022)*
- **JPL Edward Stone Award** *for innovative use of machine learning to improve forecast skill of rapid hurricane intensification through incorporation of satellite observations (2021)*
- **JPL Voyager Award** *for coordinating the Science Visitor and Colloquim Program (2021)*
- **JPL Voyager Award** *for JIFRESSE Work (2018)*
- **NASA Group Achievement Award** *for Climate Sciences School Group Projects Design Team (2017)*
- **AGU Editor's Citation for Excellence in Refereeing** *for Earth and Space Science (2015)*
- **NASA Group Achievement Award for** *Hurricane and Severe Storm Sentinel team (2015)*
- **NASA Group Achievement Award** *for Aura MLS Team (2014)*
- **NASA Group Achievement Award** *for Genesis and Rapid Intensification Process (GRIP) team (2011)*
- **NASA Exceptional Scientific Achievement Medal** *for major advances in the understanding of water vapor and cloud feedbacks on climate change through quantitative analysis of observations from multiple NASA satellites (2010)*
- **JPL Lew Allen Award for Excellence** *(2008)*
- **NASA Group Achievement Award** *for Aura MLS Science Team (2006)*

Professional Society Membership

- Member of American Geophysical Union since 1996
- Member of American Meteorological Society since 1996
- Member of Chinese-American Oceanic and Atmospheric Association since 2008 (Southern California **Chapter President**, 2015-2017)
- Member of Chinese-American Engineers and Scientists Association of Southern California since 2014 (**President**, 2018-2019, **Board Chair** 2019-2020)

Professional Activities

- **Editor for AGU Geophysical Research Letters** (January 2018 – present)
- **AMS STAC Committee for Tropical Meteorology and Tropical Cyclone** (January 2019 – Present; **Vice Chair**, January 2020 – December 2021; **Chair**, January 2022 - Present)
- **US CLIVAR Panel Member on Process Study and Model Improvement (PSMI)** (February 2021- present)
- **AGU GEC OSPA Coordinator (2016-2017)**
- **Numerous proposal panel review and journal article review**
- **Conference session convener/co-convener**
  - AMS 35th Conference on Hurricanes and Tropical Meteorology (2022), Program Co-Chair
  - AMS 34th Conference on Hurricanes and Tropical Meteorology (2021), "Convection" Session Chair
  - AMS Annual Meeting (2021), "Fourth Special Symposium on Tropical Meteorology and Tropical Cyclones"
  - AMS Annual Meeting (2020), "Air Quality Forecasting of Pollution Episodes"

- AMS Annual Meeting (2019), “Interactions between Atmospheric Convection and Composition”
- AMS Annual Meeting (2017), “Atmospheric Convection: Observing Composition and Pollution Transport”
- AOGS (2016), “Climate Model Improvements In Clouds And Water Vapor Simulations”
- AMS Annual Meeting (2015), “Atmospheric Convection: Impact on Atmospheric Composition and Chemistry”
- AGU Fall Meeting (2014), “Constraining climate model simulations and predictions using observations
- AOGS (2014), “Climate feedbacks: observations, modeling and theory”, Sapporo, Japan
- AGU Fall Meeting (2013), “satellite measurements for climate model evaluation, diagnosis and improvements”
- AOGS-WPGM Joint Assembly (2012), “Asian aerosols and their impacts on regional and global climate”, Singapore City, Singapore
- AGU-WPGM (2010), “aerosol-cloud-precipitation relations: measurements and modeling”, Taipei, Taiwan
- AGU Fall Meeting (2008), “aerosol indirect effects: observations and modeling”
- AGU Fall Meeting (2006), “coordinated observations and modeling of global water vapor variability and its feedback to climate change”

Selected Invited Talks

- Dec 16, 2021, AGU Fall Meeting, New Orleans, LA
- Aug 1, 2019, AOGS Annual Meeting, Singapore, Singapore
- Aug 31, 2018, Nicholas School of the Environment, Duke University, Durham, NC
- Jul 5, 2018, 2nd WCRP Grand Challenge Meeting on Monsoons and Tropical Rain Belts, Trieste, Italy
- Feb 1, 2017, Dept. Atmos. & Oceanic Sci., University of California, Los Angeles
- Dec 12, 2016, AGU Fall Meeting, San Francisco, CA
- Oct 19, 2015, Dept. Environ. Sci. and Engineering, Ewha Womans University, Seoul, South Korea
- May 20, 2015, Monsoon Workshop, California Institute of Technology, Pasadena, CA
- Oct 16, 2013, Dept. Environ. Sci. and Engineering, Ewha Womans University, Seoul, South Korea
- Feb 5, 2013, Dept. of Atmos. Sci. Colloquia, Texas A&M University, College Station, TX
- Dec 7, 2012, AGU Fall Meeting, San Francisco, CA
- Nov 6, 2012, Convection Workshop, Dept. of Atmos. Sci., Colorado State University, Fort Collins, CO
- Oct 18, 2012, Geophysical Fluid Dynamic Laboratory, Princeton University, Princeton, NJ
- Dec 8, 2011, AGU Fall Meeting, San Francisco, CA
- May 20, 2011, Convection Workshop, Dept. of Atmos. Sci., Colorado State University, Fort Collins, CO
- June 29, 2010, Dept. of Atmos. Sci. Colloquia, National Taiwan University, Taipei, Taiwan, ROC
- June 21, 2010, Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan, ROC
- Apr 16, 2009, Dept. of Atmos. Oceanic and Space Sci. Colloquia, University of Michigan, Ann Arbor, MI
- Aug 15, 2007, Laboratory of Atmospheres Distinguished Researcher Seminar Series, NASA Goddard Space Flight Center, Greenbelt, MD
- Aug 14, 2007, National Institute of Aerospace and NASA Langley Research Center Science Lecture, Hampton, VA
- Jul 24, 2006, AGU/Western Pacific Geophysics Meeting (WPGM), Beijing, China
- Apr 20, 2006, Dept. of Physics Colloquia, New Mexico Institute of Mining and Technology, Socorro, NM

Selected Publications

(125 peer-reviewed publications, H-index: 40, http://scholar.google.com/citations?user=AUJbpg0AAAAJ&hl=en)

1. Su, H., S. S. Chen and C. S. Bretherton: Three dimensional week-long simulation of TOGA-COARE convective systems using PSU/NCAR mesoscale model MM5. *J. Atmos. Sci*., 56, 2326-2344, 1999.
2. Su, H., and J. D. Neelin: Teleconnection mechanisms for tropical Pacific descent anomalies during El Niño. *J. Atmos. Sci*., 59, 2682-2700, 2002.
3. Su, H., W.G. Read, J. H. Jiang, J.W. Waters, D.L. Wu, and E.J. Fetzer: Enhanced positive water vapor feedback associated with tropical deep convection: New evidence from Aura MLS, *Geophys. Res. Lett.,* 33, L05709, doi:10.1029/2005GL025505, 2006.
4. Su, H., et al., Diagnosis of Regime-dependent Cloud Simulation Errors in CMIP5 Models Using “A-Train” Satellite Observations and Reanalysis Data, *J. Geophys. Res*, 118, 7, 2762-2780, 10.1029/2012JD018575, 2013.
5. Su, H., J. H. Jiang, C. Zhai, T. J. Shen, J. D. Neelin, G. L. Stephens, and Y. L. Yung, Weakening and strengthening structures in the Hadley Circulation change under global warming and implications for cloud response and climate sensitivity, *J. Geophys. Res*., 119, 5787–5805, doi:10.1002/2014JD021642, 2014.
6. Su, H., J. H. Jiang, J. David Neelin, T. Janice Shen, C. Zhai, Qing Yue, Zhien Wang, Lei Huang, Yong-Sang Choi, Graeme L. Stephens, Yuk L. Yung, Tightening of tropical ascent and high clouds key to precipitation change in a warmer climate, *Nature Communications*, 8, 15771, doi: 10.1038/ncomms15771, 2017.
7. Su, H., L. Wu, J. H. Jiang, R. Pai, R., A. Liu, A. J. Zhai, P. Tavallali, and M. DeMaria, Applying satellite observations of tropical cyclone internal structures to rapid intensification forecast with machine learning. Geophysical Research Letters, 47, e2020GL089102, http://dx.doi.org/10.1029/2020GL089102, 2020.