

**Jianping Huang**  
Senior Scientist, I. M. Systems Group Inc.  
@NOAA/NCEP/Environmental Modeling Center  
Tel: (301) 683-3734; Email: jianping.huang@noaa.gov

### **Professional Preparation**

2006–2009: Postdoctoral, School of Forestry & Environmental Studies, Yale University, New Haven, CT, USA.  
2005–2006: Postdoctoral, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, USA.  
2001–2005: Ph.D., Department of Mathematics, the Hong Kong University of Science and Technology, Hong Kong, China.  
2000–2001: Ph.D., Candidate, Department of Geophysics, Peking University, Beijing, China.  
1995–1998: M.Sc., Department of Atmospheric Physics, Nanjing Institute of Meteorology, Nanjing, China.

### **Work Experience**

2009–Present: Senior Scientist, Air Quality and Product Task Lead, IMSG Inc. assigned at NCEP Environmental Center, College Park, MD, USA.  
1998–2000: Assistant Professor, Department of Atmospheric Physics, Nanjing Institute of Meteorology, Nanjing, China.

### **Professional Services**

*Lead Guest Editor:* PM<sub>2.5</sub> Predictions in the USA, 2020, Atmosphere.

*Guest Editor:* Advances in Boundary-layer/Air Pollution Meteorology, Special Issue, 2016, Advances in Meteorology.

*Reviewer of Scientific Journals:* Bulletin of the American Meteorology Society; Journal of Atmospheric Sciences; Geophysical Research Letter; Atmospheric Chemistry and Physics; Journal of Applied Meteorology and Climatology; Monthly Weather Review; Atmospheric Environment; Science of the Total Environment; Meteorology and Atmospheric Physics; Environmental Pollution; Climate; Atmosphere; Meteorology; GeoHealth; Journal of Geophysical Research: Atmospheres; Journal of Geophysical Research: Earth Surface; Journal of the Air & Waste Management Association.

*Reviewer of Research Proposals:* NSF; NOAA JTTI; NOAA OAR-OWAQ.

## Selected Publications

- Liu, C., H. Liu, **J. Huang**, and H. Xiao, 2021: Varying partitioning of surface turbulent fluxes regulates temperature-humidity dissimilarity in the convective atmospheric boundary layer, *Geophysical Research Letter*, 48, e2021GL095836, <https://doi.org/10.1029/2021GL095836>.
- Zhao, K., **J. Huang\***, Y. Wu, Z. Yuan, Y. Wang, Y. Li, X. Ma, X. Liu, W. Ma, Y. Wang, and X. Zhang, 2021: Impact of stratospheric intrusion on ozone enhancement in the lower troposphere and implication to air quality in Hong Kong and other South China regions, *Journal of Geophysical Research*, <https://doi.org/10.1029/2020JD033955>. (\*denotes corresponding author).
- Liu, C., **J. Huang\***, X. Hu, C. Hu, Y. Wang, X. Fang, L. Luo, H. Xiao, H. Xiao, 2021: Evaluation of WRF-Chem simulations on vertical profiles of PM<sub>2.5</sub> with UAV observations during a haze pollution event. *Atmospheric Environment*, 252, 118332, <https://doi.org/10.1016/j.atmosenv.2021.118332>.
- Liu, C., **J. Huang\***, X. Tao, L. Deng, X. Fang, Y. Liu, L. Luo, Z. Zhang, H. Xiao, H. Xiao, 2021: An observational study of boundary-layer vertical structures and entrainment under aerosol-polluted conditions. *Atmospheric Research*, 250 (2021), 105348, <https://doi.org/10.1016/j.atmosres.2020.105348>.
- Ma, X., **J. Huang\***, T. Zhao, C. Liu, K. Zhao, J. Xing, and W. Xiao, 2021: Rapid increase in summer surface ozone over the North China Plain during 2013-2019: a side effect of particulate matters reduction control? *Atmospheric Chemistry and Physics*, 21, 1-16, <https://doi.org/10.5194/acp-21-1-2021>.
- Hao, S., X. Cui, **J. Huang**, 2021: A new algorithm with square conservative exponential integral for transport equation. *Monthly Weather Review*, 269-288, <https://doi.org/10.1175/MWR-D-20-0049.1>
- Liu, C., **J. Huang\***, Y. Wang, X. Tao, C. Hu, L. Deng, J. Xu, H. Xiao, L. Luo, X. Xiao, W. Xiao, 2020: Vertical distribution of PM<sub>2.5</sub> and interactions with the atmospheric boundary layer during the development stage of a heavy haze pollution event. *Science of the Total Environment*, 704, 135329.
- Zhang, X., **J. Huang\***, G. Li, Y. Wang, C. Liu, K. Zhao, X. Tao, X. Hu, and X. Lee, 2019: Improving lake-breeze simulation with WRF nested LES and lake-model over a large shallow lake, *J. Appl. Meteor. Climatol.*, DOI: 10.1175/JAMC-D-18-0282.1.
- Zhao, K., Y. Bao, **J. Huang\***, et al., 2019: A high-resolution modeling study of a heat wave-driven ozone exceedance event in New York City and surrounding regions. *Atmos. Environ.* <https://doi.org/10.1016/j.atmosenv.2018.10.059>.
- Liu, C., E. Fedorovich, **J. Huang\***, X. M., Hu, Y. Wang, and X. Lee, 2019: Impact of aerosol shortwave radiative heating on entrainment in the atmospheric convective boundary layer: a large-eddy simulation study. *J. Atmos. Sci.*, 76(3), 785-799.
- Liu, C., **J. Huang\***, E. Fedorovich, X.M. Hu, Y. Wang, and X. Lee, 2018: The effect of aerosol radiative heating on turbulence statistics and spectra in the atmospheric convective boundary layer: A large-eddy simulation study. *Atmos.*, 9(9), 347.

- Liu, C., E. Fedorovich, E., and **J. Huang**, 2018: Revisiting entrainment relationships for shear-free and sheared convective boundary layers through large-eddy simulations. *Q. J. Roy. Meteor. Soc.*, 144(716), 2182-2195.
- Huang, J.**, J. McQueen, J. Wilczak, et al., 2017: Improving NOAA NAQFC PM<sub>2.5</sub> predictions with a bias correction approach, *Wea. Forecasting*, 32:407-421, doi: 10.1175/WAF-D-16-0118.1.
- Wang, Y., Y. Gao, H. Qin, **J.-P. Huang\***, et al., 2017: Spatiotemporal Characteristics of Lake Breezes over Lake Taihu, China, *J. Appl. Meteor. Climatol.*, 56:2053-2065, doi: 10.1175/JAMC-D-16-0220.1.
- Lee, P., J. McQueen, I. Stajner, **J. Huang**, et al., 2017: NAQFC Developmental Forecast Guidance for Fine Particulate Matter (PM<sub>2.5</sub>), *Wea. Forecasting*, 32:343-360, doi: 10.1175/WAF-D-15-0163.1.
- Hu, X., **J. Huang**, et al. 2016: Advances in Boundary-Layer/Air Pollution Meteorology, *Advance Meteorol.*, 2825019, <https://www.hindawi.com/journals/amete/2016/2825019>.
- Huang, J.**, C. Zhou, X. Lee, et al., 2013: The effects of rapid urbanization on the levels in tropospheric nitrogen dioxide and ozone over East China, *Atmos. Environ.* 77: 558-567.
- Lee, X., **J. Huang**, E. Patton, 2012: A large-eddy simulation study of water vapour and carbon dioxide isotopes in the atmospheric boundary layer, *Boundary-Layer Meteorol.*, 145:229-248, doi: 10.1007/s10546-011-9631-3.
- Huang, J.**, X. Lee, and E. Patton, 2009, Dissimilarity of scalar transport in the convective boundary layer in inhomogeneous landscapes, *Boundary-Layer Meteorol.*, 130:327-345.
- Huang, J.**, X. Lee, and E. Patton, 2008, A Modeling Study of Flux Imbalance and the Influence of Entrainment in the Convective Boundary Layer, *Boundary-Layer Meteorol.*, 127:273-292.
- Zhang, Y., **J. Huang**, D. Henze, and J. Seinfeld, 2007, The Role of Isoprene in Secondary Organic Aerosol Formation on a Regional Scale, *J. Geophys. Res.*, doi:10.1029/2007JD008675.
- Huang, J.**, J. Fung, and K. Lau, 2006, Integrated Processes Analysis and Systematic Meteorological Classification of Ozone Episodes, *J. Geophys. Res.*, 111, D20309, doi:10.1029/2005JD007012.
- Huang, J.**, J. Fung, K. Lau, and Y. Qin, 2005, Numerical Simulation and Process Analysis of Typhoon-related Ozone Episodes in Hong Kong, *J. Geophys. Res.*, 110, D05301, doi:10.1029/2004JD004914.