Xiaoming Hu
Center for Analysis and Prediction of Storms
Univ. of Oklahoma

US Permanent Resident, No work authorization needed
yuanfangcan@gmail.com
919-389-0056(h)

Last updated: 12/13/2013 10:40 PM

Education:

Ph.D., Atmospheric Science, NC State Univ., 2004 – 2008
Thesis Title: *Incorporation of an aerosol module into WRF/Chem: Model Development and Retrospective Applications*

M.S., Atmospheric Physics and Atmospheric Environment, Peking Univ., China, 2004
Thesis Title: *Investigation of the Atmospheric Boundary Layer over Beijing*

B.S., Atmospheric Sciences, Peking Univ., China, 2001
Thesis Title: *Numerical Simulations of the Atmospheric Boundary Layer Structure over Urban/Rural Areas*

Research & Work Experience:

4. **Senior Research Scientist**, July 2013 – Present, Univ. of Oklahoma, USA.
3. **Research Scientist**, Aug. 2011 – June 2013, Univ. of Oklahoma, USA.
2. **Post-doc Research Associate**, Nov. 2008 – July 2011, Penn State Univ., USA.
1. **Visiting Scholar,** 2007, National Univ. of Mexico, Mexico.

Research Interests:

- Atmospheric chemistry
- Air pollution/boundary layer meteorology
- Urban meteorology

Editorship:

- Editor of *Advances in Atmospheric Sciences*, 2013~present.
- Editorial board member of *open journal of Air Pollution*, 2012~present.

Teaching:

2. **Teaching Assistant,** Jan. 2006 – May 2007, NC State University, USA
   Courses: (1) *Advanced Air Quality Modeling and Forecasting*; (2) *Introduction to Atmospheric Chemistry*.
1. **Instructor,** Jan. 2003 – Jan. 2004, Peking University, Beijing, China
   Courses: (1) *Algorithms and Data structures in C* ; (2) *Environmental Ecology*.

Journal Publications (citation: 264; maximum citation of a single paper: 104)*:*

25. **Hu, X.-M.**, J. D. Fuentes, D. Toohey, and D. Wang (2013), Chemical processing within and above a Loblolly pine forest in North Carolina, USA, *J. of Atmos. Chem*., DOI: 10.1007/s10874-013-9276-3.
24. **Hu, X.-M.** (2013), Air Pollution Meteorology, *Encyclopedia of Atmospheric Science 2nd Edition*, accepted.

23. Klein, P. M., **X.-M. Hu**, M. Xue (2013), Mixing processes in the nocturnal atmospheric boundary layer and their impacts on urban ozone concentrations, *Bound.-layer meteor.*, doi:10.1007/s10546-013-9864-4.
22. **Hu, X.-M.**, P. M. Klein, and M. Xue (2013), Evaluation of the updated YSU Planetary Boundary Layer Scheme within WRF for Wind Resource and Air Quality Assessments, *J. Geophys. Res.*, 118, doi:10.1002/jgrd.50823.
21. Zhang, M., Y. Qi, and **X.-M. Hu** (2013), Impact of East Asian Winter Monsoon on Pacific Storm Track, *Meteorological Applications*, DOI: 10.1002/met.1423.
20. Qi, Y., J. Zhang, Q. Cao, Y. Hong, and **X.-M. Hu** (2013), Correction of Radar QPE Errors for Non-Uniform VPRs in Mesoscale Convective Systems Using TRMM Observations, *J. Hydrometeor,* 14, 1672–1682.
19. Tiwary, A., A.Namdeo, J. Fuentes, A. Dore, **X.-M. Hu**, and M. Bell (2013), Assessing the systems scale sustainability implications for city greening, *Environ. Pollution*, 183(0), 213-223.
18. **Hu, X.-M.**, P. M. Klein, M. Xue, J. Lundquist, F. Zhang, and Y. Qi (2013), Impact of Low-Level Jets on the Nocturnal Urban Heat Island Intensity, *J. Appl. Meteor. Climatol.* , 52, 1779–1802.
17. **Hu, X.-M.**, P. M. Klein, M. Xue, A. Shapiro, and A. Nallapareddy (2013), Enhanced vertical mixing associated with a nocturnal cold front passage and its impact on near-surface temperature and ozone concentration, *J. Geophys. Res.,* 118, 2714–2728**,** doi:10.1002/jgrd.50309.
16. Doughty, D. C., J. D. Fuentes, R. Sakai, **X.-M. Hu**, and K. J. Sanchez (2013), Nocturnal isoprene declines in a semi-urban environment, *J. of Atmos. Chem.*, DOI:10.1007/s10874-012-9247-0.
15. **Hu, X.-M.**, P. M. Klein, M. Xue, F. Zhang, D. C. Doughty, R. Forkel, E. Joseph, and J. D. Fuentes (2013), Impact of the Vertical Mixing Induced by Low-level Jet on Boundary Layer Ozone Concentration, *Atmos. Environ.*, 70, 123-130.
14. **Hu, X.-M.** , D. C. Doughty, K. J. Sanchez, E. Joseph, and J. D. Fuentes (2012), Ozone variability in the atmospheric boundary layer in Maryland and its implications for vertical transport model, *Atmos. Environ.*, 46, 354-364.
13. Evans, J.L., J. D. Fuentes, **X.-M. Hu**, and H. Hamilton (2011), Earth-Atmosphere interactions: Tropical storm and hurricane activity in the Caribbean and their consequent health impacts. *J. Race and Policy*, 7(1), 53-74.
12. **Hu, X.-M.**,F. Zhang, G. Yu, J. D. Fuentes, and L. Wu (2011), Contribution of mixed-phase boundary layer clouds to the termination of ozone depletion events in the Arctic, *Geophys. Res. Lett.*, 38, L21801, doi:10.1029/2011GL049229.
11. **Hu, X.-M.,** J. M. Sigler, and J. D. Fuentes (2010), Variability of ozone in the marine boundary layer of the equatorial Pacific Ocean, *J. of Atmos. Chem.*, 66, 117–136.
10. **Hu, X.-M.,** J. D. Fuentes, and F. Zhang (2010), Downward transport and modification of tropospheric ozone through deep moist convection, *J. Atmos. Chem.*, 65, 13–35.
9. Nielsen-Gammon, J. W., **X.-M. Hu,** F. Zhang, and J. E. Pleim (2010), Evaluation of Planetary Boundary Layer Scheme Sensitivities for the Purpose of Parameter Estimation, *Mon. Wea. Rev.*, 138, 3400–3417.
8. **Hu, X.-M.,** J. W. Nielsen-Gammon, and F. Zhang (2010), Evaluation of Three Planetary Boundary Layer Schemes in the WRF Model, *J. Appl. Meteor. Climatol.*, 49, 1831–1844..
7. **Hu, X.-M.,** F. Zhang, and J. W. Nielsen-Gammon (2010), Ensemble-Based Simultaneous State and Parameter Estimation for Treatment of Mesoscale Model Error: A Real-data study, *Geophys. Res. Lett.,*37, L08802, doi:10.1029/2010GL043017.

6. Zhang, Y., **X.-M. Hu**, L. R. Leung, and W. I. Gustafson Jr. (2008), Impacts of Regional Climate Changes on Biogenic Emissions and Air Quality, *J. Geophys. Res.*, *113*, D18310, doi:10.1029/2008JD009965.
5. **Hu, X.-M.**, Y. Zhang, M. Z. Jacobson, and C. K. Chan (2008), Coupling and Evaluation of Gas/Particle Mass Transfer Treatments for Aerosol Simulation and Forecast, *J. Geophys. Res.*, *113*, D11208, doi:10.1029/2007JD009588.
4. **Hu, X.-M.**, and S. Liu (2005), Numerical Simulation of Land Surface Process and Atmosphere Boundary Layer Structure over Hill underlying surface. *J. of Appl. Meteor. Sci.*, *16*(1), 13-23.
3. **Hu, X.-M.**, S. Liu, Y. Wang, and J. Li (2005), Numerical Simulation of Wind Field and Temperature Field Over Beijing Area in summer, *Acta Meteorologica Sinica*, *19*(1), 120-127.
2. **Hu, X.-M.**, S. Liu, F. Liang, J. Wang, H. Liu, Y. Wang, and J. Li (2005), Observational study of wind fields, temperature fields over Beijing area in summer and winter, *Acta Sci. Natur. Uni. Pek.,s*, *41*(3), 399-407.
1. **Hu, X.-M.**, S. Liu, F. Liang, J. Wang, H. Liu, Y. Wang, and J. Li (2005), Numerical Simulation of Features of Boundary-Layer Over Beijing Area, *Acta Sci. Natur. Uni. Pek.,s*, *41*(4)**,** 514-522.

Manuscripts in preparation:

1. Fuentes, J. D., and **X.-M. Hu** (2013), Boundary layer processes related to the ozone depletion events in the springtime Arctic, to be submitted.
2. **Hu, X.-M.**, P. M. Klein, and M. Xue (2013), Summertime urban heat island in the Oklahoma City and implications for air quality assessment, to be submitted.
3. **Hu, X.-M.**, P. M. Klein, M. Xue, and A. Shapiro (2013), Coupling in the nocturnal boundary layer in the presence of low-level jets in Oklahoma, to be submitted.

Contributed Conference Presentations:

32. **Hu, X.-M.,** P. M. Klein, and M. Xue, 2014, Summertime Urban Heat Island in the Oklahoma City and Implications for Air Quality Assessment, oral presentation at the 94th AMS Annual Meeting, 2–6 Feb., Atlanta, Georgia.
31. **Hu, X.-M.,** P. M. Klein, and M. Xue, 2013, Model capability to reproduce urban heat island and implications for air quality assessment, oral presentation at the Urban Environmental Pollution conference, 17-20 Nov., Beijing, China.
30. Fuentes, J. D., **X.-M. Hu**, R. M. Staebler, J. W. Bottenheim, and P. B. Shepson, 2011, Ozone depletion events during OASIS 2009 in Barrow, Alaska, presentation at the European Geosciences Union General Assembly 2011, 03 – 08 April, Vienna, Austria.
29. Nielsen-Gammon, J. W., **X.-M. Hu**, F. Zhang, and J. E. Pleim, 2010, Evaluation of Planetary Boundary Layer Scheme Sensitivities for the Purpose of Parameter Estimation, poster presentation at the 4th EnKF Workshop, April 6-9, Rensselaerville, New York.
28. **Hu, X.-M.,** F. Zhang, and J. W. Nielsen-Gammon, 2010, Ensemble-Based Simultaneous State and Parameter Estimation for Treatment of Mesoscale Model Error: A Real-data study, oral presentation at the 4th EnKF Workshop, April 6-9, Rensselaerville, New York.
27. **Hu, X.-M.,** J. W. Nielsen-Gammon, and F. Zhang, 2010, Improve Ensemble-Based State Estimation and Forecasting with Simultaneous Parameter Estimation, oral presentation at the 90th Annual Meeting, 17–20 January 2010, Atlanta, Georgia.
26. **Hu, X.-M.,** J. W. Nielsen-Gammon, and F. Zhang, 2010, Evaluation of Three Planetary Boundary Layer Schemes in the WRF Model, oral presentation at the 90th Annual Meeting, 17–20 January 2010, Atlanta, Georgia.

25. Sarmiento, D., J. D. Fuentes, **X.-M. Hu**, ad P. D'Odorico, and J. Poter, 2010, Energy and carbon flows in a salt marsh during 2009, poster presentation at the VCR/LTER All-Scientists Meeting 2010, Jan. 5, Virginia.
24. **Hu, X.-M.,** F. Zhang, and J. W. Nielsen-Gammon, 2009, Parameter estimation for treatment of PBL errors with an EnKF, oral presentation at the PSU/UMD EnKF Workshop, 16 Dec., State College, PA
23. Cheng, S.-H., Y.-S. Chen, **X.-M. Hu**, Y. Zhang, and W.-X. Wang, 2008, Modeling Regional Haze in Shandong Province in China Using MM5/CMAQ, poster presentation at the 7th Annual CMAS Conference, Chapel Hill, NC, October 6-8.
22. Zhang, Y., X.-Y. Wen, Y.-S. Chen, and **X.-M. Hu**, 2008, Studying Climate-Chemistry-Aerosol-Cloud-Radiation Feedbacks in North America and Asia using Online-Coupled WRF/Chem, presented at the 27th Annual Meeting of American Association for Aerosol Research, October 20-24, 2008, Orlando, FL.
21. **Hu, X.-M.**, Y. Zhang, S.-C. Yu, K. L. Schere, S. A. McKeen, G. A. Grell, and S. E. Peckham, 2008, Application of WRF/Chem-MADRID with Updated Emissions to the July 2004 New England Air Quality Study Episode, poster presentation at the 9th Annual WRF User's Workshop , June 23 - 27, 2008, Boulder, CO.
20. Zhang, Y., **X.-M. Hu**, Y. Pan, X.-Y. Wen, Y.-S. Chen, J.D. Fast, G. A. Grell, and S. E. Peckham, K. L. Schere, and C. J. Jang, 2008, Updates on the Development and Application of WRF/Chem-MADRID, poster presentation at the 9th Annual WRF workshop, June 23 - 27, 2008, Boulder, Colorado.
19. Wen, X.-Y., **X.-M. Hu**, Y. Pan,Y. Zhang, W. C. Skamarock, F. Vitt, P. Karamchandani, and G. A. Grell, 2008, Using Global WRF/Chem to Study Climate-Chemistry Interactions, poster presentation at the 9th Annual WRF User's Workshop , June 23 - 27, 2008, Boulder, CO.
18. Zhang, Y., Y.-S. Chen, **X.-M. Hu**, X.-Y. Wen, K. Wang, C. J. Jang, L.-T. Wang and J.-M. Hao, 2008, Coupled Regional Climate and Air Quality Modeling: History, Current Status, and Challenges, invited keynote speech at the International Workshop on Regional and Urban Air Quality in Yangtze River Delta Region, April 17-18, Shanghai, China.
17. Zhang, Y., X.-Y. Wen, **X.-M. Hu**, Y. Pan, J.J. Hemperly, and N. Meskhidze, 2008, Current Status of the Development and Application of Mesoscale and Global WRF/Chem at NCSU, oral presentation at the Department of Energy Atmospheric Science Program FY 2008 Science Team Meeting, Annapolis, MD, 25–27 February, 2008.
16. Zhang, Y., X.-Y. Wen, **X.-M. Hu**, and C. J. Jang, 2008, Simulating the Effect of Aerosols on Regional Climate Using WRF/Chem, oral presentation at the 10th Conference on Atmospheric Chemistry, New Orleans, Louisiana, 20–24 January.
15. Pan, Y., **X.-M. Hu**, and Y. Zhang, 2008, Sensitivity of Gaseous and Aerosol Predictions to Gas-Phase Chemical Mechanisms, poster presentation at the 10th Conference on Atmospheric Chemistry, New Orleans, Louisiana, 20–24 January.
14. Zhang, Y., **X.-M. Hu**, and X.-Y. Wen, K. L. Schere, C. J. Jang, 2007, Simulating Climate-Chemistry-Aerosol-Cloud-Radiation Feedbacks in WRF/Chem: Model Development and Initial Application, oral presentation at the 6th Annual CMAS Conference, Chapel Hill, NC, October 1-3.
13. Misenis, C., **X.-M. Hu**, Y. Zhang, J. Fast, G. Grell and S. Peckham, 2007, An Examination of WRF/Chem: Physical Schemes, Nesting Options, and Grid Resolutions, oral presentation at the 6th Annual CMAS Conference, Chapel Hill, NC, October 1-3.
12. **Hu, X.-M.**, E. F. Frazier, Y. Zhang, S. A. McKeen, G. A. Grell, and S. E. Peckham, S.-C. Yu and K. L. Schere, 2007, Evaluation of WRF/Chem-MADRID with the July 2004 New England Air Quality Study Episode, poster presentation at the 6th Annual CMAS Conference, Chapel Hill, NC, October 1-3.
11. Chen, J., P. Liu, **X.-M. Hu**, and Y. Zhang, 2007, Evaluating Aerosol Size Distribution Predictions from a 3-D Air Quality Model, oral presentation at the 1st NCSU-Zhejiang University Joint Undergraduate Research Symposium, Raleigh, NC, August 17.

10. **Hu, X.-M.**, and Y. Zhang, 2007, Gas/Particle Mass Transfer Treatments in WRF/Chem-MADRID: Development, Application, and Evaluation, oral presentation at the 8th Annual WRF User's Workshop , 11-15 June 2007, Boulder, CO.
9. Zhang, Y. and **X.-M. Hu**, 2007, Some preliminary results from mesoscale WRF/Chem development and application, poster presentation at the Consequences of Global Change for Air Quality Festival, Research Triangle Park, NC, Feb. 20-22.
8. **Hu, X.-M.**, Y. Zhang, and M.Z. Jacobson, 2006, *Evaluation and Improvement of Gas/Particle Mass Transfer Treatments for Three-Dimensional Aerosol Simulation and Forecast*, oral presentation at the 2006 Models-3 Workshop, October 16-18, Chapel Hill, NC.
7. Huang, J.-P., **X.-M. Hu**, Y. Zhang, G. Sarwar, T. L. Otte, and K. L. Schere, 2006, *Implementation and Testing of the 2005 Version of Carbon Bond Mechanism in WRF/Chem*, oral presentation at the 7th Annual WRF User's Workshop, 19-22 June, Boulder, CO.
6. **Hu, X.-M.,** and Y. Zhang, 2006, *Implementation and Testing of A New Aerosol Module in WRF/Chem*, oral presentation at the 86th AMS Annual Meeting/the 8th Conference on atmospheric chemistry, 27 Jan.–3 Feb., Atlanta, GA.
5. Zhang, Y., **X.-M. Hu**, K. Wang, J.-P. Huang, J. D. Fast, W. I. Gustafson Jr., D. A. Chu, and C. J. Jang, 2005, *Evaluation of WRF/Chem-MADRID with Satellite and Surface Measurements: Chemical and Optical Properties of Aerosols*, oral presentation at the 2005 AGU Fall Meeting, 5-9 Dec., San Francisco, GA.
4. Misenis, C., **X.-M. Hu**, S. Krishnan, and Y. Zhang, and J. Fast, 2006, *Sensitivity of WRF/Chem Predictions to Meteorological Schemes*, poster presentation at the 86th Annual AMS Conference/the 14th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 27 Jan.–3 Feb., Atlanta , GA.
3. **Hu, X.-M.**, Y. Zhang, and M.Z. Jacobson, 2005, *Evaluation of the Trajectory-Grid and the Bott Schemes for Solving Aerosol Condensation and Evaporation Equations*, poster presentation at the 2005 Models-3 Workshop, September 26-28, Chapel Hill, NC.
2. Zhang, Y., **X.-M. Hu**, G. W. Howell, E. Sills, J. D. Fast, W. I. Gustafson Jr., R.A. Zaveri, G. A. Grell, S. E. Peckham, and S. A. McKeen, 2005, *Modeling Atmospheric Aerosols in WRF/CHEM*, oral presentation at the 2005 Joint WRF/MM5 User's Workshop, June, 27-30, Boulder, CO.
1. **Hu, X.-M.**, and S.-H. Liu, 2003, Numerical Simulation of Land Surface Process and Atmosphere Boundary Layer Structure over Hill underlying surface. Proceedings of the 2003 Annual of the Chinese Meteorological Society, Dec., Beijing, China.

Invited Talks:

25. **Hu, X.-M.** (2013), Importance of boundary layer schemes for wind resource and air quality assessments, Chinese Academy of Meteorological Sciences, Nov. 27.
24. **Hu, X.-M.** (2013), WRF/Chem forecasting of boundary layer meteorology and O_3, HuNan Meteorological Administration, Nov. 22.
23. **Hu, X.-M.** (2013), Nocturnal urban heat island, low-level Jets, and O_3 in Oklahoma, Peking Univ., Nov. 20.
22. **Hu, X.-M.** (2013), Meteorological and chemical phenomena in the nocturnal boundary layer in Oklahoma, Lanzhou Univ., Nov. 14.
21. **Hu, X.-M.** (2013), Nocturnal urban heat island and boundary layer in Oklahoma, Nanjing Univ., Nov. 12.
20. **Hu, X.-M.** (2013), Nocturnal urban heat island and boundary layer in Oklahoma, Nanjing institute of Meteorology, Nov. 11.
19. **Hu, X.-M.** (2013), Evaluation of Planetary Boundary Layer Schemes within WRF for Wind Resource and Air Quality Assessments, BUL series seminar, OU, Sept. 20.
18. **Hu, X.-M.** (2013), Impact of mesoscale processes on urban heat islands in the Great Plains, CAPS science meeting, OU, Mar. 29.

17. **Hu, X.-M.** (2013), UHI and O_3 in the upside-down boundary layer, UNR colloquium, Mar. 6.
16. **Hu, X.-M.** (2013), UHI and O_3 in the upside-down boundary layer, BUL seminar, OU, Feb. 8.
15. **Hu, X.-M.** (2012), Simulation and prediction of O_3 in Oklahoma, Oklahoma Dept. Environ. Quality, Dec. 11.
14. **Hu, X.-M.** (2012), Low-Level Jets (LLJs) and the implications for boundary layer meteorology, HuNan Meteorological Administration, Oct. 31.
13. **Hu, X.-M.** (2012), Vertical mixing induced by Low-Level Jets (LLJs), observations and simulations, Chinese Academy of Meteorological Sciences, Oct. 29.
12. **Hu, X.-M.** (2012), Vertical mixing in the atmospheric boundary layer and its implications for air quality, Peking University, Oct. 26.
11. **Hu, X.-M.** (2012), Vertical mixing in the boundary layer, part 2: model evaluation and improvement, LanZhou University, Oct. 25.
10. **Hu, X.-M.** (2012), Vertical mixing in the atmospheric boundary layer, part 1: case studies, LanZhou University, Oct. 25.
9. **Hu, X.-M.** (2012), Boundary layer ozone variability and vertical mixing, CAPS science meeting, Feb. 24.
8. **Hu, X.-M.** (2011), Uncertainties in planetary boundary layer schemes and current status of urban boundary layer simulations at OU, Boundary Layer, Urban, and Land Surface Processes series seminar, Univ. Oklahoma, Sept. 16.
7. **Hu, X.-M.,** J. D. Fuentes, and D. Doughty (2010), DC air quality – perspectives on the variability of boundary layer ozone over Beltsville, MD from observation and modeling, Friday "Frank Talk", Penn State Univ., State College, Nov. 12.
6. **Hu, X.-M.,** F. Zhang, and J. W. Nielsen-Gammon (2010), Optimize the parameters in a PBL scheme using EnKF, The National Center for Atmospheric Research (NCAR), May 26.
5. **Hu, X.-M.,** J. D. Fuentes, and F. Zhang (2010), Vertical Transport of Trace Gases by Convective Storms, Friday "Frank Talk", Penn State Univ., State College, Mar. 5.
4. **Hu, X.-M.,** F. Zhang, and J. W. Nielsen-Gammon (2009), Sensitivity of WRF to three PBL schemes, Guest Lecture for a graduate course entitled Numerical Weather Prediction, Penn State Univ., State College, Oct. 20.
3. **Hu, X.-M.**, and Y. Zhang (2007), Model Development and Initial Application of WRF/Chem-MADRID, invited seminar at National University of Mexico (also called UNAM), Mexico City, June 27.
2. **Hu, X.-M.**, and Y. Zhang (2007), Model Development and Initial Application of WRF/Chem-MADRID, invited presentation at RTI, Research Triangle Park,NC, June.
1. **Hu, X.-M.** (2007), Preliminary Understanding of 3-D Aerosol Simulation, Guest Lecture for a graduate course entitled Air Quality Modeling and Forecasting, NCSU, Raleigh, April 19.

Reports:

Hu, **X.-M.,** J. W. Nielsen-Gammon, and F. Zhang (2009), Ensemble Kalman Filter Data Assimilation with Parameter Estimation: Initial Assimilation Experiments, Report to the Texas Environmental Research Consortium, 19pp.

Nielsen-Gammon, J. W., **X.-M. Hu**, and F. Zhang (2009), Parameter Sensitivity with the ACM2 PBL Scheme in WRF Version 3, Report to the Texas Environmental Research Consortium, 39pp.

Zhang, F., J. W. Nielsen-Gammon, Y. Weng, and **X.-M. Hu** (2009), Comparing EnKF data assimilation with WRF-3DVAR, Report to Texas Commission on Environmental Quality, 9pp.

Computer Skills:

- Fortran, C, NCL, NCO, Java, MATLAB, LINUX, Parallel computing, Cluster building, Website building, Shell script, Vis5D, PAVE, LATEX, GNU plot, Perl, python

US Permanent Resident, No work authorization needed
yuanfangcan@gmail.com
919-389-0056(h)

Research Grants:

- Co-PI, "Diagnose planetary boundary layer heights (PBLH) from ground-based and airborne Lidar data and improve boundary layer forecasting by assimilating the diagnosed PBLH". National Natural Science Foundation (NSF) of China, Jan. 2014 – Dec. 2017, ¥850,000, funded.

Awards and Honors:

5. Alien of extraordinary ability, recognized by U.S. federal government in 2012
4. The National Scholars Honor society, 2008
3. Phi Kappa Phi Honor Society, North Carolina State University, 2005
2. Certificate for Studying Excellence, Peking University, Beijing, China, Oct. 2003
1. Guanghua Fellowship, Peking University, Beijing, China, Oct. 2003

Membership/Professional Activities:

- Reviewer for *Monthly Weather Review, Journal of Geophysical Research, Atmospheric Chemistry and Physics, Atmospheric Research, Atmospheric Environment, Wind Energy, Atmospheric pollution Research, Science of the Total Environment, Tellus, Atmospheric Science Letters, Advances in Atmospheric Sciences, Meteorology and Atmospheric Physics, Acta Meteorologica Sinica, Dynamics of Atmospheres and Oceans, Journal of Atmospheric Chemistry, Journal of Climate, Environmental Science & Technology, EOS, NSF proposal*
- Guest professor, *NanJing University of Information Science & Technology*, 2012-present.
- Judge of the Environmental Chemistry Student Symposium, Penn. State Univ., 2011.
- Member of American Geophysical Union (AGU), Sept. 2006~present.
- Member of American Meteorological Society (AMS), Dec. 2005-present.
- Member of Air & Waste Management Association (A&WMA), Mar. 2005-2007.