

Biographical Sketch

Zhien Wang

Professional Preparation

Anhui Normal University,	Wuhu, China,	Physics,	BS, 1990
Chinese Academy of Sciences,	Hefei, China	Optics,	MS, 1994
University of Utah,	Salt Lake City, Utah,	Meteorology,	PhD, 2000

Appointments

8/2018-present	Professor, Department of Atmospheric and Oceanic Sciences and Laboratory for Atmospheric and Space Physics, University of Colorado, Boulder
7/2014-7/2018	Professor, Department of Atmospheric Science, University of Wyoming
7/2009-6/2014	Associate Professor, Department of Atmospheric Science, University of Wyoming
12/2004-6/2009	Assistant Professor, Department of Atmospheric Science, University of Wyoming
2002 - 2004	Assistant Research Scientist, the GEST Center of University of Maryland Baltimore County and NASA/GSFC
2001 - 2002	Assistant Research Professor, University of Utah
2000 - 2001	Post-doctoral Research Associate, University of Utah
1994 - 1996	Assistant Researcher, Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences

Products (5 Most Relevant Publications)

Mueller, D., B. Geerts, Z. Wang, M. Deng, and C. Grasmick, 2017: Evolution and Vertical Structure of an Undular Bore Observed on 20 June 2015 during PECAN. *Mon. Wea. Rev.*, 145, 3775-3794, DOI: 10.1175/MWR-D-16-0305.1.

Geerts, B. D., and Coauthors, 2017: The 2015 Plains Elevated Convection at Night (PECAN) field project. *Bull. Amer. Meteor. Soc.*, doi:[10.1175/BAMS-D-15-00257.1](https://doi.org/10.1175/BAMS-D-15-00257.1).

Wu, D., Z. Wang, P. Wechsler, N. Mahon, M. Deng, B. Glover, M. Burkhart, W. Kuestner, and B. Heesen, 2016: Airborne compact rotational Raman lidar for temperature measurement, *Opt. Express*, **24**, A1210-A1223.

Liu B., Z. Wang, Y Cai, P Wechsler, W Kuestner, M Burkhart, W Welch, 2014: Compact airborne Raman lidar for profiling aerosol, water vapor and clouds, *Optics express*, **22** (17), 20613-20621.

Wang, Z., et al. 2016. University of Wyoming King Air Compact Raman Lidar Data. Version 1.0. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.5065/D6MS3R0P>(<https://data.eol.ucar.edu/dataset/485.087>).

Products (other Publications)

- Bergmaier, P. T., B. Geerts, Z. Wang, Bo Liu, and Patrick C. Campbell, 2014: A Dryline in Southeast Wyoming. Part II: Airborne In Situ and Raman Lidar Observations. *Mon. Wea. Rev.*, **142**, 2961–2977. doi: <http://dx.doi.org/10.1175/MWR-D-13-00314.1>.
- Yang, J., Wang, Z., Heymsfield, A. J., and French, J. R.: Characteristics of vertical air motion in isolated convective clouds, *Atmos. Chem. Phys.*, **16**, 10159-10173, doi:10.5194/acp-16-10159-2016, 2016.
- Wang, Z. et al., 2012: Single aircraft integration of remote sensing and in situ sampling for the study of cloud microphysics and dynamics. *BAMS*, **93**, 653–766. doi: 10.1175/BAMS-D-11-00044.1.
- Wang, Z., P. Wechsler, W. Kuestner, J. French, A. Rodi, B. Glover, M. Burkhart, and D. Lukens, 2009: Wyoming Cloud Lidar: instrument description and applications, *Optics Express* Vol. 17, Iss. 16, pp. 13576–13587.
- Stephens, G. L., D. G. Vane, R. Boain, G. G. Mace, K. Sassen, Z. Wang, A. Illingworth, E. O’Conner, W. B. Rossow, S. L. Durden, S. Miller, R. Austin, A. Benedetti, and C. Mitrescu, 2002: The CloudSat mission and the EOS constellation: A new dimension of space-based observations of clouds and precipitation. *Bull. Amer. Meteor. Soc.*, **83**, 1771–1790.

Synergistic Activities

1. The chief scientist of Wyoming King Air national facility (7/2006- 07/2018) as a part of NSF Lower Atmosphere Observing Facility (LOAF): leading the new airborne observational capability development to support University atmospheric research community.
2. Member of NASA/CloudSat science and algorithm development team, responsible for cloud scenario classification (2B-CLDCLAS and 2B-CLDCLASS-lidar) and 2C-ICE standard products development by combining CloudSat radar, CALIPSO lidar, and MODIS observations. These products are used by world wide atmospheric researchers.
3. Member of the DOE ARM/ASR science team (since 11/2002), responsible for algorithm development for mixed-phase and ice cloud microphysical property retrieval and cloud type classification by combining multiple remote sensor measurements from the ARM sites.
4. Developed Wyoming Cloud Lidar (WCL) and integrated it with Wyoming Cloud Radar and in situ probes for cloud study from NSF/NCAR C-130 and Wyoming King Air. Now WCL is a part of NSF LOAF widely used by University atmospheric research researchers for aerosol and cloud study.
5. As PI or Co-PI has participated in the following airborne field campaigns: The Ice in Clouds Experiments-Layer clouds (ICE-L, 2007) and Tropical (ICE-T, 2011), Wyoming Airborne Integrated Cloud Observations (WAICO, 2008-2009), The Wyoming King Air PBL Exploratory Experiment (2010), The Colorado Airborne Mixed-Phase Cloud Study (CAMPS, 2011), the PECAN (Plains Elevated Convection at Night, 2015).