# **Curriculum Vitae**

# Chenglai Wu

Department of Atmospheric Science, University of Wyoming 1000 East University Avenue, Laramie, WY 82071 Phone: (307)761-3339, Email: <u>cwu4@uwyo.edu</u>

# **Education**:

Ph.D. Meteorology September 2008-June 2013
University of Chinese Academy of Sciences and Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences, Beijing, China
Dissertation: Improvements of Dust Emission Processes in CESM Model and Its Application
B.S. Atmospheric sciences September 2004-June 2008
Nanjing University, Nanjing, China
Dissertation: A Simulation of Summer Precipitation over China using RegCM3

# **Employment and research experience**:

#### Postdoctoral Research Associate

Department of Atmospheric Science, University of Wyoming

- Improve physics parameterizations for high-resolution climate models
- Improve the representation of clouds and aerosols in climate models
- Assess the impact of air pollution on climate change using CESM

#### Assistant Professional Scientist

Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences

- Development and application of Earth/Climate System Model
- Simulation of dust storm and dust cycle in regional and global models
- Assess the impact of dust aerosol on the climate and environment

#### Visiting scholar

November 2009-February 2010

February 2015-now

July 2013-now

Institute for Geophysics and Meteorology, University of Cologne

• Evaluation of dust emission modeling in the framework of WRF-Chem mod el

# Professional skill:

Language: Chinese and English Software: GrADS, NCL, NCO, FORTRAN and Matlab Program: familiar with the platform of high performance computing Numerical mode ls: CESM, WRF/WRF-Chem, and RegCM3

#### **Publications:**

- Wu, C. L., and Z. H. Lin. 2014. The impact of two different dust emission schemes on the simulation of a severe dust storm in East Asia using WRF/Chem model, *Climatic and Environmental Research*, 19(4): 419-436. (In Chinese)
- Wu, C. L., and Z. H. Lin. 2013. Uncertainty in dust budget over East Asia simulated by WRF/Chem with different dust emission schemes, *Atmospheric and Oceanic Science Letters*, 6(6): 428-433.
- Zhou, X., C. L. Wu, Z. H. Lin, et al. 2011. Uncertainty Analysis of Surface Dust Emission Parameters of a Dust Model, *Journal of Desert Research*, 2011, 31(3): 575-582. (In Chinese)
- **Chenglai Wu** and Zhaohui Lin. 2015. Simulating the heavy dust pollution event in the Beijing-Tianjin-Hebei (BTH) region: Sensitivity to dust emission scheme and analysis of dust source and transportation. (Submitted to *Atmospheric Environment*)
- Shenming Fu, Jianhua Sun, Chenglai Wu, Linna Zhao, Jiaren Sun, and Jiawei Li. 2015. An integrated gust-driven dust modeling system and its numerical simulations. (Submitted to *Journal of Geophysical Research*)
- **Chenglai Wu**, Zhaohui Lin, Juangxiong He, Minghua Zhang. 2016. A process-or iented evaluation of dust emission parameterizations in CESM: Simulation of a typical severe dust storm over East Asia. (To be submitted)
- **Chenglai Wu,** Xiaohong Liu, Minghui Diao, Kai Zhang, Andrew Gettelman, Zhaohui Lin. 2016. Direct comparisons of ice cloud macro- and microphysical properties simulated by the Community Atmosphere Model CAM5 with HIPPO aircraft observations. (To be submitted)

#### **Presentations**:

- Wu, C. L., and Z. H. Lin. Modeling dust emission and transport over East Asia by WRF/Chem: sensitivity to dust emission schemes. The 13th International Regional Spectral Model Workshop, November 26–28, 2014, Yokohama, Japan.
- Wu, C. L., and Z. H. Lin. Global dust budget simulated by the community earth system model (CESM) coupled with a physically-based dust emission scheme. The Eight h International Conference on Aeolian Research (ICAR VIII), July 21–25, 2014, Lanzhou, China.
- Wu, C. L., S. M. Fu, Z. H. Lin, J. H. Sun. Simulations of sand and dust storms:

improvement of dust emission scheme and its applications. Presenting at the Institute of Meteorology, Hydrology and Environment (IMHE), Oct 14, 2013, Ulaanbaatar, Mongolia.