(updated on October 15, 2019)

Xianwen Jing

Research Fellow
Climate and Space Sciences and Engineering
University of Michigan

ADDRESS 2455 Hayward Street, Ann Arbor, MI 48109-2143, USA
TEL (734) 647-3340
EMAIL xianwen@umich.edu; jingxianwen@live.cn

NATIONALITY Chinese
DATE OF BIRTH May 2, 1982
PLACE OF BIRTH Xinxiang, Henan province, China
GENDER Male

Degrees

Ph.D. in Meteorology, Graduate University of Chinese Academy of Sciences, September 2009 – July 2012
M.S. in Meteorology, Nanjing University of information Science & Technology, September 2006 – June 2009
B.S. in Applied Meteorology, Nanjing University of information Science & Technology, September 2002 – June 2006

Work Experience

Dates	September 2019 – present
Position	Research Fellow
Employer	Climate and Space Sciences and Engineering, University of Michigan
Address	2455 Hayward Street, Ann Arbor, MI 48109-2143, USA
Duties	Upgrade the surface spectral emissivity and longwave cloud scattering treatment in E3SM and CESM2 and assess the impact on Arctic climate.

Dates	June 2016 – May 2019
Position	Postdoctoral Fellow
Employer	Atmosphere and Ocean Research Institute, the University of Tokyo
Address	5-1-5 Kashiwanoha, Kashiwa, Chiba 277-8568, JAPAN
Duties	Evaluation of warm rain processes in state-of-the-art global climate models with data from multi-sensor satellite observations.

Dates	July 2012 – May 2016
Position	Associate Researcher
Employer	National Climate Center, Chinese Administration of Meteorology
Address	No.46 Zhongguancun Nandajie, Haidian, Beijing 100081, CHINA
Duties	Improvement of Cloud-Radiation scheme in the global climate model of National Climate Center; Satellite-based study on sub-grid scale cloud structures and the corresponding constraint in GCM.

Research Interest

Cloud microphysics & macrophysics; Atmospheric radiation; Remote sensing; Climate simulation.

Skills

Proficiency with Fortran, Python, NCL, GrADS, and Unix Shell; Expertise in climate modeling and satellite data analysis; Excellent oral and written communications in English; Ability to work independently and collaboratively.

Awards

Excellent Poster Award of the 28th Annual meeting of Chinese Meteorological Society, November 2011, Xiamen, China.

Outstanding Graduates of Nanjing University of Information Science & Technology, November 2005, Nanjing, China.

Advanced Individual Special Award of Summer Social Practice, Nanjing University of Information Science & Technology, October 2005, Nanjing, China.

Publications

Publications in English

1. **Jing, X.**, K. Suzuki, and T. Michibata, 2019. The Key Role of Warm Rain Parameterization in Determining the Aerosol Indirect Effect in a Global Climate Model. *J. Climate*, 32, 4409–4430, https://doi.org/10.1175/JCLI-D-18-0789.1.
2. Michibata, T., Suzuki, K., Ogura, T., and **Jing, X**.: Incorporation of inline warm rain diagnostics into the COSP2 satellite simulator for process-oriented model evaluation, Geosci. Model Dev., 12, 4297–4307, https://doi.org/10.5194/gmd-12-4297-2019, 2019.

3. Stephens G. L., M. Christensen, T. Andrews, J. Haywood, F. Malavelle, K. Suzuki, **X. Jing**, M. Lebsock, J. L. Li, H. Takahshi, and O. Sy, 2019. Cloud Physics from Space, *Q. J. Royal Meteorol. Soc*., https://doi.org/10.1002/qj.3589.
4. Maloney, E.D., A. Gettelman, Y. Ming, J.D. Neelin, D. Barrie, A. Mariotti, C. Chen, D.R. Coleman, Y. Kuo, B. Singh, H. Annamalai, A. Berg, J.F. Booth, S.J. Camargo, A. Dai, A. Gonzalez, J. Hafner, X. Jiang, **X. Jing**, D. Kim, A. Kumar, Y. Moon, C.M. Naud, A.H. Sobel, K. Suzuki, F. Wang, J. Wang, A.A. Wing, X. Xu, and M. Zhao, 2019: Process-Oriented Evaluation of Climate and Weather Forecasting Models. *Bull. Amer. Meteor. Soc.*, 100, 1665-1686, https://doi.org/10.1175/BAMS-D-18-0042.1.
5. **Jing X.,** and K. Suzuki, 2018. The impact of process-based warm rain constraints on the aerosol indirect effect. *Geophys. Res. Lett.*, 45, 10,729–10,737, https://doi.org/10.1029/2018GL079956.
6. **Jing X.**, H. Zhang, M. Satoh, and S. Zhao, 2018. Improving Representation of Tropical Cloud Overlap in GCMs Based on Cloud-Resolving Model Data. *J. Meteor. Res.*, 32(2), 233-245, https://doi.org/10.1007/s13351-018-7095-9.
7. **Jing X.**, K. Suzuki, H. Guo, D. Goto, T. Ogura, T. Koshiro, and J. Mülmenstädt, 2017. A multi-model study on warm precipitation biases in global models compared to satellite observations, *J. Geophys. Res*., 122, 11,806-11,824, https://doi.org/10.1002/2017JD027310. **(Featured by J. Geophys. Res. atmosphere)**
8. Zhao S., H. Zhang, Z. Wang, and **X. Jing**, 2017. Simulating the Effects of Anthropogenic Aerosols on Terrestrial Aridity Using an Aerosol–Climate Coupled Model. *J. Climate*, 30, 7451–7463, https://doi.org/10.1175/JCLI-D-16-0407.1.
9. Zhang F., K. Wu, P. Liu, **X. Jing**, and J. Li, 2017. Accounting for Gaussian quadrature in four-stream radiative transfer algorithms, *J. Quantitative Spectroscopy and Radiative Transfer*, 192, 1–13, https://doi.org/10.1016/j.jqsrt.2017.01.040.
10. Tang W., K.Yang, J. Qin, X. Niu, C. Lin, and **X. Jing**, 2017. A revisit to decadal change of aerosol optical depth and its impact on global radiation over China, *Atmospheric Environment*, 150, 106–115, https://doi.org/10.1016/j.atmosenv.2016.11.043.
11. **Jing X.**, H. Zhang, J. Peng, J. Li, and H. Barker, 2016. Cloud Overlapping parameter Obtained from CloudSat/CALIPSO Dataset and Its Application in AGCM with McICA Scheme. *Atmospheric Research*, 170: 52–65, https://doi.org/10.1016/j.atmosres.2015.11.007.
12. Zhang H. and **X. Jing*** (**corresponding author**), 2016. Advances in Studies on Cloud Overlap and Its Radiative Transfer in Climate Models. *J. Meteor. Res*., 30, 156–168, https://doi.org/10.1007/s13351-016-5164-5.
13. Zhang H., Z. Wang, F. Zhang, and **X. Jing,** 2015. Impact of four-stream radiative transfer algorithm on aerosol direct radiative effect and forcing. *Int. J. Climatol*., 35: 4318–4328, https://doi.org/10.1002/joc.4289.
14. Zhang H., **X. Jing,** and J. Li, 2014. Application and evaluation of a new radiation code under McICA scheme in BCC_AGCM2.0.1. *Geosci. Model Dev*. 7(3): 737–

754, https://doi.org/10.5194/gmd-7-737-2014.

15. **Jing X.** and H. Zhang, 2013. Application and evaluation of McICA scheme in BCC_AGCM2.0.1. *AIP Conference Proceedings*, 1531, 756–759, https://doi.org/10.1063/1.4804880.
16. Wang Z., H. Zhang, J. Li, **X. Jing**, and P. Lu, 2013. Radiative forcing and climate response due to the presence of black carbon in cloud droplets, *J. Geophys. Res. Atmos*., 118, 3662–3675, https://doi.org/10.1002/jgrd.50312.
17. Wang Z., H. Zhang, **X. Jing**, X. Wei, 2013. Effect of non-spherical dust aerosol on its direct radiative forcing, *Atmospheric Research*, 120–121, 112–126.
18. Zhang H., J. Peng, **X. Jing,** and J. Li, 2013. The features of cloud overlapping in Eastern Asia and their effect on cloud radiative forcing. *Sci. China Earth Sci*. 56: 737–747, https://doi.org/10.1007/s11430-012-4489-x.
19. Lu P., H. Zhang, and **X. Jing,** 2012**.** The effects of different HITRAN versions on calculated long-wave radiation and uncertainty evaluation. *Acta Meteorol. Sin*. 26: 389–398, https://doi.org/10.1007/s13351-012-0310-1.

Selected publications in Chinese

20. Zhang H., P. Lu, **X. Jing**, 2015. Application of Two-Four Stream Spherical Harmonic Expansion Approximation in a Global Climate Model. Chinese Journal of Atmospheric Sciences (in Chinese), 39(1): 137–144, https://doi.org/10.3878/j.issn.1006-9895.1404.13316.
21. **Jing X.**, H. Zhang, 2012. Application and Evaluation of McICA Cloud-Radiation Framework in the AGCM of the National Climate Center. Chinese Journal of Atmospheric Sciences (in Chinese), 36(5): 945–958, https://doi.org/10.3878/j.issn.1006-9895.2012.11155.
22. Zhang H., **X. Jing**, 2010. Effect of cloud overlap assumptions in climate models on modeled earth-atmosphere radiative fields. Chinese Journal of Atmospheric Sciences (in Chinese), 34(3): 520–532, http://doi.org/10.3878/j.issn.1006-9895.2010.03.06.
23. **Jing X.**, H. Zhang, P. Guo, 2009. A Study of the Effect of Sub-grid Cloud Structure on Global Radiation in Climate Models. Acta Meteorologica Sinica (in Chinese), 67(6): 1058–1068, https://doi.org/10.11676/qxxb2009.102.

Presentations at International Conferences

1. December 10–14, 2018, The AGU 2018 Fall Meeting. Washington DC, U.S. Title: Decisive Role of the Warm Rain Formation Process in Modulating Aerosol Indirect Effect in a Global Climate Model. Oral.
2. July 9–13, 2018, 15th Conference on Cloud Physics/15th Conference on Atmospheric Radiation. Vancouver, Canada. Title: Observation based constraint on cloud-to-precipitation transition deteriorates aerosol-cloud interaction: possibly a common problem among GCMs. Poster.
3. May 20–24, 2018, The Japan Geoscience Union meeting 2018. Makuhari Messe,

Japan. Title: Dichotomy between process-level constraint on warm rain and energy-based requirement on aerosol indirect effect in GCM. Poster.

4. December 11–15, 2017, The AGU 2017 Fall Meeting. New Orleans, U.S. Title: Warm Precipitation Biases and the Effect on Aerosol Indirect Radiative Forcing in GCMs. Poster.
5. September 25–28, 2017, CFMIP Meeting on Clouds, Precipitation, Circulation, and Climate Sensitivity. Tokyo, Japan. Title: The too-fast, too-frequent precipitation simulated in GCMs. Poster.
6. May 20–25, 2017, The Japan Geoscience Union meeting 2017. Makuhari Messe, Japan. Title: The too-fast, too-frequent precipitation simulated in GCMs. Oral.
7. April 17–22, 2016, The 2016 International Radiation Symposium. Auckland, New Zealand. Title: Two Approaches for Better Representing Cloud Overlap in GCMs: Data-based constraint and Dynamic Parameterization. Poster.
8. June 22–July 2, 2015, The 26th General Assembly of the International Union of Geodesy and Geophysics. Prague, Czech Republic. Title: Application and evaluation of a new radiation code under McICA scheme in BCC_AGCM2.0. Poster.

Peer Reviewer

SN Applied Sciences

Academic Membership

Member of American Geophysical Union
Member of Chinese Meteorological Society