**Xiao-Ming Hu**

**Adjunct associate professor**  **(405)325-0402**

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**Norman, Oklahoma 73019**

**Education**

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| BS | Atmospheric Science | Peking University | 2001 |
| MS | Atmospheric Physics and Environment | Peking University | 2004 |
| PHD | Air Quality | North Carolina State | 2008 |

**Professional Experience**

2008 - 2011 Penn State University, University Park, Pennsylvania

Postdoctoral Researcher

2011 - present, University of Oklahoma, Norman, OK

Senior Research Scientist

2014 - present, University of Oklahoma, Norman, OK

Adjunct associate professor

**Representative publications on emissions from oil and gas systems**

1. Hu X, Crowell S, Wang Q, Zhang Y, Davis K, Xue M, Xiao X, Moore B, Wu X, Choi Y, DiGangi J. Dynamical Downscaling of CO 2 in 2016 Over the Contiguous United States Using WRF‐VPRM, a Weather‐Biosphere‐Online‐Coupled Model. Journal of Advances in Modeling Earth Systems. 2020 April 06; 12(4):-. Available from: https://onlinelibrary.wiley.com/doi/10.1029/2019MS001875 DOI: 10.1029/2019MS001875
2. Hu X, Hu J, Gao L, Cai C, Jiang Y, Xue M, Zhao T, Crowell S. Multisensor and Multimodel Monitoring and Investigation of a Wintertime Air Pollution Event Ahead of a Cold Front Over Eastern China. Journal of Geophysical Research: Atmospheres. 2021 May 25; 126(10):-. Available from: https://onlinelibrary.wiley.com/doi/10.1029/2020JD033538 DOI: 10.1029/2020JD033538
3. Hu X, Gourdji S, Davis K, Wang Q, Zhang Y, Xue M, Feng S, Moore B, Crowell S. Implementation of Improved Parameterization of Terrestrial Flux in WRF‐VPRM Improves the Simulation of Nighttime CO 2 Peaks and a Daytime CO 2 Band Ahead of a Cold Front. Journal of Geophysical Research: Atmospheres. 2021 May 14; 126(10):-. Available from: https://onlinelibrary.wiley.com/doi/10.1029/2020JD034362 DOI: 10.1029/2020JD034362
4. Dong X, Yue M, Jiang Y, Hu X, Ma Q, Pu J, Zhou G. Analysis of CO<sub>2</sub> spatio-temporal variations in China using a weather–biosphere online coupled model. Atmospheric Chemistry and Physics. 2021 May 12; 21(9):7217-7233. Available from: https://acp.copernicus.org/articles/21/7217/2021/ DOI: 10.5194/acp-21-7217-2021
5. Xiao-Ming Hu, Ming Xue, Lan Gao, Sean Crowell. Impact of 2019 mid-west flood on CO2 and CH4 using yearly WRF-GHG simulations over the contiguous United States. 2021 October. Available from: https://doi.org/10.1002/essoar.10508159.1 DOI: 10.1002/essoar.10508159.1

**Synergistic activities**

1. 2017-2021: further development of the WRF-VPRM model to study CO2 (Hu et al., 2020, JAMES, 2021, JGR)
2. 2016-2019: developed the SREF-WRF/Chem ensemble air quality forecasting system to investigate the air quality issues in the south Great Plains (Hu et al., 2019, JGR)
3. 2015-2016: developed a slab dispersion model to investigate the boundary-layer air quality in the North China Plain (Hu et al., 2016, BLM)
4. 2008-2009: developed the EnKF parameter estimation system to optimize the boundary-layer schemes in the WRF model (Hu et al., 2010, GRL)
5. 2004-2008: incorporated the MADRID aerosol module into WRF/Chem and developed the air quality modeling system WRF/Chem-MARDRID (Hu et al., 2008, JGR)