

**Dien Wu**

University of Utah, Department of Atmospheric Sciences, Salt Lake City, UT 84112, USA

E-mail: [Dien.Wu@utah.edu](mailto:Dien.Wu@utah.edu)

Phone: (850) 570-7132

**Education**

University of Utah	Ph.D. (Atmospheric Sciences)	2016 – Expected April 2020	Salt Lake City, USA
University of Utah	M.S. (Atmospheric Sciences)	2014 – 2016	Salt Lake City, USA
Florida State University (joint with NUIST below)	B.S. (Meteorology)	2012 – 2014	Tallahassee, USA
Nanjing University of Information Science and Technology (NUIST)		2010 – 2012	Nanjing, China

**Employment**

Graduate Research Assistant, Dept. of Atmospheric Sciences, University of Utah, 2014 – present

**Professional Experience**

NASA Orbiting Carbon Observatory (OCO-2) Science Team Member, 2016 – present

**List of Peer-Reviewed Publications****Submitted/In review**

8. Yang, E.G., E.A. Kort, **D. Wu**, J.C. Lin, T. Oda, X. Ye, and T. Lauvaux: Using space-borne observations and Lagrangian modeling to evaluate urban carbon dioxide emissions in the Middle East, *Journal of Geophysical Research-Atmospheres* (in review).
7. Ye, X., T. Lauvaux, E.A. Kort, T. Oda, S. Feng, J.C. Lin, E. Yang, and **D. Wu**: Constraining fossil fuel CO<sub>2</sub> emissions from urban area using OCO-2 observations of total column CO<sub>2</sub>, *Journal of Geophysical Research-Atmospheres* (in review).

**Published/Accepted**

6. **Wu, D.**, J.C. Lin, T. Oda, and E.A. Kort: Space-based quantification of per capita CO<sub>2</sub> emissions from cities, *Environ. Res. Lett.*, <https://doi.org/10.1088/1748-9326/ab68eb>, accepted, 2020.
5. Hernandez, A.J., Morales-Rincon, L.A., **Wu, D.**, Mallia, D., Lin, J.C. and Jimenez, R.: Transboundary transport of biomass burning aerosols and photochemical pollution in the Orinoco River Basin. *Atmospheric Environment*, <https://doi.org/10.1016/j.atmosenv.2019.01.051>, 2019.
4. **Wu, D.**, Lin, J. C., Fasoli, B., Oda, T., Ye, X., Lauvaux, T., Yang, E. G., and Kort, E. A.: A Lagrangian approach towards extracting signals of urban CO<sub>2</sub> emissions from satellite observations of atmospheric column CO<sub>2</sub> (XCO<sub>2</sub>): X-Stochastic Time-Inverted Lagrangian Transport model (“X-STILT v1”), *Geosci. Model Dev.*, 11, 4843-4871, <https://doi.org/10.5194/gmd-11-4843-2018>, 2018.
3. Ye, X., Lauvaux, T., Kort, E. A., Oda, T., Feng, S., Lin, J. C., Yang, E., and **Wu, D.**: Constraining fossil fuel CO<sub>2</sub> emissions from urban area using OCO-2 observations of total column CO<sub>2</sub>, *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2017-1022>, 2017.

2. Mallia, D.V., A. Kochanski, **D. Wu**, C. Pennell, W. Oswald, and J.C. Lin: Wind-Blown Dust Modeling Using a Backward-Lagrangian Particle Dispersion Model. *J. Appl. Meteor. Climatol.*, 56, 2845–2867, <https://doi.org/10.1175/JAMC-D-16-0351.1>, 2017.
1. Lin, J. C., Mallia, D. V., **Wu, D.**, and Stephens, B. B.: How can mountaintop CO<sub>2</sub> observations be used to constrain regional carbon fluxes?, *Atmos. Chem. Phys.*, 17, 5561–5581, <https://doi.org/10.5194/acp-17-5561-2017>, 2017.

## Master Thesis

**Wu, Dien.** "Top-Down Constraints on CO Emissions from Wildfire Inventories using a Receptor-Oriented Lagrangian Particle Dispersion Model.", *The University of Utah*, 2016.  
<http://ezproxy.lib.utah.edu/docview/1874986514?accountid=14677>.

## Oral and Poster Presentations

- Wu, D.**, J.C. Lin, B. Fasoli, T. Oda, E.A. Kort, and Duarte, H., Towards quantifying urban CO<sub>2</sub> emissions for global cities using column CO<sub>2</sub> and SIF data, *AGU Fall Meeting*, San Francisco, CA, 09-13 Dec, **2019** (eLightning).
- Wu, D.**, J.C. Lin, H. Duarte, G. Wei, K. Wu, S. Richardson, N. Miles, K. Davis, E. A. Kort: Towards improving the modeling of urban biosphere using Solar-induced Fluorescence (SIF), *AGU Chapman Conference on understanding carbon climate feedbacks*, San Diego, CA, 26-29 Aug, **2019** (poster).
- Wu, D.**, J. C. Lin, T. Oda, and E. A. Kort: Do denser cities emit less CO<sub>2</sub>? A first estimate using a CO<sub>2</sub> satellite, *OCO-2/OCO-3 Science Team telecon*, 14 May, **2019** (oral).
- Wu, D.**, J. C. Lin, Oda, T., Ye, X., Lauvaux, T., Yang, E., and Kort, E. A., Towards Interpreting the Signal of CO<sub>2</sub> Emissions from Megacities by Applying a Lagrangian Receptor-oriented Model to OCO-2 XCO<sub>2</sub> data, *AGU Fall Meeting*, New Orleans, LA, 11-15 Dec, **2017** (oral).
- Wu, D.**, J. C. Lin, Oda, T., Ye, X., Lauvaux, T., Yang, E., and Kort, E. A., Towards interpreting the signal of CO<sub>2</sub> emissions from Megacities by applying a Lagrangian receptor-oriented model (STILT) to OCO-2 XCO<sub>2</sub> data, *OCO-2 Science Team Meeting*, Pasadena, CA, 20-24, March, **2017** (oral and poster).
- Mallia, D. V., A. Kochanski, **D. Wu**, S. Urbanski, and J. C. Lin, Integrating wildfire plume rises within atmospheric transport models, *AGU Fall meeting*, San Francisco, CA, 12-16 Dec, **2016**.
- Wu, D.**, D. V. Mallia, S. P. Urbanski, J. C. Lin, Top-down Constraints on CO Emissions from Wildfire Inventories Using a Receptor-oriented Lagrangian Particle Dispersion Model, *AMS Third Conference on Biogeoscience*, Salt Lake City, UT, 20-25 June **2016** (oral).
- Lin, J. C., B. B. Stephens, D. V. Mallia, **D. Wu**, H. Duarte, S. Urbanski, and J. Ehleringer, How can we constrain regional carbon fluxes in the American Rockies from atmospheric measurements?, *5th NCAP and AmeriFlux Joint Meeting*, Washington, D.C, 26-29 Jan, **2015**.
- Lin, J. C., D. V. Mallia, **D. Wu**, S. Urbanski, and B. B. Stephens, Quantifying the influence of biomass burning on measurements site in the western U.S., *AGU Fall Meeting*, San Francisco, CA, 15-19 Dec, **2014**.

### **Peer Review Activities**

Reviewers for *MDPI-Atmosphere*, *MDPI-Sensors*, and *Remote Sensing Letters*

### **Technical Skills**

Programming languages: **R**, Fortran, LaTeX, MATLAB; Python (beginner)

Modeling experience: WRF-ARW, STILT

### **Professional Association**

American Geophysical Union

### **Scholarships and Honors**

- Pass the Graduate Qualifying Exam with distinction, University of Utah, 05/2015
- Graduate with Magna cum laude, Florida State University, 05/2014
- Dean's List, Florida State University, Fall 2012, Spring 2013, Fall 2013, Spring 2014
- Prize for being one of the excellent class leaders, NUIST, 06/2012
- Second tier scholarship (top 10%), NUIST, 2010, 2011