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Dien Wu

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Education

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

Employment

Postdoctoral Scholar Research Associate, Division of Geological and Planetary Sciences, California Institute of Technology, July 2020 – present

Graduate Research Assistant, Dept. of Atmospheric Sciences, University of Utah, Aug 2014 – June 2020

Professional Experience

NASA Orbiting Carbon Observatory (OCO-2/3) Science Team Member, 2016 – present

List of Peer-Reviewed Publications

Submitted/In review

11. Lei, R., S. Feng, A. Danjou, G. Broquet, **D. Wu**, J.C. Lin, Chris O'Dell, and Thomas Lauvaux: Urban CO_2 emissions from space over a fast-growing metropolitan area: a multi-model analysis with OCO-2 data over Lahore, Pakistan, *Remote Sensing of the Environment*, in review.

Published/Accepted

10. **Wu, D.,** J. C. Lin, H. F. Duarte, V. Yadav, N. C. Parazoo, T. Oda, and E. A. Kort: A Model for Urban Biogenic CO_2 Fluxes: Solar-Induced Fluorescence for Modeling Urban biogenic Fluxes (SMUrF), *Geosci. Model Dev. Discuss.*, https://doi.org/10.5194/gmd-2020-301, accepted, 2021.

9. Qu, Z., **D. Wu**, Henze, D. K., Li, Y., Sonenberg, M., and Mao, F.: Transboundary transport of ozone pollution to a US border region: a case study of Yuma. *Environmental Pollution*, 273, Pp. 116421, 2021.

8. Roten, D., **Wu, D.**, Fasoli, B., Oda, T., & Lin, J. C.: An interpolation method to reduce the computational time in the Stochastic Lagrangian particle dispersion modeling of spatially dense XCO_2 retrievals. *Earth and Space Science*, 8, e2020EA001343. https://doi.org/10.1029/2020EA001343, 2021.

7. Ye, X., T. Lauvaux, E.A. Kort, T. Oda, S. Feng, J.C. Lin, E. Yang, and **D. Wu**: Constraining fossil fuel CO_2 emissions from urban area using OCO-2 observations of total column CO_2. *Journal of Geophysical Research: Atmospheres*, 125, e2019JD030528. https://doi.org/10.1029/2019JD030528, 2020.

6. Yang, E.G., E.A. Kort, **D. Wu,** J.C. Lin, T. Oda, X. Ye, and T. Lauvaux: Using space-based observations and Lagrangian modeling to evaluate urban carbon dioxide emissions in the Middle East. *Journal of Geophysical Research: Atmospheres*, 125, e2019JD031922. https://doi.org/10.1029/2019JD0319222, 2020.

5. **Wu, D.,** J.C. Lin, T. Oda, and E.A. Kort: Space-based quantification of per capita CO_2 emissions from cities, *Environ. Res. Lett*, https://doi.org/10.1088/1748-9326/ab68eb, 2020.

4. 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.

3. **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_2 emissions from satellite observations of atmospheric column CO_2 (XCO_2): 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.

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_2 observations be used to constrain regional carbon fluxes?, *Atmos. Chem. Phys*., 17, 5561-5581, https://doi.org/10.5194/acp-17-5561-2017, 2017.

Oral and Poster Presentations

Wu, D., J.C. Lin, B. Fasoli, T. Oda, E.A. Kort, and Duarte, H., Towards quantifying urban CO_2 emissions for global cities using column CO_2 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_2? A first estimate using a CO_2 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_2 Emissions from Megacities by Applying a Lagrangian Receptor-oriented Model to OCO-2 XCO_2 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_2 emissions from Megacities by applying a Lagrangian receptor-oriented model (STILT) to OCO-2 XCO_2 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

Reviewer for *Geophysical Research Letters*, *Environmental Research Letters*, and *Remote Sensing*.

Technical Skills

Programming languages: **R**, Fortran, LaTeX; Python (beginner)
Modeling experience: STILT, X-STILT, WRF-ARW; WRF-chem (beginner)

Professional Association

American Geophysical Union

Scholarships and Honors

- Edward J. Zipser Award, Excellence in Graduate Research, University of Utah, 05/2020
- Pass the Graduate Qualifying Exam with distinction, University of Utah, 05/2015
- Gradate 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