

DANIEL CUSWORTH

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EDUCATION

Harvard University *September 2013 - June 2018*
Ph.D: Atmospheric Chemistry, minor in Computer Science
S.M: Applied Mathematics

University of California, Los Angeles *March 2012*
B.S: Mathematics and Atmospheric & Oceanic Sciences

RESEARCH EXPERIENCE

Carbon Mapper, Inc. *Pasadena, CA*
Project Scientist *2021 - Present*

University of Arizona *Tucson, AZ*
Research Scientist *2021 - Present*

NASA Jet Propulsion Laboratory *Pasadena, CA*
Affiliate Scientist *2021 - Present*
Data Scientist *2020 - 2021*
JPL Postdoctoral Scholar *2018 - 2020*
DEVELOP Researcher *2012*

Harvard Department of Earth & Planetary Sciences *Cambridge, MA*
Graduate Student Research Fellow *2013 - 2018*

Legendary Entertainment Applied Analytics *Boston, MA*
Data Science Intern *2016 - 2017*

The Cadmus Group, Inc. *Waltham, MA*
Research Analyst *2012 - 2013*

**UCLA Joint Institute for Regional Earth System
Science and Engineering (JIFRESSE)** *Los Angeles, CA*
Research Assistant *2011 - 2012*

PUBLICATIONS

Ma, S., Worden, J., Bloom, A.A., Zhang, Y., Poulter, B., **Cusworth, D.H.**, Yin, Y., Pandey, S., Maasackers, J.D., Lu, X., Shen, L., Sheng, J.S., Frankenberg, C., Miller, C.E., and D.J. Jacob (2021). *Satellite constraints on the latitudinal distribution and temperature sensitivity of wetland methane emissions*, In Review at AGU Advances

Lauvaux, T., Giron, C., Mazzolini, M., d'Aspremont, A., Duren, R., **Cusworth, D.H.**, Shindell, D., and P. Ciais (2021). *Global Assessment of Oil and Gas Methane Ultra-Emitters*, Submitted to Science

Guanter, L., Irakulis-Loitxate, I., Gorrone, J., Sanchez-Garcia, E., **Cusworth, D.H.**, Varon, D.J., Cogliati, S., and R. Colombo (2021). *Mapping methane point emissions with the PRISMA spaceborne imaging spectrometer*, In Review at Remote Sensing of the Environment

Foote, M. D., Dennison, P. E., Sullivan, P. R., O'Neill, K. B., Thorpe, A. K., Thompson, D. R., **Cusworth, D. H.**, Duren, R. M., and S.C. Joshi (2021). *Impact of scene-specific absorption spectra on matched filter greenhouse gas retrievals from imaging spectroscopy*, In Review at Remote Sensing of the Environment

Cusworth, D. H., Duren, R. M., Thorpe, Olson-Duvall, W., Heckler, J., Chapman, J.W., Eastwood, M.L., Helmlinger, M.C., Green, R.O., Asner, G.P., Dennison, P.E., and C.E. Miller (2021). *Intermittency of large methane emitters in the Permian Basin*, Environmental Science & Technology Letters

Irakulis-Loitxate, I., Guanter, L., Liu, Y.N., Varon, D.J., Maasackers, J.D., Zhang, Y., Chulakadabba, A., Wofsy, S.C., Thorpe, A.K., Duren, R.M., Frankenberg, C., Lyon, D., Hmiel, B., **Cusworth, D.H.**, Zhang, Y., Segl, K., Gorrone, J., Sanchez-Garcia, E., Sulprizio, M.P., Cao, K., Zhu, H., Liang, J., Li, X., Aben, I., and D.J. Jacob (2021), *Satellite-based Survey of Extreme Methane Emissions in the Permian Basin*, Science Advances

Cusworth, D. H., Duren, R. M., Thorpe, Dennison, P.E., Frankenberg, C., and C.E. Miller (2021). *Quantifying Global Power Plant Carbon Dioxide Emissions With Imaging Spectroscopy*, AGU Advances

Cusworth, D. H., Duren, R. M., Thorpe, A. K., Pandey, S., Maasackers, J. D., Aben, I., Jarvis, D., Varon, D.J., Jacob, D.J., Randles, C.A., Gautam, R., Omara, M., Schade, G.W., Dennison, P.E., Frankenberg, C., Gordon, D., Lopinto, E., and C.E. Miller (2021). *Multisatellite imaging of a gas well blowout enables quantification of total methane emissions*, Geophysical Research Letters

Cusworth, D. H., Duren, R. M., Yadav V., Thorpe, A. K., Verhulst K., Sander S., Hopkins, F., Rafiq, T., and C.E. Miller (2020), *Synthesis of methane observations across scales: Strategies for deploying a multi-tiered observing network.*, Geophysical Research Letters

Guha, A., Newman, S., Fairley, D., Dinh, T., Duca, L., Conley, S., Smith, M., Thorpe, A. K., Duren, R. M., **Cusworth, D. H.**, Foster, K. T., Fischer, M., Jeong, S., Yesiller, N., Hanson, J., and P. Martien (2020), *Assessment of Regional Methane Emissions Inventories through Airborne Quantification in the San Francisco Bay Area*, Environmental Science & Technology

Cusworth, D. H., Duren, R. M., Thorpe, A. K., Tseng, E., Thompson, D., Guha, A., Newman, S., and C.E. Miller (2020), *Using remote sensing to detect, validate, and quantify methane emissions from California solid waste operations.*, Environmental Research Letters

Cusworth, D. H., Jacob, D. J., Varon, D. J., Chan Miller, C., Liu, X., Chance, K., Thorpe, A. K., Duren, R. M., Miller, C. E., Thompson, D. R., Frankenberg, C., Guanter, L., and C.A. Randles (2019), *Potential of next-generation imaging spectrometers to detect and quantify methane point sources from space*, Atmos. Meas. Tech.

Cusworth, D. H., Jacob, D. J., Sheng, J.-X., Benmergui, J., Turner, A. J., Brandman, J., White, L., and C.A. Randles (2018), *Detecting high-emitting methane sources in oil/gas fields using satellite observations*, Atmos. Chem. Phys.

Cusworth, D.H., Mickley, L.J., Sulprizio, M.P., Liu, T., Marlier, M.E., and R.S. DeFries (2018), *Quantifying the influence of agricultural fires in northwest India on urban air pollution in Delhi, India*, Environ. Res. Lett.

Liu, T., Marlier, M.E., DeFries, R.S., Westervelt, D.M., Xia, K.R., Fiore, A.M., Mickley, L.J., **Cusworth, D.H.**, and G. Milley (2018), *Contributions of agricultural burning to air pollution in three Indian cities: Delhi, Bengaluru, and Pune*, Atmos. Environ.

Cusworth, D.H., L.J. Mickley, E.M. Leibensperger, and M.J. Iacono (2017), *Aerosol trends as a potential driver of regional climate in the central United States: Evidence from observations*, Atmos. Chem. Phys.

AWARDS

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- Principal Investigator, *Space-based Detection and Quantification of CO₂ Point Sources*, NASA Orbiting Carbon Observatory Science Team
 - Co-Investigator, *Multi-tiered Carbon Monitoring System*, NASA Carbon Monitoring System

- Co-Investigator, *Multi-scale Methane Analytic Framework (M²AF)*, NASA Advanced Information Systems Technology
- Participant, ACCESS XVI Chemistry Colloquium for Emerging Senior Scientists, Brookhaven National Laboratory, 2021
- Honorable Mention, NSF Graduate Research Fellowship Program, 2015
- Alan Howard Foundation Graduate Fellowship, 2013

ACTIVITIES

- Member, American Geophysical Union
- Member, European Geophysical Union
- Reviewer, Journal of Geophysical Research: Atmospheres
- Reviewer, Atmospheric Chemistry and Physics
- Reviewer, Scientific Reports
- Reviewer, Remote Sensing
- Reviewer, Remote Sensing of the Environment
- Reviewer, Environmental Research Letters