

Eric A. Kort

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RESEARCH APPOINTMENTS

Assistant Professor

Climate and Space Sciences and Engineering, 2013-present
Applied Physics
University of Michigan, Ann Arbor, MI

W. M. Keck Institute for Space Studies Postdoctoral Fellow

Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 2011-2013

EDUCATION

Ph.D., Applied Physics, Harvard University, Cambridge, MA 2011
S.M., Applied Physics, Harvard University, Cambridge, MA 2005
B.A., Physics (with Honors), minor Mathematics, Pomona College, Claremont, CA 2004

HONORS AND AWARDS

NSF CAREER award 2017
NASA New Investigator Program (NIP) in Earth Science award 2014
Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS) 2013
W. M. Keck Institute for Space Studies Postdoctoral Fellowship 2011-2013
National Center for Atmospheric Research
Advanced Study Program Postdoctoral Fellowship (Declined) 2011
Outstanding Student Paper Award, Fall Meeting, AGU 2010
National Defense Science and Engineering Graduate (NDSEG) Fellowship 2007-2010
Edmunds Physics Prize, Pomona College 2004
Tileston Physics Prize, Pomona College 2003

AIRBORNE CAMPAIGNS

Stratosphere-Troposphere Analyses of Regional Transport (START08), Broomfield, CO, Spring 2008
HIAPER Pole to Pole Observations (HIPPO-1), Pole to Pole, Winter 2009
HIPPO-2, Pole to Pole, Fall 2009; HIPPO-3, Pole to Pole, Spring 2010
California Nexus, Research at the Nexus of Air Quality and Climate Change (CALNEX), Ontario, CA, Spring 2010
HIPPO-4, Pole to Pole, Spring-Summer 2011; HIPPO-5, Pole to Pole, Summer-Fall 2011
*Barnett methane emissions study (Environmental Defense Fund), Denton, TX, Fall 2013
*Twin Otter Project Defining Oil/gas Well emissioNs (TOPDOWN), North Dakota, Colorado, Spring 2014
** TOPDOWN, New Mexico** & Pennsylvania*, Spring 2015
*The O₂/N₂ Ratio and CO₂ Airborne Southern Ocean Study (ORCAS), Chile, Winter 2016
(* instrument PI and/or mission scientist, ** overall project PI)

TEACHING

Earth System Evolution (AOSS 320, CLIMATE 320), University of Michigan, Fall 2014, 2015, 2016
 Earth System Interactions (AOSS 475), University of Michigan, Winter 2014, 2015, 2016, 2017
 AOSS Seminar (AOSS 749), University of Michigan, Fall 2014 & Winter 2015
 Science A-30 (The Atmosphere), Teaching Fellow, Prof. Steven Wofsy, Harvard University, 2008
 Physics 11b (Electricity & Magnetism), Teaching Fellow, Prof. Eric Mazur, Harvard University, 2006

SERVICE ACTIVITIES

Peer reviewer for *Nature*, *PNAS*, *Nature Geoscience*, *Geophysical Research Letters*, *Nature Scientific Reports*, *Atmospheric Chemistry and Physics*, *Journal of Geophysical Research*, *Environmental Pollution*, *Atmospheric Measurement Techniques*, and *Environmental Science and Technology*
 Proposal reviewer (*NSF*, *NERC*, *Belmont Forum*, *Netherlands Space Office*, *Swedish National Space Board*) & panelist for *NASA* (2013, 2014 [2], 2016)
 American Geophysical Union member
 JPL Carbon Cycle & Ecosystems Initiative steering committee member (2013)
 Michigan Geophysical Union judge (2014, 2015)
 University of Michigan College of Engineering Graduate Symposium conference judge (2015)
 Atmospheric, Oceanic and Space Sciences Seminar co-organizer (2014-2015)
 President Schlissel's committee on Greenhouse Gas Reduction, University of Michigan (2014-2015)
 UM Integrated Assessment on Hydraulic Fracturing in Michigan (consulting member; 2014-2015)
 Co-chair of NACP breakout session on "Quantification and attribution of anthropogenic methane emissions in North America" (2015)
 Co-organizer Workshop on Measurements in Oil and Gas Production Regions, NOAA ESRL (2015)
 Public forum on Four Corners methane, Farmington, New Mexico (2015)
 Climate and Space Sciences and Engineering graduate admission committee (2015-present)
 Integrated Global GHG Information System (IG³IS) planning team (2016-present)
 Climate and Space Sciences and Engineering executive committee (2016-present)
 Faculty transition team for new School of Sustainability at University of Michigan (2016-present)
 Qualifying and prospectus exams: Anna Savage (2014, Applied Physics), Ben Isaacoff (2014, Applied Physics), Jamie MacLennan (2014, Applied Physics), Rebecca Craig (2014, Chemistry), Liz Ultee (2015, AOSS), Judit Szente (2015, AOSS), Zach Butterfield (2015, CLaSP), Rahul Gogna (2016, Applied Physics), Samantha Basile (2016, CLaSP), Anthony Torres (2016, CLaSP)
 PhD committees: Chunpeng Wang (2014, AOSS)

INVITED SEMINARS

California Institute of Technology, Environmental Science and Engineering seminar (2017); University of Washington, Atmospheric Science seminar (2017); University of Toronto, Center for Global Change Science Distinguished Lecturer Series (2017); NASA GMAO, Goddard Space Flight Center, Greenbelt, Maryland (2015); NOAA ESRL Chemical Science Division, Boulder, Colorado (2014); University of Michigan, Atmospheric, Oceanic and Space Sciences (2014); UiT The Arctic University of Norway, (CAGE) Centre for Arctic Gas Hydrate, Environment, and Climate (2013); Boston University, Terrestrial Biogeochemistry (2013); Massachusetts Institute of Technology, Civil & Environmental Engineering (2013); University of Michigan, Atmospheric, Oceanic and Space Sciences (2013); Jet Propulsion Laboratory (2013); Pomona College, Physics (2012); UC Irvine, Earth System Science (2012); UCLA, Atmospheric and Oceanic Sciences (2012); Caltech, ESE & Society discussion group (2012); Caltech, Yuk Lunch seminar (2011); Jet Propulsion Laboratory (2011); JAMSTEC, Yokohama, Japan (2010)

PUBLICATIONS

As of 10 Mar. 2017: Google Scholar h-index = 26, total citations = 2771

Thomson Reuters h-index = 20, total citations = 1822

(indicates Kort group member)

52. Cui YY, Brioude J, Angevine WM, Peischl J, McKeen SA, Kim SW, Neuman JA, Henze D, Bousserez N, Fischer ML, Jeong S, Michelsen HA, Bambha RP, Liu Z, Santoni GW, Daube BC, Kort EA, Frost GF, Ryerson TB, Wofsy SC, Trainer M, *Top-down estimate of methane emissions in California using a mesoscale inverse modeling technique: The San Joaquin Valley*, J. Geophys. Res. Atmos., 122, doi:10.1002/2016JD026398, 2017.
51. Frankenberg C, Thorpe A, Thompson DR, Hulley G, Kort EA, Vance N, Borchardt J, Krings T, Gerilowski K, Sweeney C, Conley S, Bue B, Aubrey A, Hook S, Green R, *Airborne methane remote measurements reveal heavy-tail flux distribution in Four Corners region*, Proceedings of the National Academy of Sciences, doi: 10.1073/pnas.1605617113, 2016.
50. Ware J, Kort EA, DeCola P, Duren R, *Aerosol Lidar Observations of Atmospheric Mixing in Los Angeles: Climatology and Implications for Greenhouse Gas Observations*, J. Geophys. Res., doi: 10.1002/2016JD024953, 2016.
49. Inoue M, Morino I, Uchino O, Nakatsuru T, Yoshida Y, Yokota T, Wunch D, Wennberg PO, Roehl CM, Griffith DWT, Velasco VA, Deutscher NM, Warneke T, Notholt J, Robinson J, Sherlock V, Hase F, Blumenstock T, Rettinger M, Sussmann R, Kyrö E, Kivi R, Shiomi K, Kawakami S, De Mazière M, Arnold SG, Feist DG, Barrow EA, Barney J, Dubey M, Schneider M, Iraci L, Podolske JR, Hillyard P, Machida T, Sawa Y, Tsuboi K, Matsueda H, Sweeney C, Tans PP, Andrews AE, Biraud SC, Fukuyama Y, Pittman JV, Kort EA, and Tanaka T, *Bias corrections of GOSAT SWIR XCO₂ and XCH₄ with TCCON data and their evaluation using aircraft measurement data*, Atmos. Meas. Tech., 9, 3491-3512, doi:10.5194/amt-9-3491-2016, 2016.
48. Kort EA, Smith ML, Murray LT, Gvakharia A, Brandt A, Peischl J, Ryerson TB, Sweeney C, Travis K, *Fugitive emissions from the Bakken shale illustrate role of shale production in global ethane shift*, Geophysical Research Letters, 43, doi:10.1002/2016GL068703, 2016.
47. Peischl J, Karion A, Sweeney C, Kort EA, Smith ML, Brandt AR, Yeskoo T, Aikin KC, Conley SA, Gvakharia A, Trainer M, Wolter S, Ryerson TB, *Quantifying atmospheric methane emissions from oil and natural gas production in the Bakken shale region of North Dakota*, J. Geophys. Res., doi: 10.1002/2015JD024631, 2016.
46. Frankenberg C, Kulawik SS, Wofsy S, Chevallier F, Daube B, Kort EA, O'Dell C, Olsen ET, Osterman G, *Using airborne HIAPER Pole-to-Pole Observations (HIPPO) to evaluate model and remote sensing estimates of atmospheric carbon dioxide*, Atmos. Chem. Phys., 16, 7867-7878, doi:10.5194/acp-16-7867-2016, 2016.
45. Hopkins FM, Kort EA, Bush SE, Ehleringer JR, Lai CT, Blake DR, Randerson JT, *Spatial patterns and source attribution of urban methane in the Los Angeles Basin*, J. Geophys. Res., 121, doi: 10.1002/2015JD024429, 2016.
44. Patra PK, Saeki T, Dlugokencky EJ, Ishijima K, Umezawa T, Ito A, Aoki S, Morimoto S, Kort EA, Crotwell A, Ravi Kumar K, Nakazawa T, *Regional methane emission estimation based on observed atmospheric concentrations (2002-2012)*, Journal of the Meteorological Society of Japan, 2016, 94 (1), pp. 91-113, doi: 10.2151/jmsj.2016-006, 2016.
43. Zavala-Araiza D, Lyon DR, Alvarez RA, Davis KJ, Harriss R, Herndon SC, Karion A, Kort EA, Lamb BK, Lan X, Marchese AJ, Pacala SW, Robinson AL, Shepson PB, Sweeney C, Talbot R,

- Townsend-Small A, Yacovitch TI, Zimmerle D, Hamburg SP, *Reconciling divergent estimates of oil and gas methane emissions*, Proceedings of the National Academy of Sciences, doi:10.1073/pnas.1522126112, 2015.
42. Schwarz JP, Holloway JS, Katich JM, McKeen S, Kort EA, Smith ML, Ryerson TB, Sweeney C, Peischl J, *Black Carbon Emissions from the Bakken Oil and Gas Development Region*, Environ. Sci. Technol. Lett., doi: 10.1021/acs.estlett.5b00225, 2015.
41. Smith ML, Kort EA, Karion A, Sweeney C, Herndon SC, Yacovitch TI, *Airborne ethane observations in the Barnett Shale: Quantification of ethane flux and attribution of methane emissions*, Environ. Sci. Technol., doi: 10.1021/acs.est.5b00219, 2015.
40. Karion A, Sweeney C, Kort EA, Shepson PB, Brewer A, Cambaliza M, Conley S, Davis K, Deng A, Hardesty M, Herndon SC, Lauvaux T, Lavoie T, Lyon D, Newberger T, Petron G, Rella C, Smith M, Wolter S, Yacovitch TI, Tans P, *Aircraft-based estimate of total methane emissions from the Barnett Shale region*, Environ. Sci. Technol., doi: 10.1021/acs.est.5b00217, 2015.
39. Wells KC, Millet DB, Bousseres N, Henze DK, Chaliyakunnel S, Griffis TJ, Luan Y, Dlugokencky EJ, Prinn RG, O'Doherty S, Weiss RF, Dutton GS, Elkins JW, Krummel PB, Langenfelds R, Steele LP, Kort EA, Wofsy SC, Umezawa T, *Simulations of atmospheric N₂O with GEOS-Chem and its adjoint: evaluation of observational constraints*, Geosci. Model Dev., 8, 3179-3198, doi: 10.5194/gmd-8-3179-2015, 2015.
38. Deng F, Jones DBA, Walker TW, Keller M, Bowman KW, Henze DK, Nassar R, Kort EA, Wofsy SC, Walker KA, Bourassa AE, Degenstein DA, *Sensitivity analysis of the potential impact of discrepancies in stratosphere-troposphere exchange on inferred sources and sinks of CO₂*, Atmos. Chem. Phys., 15, 11773-11788, doi: 10.5194/acp-15-11773-2015, 2015.
37. Cui YY, Brioude J, McKeen SA, Angevine WM, Kim SW, Frost GJ, Ahmadov R, Peischl J, Bousseres N, Liu Z, Ryerson TB, Wofsy SC, Santoni GW, Kort EA, Fischer ML, Trainer M, *Top-down estimates of methane emissions in California using a mesoscale inverse modeling technique: 1. The South Coast Air Basin*, J. Geophys. Res., 120, doi: 10.1002/2014JD023002, 2015.
36. Wong KW, Fu D, Pongetti TJ, Newman S, Kort EA, Duren R, Hsu Y-K, Miller CE, Yung YL, Sander SP, *Mapping CH₄ : CO₂ ratios in Los Angeles with CLARS-FTS from Mount Wilson, California*, Atmos. Chem. Phys., 15, 241-252, doi:10.5194/acp-15-241-2015, 2015.
35. Alexe, M, Bergamaschi P, Segers A, Detmers R, Butz A, Hasekamp O, Guerlet S, Parker R, Boesch H, Frankenberg C, Scheepmaker RA, Dlugokencky E, Sweeney C, Wofsy SC, Kort EA, *Inverse modeling of CH₄ emissions for 2010-2011 using different satellite retrieval products from GOSAT and SCIAMACHY*, Atmos. Chem. Phys., 15, 113-133, doi:10.5194/acp-15-113-2015, 2015.
34. Gray JM, Frohling S, Kort EA, Ray DK, Kucharik CJ, Ramankutty N, Friedl MA, *Direct human influence on atmospheric CO₂ seasonality from increased cropland productivity*, Nature, 515 (7527), 398-401, doi:10.1038/nature13957, 2014.
33. Kort EA, Frankenberg C, Costigan KR, Lindemaier R, Dubey MK, Wunch D, *Four Corners: the largest US methane anomaly viewed from space*, Geophysical Research Letters, 41 (19), 6898-6903, doi:10.1002/2014GL061503, 2014.
32. Inoue M, Morino I, Uchino O, Miyamoto Y, Saeki T, Yoshida Y, Yokota T, Sweeney C, Tans PP, Biraud SC, Machida T, Pittman JV, Kort EA, Tanaka T, Kawakami S, Sawa Y, Tsuboi K, Matsueda H, *Validation of XCH₄ derived from SWIR spectra of GOSAT TANSO-FTS with aircraft measurement data*, Atmos. Meas. Tech., 7, 2987-3005, doi:10.5194/amt-7-2987-2014, 2014.

31. Hutyra LR, R Duren, KR Gurney, N Grimm, EA Kort, E Larson, G Shrestha, *Urbanization and the carbon cycle: Current capabilities and research outlook from the natural sciences perspective*, *Earth's Future*, doi: 10.1002/2014EF000255, 2014.
30. Yacovitch TI, Herndon SC, Roscioli JR, Floerchinger C, McGovern RM, Agnese M, Petron G, Kofler J, Sweeney C, Karion A, Conley SA, Kort EA, Nahle L, Fischer M, Hildebrandt L, Koeth J, McManus BJ, Nelson DD, Zahniser M, Kolb CE, *Demonstration of an Ethane Spectrometer for Methane Source Identification*, *Environ. Sci. Tech.*, 48 (14), pp 8028-8034, doi: 10.1021/es501475q, 2014.
29. Brandt AR, Heath GA, Kort EA, O'Sullivan F, Petron G, Jordaan SM, Tans P, Wilcox J, Gopstein AM, Arent D, Wofsy S, Brown NJ, Bradley R, Stucky GD, Eardley D, Harriss R, *Methane Leaks from North American Natural Gas Systems*, *Science*, 343(6172), 733-735, 2014.
28. Miller SM, Worthy DEJ, Michalak AM, Wofsy SC, Kort EA, Havice TC, Andrews AE, Dlugokencky EJ, Kaplan JO, Levi PJ, Tian H, Zhang B, *Observational constraints on the distribution, seasonality, and environmental predictors of North American boreal methane emissions*, *Global Biogeochemical Cycles*, doi: 10.1002/2013GB004580, 2014.
27. Houweling S, Krol M, Bergamaschi P, Frankenberg C, Dlugokencky EJ, Morino I, Notholt J, Sherlock V, Wunch D, Beck V, Gerbig C, Chen H, Kort EA, Rockmann T, Aben I, *A multi-year methane inversion using SCIAMACHY, accounting for systematic errors using TCCON measurements*, *Atmos. Chem. Phys.*, 14, 3991-4012, doi:10.5194/acp-14-3991-2014, 2014.
26. Deng F, Jones DBA, Henze DK, Bousserez N, Bowman KW, Fisher JB, Nassar R, O'Dell C, Wunch D, Wennberg PO, Kort EA, Wofsy SC, Blumenstock T, Deutscher NM, Griffith D, Hase F, Heikkinen P, Sherlock V, Strong K, Sussmann R, Warneke T, *Inferring regional sources and sinks of atmospheric CO₂ from GOSAT XCO₂ data*, *Atmos. Chem. Phys.*, 14, 3703-3727, doi:10.5194/acp-14-3703-2014, 2014.
25. Santoni GW, Daube BC, Kort EA, Jimenez R, Park S, Pittman JV, Gottlieb E, Xiang B, Zahniser MS, Nelson DD, McManus JB, Peischl J, Ryerson TB, Holloway JS, Andrews AE, Sweeney C, Hall BD, Hintsa EJ, Moore FL, Elkins JW, Stephens BB, Wofsy SC, *Evaluation of the Airborne Quantum Cascade Laser Spectrometer (QCLS) measurements of the carbon and greenhouse gas suite— CO₂, CH₄, N₂O, and CO – during the CalNex and HIPPO campaigns*, *Atmos. Meas. Tech.*, 7, 1509-1526, doi:10.5194/amt-7-1509-2014, 2014.
24. Miller SM, Wofsy SC, Michalak AM, Kort EA, Andrews AE, Biraud S, Dlugokencky E, Eluszkiewicz J, Fischer ML, Janssens-Maenhout G, Miller BR, Miller, JB, Montzka S, Nehrkorn T, and Sweeney C, *Anthropogenic emissions of methane in the United States*, *Proceedings of the National Academy of Sciences*, doi:10.1073/pnas.1314392110, 2013.
23. Worden J, Jiang Z, Jones DBA, Alvarado M, Bowman K, Frankenberg C, Kort EA, Kulawik SS, Lee M, Liu J, Payne V, Wecht K, and Worden H, *El Nino, the 2006 Indonesian peat fires, and the distribution of atmospheric methane*, *Geophysical Research Letters*, 40, doi:10.1002/grl.50937, 2013.
22. Graven HD, Keeling RF, Piper SC, Patra PK, Stephens BB, Wofsy SC, Welp LR, Sweeney C, Tans PP, Kelley JJ, Daube BC, Kort EA, Santoni GW, and Bent JD, *Enhanced seasonal exchange of CO₂ by northern ecosystems since 1960*, *Science*, DOI: 10.1126/science.1239207, 2013.
21. Bergamaschi P, Houweling S, Segers A, Krol M, Frankenberg C, Scheepmaker RA, Dlugokencky E, Wofsy SC, Kort EA, Sweeney C, Schuck T, Brenninkmeijer C, Chen H, Beck V, and Gerbig C, *Atmospheric CH₄ in the first decade of the 21st century: Inverse modeling analysis using*

- SCIAMACHY satellite retrievals and NOAA surface measurements*, J. Geophys. Res., doi: 10.1002/jgrd.50480, 2013.
20. Kort EA, Angevine W, Duren R, Miller CE, *Surface observations for monitoring urban fossil fuel CO₂ emissions: minimum site location requirements for the Los Angeles megacity*, J. Geophys. Res., 118(3), 1577-1584, doi: 10.1002/jgrd.50135, 2013.
 19. Kulawik SS, Worden JR, Wofsy SC, Biraud SC, Nassar R, Jones DBA, Olsen ET, Jimenez R, Park S, Santoni GW, Daube BC, Pittman JV, Stephens BB, Kort EA, Osterman GB, and the TES team, *Comparison of improved Aura Tropospheric Emission Spectrometer (TES) CO₂ with HIPPO and SGP aircraft profile measurements*, Atmos. Chem. Phys., 13, 3205-3225, doi:10.5194/acp-13-3205-2013, 2013.
 18. Xiang B, Miller SM, Kort EA, Santoni GW, Daube BC, Commane R, Pittman JV, Angevine W, Ryerson T, Trainer M, Andrews AE, Nehrkorn T, and Wofsy SC, *Nitrous Oxide (N₂O) Emissions from California based on 2010 CalNex Airborne Measurements*, J. Geophys. Res., 118(7), 2809-2820, doi: 10.1002/jgrd.50189, 2013.
 17. Worden J, Wecht K, Frankenberg C, Alvarado M, Bowman K, Kort E, Kulawik S, Lee M, Payne V, Worden H, *CH₄ and CO distributions over tropical fires as observed by the Aura TES satellite instrument and modeled by GEOS-Chem*, Atmos. Chem. Phys., 13, 3679-3692, doi:10.5194/acp-13-3679-2013, 2013.
 16. Newman S, Jeong S, Fischer ML, Xu X, Haman CL, Lefer B, Alvarez S, Rappenglueck B, Kort EA, Andrews AE, Peischl J, Gurney KR, Miller CE, and Yung YL, *Diurnal tracking of anthropogenic CO₂ emissions in the Los Angeles basin mega-city during spring, 2010*, Atmos. Chem. Phys., 13, 4359-4372, doi:10.5194/acp-13-4359-2013, 2013.
 15. Tian H, Lu C, Guangsheng C, Tao B, Pan S, Del Grosso SJ, Xu X, Bruhwiler L, Wofsy SC, Kort EA, and Prior SA, *Contemporary and projected terrestrial methane and nitrous oxide budgets in North America*, National Climate Assessment Biogeochemistry Special Issue, Frontiers in Ecology and the Environment, 10(10), 528-536, doi:10.1890/120057, 2012.
 14. Kort EA, Frankenberg C, Miller CE, and Oda T, *Space-based Observations of Megacity Carbon Dioxide*, Geophysical Research Letters, Vol. 39, L17806, doi: 10.1029/2012GL052738, 2012.
 13. Wennberg PO, Mui W, Wunch D, Kort EA, Blake DR, Atlas EL, Santoni GW, Wofsy SC, Diskin GS, Jeong S, and Fischer ML, *On the Sources of Methane to the Los Angeles Atmosphere*, Environmental Science and Technology, 46 (17), pp 9282-9289, doi: 10.1021/es301138y, 2012.
 12. Kort EA, Wofsy SC, Daube BC, Diao M, Elkins JW, Gao RS, Hints E, Hurst DF, Jimenez R, Moore FL, Spackman JR, and Zondlo MA, *Atmospheric observations of high latitude Arctic Ocean methane emissions up to 82°north*, Nature Geoscience, 5, 318-321, doi:10.1038/ngeo1452, 2012.
 11. Miller SM, Kort EA, Hirsch AI, Dlugokencky EJ, Andrews AE, Xu X, Tian H, Nehrkorn T, Eluszkiewicz J, Michalak AM, and Wofsy SC, *Regional sources of nitrous oxide over the United States: seasonal variation and spatial distribution*, J. Geophys. Res., 117, D06310, doi:10.1029/2011JD016951, 2012.
 10. Pollack IB, Ryerson TB, Trainer M, Parrish DD, Andrews AE, Atlas EL, Blake DR, Brown SS, Commane R, Daube BC, de Gouw JA, Dube WP, Flynn J, Frost GJ, Gilman JB, Grossberg N, Holloway JS, Kofler J, Kort EA, Kuster WC, Lang PM, Lefer B, Lueb RA, Neuman JA, Nowak JB, Novelli PC, Peischl J, Perring AE, Roberts JM, Santoni G, Schwarz JP, Spackman JR, Wagner NL, Warneke C, Wofsy SC, and Xiang B, *Airborne and ground-based observations of a weekend*

- effect in ozone, precursors, and oxidation products in the California South Coast Air Basin*, J. Geophys. Res., 117, D00V05, doi:10.1029/2011JD016772, 2012.
9. Wecht KJ, Jacob DJ, Wofsy SC, Kort EA, Worden JR, Kulawik SS, Henze DK, Kopacz M, and Payne VH, *Validation of TES methane with HIPPO aircraft observations: implications for inverse modeling of methane sources*, Atmos. Chem. Phys., 12, 182301832, 2012.
 8. Kort EA, Patra PK, Ishijima K, Daube BC, Jiménez R, Elkins J, Hurst D, Moore FL, Sweeney C, and Wofsy SC, *Tropospheric distribution and variability of N₂O: Evidence for strong tropical emissions*, Geophysical Research Letters, Vol. 38, L15806, doi:10.1029/2011GL047612, 2011.
 7. Wofsy SC, & HIPPO team, *HIAPER Pole-to-Pole Observations (HIPPO): Fine grained, global scale measurements for determining rates for transport, surface emissions, and removal of climatically important atmospheric gases and aerosols*, Phil. Trans. of the Royal Society A, 369(1943), 2073-2086, 2011.
 6. Pickett-Heaps CA, Jacob DJ, Wecht KJ, Kort EA, Wofsy SC, Diskin GS, Worthy DEJ, Kaplan JO, Bey I, and Drevet J: *Magnitude and seasonality of wetland methane emissions from the Hudson Bay Lowlands (Canada)*, Atmos. Chem. Phys., 11, 3773-3779, doi:10.5194/acp-11-3773-2011, 2011.
 5. Wunch D, Toon GC, Wennberg PO, Wofsy SC, Stephens BB, Fischer ML, Uchino O, Abshire JB, Bernath P, Biraud SC, Blavier JFL, Boone C, Bowman KP, Browell EV, Campos T, Connor BJ, Daube BC, Deutscher NM, Diao M, Elkins JW, Gerbig C, Gottlieb E, Griffith DWT, Hurst DF, Jimenez R, Keppel-Aleks, Kort EA, Macatangay R, Machida T, Matsueda H, Moore F, Morino I, Park S, Robinson J, Roehl CM, Sawa Y, Sherlock V, Sweeney C, Tanaka T, Zondlo MA, *Calibration of the Total Carbon Column Observing Network using aircraft profile data*, Atmos. Meas. Tech., 3, 1351-1362 doi: 10.5194/amt-3-1351-2010, 2010.
 4. Kort EA, Andrews AE, Dlugokencky EJ, Sweeney C, Hirsch, A, Eluszkiewicz J, Nehrkorn T, Michalak AM, Stephens BB, Gerbig C, Miller JB, Kaplan J, Houweling S, Daube BC, Tans PP, Wofsy SC, *Atmospheric constraints on 2004 emissions of methane and nitrous oxide in North America from atmospheric measurements and a receptor-oriented modeling framework*, Journal of Integrative Environmental Sciences, 7: 2, 125-133, doi:10.1080/19438151003767483, 2010.
 3. Zahniser MS, Nelson DD, McManus JB, Herndon S, Wood E, Shorter JH, Lee BW, Santoni GH, Jimenez R, Daube BC, Park S, Kort EA, Wofsy SC, *Infrared QC laser applications to field measurements of atmospheric trace gas sources and sinks in environmental research: enhanced capabilities using continuous wave QCLs*, SPIE, Vol. 7222, doi:10.1117/12.815172, 2009.
 2. Kort EA, Eluszkiewicz J, Stephens BB, Miller JB, Gerbig C, Nehrkorn T, Daube BC, Kaplan JO, Houweling S, Wofsy SC, *Emissions of CH₄ and N₂O over the United States and Canada based on a receptor-oriented modeling framework and COBRA-NA atmospheric observations*, Geophysical Research Letters, Vol. 35, L18808, doi:10.1029/2008GL034031, 2008.
 1. Cubukcu E, Kort EA, Crozier KB, Capasso F, *Plasmonic laser antenna*, Applied Physics Letters, 89, 093120, 2006.

PRESENTATIONS & POSTERS (*invited)

(indicates Kort group member)

- *Kort EA, Stephens BB, Long MC, Keeling R, Sweeney C, and the ORCAS Science Team, *Early Results from ORCAS: The O₂/N₂ Ratio and CO₂ Airborne Southern Ocean Study*, American Meteorological Society Annual Meeting, Seattle, 2017.

- Kort EA, Yang E, Ware J, Ye X, Lauvaux T, Wu D, Lin J, Oda T, *Towards constraining megacity fossil-fuel emissions estimates with OCO-2 observations and Lagrangian modeling*, American Geophysical Union Fall meeting, San Francisco, 2016.
- Hoecker-Martinez M, Kort EA, Long M, Stephens B, *Using Lagrangian flights and modeling to study O₂ and CO₂ fluxes over the Southern Ocean during the O₂/N₂ Ratio and CO₂ Airborne Study (ORCAS)*, American Geophysical Union Fall meeting, San Francisco, 2016.
- Stephens B, Long M, Keeling R, Sweeney C, Kort EA, Bent J, Morgan E, Watt A, Hoecker-Martinez M, Daube B, McKain K, Smith M, Newberger T, *Southern Ocean Zonal Scale Summertime Oxygen Outgassing and Carbon Dioxide Ingassing*, American Geophysical Union Fall meeting, San Francisco, 2016.
- Atlas E, Schauffler S, Donets V, Apel E, Hornbrook R, Hills A, Stephens B, Kort EA, Sweeney C, Gierach M, *Trace Gas Distributions and Correlations Observed in The Southern Ocean Atmosphere During the ORCAS Mission*, American Geophysical Union Fall meeting, San Francisco, 2016.
- Smith M, Kort EA, Gvakharia A, Sweeney C, Conley S, *Airborne Quantification of Methane Emissions over the Four Corners Region*, American Geophysical Union Fall meeting, San Francisco, 2016.
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- Ware J, Yadav V, Mueller K, Kort EA, Verhulst K, *Robustness to Atmospheric Transport Error in Urban Greenhouse Gas Flux Inversion: a Los Angeles Case Study*, American Geophysical Union Fall meeting, San Francisco, 2016.
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