

# Marshall Burke

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## Professional appointments and affiliations

- 2014-present     Assistant Professor, Dept. of Earth System Science, Stanford University  
Deputy Director, Center on Food Security and the Environment,  
Freeman Spogli Institute for International Studies, Stanford University
- 2016-present     Faculty Research Fellow, National Bureau of Economic Research  
2015-present     Faculty Fellow, Stanford Institute for Economic Policy Research  
2015-present     Faculty Fellow (by courtesy), Stanford Woods Institute for the Environment  
2015-present     Faculty Affiliate, Stanford Center on International Development  
2015-present     Faculty Affiliate, Center for Effective Global Action
- 2014-2015       Visiting Fellow, Stanford Institute for Economic Policy Research

## Education

- Ph.D., Agricultural and Resource Economics, UC Berkeley, 5/2014  
B.A. International Relations, Stanford University, 6/2003

## Papers in review

- Miyuki Hino and Marshall Burke. Does information about climate risk affect property values? [NBER working paper 26807]
- Marshall Burke and Vincent Tanutama. Climatic constraints on aggregate economic output. [NBER Working paper 25779]
- Chris Yeh, Anthony Perez, George Azzari, Anne Driscoll, Zhongyi Tang, David Lobell, Stefano Ermon, and Marshall Burke. Using publicly available satellite imagery and deep learning to measure and understand economic wellbeing in Africa.
- Sam Heft-Neal, Jen Burney, Eran Bendavid, Kara Voss, and Marshall Burke. Air Pollution and Infant Mortality: Evidence from Saharan Dust. [NBER Working paper 26107]
- Miyuki Hino and Marshall Burke. Do markets price environmental risk? Evidence from property markets.
- David Gonzalez, Allison Sherris, Wei Yang, David K. Stevenson, Amy Padula, Michael Baiocchi, Marshall Burke, Mark Cullen, and Gary M. Shaw. Oil and gas drilling and risk of spontaneous preterm birth in the San Joaquin Valley, California.
- Frances Davenport, Marshall Burke, and Noah Diffenbaugh. Estimating the contribution of historical precipitation changes to increasing flooding damages in the United States.

## Published and forthcoming journal articles

1. Eoin McGuirk and Marshall Burke. The economic origins of conflict in Africa. accepted, *Journal of Political Economy*
2. David Lobell, Stefania Di Tommaso, Calum You, Ismael Yacoubou Djima, Marshall Burke, and Talip Kilic. 2020. Sight for Sorghums: Comparisons of Satellite- and Ground-Based Sorghum Yield Estimates in Mali. *Remote Sensing* 12(1), 100.
3. Frances Davenport, Julio Herrera-Estrada, Marshall Burke, and Noah Diffenbaugh. 2020. Flood size increases nonlinearly across the western United States in response to lower snow-precipitation ratios. *Water Resources Research*, 10.1029/2019WR025571
4. Ceren Baysan, Marshall Burke, Felipe Gonzalez, Sol Hsiang, and Ted Miguel. 2019. Economic and non-economic factors in violence: evidence from organized crime, suicides and climate in Mexico. *Journal of Economic Behavior and Organization*, 168, 434-452.
5. David Lobell, George Azzari, Marshall Burke, Sydney Gourlay, Zhenong Jin, Talip Kilic, Siobhan Murray. 2019. Eyes in the sky, boots on the ground: assessing satellite- and ground-based approaches to crop yield measurement and analysis. *American Journal of Agricultural Economics*, doi: 10.1093/ajae/aaz051
6. Zach Wagner, Sam Heft-Neal, Bob Black, Ties Boerma, Zulfi Bhutta, Marshall Burke, and Eran Bendavid. 2019. Women and children living in areas of armed conflict in Africa: a geospatial analysis of mortality and orphanhood, *Lancet Global Health* 7(12), 2019.
7. Marshall Burke, Lauren Bergquist, Ted Miguel. 2019. Selling low and buying high: an arbitrage puzzle in Kenyan villages. *Quarterly Journal of Economics*, 134(2), 785-842.
8. Noah Diffenbaugh and Marshall Burke. 2019. Global warming has increased global economic inequality. *PNAS* 116 (20) 9808-9813.
9. Katherine Mach, Caroline Kraan, Neil Adger, Halvard Buhaug, Marshall Burke (+ 9 others). 2019. "Climate as a risk factor for armed conflict", *Nature* 571 (7764), 193-197.
10. Burak Uz Kent, Evan Sheehan, Chenlin Meng, Zhongyi Tang, David Lobell, Marshall Burke, Stefano Ermon. "Learning to Interpret Satellite Images using Wikipedia". IJCAI-19. To appear in *Proc. 28th International Joint Conference on Artificial Intelligence*, 2019.
11. Evan Sheehan, Chenlin Meng, Matthew Tan, Burak Uz Kent, Neal Jean, David Lobell, Marshall Burke, Stefano Ermon. "Predicting Economic Development using Geolocated Wikipedia Articles". KDD-19. To appear in *Proc. 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, 2019.
12. Wenjie Hu, Jay Harshadbhai Patel, Zoe-Alanah Robert, Paul Novosad, Samuel Asher, Zhongyi Tang, Marshall Burke, David Lobell, Stefano Ermon. 2019. "Mapping Missing Population in Rural India: A Deep Learning Approach with Satellite Imagery". To appear in *Proc. 1st AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES 2019)*.
13. Zhenong Jin, George Azzari, Calum You, Stefania Di Tommaso, Stephen Aston, Marshall Burke, and David Lobell. 2019. Smallholder maize area and yield mapping at national scales with Google Earth Engine. *Remote Sensing of Environment*, 228, 115-128.
14. Zach Wagner, Sam Heft-Neal, Bob Black, Zulfi Bhutta, Marshall Burke, and Eran Bendavid. 2018. Armed conflict and child mortality in Africa. *Lancet*, 392, issue 10150, p857-865.
15. Jonathan Proctor, Sol Hsiang, Jen Burney, Marshall Burke, and Wolfram Schlenker. 2018. Estimating the agricultural impacts of geoenvironmental engineering using volcanic eruptions as natural experiments. *Nature* 560, 480-483
16. Sam Heft-Neal, Jen Burney, Eran Bendavid, and Marshall Burke. 2018. One in five infant deaths in Africa attributable to poor air quality. *Nature*, 559, 254-258.
17. Marshall Burke, Felipe Gonzalez, Patrick Baylis, Sam-Heft Neal, Ceren Baysan, Sanjay Basu, and Sol Hsiang. 2018. Effect of ambient temperature on suicide in the US and Mexico. *Nature Climate Change* 8, 723-729.

18. Marshall Burke, Matt Davis, and Noah Diffenbaugh. Large potential reduction in economic damages under UN mitigation targets. 2018. *Nature*, 559, 254-258.
19. Barak Oshri, Annie Hu, Peter Adelson, Xiao Chen, Pascaline Dupas, Jeremy Weinstein, Marshall Burke, David Lobell, Stefano Ermon. 2018. "Infrastructure Quality Assessment in Africa using Satellite Imagery and Deep Learning". Proc. 24th ACM SIGKDD Conference, 2018.
20. Zhenong Jin, George Azzari, Marshall Burke, Step Aston, David Lobell. 2017. Mapping and explaining smallholder yield heterogeneity in Eastern Africa. *Remote Sensing*, 9(9).
21. Marshall Burke and David Lobell. 2017. Satellite-based assessment of yield variation and its determinants in smallholder African systems. *PNAS* 114(9), 2189-2194.
22. Sam Heft-Neal, David Lobell, and Marshall Burke. 2017. Using remotely sensed temperature to estimate climate response functions. *Environmental Research Letters* 12(1) 014013.
23. Marshall Burke, Sam Heft-Neal, and Eran Bendavid. 2016. Understanding variation in child mortality across Sub-Saharan Africa: A spatial analysis. *Lancet Global Health*, 4(12), e936-e945
24. Neal Jean\*, Marshall Burke\*, Michael Xie, Matt Davis, David Lobell, and Stefano Ermon. 2016. Combining satellite imagery and machine learning to predict poverty. *Science*, 353(6301), 790-794. (\*denotes equal authorship) [[webpage](#)]
25. Marshall Burke and Kyle Emerick. 2016. Adaptation to climate change: evidence from US agriculture. *American Economic Journal - Economic Policy*, 8(3), 106-140.
26. Marshall Burke, Melanie Craxton, Charlie Kolstad, Chikara Onda, and 20 coauthors. Opportunities for advances in climate change economics. 2016. *Science* 352, 292-293.
27. Tamma Carleton, Sol Hsiang, and Marshall Burke. 2016. Conflict in a changing climate. *European Physical Journal* 225, 489-511.
28. Marshall Burke, Melanie Craxton, Charlie Kolstad, Chikara Onda. 2016. Some research challenges in the economics of climate change. *Climate Change Economics*, 7(2), 2016.
29. Marshall Burke\*, Sol Hsiang\*, and Edward Miguel. 2015. Global non-linear effect of temperature on economic output. *Nature* 527: 235-239. (\*denotes equal authorship) [[webpage](#)]
30. Marshall Burke, Sol Hsiang, Edward Miguel. Climate and conflict. *Annual Review of Economics*, 2015.
31. Marshall Burke, Edward Miguel, Shanker Satyanath, John Dykema, and David Lobell. 2015. Incorporating climate uncertainty into estimates of climate change impacts. *Review of Economics and Statistics*, 97(2): 461-471.
32. Marshall Burke, Erick Gong, Kelly Jones. 2015. Income shocks and HIV. *Economic Journal* 125, 1157-1189.
33. Sol Hsiang, Marshall Burke, and Edward Miguel. 2014. Reconciling climate-conflict meta-analyses: reply to Buhaug et al. *Climatic Change*, DOI 10.1007/s10584-014-1276-z
34. Sol Hsiang\*, Marshall Burke\*, and Edward Miguel. 2013. Quantifying the influence of climate on human conflict. *Science* 341: 1212. (\*denotes equal authorship)
35. Sol Hsiang and Marshall Burke. 2013. Climate, conflict, and social stability: what does the literature say? *Climatic Change*, 10.1007/s10584-013-0868-3.
36. Jen Burney, Lennart Woltering, Marshall Burke, Dov Pasternak, Roz Naylor. 2010. Solar powered drip irrigation enhances food security in the Sudano-Sahel. *PNAS*, 10.1073/pnas.0909678107
37. Tom Hertel, Marshall Burke, David Lobell. 2010. The poverty implications of climate-induced yield changes by 2030. *Global Environmental Change*, 20(4), 577-585.
38. David Lobell and Marshall Burke. 2010. On the uses of statistical models to predict crop yield responses to climate change. *Agricultural and Forest Meteorology* 150, 1443-1452.
39. Marshall Burke, Edward Miguel, Shanker Satyanath, John Dykema, David Lobell. 2009. Warming increases the risk of civil war in Africa. *PNAS* 106, 20670-20674.

40. Marshall Burke, David Lobell, L. Guarino. 2009. Shifts in African crop climates by 2050 and the implications for adaptation. *Global Environmental Change* 19, 317-325.
41. David Lobell, Marshall Burke et al. 2008. Prioritizing climate change adaptation needs for food security in 2030. *Science* 319, 607-610.
42. David Lobell, Marshall Burke. 2008. Why are agricultural impacts of climate change so uncertain? The importance of temperature relative to precipitation. *Environmental Research Letters* 3, July 2008.
43. Marshall Burke, Kiersten Oleson, Ellen McCullough, Joanne Gaskell. 2008. Quantifying the environmental impacts of trade in meat products. *Environmental Modeling and Assessment* 13, July 2008.
44. Roz Naylor, Adam Liska, Marshall Burke et al. 2007. The ripple effect: Biofuels, food security, and the Environment. *Environment* 49 (9), 30-43.
45. Jim Galloway, Marshall Burke et al. 2007. International trade in meat: The tip of the pork chop. *Ambio* 36 (8), 622-628.
46. Roz Naylor, David Battisti, Dan Vimont, Walter Falcon, Marshall Burke. 2007. Assessing risks of climate variability and climate change for Indonesian rice agriculture, *PNAS* 104, 7752-7757.
47. Roz Naylor and Marshall Burke. 2005. Aquaculture and ocean resources: Raising the tigers of the sea. *Annual Review of Environment and Resources* 30: 185-218.
48. Walter Falcon, Roz Naylor, Whitney Smith, Marshall Burke, and Ellen McCullough. 2004. Using climate models to improve Indonesian food security. *Bulletin of Indonesian Economic Studies* 40(3): 355-377.

## Books and book chapters

- D. Lobell and M. Burke, eds. 2009. *Climate change and food security: Adapting Agriculture to a Warmer World*. Springer, (co-editor, and contributing four chapters).
- D. Lobell and M. Burke. 2009. Economic impacts of climate change on agriculture to 2030, in *Climate Change and Crop Production*, M. Reynolds ed., CABI.
- J. Galloway, M. Burke et al. 2007. Animal production and the nitrogen cycle, in *Livestock and a Changing Landscape*, H. Mooney et al, eds. SCOPE Scientific and Technical volume.

## Other writing

- "Climate robustly linked to African civil war", *PNAS*, 2010 (with Ted Miguel, Shanker Satyanath, John Dykema, and David Lobell). [Comment on Buhaug, 2010]
- "Weather and Violence", *New York Times* op-ed (with Sol Hsiang and Ted Miguel), August 30th, 2013
- "Temperature and violence", *Nature Climate Change*, 2014 (with Mark Cane, Ted Miguel, Sol Hsiang, David Lobell, Kyle Meng, and Shanker Satyanath). [comment on Raleigh et al 2014]
- "Climate and conflict: no stigma" (correspondence to Nature, on their editorial and Adams et al Nature Climate Change 2018). March 2018, Nature.
- "The climate benefits of the Green New Deal", op-ed with Noah Diffenbaugh in *Scientific American*, Mar 14 2019.
- "Paris agreement could save trillions in avoided climate damages", op-ed with Noah Diffenbaugh in *The Hill*, May 27 2018

## Awards

American Economic Journal - Policy, Best Paper Award for "Adaptation to climate change: evidence from US agriculture". Best paper published in AEJ-Policy 2016-2019.

National Science Foundation, Graduate Student Research Fellowship, 2009-2013.

Berkeley Fellowship, 2009-2011.

## Grants

1. *The health co-benefits of climate mitigation*, Robert Wood Johnson Foundation, \$486,000 (2019-2021) PI with Eran Bendavid, Jen Burney.
2. *Satellite-based Agricultural Yield and Poverty Measures*, US Agency for International Development. \$1.8million. PI with David Lobell, AidData. (2017-2020)
3. *Using high-resolution satellite imagery to measure and improve smallholder agricultural productivity in Africa*, Global Innovation Fund, \$459,000. PI with David Lobell. (2017-20).
4. *Poverty Mapping and Welfare Estimation: Combining Mobile Phone and Remote Sensing Data*, International Financial Corporation, \$178,000. PI with Josh Blumenstock. (2017-18)
5. *Understanding the productivity of the world's most numerous firms: evidence from surveys and satellites*. National Science Foundation, Economics program. \$243,000, PI with Kyle Emerick. (2017-19)
6. *The coupled climate and institutional dynamics of shortlived local pollutants and long-lived global greenhouse gases*. National Science Foundation, Coupled Natural and Human Systems program, \$1.5million. co-I with Jen Burney, Ken Caldeira, Eran Bendavid (2017-2021)
7. *DARPA: High expressivity modeling/ World Modelers Program*, DARPA. \$1.7million subaward, co-I with David Lobell and Stefano Ermon. (2017-2020)
8. *Closing the Data Divide: Machine Learning Approaches for Understanding Livelihoods of the Poor Using Unconventional Data Sources*, Stanford Global Development and Poverty initiative, \$379,000. co-PI with Stefano Ermon and David Lobell. (2015-17)
9. *Climate change, nutrition, and population health*, Stanford Woods Institute Environmental Ventures Project, \$180,000. PI with Eran Bendavid, Sanjay Basu, David Lobell. (2015-17)
10. *Remote sensing approaches to improving aid targeting and understanding aid effectiveness*, USAID/AidData \$150,000. PI with David Lobell (2015-17)
11. *Climate and global poverty*, Stanford Global Development and Poverty initiative, \$50,000. PI with Sol Hsiang. (2015)
12. *Experimental evidence on grain storage among farmers and traders in Kenya*, Gates Foundation ATAI Initiative, \$425,000. Co-investigator with Edward Miguel and Lauren Falcao, (2014-2016)
13. *Barriers to private-sector arbitrage in Kenyan maize markets*, Center for Economic Policy Research, \$48,000, Investigator with Lauren Falcao, 2013.
14. *Quantifying agricultural adaptation to climate change*, Giannini Foundation, \$25,000. Co-investigator with Edward Miguel and Solomon Hsiang, 2013.
15. *Price fluctuations, grain storage, and barriers to arbitrage in Kenyan maize markets*, Anonymous donor, \$58,000. Co-investigator with Edward Miguel and Lauren Falcao, 2013.
16. *Enhancing smallholder storage*, Anonymous donor, \$100,000. Co-investigator with Edward Miguel and One Acre Fund, 2012.
17. *Optimal finance for agricultural technology adoption*, Gates Foundation ATAI Initiative, \$240,000. Co-investigator with Edward Miguel, 2011.
18. *Weather risk, index insurance, and agricultural technology adoption*, Gates Foundation ATAI Initiative, \$50,000. Co-investigator with Edward Miguel. 2010.

19. *Prioritizing Investments in Food Security Under a Changing Climate*, Rockefeller Foundation, \$350,000. Co-investigator with David Lobell and others. 2008.
20. *An Alternative Development Model? Assessing Solar Electrification for Income Generation in Rural Benin*. Stanford Woods Institute Environmental Ventures Project, \$150,000. Co-investigator with Roz Naylor and Jen Burney. 2008.

## Presentations and Seminars

### *Meetings and conferences*

1. Hearing on the "Macroeconomic impacts of climate change", US House of Representatives Financial Services Committee (Washington DC, Sep 2019).
2. "Innovative Frontiers in Development", Rockefeller Foundation (2019, Bellagio, Italy), conference speaker.
3. "Big Data and Machine Learning for Development", USAID (2019, Washington DC), conference speaker.
4. Association of Environmental and Resource Economists, Annual meeting (2019, Lake Tahoe). conference speaker
5. World Bank Poverty and Equity Global Practice Annual Retreat (2019, Washington DC), invited speaker
6. World Bank/ Center for Effective Global Action, "Artificial Intelligence in Economic Development", conference speaker (2018; San Francisco)
7. DARPA World Modelers Meeting, conference speaker (2018; Tucson AZ)
8. Mulago Foundation "Future of an Acre", conference speaker, (2018; San Francisco)
9. American Economic Association annual meeting, conference speaker (2018; Philadelphia)
10. USC, Workshop on "Microeconomic impacts of climate change", conference speaker (2017; Los Angeles)
11. United Nations "Preventing Tomorrow's Conflicts" Series, invited speaker on climate change and conflict (2017; New York)
12. "Investing in a new climate", Steyer-Taylor Center for Energy Policy, Stanford, conference speaker on climate impacts (2017; Stanford)
13. "Machine learning and Big Data", World Bank, invited speaker on remote sensing and big data (2017)
14. NATO Parliamentary Assembly Spring Session, Tblisi Georgia, invited speaker on climate change and conflict (2017; Tblisi, Georgia)
15. Annual Bank Conference on Africa, World Bank, invited speaker on remote sensing and big data (2017; Berkeley, CA)
16. Center For Effective Global Action, Research Retreat, conference speaker (2017)
17. "Micro and Macro Effects of Climate Change" meeting, UC-Santa Barbara, conference speaker (2017; Santa Barbara, CA)
18. "Smart Farming" workshop, attended by Bill Gates and leadership of Gates Foundation, invited speaker (2017; Seattle, WA)
19. "Advances in Estimating Economic Effects from Climate Change", conference speaker (2017; Stanford, CA)
20. Mulago Foundation Research Retreat, invited speaker (2016; Santa Cruz, CA)
21. National Bureau of Economic Research, Environmental Economics Summer Institute, conference speaker (2016)

22. "Understanding the impacts of climate change on growth and development", Potsdam Institute for Climate, Germany, invited speaker (2016)
23. American Economic Association annual meeting, conference speaker (2016)
24. "Using Big Data to Improve International Food Security", U. Illinois, keynote speaker (2016)
25. International Conference on Global Food Security, Cornell, session chair and invited speaker (2015)
26. Gates Foundation, Agricultural Technology Adoption Initiative, invited speaker (2015)
27. "Climate and Human Security", NCAR/ Dept of State, invited speaker (2015)
28. American Economic Association annual meeting, conference speaker (2015)
29. World Bank, Development Impact Evaluation meeting, Kigali, Rwanda, invited speaker (2015)
30. Pacific Development Conference, Davis, conference speaker (2014)
31. Working Group on African Political Economy (WGAPE), Stanford, conference speaker (2013)
32. Pacific Development Conference, conference speaker (2013)

### *Invited academic seminars*

1. Harvard, Economics (Apr 2019)
2. Tufts, Economics (Apr 2019)
3. Berkeley, Public Policy (Nov 2018)
4. Yale, Economics (Oct 2018)
5. London School of Economics (Oct 2018)
6. Toulouse School of Economics (Oct 2018)
7. Bocconi/FEEM (Oct 2018)
8. World Bank (Oct 2018)
9. UChicago, EPIC (May 2018)
10. UC Irvine, Earth System Science (May 2018)
11. Columbia, Sustainable Development (2017)
12. UBC Economics (2017)
13. Brown University, Institute for Environment and Society (2017)
14. International Food Policy Research Institute (2017)
15. Princeton, Program in Science, Technology, and Environmental Policy (2016)
16. William & Mary, Economics (2016)
17. Air Force Academy (2015)
18. Cornell Economics (2014)
19. Cornell Applied Economics and Management (2014)
20. Northwestern, Kellogg Business School (2014)
21. UBC Economics (2014)
22. UC Davis Ag Econ (2014)
23. Stanford Environmental Forum (2014)
24. World Bank Development Economics (2014)
25. Minnesota Applied Economics (2014)
26. University of Colorado - Boulder Environmental Studies (2014)
27. Stanford Environmental Earth System Sciences (2014)
28. University of Washington Evans School (2014)
29. UCSD Econ/IRPS Development seminar (2013)

## Editorial service

Referee: *Science, Nature, PNAS, American Economic Review, Quarterly Journal of Economics, Journal of Political Economy, Economic Journal, Review of Economics and Statistics, American Economic Journal - Economic Policy, American Economic Journal - Applied Economics, Nature Climate Change, Nature Communications, Science Advances, Journal of Public Economics, American Journal of Agricultural Economics, World Bank Economic Review, Journal of Environmental Economics and Management, Journal of Development Economics, Energy Economics, Ecological Economics, Journal of Human Resources, World Politics, Journal of the European Economic Association, Journal of Development Studies, Journal of Economic Geography, Journal of African Economies, Economic Development and Cultural Change, Climatic Change, Climate Research, Environmental Research Letters, Global Environmental Change, Journal of Peace Research, PLOS One, Food Policy*

## Teaching, mentorship, and university service

### Teaching:

1. ESS 268/ INTLPOL 272: Empirical Methods in Sustainable Development (Winter 2018)
2. CS 325B/ EARTHSYS 262: Data for Sustainable Development (Fall, Winter 2017, Fall 2018)
3. EARTH 2: Climate and Society (Winter 2016, 2017, 2018)
4. ECON 106: World Food Economy (Spring 2016, 2017)

### Committees:

1. Dept of Earth System Science, Environmental Risk and Adaptation faculty search committee (2017/18)
2. Dept of Earth System Science, Graduate Admissions committee (2017-)
3. Earth Systems – Executive Committee (2016-)
4. Sustainability Science and Practice Masters Program – Executive committee (2017-)
5. E-IPER graduate admissions committee (2016/17)
6. Woods Institute Environmental Ventures Program review committee (2016-18)
7. International Policy Studies Masters Program - curriculum committee (2016-)

### Guest lectures:

1. SUST 2010 (Fall 2017)
2. Earth System Science 305 (Fall 2017)
3. Earth Systems 10 (2017)
4. ENVRES 300 (2017)
5. Energy Boot Camp (2017)
6. Earth System Science 305 (Spring 2017)
7. Earth 1b: Big Earth (Winter 2017)
8. Med 232: Discussions in Global Health (Fall 2016)
9. ENVRES 315 (Winter 2016)
10. Earth Systems 10 (2016)
11. Public Policy: Masters Colloquium (2015)
12. Earth Systems 10 (2015)

### Stanford outreach:

1. Woods Institute for the Environment, New York (speaker), 2018
2. Woods Institute for the Environment, Global Climate Action Summit (panelist), 2018
3. Stanford School of Engineering "Future of Everything" Podcast guest, 2018



4. FSI podcast guest, 2017 and 2018
5. Earth Matters, New York (speaker), 2017
6. Stanford nationally-televised commercial, 2017 [[youtube link](#)]
7. FSI Advisory Council (speaker), 2017
8. Stanford Admit Weekend (speaker), 2017
9. Earth Matters, Los Angeles (speaker), 2016
10. FSI Advisory Council (speaker), 2016
11. Stanford Admit Weekend (speaker), 2016
12. Earth Matters, Stanford (speaker) 2015
13. Connecting the Dots, Stanford Earth (speaker) 2015

Mentorship:

Current advisees: Earth Systems (3 undergrad, 2 masters), Interdisciplinary Program in Environment and Resources (5 PhD), International Relations (1 undergrad), International Policy Studies (1 masters), Economics (1 PhD).

Last updated: March 3, 2020