CURRICULUM VITAE **WOLFRAM SCHLENKER**

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ACADEMIC POSITIONS

Harvard University, Kennedy School of Government
Ray A Goldberg Professor of the Global Food System, 2024 – present.
Columbia University, School of International and Public Affairs (SIPA) and the Earth Institute.
Professor, 2017 – 2024.
Co-director, Center for Environmental Economics and Policy (CEEP), 2019 – 2024.
Vice Dean for Academic Affairs (SIPA), 2021 – 2022, 2023 – 2024.
Co-director, Energy & Environment Concentration (SIPA), 2017 – 2021.
Associate Professor, 2012 – 2017 (on leave 2012 – 2013).
University of Zurich, Department of Economics, Academic Guest (Sabbatical) 2022-2023.
Alliance Visiting Professor, École Polytechnique, spring 2020.
National Bureau of Economic Research. Environmental and Energy Economics Program.
Research Associate, 2012 – present.
Faculty Research Fellow, 2007 – 2012.
Centre for Economic Research (ZEW), Mannheim. Research Associate 2015-present.
University of California at Berkeley, Department of Agricultural and Resource Economics.
Associate Professor, 2012 – 2013.
Stanford University, Cargill Visiting Scholar, Spring 2009.
Resources for the Future, Gilbert White Fellow, Fall 2008.
Columbia University, School of International and Public Affairs / Department of Economics.
Associate Professor, 2011 – 2012.
Assistant Professor, 2005 – 2011.
Princeton University, Environmental Institute and Department of Economics.
Visiting Researcher, 2004 – 2005.
University of California at San Diego, Department of Economics.
Assistant Professor, 2003 – 2005 (on leave fall 2004 / winter 2005 quarters).

PROFESSIONAL SERVICE

Steering Committee. Environment and Energy Economics Program, National Bureau of Economic Research. 2016 – present.
Board of Reviewing Editors. *Science*. 2016 – 2025.
Board of Directors. Association of Environmental and Resource Economists. 2014-2016.

EDUCATION

Ph.D. Agricultural and Resource Economics, University of California, Berkeley, May 2003.
Dissertation: *The Optimal Pricing of Natural Resources*.
Ph.D. Advisors: Anthony C. Fisher, W. Michael Hanemann, and John M. Quigley
M.S. Engineering and Management Science (Diplom in Wirtschaftsingenieurwesen), University of Karlsruhe, Germany, September 2000.
M.E.M. Master of Environmental Management, Duke University, May 1998.
B.S. Engineering and Management Science (Vordiplom in Wirtschaftsingenieurwesen), University of Karlsruhe, Germany, September 1995.

AWARDS AND HONORS

Outstanding Adviser Award – Sustainable Development Ph.D. Program, School of International and Public Affairs, 2018.

Outstanding Teaching Award, School of International and Public Affairs, 2011.

Heinz König Young Scholar Award, Centre for European Economic Research (ZEW), Mannheim, June 2004.

Sidney Hoos Award for Best Second Year Project in Econometrics, May 2000.

First and second prize, respectively, in the mathematical competitions of the University of Stuttgart and Tübingen, Germany, 1992.

First prize in mathematical competition of Baden-Württemberg, Germany, 1989/90.

PUBLICATIONS IN ACADEMIC JOURNALS

Schlenker, W., W. M. Hanemann, and A. C. Fisher. 2005. "Will U.S. Agriculture Really Benefit from Global Warming? Accounting for Irrigation in the Hedonic Approach." *American Economic Review*, 95(1): 395-406.

Schlenker, W., W. M. Hanemann, and A. C. Fisher. 2006. "The Impact of Global Warming on U.S. Agriculture: An Econometric Analysis of Optimal Growing Conditions." *Review of Economics and Statistics*, 88(1): 113-125.

Schlenker, W., and M. J. Roberts. 2006. "Nonlinear Effects of Weather on Corn Yields." *Review of Agricultural Economics*, 28(3): 391-398.

Schlenker, W., W. M. Hanemann, and A. C. Fisher. 2007. "Water Availability, Degree Days, and the Potential Impact of Climate Change on Irrigated Agriculture in California." *Climatic Change*, 81(1): 19-38.

Heal, G., and W. Schlenker. 2008. "Sustainable Fisheries." *Nature*, 455(7216): 1044-1045.

Carson, R. T., C. W. J. Granger, J. B. C. Jackson, and W. Schlenker. 2010. "Fisheries Management under Cyclical Population Dynamics." *Environmental and Resource Economics*, 42(3): 379-410.

Schlenker, W. and M. J. Roberts. 2009. "Non-linear Temperature Effects Indicate Severe Damages to U.S. Crop Yields under Climate Change." *Proceedings of the National Academy of Sciences*, 106(37): 15594-15598.

Schlenker, W. and S. B. Villas-Boas. 2009. "Consumer and Market Response to Mad-Cow Disease." *American Journal of Agricultural Economics*, 91(4): 1140-1152.

Timmins, C. and W. Schlenker. 2009. "Reduced Form versus Structural Modeling in Environmental and Resource Economics." *Annual Review of Resource Economics*, 1: 351-380.

Roberts, M. J. and W. Schlenker. 2009. "World Supply and Demand of Food Commodity Calories." *American Journal of Agricultural Economics*, 91(5): 1235-1242.

Schlenker, W. and D. B. Lobell. 2010. "Robust Negative Impacts of Climate Change on African Agriculture." *Environmental Research Letters*, 5(1): 1-8.

Brozovic, N. and W. Schlenker. 2011. "Optimal Management of an Ecosystem with an Unknown Threshold." *Ecological Economics*, 70(4): 627-640.

Graff Zivin, J., M. Neidell, and W. Schlenker. 2011. "Water Quality Violations and Avoidance Behavior: Evidence from Bottled Water Consumption." *American Economic Review: Papers & Proceedings*, 101(3): 448-453.

Lobell, D. B., W. Schlenker, and J. Costa-Roberts, 2011. "Climate Trends and Global Crop Production Since 1980." *Science*, 333(6042): 616-620.

Urban, D., M. J. Roberts, W. Schlenker, and D. B. Lobell. 2012. "Projected Temperature Changes Indicate Significant Increase in Interannual Variability of U.S. Maize Yields." *Climatic Change*, 112(2): 525-533.

Fisher, A. C., W. M. Hanemann, M. J. Roberts, and W. Schlenker. 2012. "The Economic Impacts of Climate Change: Evidence from Agricultural Output and Random Fluctuations in Weather: Comment." *American Economic Review*, 102(7): 3749-3760.

Roberts, M. J., W. Schlenker, and J. Eyer. 2013. "Agronomic Weather Measures in Econometric Models of Crop Yield with Implications for Climate Change." *American Journal of Agricultural Economics*, 95(2): 236-243.

Lobell, D. B., G. L. Hammer, G. McLean, C. Messina, M. J. Roberts, and W. Schlenker. 2013. "The critical role of extreme heat for maize production in the United States." *Nature Climate Change*, 3(5): 497–501.

Auffhammer, M., S. M. Hsiang, A. Sobel, and W. Schlenker. 2013. "Weather Data and Climate Model Output: A Practical User Guide for Economists." *Review of Environmental Economics and Policy*, 7(2): 181-198.

Schlenker, W., M. J. Roberts, and D. B. Lobell. 2013. "US maize adaptability." *Nature Climate Change*, 3(8): 690-691.

Currie, J, J. S. Graff Zivin, K. Meckel, M. J. Neidell, and W. Schlenker. 2013. "Something in the Water: Contaminated Drinking Water and Infant Health." *Canadian Journal of Economics*, 46(3): 791-810.

Roberts, M. J. and W. Schlenker. 2013. "Identifying Supply and Demand Elasticities of Agricultural Commodities: Implications for the US Ethanol Mandate." *American Economic Review*, 103(6): 2265-2295.

Auffhammer, M. and W. Schlenker. 2013. "It's not just the statistical model. A comment on Seo (2013)." *Climatic Change*, 121(2): 125-128.

Lobell, D. B., M. J. Roberts, N. Braun, B. B. Little, R. M. Rejesus, W. Schlenker and G. L. Hammer. 2014. "Greater Sensitivity to Drought Accompanies Maize Yield Increase in the U.S. Midwest." *Science*, 344(6183): 516-519.

Auffhammer, M, and W. Schlenker. 2014. "Empirical studies on agricultural impacts and adaptation." *Energy Economics*, 49: 555–561.

Urban, D. W., M. J. Roberts, W. Schlenker, and D. B. Lobell. 2015. "The effects of extremely wet planting conditions on maize and soybean yields." *Climatic Change*, 130(2): 249-260.

Annan, F. and W. Schlenker. 2015. "Federal Crop Insurance and the Disincentive to Adapt to Extreme Heat." *American Economic Review - Papers and Proceedings*, 105(5): 262-266.

Schlenker, W. and W. R. Walker. 2016. "Airports, Air Pollution, and Contemporaneous Health." *Review of Economic Studies*, 83(2): 768-809.

Frank, E. and W. Schlenker. 2016. "Balancing economic and ecological goals." *Science*, 353(6300): 651-652.

D'Agostino, A. and W. Schlenker. 2016. "Recent weather fluctuations and agricultural yields: implications for climate change." *Agricultural Economics - Plenary Session of the Triannual International Conference of Agricultural Economists*, 47(S1): 159-171.

Schauberger, B., S. Archontoulis, A. Arneth, J. Balkovic, P. Ciais, D. Deryng, J. Elliott, C. Folberth, N. Khabarov, C. Müller, T. A. M. Pugh, S. Rolinski, S. Schaphoff, E. Schmid, X. Wang, W. Schlenker and K. Frieler. 2017. "Consistent negative response of US crops to high temperatures in observations and crop models." *Nature Communications*, Article Number 13931: 1-9.

Missirian, A. and W. Schlenker. 2017. "Asylum Applications and Migration Flows." *American Economic Review - Papers and Proceedings*, 107(5): 436-440.

Blanc, E. and W. Schlenker. 2017. "The Use of Panel Models in Assessments of Climate Impacts on Agriculture." *Review of Environmental Economics and Policy*, 11(2): 258-279.

Roberts, M. J., N. O. Braun, T. R. Sinclair, D. B. Lobell, and W. Schlenker. 2017. "Comparing and combining process-based crop models and statistical models with some implications for climate change." *Environmental Research Letters*, 12(9): 1-15.

Missirian, A. and W. Schlenker. 2017. "Asylum applications respond to temperature fluctuations." *Science*, 358(6370): 1610-1614.

Schlenker, W. 2018. "The cost of a warming climate - feeling the heat." *Nature*, 557: 498.

Proctor, J., S. Hsiang, J. Burney, M. Burke, and W. Schlenker. 2018. "Estimating global agricultural effects of geoengineering using volcanic eruptions." *Nature*, 560: 480–483.

Dalhaus, Tobias, Wolfram Schlenker, Michael M. Blanke, Esther Bravin and Robert Finger. 2020. "The Effects of Extreme Weather on Apple Quality." *Nature Scientific Reports*, 10(7919).

Haqiqi, I., D. S. Grogan, T. W. Hertel, and W. Schlenker. 2021. "Quantifying the impacts of compound extremes on agriculture." *Hydrology and Earth System Sciences*, 25: 551–564.

Anderson, W., C, Taylor, S. McDermaid, E. Ilboudo-Nébié, R. Seager, W. Schlenker, F. Cottier, A. de Sherbinin, D. Mendeloff, and K. Markey. 2021. "Violent conflict exacerbated drought-related food insecurity between 2009 and 2019 in sub-Saharan Africa." *Nature Food*, 2: 603-615.

Schlenker, W. and C. Taylor. 2021. "Market Expectations of a Warming Climate." *Journal of Financial Economics*, 42(2): 627-640.

Wagner, G. and W. Schlenker. 2022. "Declining crop yields limit the potential of bioenergy." *Nature*, 609: 250-251.

Yin, J., P. Gentine, L. Slater, L. Gu, Y. Pokhrel, N. Hanasaki, S. Guo, L. Xiong and W. Schlenker. 2023. "Future socio-ecosystem productivity threatened by compound drought–heatwave events." *Nature Sustainability*.

Hogan, D. and W. Schlenker. 2024. "Non-linear relationships between daily temperature extremes and US agricultural yields uncovered by global gridded meteorological datasets." *Nature Communications*, 15(4638): 1-10.

Hogan, D. and W. Schlenker. 2024. "Empirical approaches to climate change impact qunatification." *Handbook of the Economics of Climate Change*, 1(1): 53-111.

Greenhill, S., S. Hsiang, C. Balboni, L. Barrage, I. W. Bolliger, J. Boomhower, D. Diaz, H. Druckenmiller, T. Garg, M. Hino, H. Hong, C. Kousky, J. Martinich, I. Nath, K. L. Oremus, R. J. Park, T. Phan, J. Proctor, W. Rafey, M. C. Sarofim, W. Schlenker and B. Simon. 2026. "Using markets to adapt to climate change." *Science*, 391(6786): 662-664.

Besbris, M., M. Pastor, A. Rhodes, W. Schlenker and P. Winston (eds). 2026. "The Social, Political, and Economic Consequences of Climate Hazards." *Russell Sage Foundation Journal of the Social Sciences*, 12(4): 1-32.

Huybers, P., J. Proctor and W. Schlenker. 2026. "Uncertain yields: The challenge of predicting solar radiation management impacts on agricultural productivity." *One Earth* 9(10): 101870.

EDITED BOOKS

Schlenker, W. 2019. "Agricultural Productivity and Producer Behavior." University of Chicago Press.

PUBLISHED BOOK CHAPTERS

Schlenker, W., and M. J. Roberts. 2008. "Non-linear Effects of Weather on U.S. Crop Yields, Implications for Climate Change, and Why these Effects Matter for Developing Countries." *Berlin Workshop Series 2008: Agriculture and Development (World Bank and InWEnt)*.

Schlenker, W. 2009. "Crop responses to climate and weather: cross-section and panel models" in *Climate Change and Food Security*, p. 99-108. Editors: D. Lobell and M. Burke. *Springer*.

Roberts, M. J. and W. Schlenker. 2010. "The Evolution of Heat Tolerance of Corn: Implications for Climate Change." *NBER Conference Volume: The Economics of Climate Change – Adaptations Past and Present*, p. 225-251. Editors: G. Libcap and R. Steckel. *Chicago University Press.*

Roberts, M. J. and W. Schlenker. 2012. "Is Agriculture Becoming More or Less Sensitive to Extreme Heat? Evidence from U.S. Corn and Soybean Yields." *NBER Conference Volume: The Design and Implementation of U.S. Climate Policy*, p. 271-282. Editors: D. Fullerton and C. Wolfram. *Chicago University Press.*

Berry, S. T, M. J. Roberts and W. Schlenker. 2014, "Corn Production Shocks in 2012 and Beyond: Implications for Food Price Volatility." *NBER Conference: The Economics of Food Price Volatility*, p. 59-81. Editors: J.-P. Chavas, D. Hummels, and B. D. Wright. *Chicago University Press.*

Martinich, J., S. Hsiang, S. Greenhill, M. Grasso, R. M. Schuster, L. Barrage, D. B. Diaz, H. Hong, C. Kousky, T. Phan, M. C. Sarofim, W. Schlenker, B. Simon, S. E. Sneeringer. "Chapter 19: Economics." *Fifth National Climate Assessment*.

WORKING PAPERS

Norman, M. and W. Schlenker. "Empirical Tests of the Green Paradox for Climate Legislation." *NBER Working Paper 32405.*

Wuepper, D., H. Wang, W. Schlenker, M. Jain and R. Finger. "Institutions and Global Crop Yields." *NBER Working Paper 31426*.

Braun, T. and W. Schlenker. "Cooling Externality of Large-Scale Irrigation" *NBER Working Paper 30966*.

Ekeland, I., W. Schlenker, P. Tankov, and B. Wright. "Optimal Exploration and Price Paths of a Non-renewable Commodity with Stochastic Discoveries," *NBER Working Paper 29934*.

Taylor, C. A. and W. Schlenker. "Environmental Drivers of Agricultural Productivity Growth: CO_2 Fertilization of US Field Crops," *NBER Working Paper 29320*.

Heal, G. M., and W. Schlenker. "Coase, Hotelling and Pigou: The Incidence of a Carbon Tax and CO_2 Emissions," *NBER Working Paper 26086*.

Boone, C., J. Siikamäki, and W. Schlenker. "The Effect of Ground-Level Ozone of US Maize Yields," *CEEP Working Paper 7*.

Feng, S., M. Oppenheimer, and W. Schlenker. "Climate Change, Crop Yields, and Internal Migration in the United States," *NBER Working Paper 17734*.

FORMER PH.D. STUDENTS

Annan, Francis (UC Berkeley – Agricultural and Resource Economics)
Attila-Hughes, Jesse (University of San Francisco – Department of Economics)
Bao, Xiaojia (Xiamen University - Wang Yanan Institute for Studies in Economics)
Benatiya Anadaloussi, Mehdi (IMF)
Boone, Christopher (University of Massachusetts at Amherst – Department of Economics)
Braun, Thomas (Directorate-General for Industry, New Technologies and Research, Luxembourg)
D'Agostino, Anthony L. (Mathematica)
De Loera, Andrés (Stanford University)
Du, Xinming (National University of Singapore – Department of Economics)
Fishman, Ram (Tel-Aviv University, Public Policy)
Foreman, Timothy (IIASA and Vienna University of Economics and Business)
Frank, Eyal (University of Chicago – Harris School of Public Policy)
Fuje, Habtamu (IMF)
Gantois, Joséphine (University of British Columbia)
Grosset, Florian (Institute Polytechnique de Paris, ENSAE & CREST)
Hsiang, Solomon (Stanford Doerr School of Sustainability)
Krishnamurthy, Chandra (Swedish University of Agricultural Sciences)
Meng, Kyle (University of Santa Barbara – Bren School and Department of Economics)
Missirian, Anouch (Toulouse School of Economics)
Narita, Daiju (University of Tokyo – Graduate Program on Environmental Sciences)
Ngo, Nicole (University of Oregon - School of Planning, Public Policy and Management)
Obolensky, Marguerite (University College London)
Oremus, Kimberly (University of Delaware – School of Marine Science and Policy)
Ru, Muye (Morgan Stanley)
Smythe, Isaeblla (Rhizome)
Taylor, Charles A. (Harvard University – Kennedy School of Government)
Varela Varela, Ana (London School of Economics – Department of Geography and Environment)
Vicarelli, Marta (University of Massachusetts Amherst –Economics and Public Policy)
Von der Goltz, Jan (World Bank)
Walker, William Reed (UC Berkeley – Haas School of Business)
Wilson, Andrew (University of Virginia- Frank Batten School of Leadership and Public Policy)
Yoon, Semee (Seoul National University)
Zhang, Alice Tianbo (IMF)
Zhong, Nan (Xiamen University - Wang Yanan Institute for Studies in Economics)

GRANTS

United States Department of Agriculture – National Institute of Food and Agriculture. "Climate change and calorie crops - global impacts, adaptation and implications for US agricultural communities." Grant-No 2022-67023-36400, 2022-2024. (US$ 649,755).

U.S. Department of Energy Sub-Grant, Office of Science, Biological and Environmental Research Program, Earth and Environmental Systems Modeling, MultiSector Dynamics "Understanding Multi-Stressor and Multi-Scale Drivers of Feedbacks, Cascading Failures, and Risk Management Pathways within Complex MSD Systems," 2021-2026 (US$ 680,567).

National Science Foundation, GCR: "Collaborative Research: Disentangling Environmental Change and Social Factors as Drivers of Migration." Award Number 1934978, 2019-2022. (US$ 1,179,841)

U.S. Department of Energy, Office of Science, Biological and Environmental Research Program, Earth and Environmental Systems Modeling, MultiSector Dynamics "A Multi-Model, Multi-Scale Research Program in Stressors, Responses, and Coupled Dynamics at the Energy-Water-Land Nexus and for Concentrated, Interdependent Infrastructures: Toward Next Generation Capabilities in Integrated Impacts, Adaptation, and Vulnerability (I-IAV) Modeling and a Community of Practice," Grant-No. DE-SC0016162, 2016-2021 (US$ 262,632).

National Science Foundation, Economics Program, "Competing Demands and Future Vulnerability of Groundwater: Drinking Water Quality and Food Security in Arsenic-Impacted South and Southeast Asia," Award Number ICER-1414131, 2014-2019 (US$ 1,456,710).

Department of Energy Sub-Grant, Office of Science, Biological and Environmental Research Program, Integrated Assessment Research Program, Grant-No. DE-SC0005171, 2013-2016 (US$ 249,399).

National Science Foundation, Economics Program, "Food Price Spikes in a Warming World: Estimating Risks and Evaluating Policy Responses," Award Number SES-0962559, 2010-2013 (US$ 569,126).

Department of Energy Grant, Office of Science, Biological and Environmental Research Program, "Statistical Methods in Integrated Assessment Models of Climate Change – Applications to Agriculture and Energy Systems," Grant-No. DE-FG02-08ER64640, 2008-2011 (US$ 351,433).

Institute on Global Conflict and Cooperation (IGCC) Fellowship, 2002–2003.

Institute of Business and Economic Research Mini-grant, UC Berkeley, May 2001.

Pre-doctoral Fellowship, German Academic Exchange Service, 1998–1999.

FINANCIAL DISCLOSURE OF PAID OUTSIDE WORK

Bank of Italy – Short course "Economics of Climate Change," October 2020.

SEMINAR PRESENTATIONS

Arizona State University, Brown University, Carnegie Mellon University, Colorado State University, Cornell University, Dartmouth College, Duke University, Economic Research Service - United States Department of Agriculture, ETH – Zurich, Food and Agriculture Organization (FAO), George Washington University, Georgia State University, Graduate Institute of International Studies, Harvard University, Hebrew University – Rehovot, Institute for International Economic Studies, Iowa State University, Johns Hopkins University, Massachusetts Institute of Technology, Michigan State University, National Academy of Sciences, New School, North Carolina State University, Ohio State University, Oregon State University, Paris School of Economics, Princeton University, Purdue University, Resources for the Future, Rutgers University, Sogang University (South Korea), Stanford University, Tufts University, Tulane University, University of Alberta at Edmonton, University of Arizona, University of British Columbia, University of Calgary, University of California at Berkeley, University of California at Irvine, University of California at San Diego, University of California at Santa Barbara, University of California Energy Institute, University of Colorado at Boulder, University of Connecticut, University of Hamburg, University of Hawaii at Manoa, University of Heidelberg, University of Illinois at Urbana-Champaign, University of Kansas, University of Maryland at College Park, University of Mannheim, University of Massachusetts at Amherst, University of Michigan, University of Minnesota, University of Nebraska, University of Pittsburgh, University of Sao Paulo, University of South Carolina, University of Texas at Austin, University of Toronto, University of Washington, University of Wyoming, University of Zurich, Virginia Tech University, Washington State University, Whitman College, World Bank, Yale University.

REFEREE

American Economic Review, American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, American Economic Journal: Macroeconomics, American Journal of Agricultural Economics, Annual Review of Resource Economics, Berkeley Electronic Press, California Institute for Energy and Environment – Environmental Explanatory Grant Proposals, Climatic Change, Climate Change Economics, Deutsche Forschungsgemeinschaft, Ecological Economics, Economic Development and Cultural Change, Econometrica, Economics Letters, Economic Inquiry, Energy Biosciences Institute, Environment and Development Economics, Environmental Research Letters, European Economic Review, Journal of Applied Meteorology and Climatology, Journal of Development Economics, Journal of Economic Literature, Journal of Environmental Economics and Management, Journal of Political Economy, Journal of Public Economics, Journal of Population Economics, Journal of the American Water Resources Association, Journal of the Association of Environmental and Resource Economists, National Science Foundation, Nature Climate Change, Nature Plants, Nature Scientific Reports, Proceedings of the National Academy of Sciences, Quarterly Journal of Economics, Resource and Energy Economics, Review of Economic Studies, Review of Economics and Statistics, Review of Environmental Economics and Policy, Science, Water Resources Research.