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CURRENT POSITIONS

2024-present, Editorial Council, Journal of the Association of Environmental and Resource Economists
2023-present, Editorial Council, Journal of Environmental Economics and Management
2024-present, Executive Committee, Transportation and Public Utilities Group (ASSA)
2019-2025, Associate Chair for Graduate Studies, Department of Economics, University of Colorado Boulder
2017-present, Associate Professor of Economics (with tenure), University of Colorado Boulder
2016-present, Fellow, Renewable and Sustainable Energy Institute, University of Colorado Boulder

PAST POSITIONS

2023, President, Transportation and Public Utilities Group (ASSA)
2017-2023, Joint Appointment, National Renewable Energy Laboratory, Strategic Analysis Center
2009-2021, Non-Rostered Core Faculty, Environmental Studies, University of Colorado Boulder
2018-2019, Research Economist, National Bureau of Economic Research
2009-2017, Assistant Professor of Economics, University of Colorado Boulder

EDUCATION

Ph.D. University of California, Davis, Institute of Transportation Studies, 2009
M.Sc. Cornell University, Materials Science and Engineering, 2003
B.Sc. Duke University, Mechanical Engineering, *magna cum laude*, 1999

PUBLICATIONS

"The Role of Modal Substitution in Rebound Effects Within US Freight Transportation" With James Bushnell. *Nature Energy*, 9, pp. 1153-1160, September 2024.
"Decline in Traffic Congestion Increased Accident Severity in the Wake of COVID-19." With Daniel Kaffine and Leah Kaffine. *Transportation Research Record*, 2677(4), pp. 892-903, April 2023.
"The Value of Rarity: Evidence from a Collectible Good" *Journal of Industrial Economics*, 70(1), pp. 147-167, March 2022.
"Food vs. Fuel? Impacts of Petroleum Shipments on Agricultural Prices" With James Bushnell and Aaron Smith. *Journal of the Association of Environmental and Resource Economists*, 9(1), pp. 79-112, January 2022.
"Who (Else) Benefits from Electricity Deregulation?" With Ian Lange. *Economic Inquiry*, 58(3), pp. 1053-1075, July 2020.
"When Should Carpools in HOV Lanes be Encouraged?" With Daniel Kaffine. *Economic Inquiry* 57(1), pp. 667-684, January 2019.
"Strategic Policy Choice in State-Level Regulation: The EPA's Clean Power Plan" With James Bushnell, Stephen Holland and Christopher Knittel. *American Economic Journal: Economic Policy*, 9(2), pp. 57-90, May 2017.

“When is Increasing Consumption of Common Property Optimal?” With Daniel Kaffine. *The Journal of Environmental Economics and Management*, 81, pp. 227-242, January 2017.

“Some Inconvenient Truths About Climate Change Policy: The Distributional Impacts of Transportation Policies” With Stephen P. Holland, Christopher R. Knittel and Nathan C. Parker. *The Review of Economics and Statistics*, 97(5), pp. 1052-1069, December 2015.

“Unintended Consequences of Transportation Carbon Policies” With Stephen P. Holland, Christopher R. Knittel and Nathan C. Parker. *Energy Journal*, 36(3), pp. 35-74, July 2015.

“Getting Green with Solar Subsidies: Evidence from the California Solar Initiative” With Molly Podolefsky. *Journal of the Association of Environmental and Resource Economists*, 2(2), pp. 235-275, June 2015.

“Carpooling and Driver Responses to Fuel Price Changes: Evidence from Traffic Flows in Los Angeles” With Daniel Kaffine and Antonio M. Bento. *Journal of Urban Economics*, 77, pp. 41-56, September 2013.

“The Higher Price of Cleaner Fuels: Market Power in the Rail Transport of Fuel Ethanol” *The Journal of Environmental Economics and Management*, 62(2), pp. 123-139, September 2011.

“Greenhouse Gas Reductions under Low Carbon Fuel Standards?” With Stephen P. Holland and Christopher R. Knittel. *American Economic Journal: Economic Policy*, 1(1), pp. 106-146, February 2009.

“Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand” With Christopher R. Knittel and Daniel Sperling. *Energy Journal*, 29(1), pp. 93-114, January 2008.

WORKING PAPERS

“Are “Buying Frenzies” Equitable? Distributional Effects of Congested Online Markets”
(Under review)

“Managing No-Shows in Public Resource Allocation: The Economics of Campground Reservations”
(Revisions requested at *Journal of Environmental Economics and Management*)

AWARDS AND GRANTS

National Bureau of Economic Research and Alfred P. Sloan Foundation Program on the Economics of Energy Use in Transportation, 2018-2019, \$12,500

National Bureau of Economic Research and Alfred P. Sloan Foundation Program on Hydrocarbon Infrastructure and Transportation, 2015-2016, \$15,000

Barry McNutt Award for best paper, “Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand,” Transportation Research Board, 2008

Chevron Technology Ventures Biofuels Research Grant, 2007-2008, \$77,000

Jastro-Shields Research Fellowship, University of California, Davis, 2005-2006, \$3,000

GAANN fellowship, U.S. Department of Education, Cornell University, 2002-2003

MEDIA COVERAGE

“The Role of Modal Substitution in Rebound Effects Within US Freight Transportation”
Anthropocene Magazine, *CU Boulder Today*

“Decline in Traffic Congestion Increased Accident Severity in the Wake of COVID-19” Between the Lines, National Traffic Law Center, Bloomberg News, Denver Post, *CU Boulder Today*

“Food vs. Fuel? Impacts of Petroleum Shipments on Agricultural Prices” NBER Digest, C.D. Howe Institute

“Strategic Policy Choice in State-Level Regulation: The EPA's Clean Power Plan” featured in *UC Berkeley EI@Haas Energy Economics Exchange*, *WIRED* magazine

“Unintended Consequences of Transportation Carbon Policies” featured in *UC Berkeley EI@Haas Energy Economics Exchange*

“Carpooling and Driver Responses to Fuel Price Changes” featured in *Chicago Policy Review*

“Some Inconvenient Truths About Climate Change Policy” featured in *Slate* magazine

“Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand” featured in *The New York Times*, *The Wall Street Journal Online*, *The San Francisco Chronicle* and *The Sacramento Bee*

REFeree SERVICE

Journal of Political Economy, *The Economic Journal*, *American Economic Review: Insights*, *Review of Economics and Statistics*, *American Economic Journal: Economic Policy*, *Journal of Public Economics*, *Journal of the Association of Environmental and Resource Economists*, *Journal of Environmental Economics and Management*, *Journal of Urban Economics*, *European Economic Review*, *the Journal of Regulatory Economics*, *Journal of Applied Econometrics*, *Economic Inquiry*, *The Energy Journal*, *Regional Science and Urban Economics*, *Energy Economics*, *Environmental and Resource Economics*, *Economics of Energy and Environmental Policy*, *Southern Economic Journal*, *The B.E. Journal of Economic Analysis & Policy*, *Energy Policy*, *Nature Climate Change*, *Science Advances*, *PLOS One*, *Environmental Science and Technology*, *Transportation Research A*, *Transportation Research D*, *Traffic Injury Prevention*, *Public Transportation*, NSF Grant Program, Alfred P. Sloan Foundation Grant Program

CONFERENCE AND SEMINAR PRESENTATIONS

“Are ‘Buying Frenzies’ Equitable? Distributional Effects of Congested Online Markets” University of Oregon (2024), Arizona State University (2021)

“Energy Consumption, Emissions and Modal Substitution in U.S. Freight Transportation” UC Berkeley (2024), UC Davis (2021), University of Oklahoma (2020), National Bureau of Economic Research (NBER) Transportation Energy Conference (2018, 2019)

“Food vs. Fuel? Impacts of petroleum shipments on agricultural prices” National Bureau of Economic Research (NBER) Hydrocarbon Infrastructure Conference (2017), Cornell University (2017)

“When Should Carpools in HOV Lanes be Encouraged?” Georgia Tech (2018), Texas A&M (2018), University of Alabama (2018), University of Kansas (2017), University of Tennessee (2016)

“Who (Else) Benefits from Electricity Deregulation” Association of Environmental and Resource Economists annual meeting (2016)

“Strategic Policy Choice in State-Level Regulation: The EPA's Clean Power Plan” Georgia Institute of Technology (2017), National Bureau of Economic Research (NBER) Environmental and Energy Economics spring meeting (2016), Case Western Reserve University (2016)

“Unintended Consequences of Transportation Carbon Policies” Colorado School of Mines (2013)

“Linked Common-Property Resources with Congestion Externalities” Stanford University (2013), University of Pittsburgh (2013), Association of Environmental and Resource Economists annual meeting (2013)

“Carpooling and Driver Responses to Fuel Price Changes: Evidence from Traffic Flows in Los Angeles” University of Colorado Environmental and Resources Economics Workshop (2012), Meeting of the Urban Economics Association (2012)

“Some Inconvenient Truths About Climate Change Policy: The Distributional Impacts of Transportation Policies” University of California, San Diego (2012), University of Wisconsin Madison (2012), National Bureau of Economic Research (NBER) Environmental and Energy Economics spring meeting (2011)

“Marginal Cost Pass-Through: Evidence from U.S. Railroads” University of Wyoming (2011), University of California Energy Institute (2011)

“Transportation Carbon Policies Lead to Large Differences in Land Use” AEA meeting (2010), University of California Energy Institute (2010)

“Market Power in the Rail Transport of Fuel Ethanol”

College of William and Mary (2009), Colorado School of Mines (2009), Pennsylvania State University (2009), University of California at Santa Barbara (2009), University of Colorado at Boulder (2009), University of Michigan (2009), University of Tennessee (2009), University of California Energy Institute (2008), North Carolina State University (2008), University of North Carolina at Greensboro (2008)

“Greenhouse Gas Reductions under Low Carbon Fuel Standards?”

National Bureau of Economics Research (NBER) Environmental and Energy Economics Program Winter Meeting (2008), Claremont McKenna College (2008), Pomona College (2008)

“Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand”

Annual Meeting of the Transportation Research Board (2007), University of California Davis, Institute of Transportation Studies seminar (2007), University of California Energy Institute, Research Conference on Gasoline and Oil Markets (2006), California Air Resources Board, Economic Studies seminar (2006), University of California Energy Institute (2006)

REGULATORY FILINGS

Bushnell, J., S.P. Holland, J.E. Hughes, C.R. Knittel, 2014. “Comments on the Proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 FR 34830 (June 18, 2014).” Docket ID: EPA-HQ-OAR-2013-0602.

Arons, S.M., A.R. Brandt, M.A. Delucchi, A. Eggert, A.E. Farrell, B.K. Haya, J. Hughes, B.M. Jenkins, A.D. Jones, D.M. Kammen, S.R. Kaffka, C.R. Knittel, D.M. Lemoine, E.W. Martin, M.W. Melaina, J.M. Ogden, R.J. Plevin, D. Sperling, B.T. Turner, R.B. Williams, C. Yang, 2007. “A Low-Carbon Fuel Standard for California, Part 1: Technical Analysis.”

Brandt, A.R., A.E. Farrell, B.K. Haya, J. Hughes, B.M. Jenkins, A.D. Jones, D.M. Kammen, C.R. Knittel, M.W. Melaina, M. O’Hare, R.J. Plevin, D. Sperling, 2007. “A Low-Carbon Fuel Standard for California, Part 2: Policy Analysis.”

Anderson, B., D. Barthmus, R. Hayden, J. Hughes, W. James, T. King, M. Meuser, 2005.

“Marketing, Communications, and Public Education Topic Team Report, California 2010 Hydrogen Highway Network.”

COURSES TAUGHT

ECON 3545 Environmental Economics

This course highlights causes of excessive environmental pollution and tools for controlling it through economic analysis, values of preservation and distribution of costs and benefits from environmental protection programs.

ECON 4545 Environmental Economics

Examines the effects of economic growth on the environment; application of economic theory of external diseconomies, cost-benefit analysis, program budgeting, and welfare economics to problems of the physical environment.

ECON 4555 Transportation Economics and Policy

This is a course in transportation economics and policy for undergraduates. Students will learn how to use economic theory and empirical tools to analyze transportation markets and policies. The course combines topics from environmental economics and industrial organization including: aggregate demand for transportation; disaggregate demand and mode choice; externalities and the costs of driving; and policy instruments such as fuel taxes, the corporate average fuel economy program (CAFE), low carbon fuel standards and congestion pricing. Instruction will emphasize the current literature and examples from recent policies.

ENVS 6301 Environmental and Energy Economics

This course is a graduate-level course in environmental economics and energy policy intended for non-economics students. Students will learn to apply economic principles to analyze environmental policies in energy markets. Course goals are to understand: how markets work; the consequences of environmental externalities and other market failures; and how the characteristics of markets impact policy. The emphasis will be on examples from electricity generation, renewable energy, manufacturing, transportation and other energy-intensive industries. A variety of policy instruments will be studied including: technology and emission standards; renewable portfolio standards and renewable fuel standards; low carbon fuel standards; emissions taxes and cap and trade systems.

ECON 8209 Research Methods

This is the first course in a two-course sequence designed to transition students to the research and scholarship phase of their doctoral program. The primary goal of the fall workshop is to develop a research proposal that at a minimum features a well-specified research question, an introduction/literature review that explains the contribution of the proposed work, and a proposed methodology.

ECON 8219 Research Methods

The second semester of the research methods class gives opportunities for students working on their oral proposals to discuss and present their ongoing work. By the end of the class it is expected that most students will complete the comprehensive oral exam proposal and defend it. Students will focus on making short conference-style presentations and editing their own work as well as that of their peers.

ECON 8545 Environmental Economics

This course is an applied course in environmental economics with an emphasis on energy markets and energy consuming technologies. The focus is on empirical studies of environmental regulation, measurement of damages from pollution, producer and consumer behavior. The goal is to provide students interested in these topics the tools necessary to begin conducting their own research.

PH.D. ADVISING – MAJOR ADVISOR/CHAIR (FIRST JOB)

Pan Chen (ongoing)
Haeseong Park (ongoing)
Jackson Novak (ongoing)
Kevin Starnes (ongoing)
Elizabeth Sorensen Montoya (Kansas State University)
Rimjhim Saxena (University of Geneva, Postdoctoral Fellow)
Wenbo Meng (Nankai University)
Mark Valkovci (CU Boulder, Instructor)
Matthew Butner (New York University, Postdoctoral Fellow)
Tyler Mangin (Comlinkdata)
Amit Patel (World Omni Financial Corporation)
Austin Smith (Miami University)
Molly Podolefsky (Navigant Consulting)
Kenton White (Nike)
Kyungsoo Oh (Korean Energy Economics Institute)
Robert Tischer (Hampden-Sydney College)