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RESEARCH SPECIALTIES

Energy & environmental economics, applied microeconomics, climate policy

PRIMARY APPOINTMENTS:

2022 - present: *Chancellor's Leadership Professor*, UC Davis
2022 - present: *Economic Policy Advisor*, Federal Reserve Bank of Dallas
2021 - present: *Professor of Economics*, UC Davis
2015 - 2021: *Associate Professor of Economics*, UC Davis
2008 - 2015: *Assistant Professor of Economics*, UC Davis

OTHER AFFILIATIONS:

2017 - Present: *Director*, UC Davis Energy Economic Program (DEEP)
2016: *Visiting Associate Professor*, Universidad Carlos III de Madrid, Spain
2012 - 13: *Visiting Researcher*, UC Energy Institute, UC Berkeley

EDITORIAL POSITIONS AND PROFESSIONAL ACTIVITIES

2024 - present: Editor, *The Energy Journal*
2014 - present: Editorial Council, *J. Association of Environmental and Resource Economics*
2021 - 2022: *Treasurer*, U.S. Association of Energy Economics
2015 - 2019: Associate Editor, *J. of Economic Behavior and Organization*

EDUCATION

Ph.D., Economics, Boston University, Boston MA, June 2008
M.A., Economics, Queen's University, Kingston ON, Canada, 2003
A.B., Economics, Dartmouth College, Hanover NH, 1999

PUBLICATIONS

"The Limits and Costs of Full Electrification," with J. Bushnell. *Review of Environmental Economics & Policy* (forthcoming).

"The End of Neutrality? LCFS, Technology Neutrality, and Stimulating the EV Market," with J. Bushnell, E. Muehlegger, J. Witcover. *Economics of Energy & Environmental Policy* (forthcoming).

"Global Transportation Decarbonization," with E. Muehlegger. *Journal of Economic Perspectives* (2023), 37(3): 163-188

"Economics of Electric Vehicles," with E. Muehlegger. *Review of Environmental Economics & Policy* (2023), 17(2): 274-294

- “Subsidizing Low- and Middle-Income Adoption of Electric Vehicles: Quasi-Experimental Evidence from California,” with E. Muehlegger. *Journal of Public Economics* (2022), Volume 216.
- “Correcting Estimates of Electric Vehicle Emissions Abatement: Implications for Climate Policy,” with E. Muehlegger. *Journal of the Association of Environmental and Resource Economics* (2022), 1(10).
- “Low Energy: Estimating Electric Vehicle Electricity Use,” with F. Burlig, J. Bushnell and C. Wolfram. *AEA: Papers & Proceedings* (2021), 111, 430-435.
- “Estimating the Elasticity to Real Time Pricing: Evidence from the Spanish Electricity Market,” with N. Fabra and M. Reguant. *AEA: Papers & Proceedings* (2021), 111, 425-429.
- “Future Paths of Electric Vehicle Adoption in the United States: Predictable Determinants, Obstacles and Opportunities,” with J. Archsmith and E. Muehlegger. *Environmental and Energy Policy and the Economy* (2021).
- “Machine Learning from Schools about Energy Efficiency,” with F. Burlig, C. Knittel, M. Reguant and C. Wolfram. *Journal of the Association of Environmental and Resource Economics* (2020). 7(6), 1181-1217.
- “Attribute Substitution in Household Vehicle Portfolios,” with J. Archsmith, K. Gillingham and C. Knittel. *RAND Journal of Economics* (2020), 51(4), 1162-1196.
- “Utilities Included? Split Incentives in Commercial Electricity Contracts,” with Katrina Jessoe and Maya Papineau. *Energy Journal* (2020), 41(5), 271-303.
- “Does Absolution Promote Sin? A Conservationist's Dilemma,” with M. Harding. *Environmental and Resource Economics* (2019), <https://doi.org/10.1007/s10640-018-0301-5>.
- “Flawed Analysis of U.S. Auto Fuel Economy Standards,” with A. Bento, K. Gillingham, M. Jacobsen, C. Knittel, B. Leard, J. Linn, V. McConnell, J. Sallee, A. van Benthem K. Whitefoot. *Science* (2018), 362, 1119-1121.
- “Regression Discontinuity in Time: Considerations for Empirical Applications,” with C. Hausman. *Annual Review of Resource Economics* (2018), 10, 533-552.
- “The Rebound Effect and Energy Efficiency Policy,” with K. Gillingham and G. Wagner. *Review of Environmental Economics and Policy* (2016), 10(1), 68-88.
- “Commercial and Industrial Demand Response Under Time-of-Use Electricity Pricing,” with K. Jessoe. *Journal of Industrial Economics* (2015), 63(3), 397-421.
- “From Cradle to Junkyard: Assessing the Life Cycle Greenhouse Gas Benefits of Electric Vehicles,” with J. Archsmith and A. Kendall. *Research in Transportation Economics* (2015), 52, 72-90.
- “Knowledge is (Less) Power: Experimental Evidence from Residential Energy Use,” with K. Jessoe. *American Economic Review* (2014), 104(4), 1417-1438.

- “Towards Understanding the Role of Price in Residential Energy Choices: Evidence from a Natural Experiment,” with K. Jessoe and J. B. Smith. *Journal of Economic Behavior and Organization* (2014), 107(A): 191-208.
- “Durable Goods and Long-Run Electricity Demand: Evidence from Air Conditioner Purchase Behavior.” *Journal of Environmental Economics and Management* (2014), 68(1): 141-160.
- “The Rebound Effect is Overplayed,” with K. Gillingham, M. Kotchen, and G. Wagner. *Nature* (2013), 493: 475-476.
- “Internet and the Efficiency of Decentralized Markets: Evidence from Automobiles,” with P. Schiraldi. *Economics Letters* (2013), 121(2): 232-235.
- “Split Incentives in Household Energy Consumption,” with K. Gillingham and M. Harding. *Energy Journal* (2012), 33(2): 37-62.
- “Does it pay, at the margin, to work and save? Measuring the effective marginal taxes on Americans’ labor supply and savings,” with L. Kotlikoff. *Tax Policy and the Economy* (2007), NBER volume 21, MIT Press.

BOOK CHAPTERS

- “Utilization and Customer Behavior: Smart Choices for the Smart Grid,” with K. Jessoe and J. B. Smith in C-C Liu, S. McArthur, S-J Lee, eds, *Smart Grid Handbook*, John Wiley & Sons, Ltd (2016)
- “Would the Fair Tax raise or lower marginal and average tax rates?” with L. Kotlikoff in J. Diamond and G. Zodrow, eds., *Fundamental Tax Reform: Issues, Choices, and Implications*, MIT Press (2008).

AWARDS

- 2022: Chancellor’s Leadership Professor, UC Davis
 2015: Thomas Meyer Distinguished Teaching Award, UC Davis Department of Economics

GRANTS

- California Air Resources Board*, 2023. “Applying Time-Series Forecasting Models to Projections of CA GHG Emissions and Policy Impacts” (co-PI with J. Bushnell and A. Smith). \$417,269.
- National Science Foundation*, 2021. “Electric Vehicles: Economics of the Extensive and Intensive Margins” (Co-PI with F. Burlig and J. Bushnell). \$600,000.
- Abdul Latif Jameel Poverty Action Lab (J-PAL)*, 2021. “Estimating the Climate Change Mitigation Potential of Shifting Electric Vehicle Load” (Co-PI with F. Burlig and J. Bushnell). \$75,000.
- Peninsula Clean Energy*, 2021. “Understanding the Willingness to Enroll in Electric Vehicle Managed Charging Programs”. \$220,000.
- SBI 2019* (co-PI with J. Bushnell & E. Muehlegger). \$61,000.
- SBI 2018* (co-PI with J. Bushnell). \$79,000.
- SBI 2017 & 2018* (co-PI with E. Muehlegger). \$50,000 & \$78,000.
- Sloan Foundation, E2e Project*, 2017 (Co-PI with Corey Lang). \$250,000.
- Sloan Foundation*, 2017 (Co-PI with James Bushnell and Duncan Callaway). \$412,000.
- National Center for Sustainable Transportation and California Department of Transportation*, 2017 (Co-PI with E. Muehlegger). \$99,000.

National Center for Sustainable Transportation and US Department of Transportation, 2017 (Co-PI with E. Muehlegger). \$31,000.
Banco Bilbao Vizcaya Argentina (Co-PI with N. Fabra (co-PI) and Mar Reguant). \$65,000.
California Air Resources Board. Plug-in electric vehicles in the secondary market (with T. Turrentine (co-PI), G. Tal), 2014. \$300,000.
UCE3. Vehicle choice and transaction costs, 2013. \$17,000.
California Air Resources Board. Modeling vehicle choice and usage (with P. Mokhtarian (co-PI), K. Gillingham, C. Knittel), 2012. \$300,000.
UC Davis, Research Investments in the Sciences and Engineering (with K. Levitt, Ho-Chen, George Barnett, J. Bushnell, A. Scaglioni, and Nicole Woolsey-Biggert), 2012. \$840,000.
National Science Foundation (with G. Kesidis, K. Levitt, D.J. Miller, J. Rowe, J. Bushnell, A. Scaglioni), 2012. \$240,000 (Rapson share).
UCE3 (with K. Jessoe (co-PI)). Smart grid and choice-neutral defaults, 2012. \$17,000.
UCE3 (with K. Jessoe (co-PI)). Smart grid and dynamic electricity pricing, 2010. \$17,000.
 Junior Faculty Research Grant, UC Davis, 2008, 2009, 2010, 2011, 2012, 2013, 2014.
UC Davis Sustainable Transportation Center. Vehicle choice and transaction frictions, 2008. \$70,000
 Dean's Fellowship, Boston University, 2003-2008
 Summer Research Grant, Boston University, 2007
 Graduate Scholarship, Queen's University, 2002-2003

TESTIMONY & KEYNOTE ADDRESSES

2023: Workshop on Energy & Environmental Economics, Madrid, Spain (keynote)
 2022: International Conference on Economic Management and Green Development (keynote)
 2021: California Public Utilities Commission *En Banc*: Energy Rates & Costs
 2020: Mercatur Research Institute on Global Commons & Climate Change (keynote postponed due to COVID-19)

INVITED CONFERENCES AND PRESENTATIONS

2023: Energy Transition & Energy Finance Conference (U. Houston Business School), Data Modernization Workshop (California Energy Commission), U. Navarra, Bern Energy & Environmental Economics Workshop (Bern, Switzerland), UC Berkeley Energy Camp
 2022: UC Irvine, Tufts University, European University Institute (online), Federal Reserve Bank of Dallas (seminar), UC Berkeley Energy Camp, NBER Transportation Economics in the 21st Century, Lone Star College "Curious Minds", Federal Reserve System Energy Conference, Federal Reserve Bank of Dallas "Energy Transition" Conference, Federal Reserve Bank of San Francisco Climate Conference, USAEE Conference.
 2021: American Economics Association Annual Meeting (2), NBER Conference on Environmental and Energy Policy and the Economy, UC Davis ITS/STEPS, UC Berkeley Energy Camp
 2020: American Economics Association Annual Meeting (discussant), Environmental Defense Fund, UC Energy & Environment Group, NBER, UC Irvine (postponed, COVID-19)
 2019: Arizona State University, Claremont McKenna College, POWER Conference (discussant), American Economics Association Annual Meeting, Asia-Pacific Industrial Organization Conference, Kyoto University, Osaka University, Academia Sinica (Taipei), NBER Energy Use in Transportation, Association of Environmental and Resource Economics Annual Conference, UC Berkeley Energy Camp.
 2018: Georgetown University, Oxford University, Resources for the Future, UC Riverside, Research Institute of Industrial Economics (Stockholm), Copenhagen Business School,

- World Congress of Energy and Resource Economics (Sponsored Session), NBER Energy Use in Transportation, Asia-Pacific Industrial Organization Conference.
- 2017: American Economics Association Annual Meeting, NBER Winter EEE, University of Chicago (Harris), London School of Economics, University of Toulouse, Fondazione Eni Enrico Mattei (Milan), Yale University, Stoney Brook University, UC Berkeley Energy Camp, Conference on Behavioral and Experimental Agri-Environmental Research, Association of Environmental and Resource Economics Annual Conference.
- 2016: American Economics Association Annual Meeting, Universidad Carlos III de Madrid, University of Mannheim, CESifo (Munich), ETH Zurich, Münster Energy Conference, UC Berkeley Energy Camp, NBER Summer EEE
- 2015: American Economics Association Annual Meeting, University of Toronto, Association of Environmental and Resource Economics Annual Conference (sponsored session), Renewable Electricity Conference (Van Horne Institute, Calgary, Canada)
- 2014: Energy Institute at Haas POWER Conference on Energy Research and Policy (discussant), University of California Center for Energy and Environmental Economics, Triangle Resource and Environmental Economics Seminar, College of William & Mary, Carleton University
- 2013: American Economics Association Annual Meeting, University of California San Diego, University of Colorado Boulder, University Calgary, Association of Environmental and Resource Economics Annual Conference, University of California Energy Institute, University of Tennessee (Baker Institute), Energy Institute at Haas POWER Conference on Energy Research and Policy (discussant), Hong Kong University of Science and Technology, Singapore National University
- 2012: American Economics Association Annual Meeting (discussant), Santa Barbara (Occasional), CU Boulder, University of California Energy Institute, Energy Institute at Haas POWER Conference on Energy Research and Policy, NBER Summer EEE, University of California Berkeley Agricultural and Resource Economics
- 2011: University of Arizona, International Industrial Organization Conference, Association of Environmental and Resource Economists Annual Meeting, University of California Center for Energy and Environmental Economics, University of California Energy Institute, Stanford Institute for Theoretical Economics, Resources For the Future, Environmental Defense Fund, University of Melbourne, Australia National University, University of New South Wales, University of Auckland, Motu Research Institute
- 2010: University of California Energy Institute, Behavior Energy and Climate Change, Bureau of Economic Analysis, Dartmouth College, Nova Scotia Ministry of Energy
- 2009: University of California Energy Institute, International Industrial Organization Conference
- 2008: Brown University, Federal Reserve Board, Harvard, HEC Montreal, International Industrial Organization Conference, McMaster University, Queen's University, Stanford University, University of California Davis, NBER EEE (discussant)
- 2006: NBER Tax Policy and the Economy

TEACHING

- Principles of Microeconomics (2016-present)
- Energy Economics (2012-present)
- Graduate Industrial Organization (2009-present)
- Industrial Organization (2009-2014)
- Intermediate Microeconomics, Boston University (2006)

PH.D. COMMITTEES (FIRST JOB)

- Reid Taylor (Federal Reserve Bank of Dallas)
- Shotaro Nakamura (Federal Trade Commission)

Benjamin Dawson (California Independent System Operator)
Kevin Nakolan (Environmental Protection Agency)
James Archsmith, *Chair* (University of Maryland)
Bo-Young Choi (Korean Institute of International Economic Policy)
Chia-Wen Chen (National Taipei University)
Tom Blake, *Chair* (eBay Laboratory)
Ryan Sandler (Federal Trade Commission)
Rebecca Reed-Arthurs (Consulting)

UNIVERSITY & DEPARTMENT SERVICE

2023-present: UCD Faculty Privilege and Academic Personnel Advisers (member)
2021-present: Graduate Admissions Committee, UCD Economics Department (member)
2021-2023: Education Policy Committee, UCD Letters & Sciences (member)
2016-2021: Placement Director, UCD Economics Department
2017-2019: Academic Affairs Committee, UCD Energy Graduate Group (member)
2010, 2013-2015, 2017: UCD Economics Department Recruiting Committee (member)
2011-2013: UCD College Assembly (department representative)
2010-2011: Graduate Advisor, Graduate Studies Committee (member)
2009-2010: Placement Committee, UCD Economics Department (chair)
2008-2009: Placement Committee, UCD Economics Department (member)

REFEREE SERVICES

Econometrica, American Economic Review, Quarterly Journal of Economics, Journal of Political Economy, Review of Economic Studies, RAND Journal of Economics, American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, Energy Economics, Review of Economics and Statistics, European Economic Review, Journal of Applied Econometrics, Journal of Economic Behavior and Organization, Journal of the Association of Environmental and Resource Economists, Journal of Environmental Economics and Management, Journal of Industrial Economics, International Journal of Industrial Organization, Journal of Public Economics, Journal of Regulatory Economics, Management Science, National Tax Journal, Journal of Economics and Management Strategy, Energy Journal, Resource and Energy Economics, Energy Economics, Regional Science and Urban Economics, Economic Inquiry, Transportation Research Part A, Annual Review of Environment and Resources, Proceedings of the National Academy of Sciences, Nature Energy, Joule, Science

PREVIOUS WORK EXPERIENCE

Consultant, Cambridge Strategic Management Group (2000-2002)
Consultant, Gen3 Partners, (1999-2000)
Consultant, Mercer Management Consulting (1998)

OTHER:

American Economics Association, Association of Environmental and Resource Economists, US Association for Energy Economics, International Association for Energy Economics, Canadian Economics Association, Industrial Organization Society, Nova Scotia Voluntary Committee on Economic Growth and Prosperity (2002-2003)

CITIZENSHIP: CANADA

RESIDENCY: UNITED STATES (Green Card)

REFERENCES

Professor Christopher Knittel
Massachusetts Institute of Technology
knittel@mit.edu

Professor Maximilian Auffhammer
University of California, Berkeley
auffhammer@berkeley.edu

Professor Jim Bushnell
University of California, Davis
jbbushnell@ucdavis.edu

Professor Marc Rysman
Boston University
mrysman@bu.edu