
**CONTACT
INFORMATION**

3215 Gallagher Hall
Graduate School of Management
University of California, Davis
Davis, CA 95616

Cell: (530) 204-7191
mdzwatkins@ucdavis.edu
www.zaragoza-watkins.com

**CURRENT
POSITIONS**

2024–Pres Adjunct Professor, Graduate School of Management, UC Davis
2023–Pres Visiting Professor, Department of Economics, UC Davis

**PREVIOUS
POSITIONS**

2017–2023 Assistant Professor, Department of Economics, Vanderbilt University
2022–2023 Visiting Researcher, Computer Science and Artificial Intelligence Lab, MIT
2015–2017 High Meadows Senior Economist, Environmental Defense Fund
2014–2015 High Meadows Post-doctoral Fellow, Environmental Defense Fund
2014–2015 Post-doctoral Fellow, Center for Energy and Environmental Policy Research, MIT
2012–2014 Research Assistant, Energy Institute at Haas, University of California, Berkeley
2008–2012 Air Pollution Specialist, California Air Resources Board
2002–2004 AmeriCorps Member, City Year, Inc.

EDUCATION

2014 Ph.D. in Agricultural and Resource Economics, University of California, Berkeley
2011 M.S. in Business and Public Policy, University of California, Berkeley
2008 B.S. in Applied Economics and Management, Cornell University

RESEARCH**Economics Publications**

1. “Expecting the Unexpected: Emissions Uncertainty and Environmental Market Design” (with Severin Borenstein, James Bushnell and Frank Wolak), *American Economic Review* 109(11) (2019): 1-26.
2. “Anticipation and Environmental Regulation” (with Katherine Rittenhouse), *Journal of Environmental Economics and Management* 89 (2018): 255-277.
3. “The Effects of Regulation in the Presence of Multiple Unpriced Externalities: Evidence from the Transportation Sector” (with Antonio Bento, Daniel Kaffine and Kevin Roth), *American Economic Journal: Economic Policy* 6(3) (2014): 1-29.
4. “Downstream Regulation of CO₂ Emissions in California’s Electricity Sector” (with James Bushnell and Yihsu Chen), *Energy Policy* 64 (2014): 313-323.

Interdisciplinary Publications

5. “Nuclear Beta-Catenin Expression in Endometrioid Intraepithelial Neoplasia (Atypical Hyperplasia) Does Not Predict Carcinoma on Subsequent Hysterectomy.” (with Martha Wright, Sarah Fitzlaff, Autumn Wyeth, Mirna Podoll, Charles Quick and Jaclyn Watkins), *International Journal of Gynecological Pathology* 40(3) (2021): 240-247.

Submitted and Working Papers

1. “The Market and Climate Implications of U.S. LNG Exporting” (with Jim Stock) (2024)
2. “Are Carbon Markets Reshaping the U.S. Electricity Industry?” (with Bing Yang Tan) (2023)
3. “Vertical Integration and Market Inefficiencies in Natural Gas and Electricity Markets” (with Levi Marks and Chuck Mason) (2022)
4. “Allocation, Efficiency, and Rent-Seeking in the All-Pay Auction with Resale” (2022)
5. “Incomplete Regulation, Output-Based Allocation, and Firm Behavior: Evidence from California’s Carbon Market” (2022)
6. “Do Carbon Markets Affect Labor Markets?” (2022)

Work in Progress

1. “Transportation, Partial Regulation and Emissions Leakage: Evidence from the Fatality Analysis Reporting System” (with Katherine Rittenhouse)
2. “The Macroeconomic Impacts of California’s Economy-wide Carbon Market”
3. “Do Greenhouse Gas Regulations Provide Local Pollution Co-benefits?”
4. “The Economics of Radon” (with Lachlan Watkins)

Public Policy Reports

1. “Leakage and Industrial Subsidies,” Distributional Effects of Environmental Markets. (2018)
2. “Better Access. Healthier Environment. Prosperous Communities. Recommended Reforms for the California Water Market.” (with Christina Babbitt, Ana Lucia Garcia Briones, David Festa, Ann Hayden, and Scott Sellers) (2016)
3. “Edwards Aquifer Authority,” The Future of Groundwater in California. (with Kanishka Singh) (2016)
4. “Kings Basin,” The Future of Groundwater in California. (with Justin Ebrahemi) (2016)
5. “Climate and Energy Policy Solutions for China.” Energy Innovation (credited as a contributing author) (2016)
6. “Report of the Market Simulation Group on Competitive Supply/Demand Balance in the California Allowance Market and the Potential for Market Manipulation.” Energy Institute at Haas Working Paper 251 (with Severin Borenstein, James Bushnell and Frank Wolak) (2014)
7. “Appendix A: Staff Proposal for Allocating Allowances to Electricity Distribution Utilities. 15-Day Changes to the Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2011)
8. “Appendix B: Development of Product Benchmarks for Allowance Allocation. 15-Day Changes to the Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2011)
9. “Staff Report: Initial Statement of Reasons. Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2010)
10. “Appendix J: Allowance Allocation. Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2010)
11. “Appendix K: Leakage Analysis. Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2010)
12. “Appendix L: Economic and Allocation Advisory Committee Recommendations. Proposed Regulation to Implement the California Cap-and-Trade Program.” California Air Resources Board (as Staff) (2010)

FELLOWSHIPS
AND GRANTS

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- 2020 Vanderbilt University Data Science Institute Summer Research Grant
 2019 Vanderbilt Undergraduate Summer Research Program Grant
 2018 MacArthur Foundation Research Grant
 2017 “VUSAT: A Transinstitutional Programs Initiative at Vanderbilt”
 (co-PI with Amrutur Anilkumar, Ralf Bennartz and Steven Werneke)
 2017 Alfred P. Sloan Foundation Research Grant
 2016 EDF Behavioral Economics Research Grant
 2014 Energy Foundation Research Grant
 2012 Fisher Center for Real Estate Dissertation Grant
 2012 UC Berkeley Graduate Division Summer Research Grant
 2011 King Family-US Renewables Renewable Energy Scholars Award
 2010 Sandor Fellowship for the Study of Renewable Energy and Energy Markets
 2009 UC Berkeley Haas Institute for Business Innovation Fellowship
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CONFERENCE
PRESENTATIONS
AND INVITED
SEMINARS

- 2023 Association of Environmental and Resource Economists Annual Meetings, New Orleans, LA; University of Tennessee, Knoxville Economics Departmental Seminar, Knoxville, TN; Southeast Energy Policy Forum, Knoxville, TN
 2022 National University Singapore Economics Departmental Seminar, Singapore
 2021 Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN; Vanderbilt Institute for Energy and the Environment, Nashville, TN; Vanderbilt Law School Energy and Environmental Law Society, Nashville, TN
 2020 American Economic Association Annual Meetings, San Diego, CA; Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN
 2019 European Association of Energy and Resource Economists Summer Conference, Manchester, UK; Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN; UC Occasional Workshop, Santa Barbara, CA
 2018 Carnegie Mellon University CEIC Seminar, Pittsburgh, PA; MacArthur Foundation, Bangalore, India; Vanderbilt Law and Economics Workshop, Nashville, TN; Vanderbilt Law School Energy and Environmental Law Society, Nashville, TN; Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN; Property and Environment Research Center, Bozeman, MT; University of Maryland Public Economics Seminar, College Park, MD; Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN; Energy Institute POWER Conference, Berkeley, CA; World Congress of Environmental and Resource Economists, Gothenburg, SE
 2017 UC Berkeley Environment and Resource Economics Seminar, Berkeley, CA; American Economic Association Annual Meetings, Chicago, IL; MIT Industrial Organization Lunch, Cambridge, MA; Harvard Environmental Economics Lunch, Cambridge, MA; Vanderbilt University Economics Departmental Seminar, Nashville, TN; University of Tennessee, Knoxville Economics Departmental Seminar, Knoxville, TN; Vanderbilt Empirical Applied Microeconomics Seminar, Nashville, TN; Penn State Energy Economics Departmental Seminar, University Park, PA; UC Occasional Workshop, Santa Barbara, CA
 2016 American Economic Association Annual Meetings, San Francisco, CA; Environmental Defense Fund Applied Environmental Economics Seminar, New York, NY; Harvard Environmental Economics Lunch, Cambridge, MA; Harvard Environmental Economics Lunch, Cambridge, MA; US Department of Agriculture Agricultural Outlook Forum, Washington, DC; Association of Energy and Resource Economists Summer Conference, Breckenridge, CO
 2015 Association of Energy and Resource Economists Summer Conference, San Diego, CA; Harvard Environmental Economics Lunch, Cambridge, MA; US Environmental Protection Agency, Ann Arbor, MI; United Auto Workers, Detroit, MI; National Development and Reform Commission, Beijing, PRC
 2014 UC Energy Institute Seminar, Berkeley, CA; MIT Public Economics Lunch, Cambridge, MA; Harvard Environmental Economics Lunch, Cambridge, MA
 2013 UC Energy Institute Seminar, Berkeley, CA; UC Berkeley Environment and Resource Economics Seminar, Berkeley, CA; Association of Energy and Resource Economists Summer Conference,

Banff, AB; Boalt Law & Economics Seminar, Berkeley, CA; Northeast Workshop on Energy Policy and Environmental Economics, Ithaca, NY

TEACHING

Vanderbilt University (Instructor)

Econometrics (Undergraduate)
 Machine Learning and Spatial Data Analysis (Undergraduate)
 Environmental Economics (Undergraduate, Masters, and Ph.D.)

University of California, Berkeley (Teaching Assistant)

Intermediate Microeconomics (Undergraduate and MBA)

ADVISING

Doctoral Thesis Supervision

Lachlan Watkins (Vanderbilt University), Dissertation Committee Chair, 2019-2023
 Bing Yang Tan (Vanderbilt University), Dissertation Committee Chair, 2018-2021
 Matthew Chambers (Vanderbilt University), Dissertation Committee Chair, 2018-2021
 Caroline Abraham (Vanderbilt University), Dissertation Committee Member, 2018-2019
 Levi Marks (UC Santa Barbara), Dissertation Committee Member, 2016-2017

Undergraduate Advising and Thesis Supervision (Vanderbilt University)

Primary faculty advisor for 25+ students majoring in economics, 2017-2023
 Undergraduate honors thesis supervisor, 2018-2023

SERVICE

Vanderbilt University

Admissions Committee, Graduate Program in Economic Development, 2019-2023
 Undergraduate Curriculum Committee, Climate Studies, 2021
 Faculty Search Committee, Climate Studies, 2021
 Application Review Committee, Summer Research Program, 2020-2023

Journal Referee

American Economic Journal: Economic Policy; American Economic Review; Climate Change; Economic Journal; Economic Inquiry; European Economic Review; Environment and Development Economics; Journal of Applied Econometrics; Journal of the Association of Environmental and Resource Economists; Journal of Environmental Economics and Management; Journal of Policy Analysis and Management; Journal of Public Economics; International Review of Industrial Organization; Resource and Energy Economics; Review of Economic Studies; Utilities Policy

Ad Hoc Reviewer

Swiss National Science Foundation; United States Environmental Protection Agency