

## ANDREW J. YATES

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Chapel Hill, NC 27514

### EDUCATION

- 1992 **Stanford University**, Stanford CA.  
Ph.D. *Engineering Economic Systems*.  
Dissertation : An Efficiency Hierarchy For Constrained Economies
- 1988 **Stanford University**, Stanford CA.  
M.S. *Engineering Economic Systems*.
- 1987 **Washington University**, St. Louis, Missouri.  
B.S. *Systems Science and Engineering*, Magna cum laude.

### EXPERIENCE

- 2018- **University of North Carolina at Chapel Hill**, Chapel Hill, NC.  
*Professor, Department of Economics and Environment, Ecology, and Energy Program.*
- 2016-2018 **University of North Carolina at Chapel Hill**, Chapel Hill, NC.  
*Associate Professor, Department of Economics and Curriculum for the Environment and Ecology.* Received tenure in Spring 2016.
- 2013-2015 **University of North Carolina at Chapel Hill**, Chapel Hill, NC.  
*Assistant Professor, Department of Economics and Curriculum for the Environment and Ecology.* Teaching Environmental Economics, Environmental Economic Theory, Environmental Markets: Science and Economics, Energy Economics, Intermediate Microeconomics.
- Fall 2012 **Duke University**, Durham, NC.  
*Visiting Associate Professor, Nicholas School for the Environment.* Taught Resource and Environmental Economics, Theory of Environmental Policy: Taxes and Permits.
- 2002- 2012 **University of Richmond**, Richmond, VA.  
*Associate Professor, Department of Economics.* Received tenure in Spring 2004. Taught Advanced Environmental Economics, Introductory Statistics, Mathematical Economics Capstone, and Environmental Economics.
- 2001 **Tulane University**, New Orleans, LA.  
*Associate Professor, Department of Economics.* Received tenure in Spring 2001.
- 1998- 2001 **Tulane University**, New Orleans, LA.  
*Assistant Professor, Department of Economics.* Taught Introductory Economics, Mathematical Economics, Environmental Economics, Intermediate Microeconomics, and Decisions Under Uncertainty.
- 1993- 1998 **Wake Forest University**, Winston Salem, NC.  
*Assistant Professor, Department of Economics.* Taught Introductory Economics, Intermediate Microeconomics, Environmental Economics, Political Economy of Environmental Policy, Seminar in Mathematical Economics, and Decision Analysis.

1992-1993

**Political Economy Research Center**, Bozeman, Montana.  
*Post-doctoral Fellow.*

## PEER REVIEWED PUBLICATIONS

1. A. Bruno, P. Weber, and A. Yates, "Can Bitcoin Mining Increase Renewable Electricity Capacity?", *Resource and Energy Economics*, 74, 2023, 101376.
2. A. Zeighami, J. Kern, A. Yates, P. Weber, and A. Bruno, "U.S. West Coast Droughts and Heat Waves Exacerbate Pollution Inequality and Can Undermine Emissions Control Policies", *Nature Communications*, 14, 2023, <https://doi.org/10.1038/s41467-023-37080-0>
3. S. Holland, M. Kotchen, E. Mansur, and A. Yates, "Why marginal  $CO_2$  emissions are not decreasing for U.S. electricity: Estimates and implications for climate policy", *Proceedings of the National Academy of Sciences*, Vol. 119, No. 8, 2022, e21663291.
4. S. Cicala, S. Holland, E. Mansur, N. Muller, and A. Yates, "Expected health effects of reduced air pollution from COVID-19 social distancing", *Atmosphere*, Vol. 12, 2021, 951.
5. A. R. El-Khattabi, S. Eskaf, J. Isnard, L. Lin, B. McManus, and A. Yates, "Heterogeneous responses to price: Evidence from residential water consumers", *Journal of Environmental Economics and Management*, Vol. 107, 2021, 102430.
6. S. Holland, E. Mansur, and A. Yates, "The electric vehicle transition and the economics of banning gasoline vehicles", *American Economic Journal: Economic Policy*, Vol. 13, 2021, pp. 316-344.
7. S. Holland, E. Mansur, N. Muller, and A. Yates, "Measuring the environmental benefits from transportation electrification: Urban electric buses", *Energy Policy*, Vol. 148, 2021, 111921.
8. S. Holland, E. Mansur, N. Muller, and A. Yates, "Decompositions and policy consequences of an extraordinary decline in air pollution from electricity generation", *American Economic Journal: Economic Policy*, Vol 11, No. 4, 2020, pp. 244-274.
9. E. Meyer, B. Foster, G. Characklis, C. Brown, and A. Yates, "Integrating physical and financial approaches to manage environmental financial risk on the Great Lakes", *Water Resources Research*, Vol. 56, No. 5, 2020, pp. 1-17.
10. S. Holland, E. Mansur, N. Muller, and A. Yates, "Distributional effects of air pollution from electric vehicle adoption", *Journal of the Association of Environmental and Resource Economists*, Vol. 6, No. S1, 2019, pp. S65-S94.
11. Z. Mozenter, A. Yates, K. Schnier, J. Hughes, and G. Characklis, "Understanding water utility attitudes toward water transfers and risk: Pre-test results", *Journal of Water Resources Planning and Management*, Vol. 144, 2018.
12. D. Bielen and A. Yates, "Optimal regulation of pollution with stochastic exposure, acute damages, and chronic damages", *Journal of Cleaner Production*, Vol. 162, 2017, pp. 96-108.
13. S. Holland, E. Mansur, N. Muller, and A. Yates, "Are there environmental benefits from driving electric vehicles? The importance of local factors," *American Economic Review*, Vol. 106, 2016, pp. 3700-3729.
14. S. Holland, E. Mansur, N. Muller, and A. Yates, "Damages and expected deaths due to excess  $NO_x$  emissions from 2009-2015 Volkswagen diesel vehicles," *Environmental Science and Technology*, Vol. 50, 2016, pp. 1111-1117.
15. S. Holland and A. Yates, "Optimal trading ratios for pollution permit markets," *Journal of Public Economics*, Vol. 125, 2015, pp. 16-27.
16. W. Pizer and A. Yates, "Terminating links between emission trading programs," *Journal of Environmental Economics and Management*, Vol. 71, 2015, pp. 142-159.

17. M. Doyle, L. Patterson, Y. Chen, K. Schnier, and A. Yates, "Optimizing the scale of markets for water quality trading," *Water Resources Research*, Vol. 50, 2014, pp. 7231-7244.
18. K. Schnier, M. Doyle, J. Rigby, and A. Yates, "Bilateral oligopoly in pollution permit markets: experimental evidence," *Economic Inquiry*, Vol. 52, 2014, pp. 1060-1079.
19. T. BenDor, T. Guo, and A. Yates, "Optimal advanced credit releases in ecosystem service markets," *Environmental Management*, Vol. 53, 2014, pp. 496-509.
20. A. Yates, M. Doyle, J. Rigby, and K. Schnier, "Market power, private information, and the optimal scale in pollution permit markets with application to North Carolina's Neuse River," *Resource and Energy Economics*, Vol. 35, 2013, pp. 256-276.
21. S. Datta, R. Shreremeta, and A. Yates, "Best-of-three Contest Experiments: Strategic versus Psychological Momentum," *International Journal of Industrial Organization*, Vol. 31, 2013, pp. 287-296.
22. A. Yates, "On a Fundamental Advantage of Permits over Taxes for the Control of Pollution", *Environmental and Resource Economics*, Vol. 51, 2012, pp. 583-598.
23. A. Yates, "Winner-pay Contests", *Public Choice*, Vol. 147, 2011, pp. 93-106.
24. M. Doyle and A. Yates, "Ecosystem Service Markets Under No-Net-Loss Regulation", *Ecological Economics*, Vol. 69, 2010, pp. 820-827.
25. D. Malueg and A. Yates, "Testing Contest Theory: Evidence from Best-of-three Tennis Matches", *Review of Economics and Statistics*, Vol. 92, 2010, pp. 689-692.
26. D. Malueg and A. Yates, "Bilateral Oligopoly, Private Information, and Pollution Permit Markets", *Environmental and Resource Economics*, Vol. 43, 2009, pp. 553-572.
27. D. Malueg and A. Yates, "Strategic Behavior and Private Information in the EU Permit Trading System", *Environmental and Resource Economics*, Vol. 43, 2009, pp. 413-432.
28. J. Heckelman and A. Yates, "Senate Elections with Independent Candidates", *Journal of Theoretical Politics*, Vol. 20, 2008, pp. 31-46.
29. K. Hutchinson and A. Yates, "Crime on the Court: A Correction," *Journal of Political Economy*, Vol. 115, 2007, pp. 515-519.
30. D. English and A. Yates, "Citizens' Demand for Permits and Kwerel's Incentive Compatible Mechanism for Pollution Control," *Economics Bulletin*, Vol. 17 No. 4, 2007, pp. 1-9.
31. D. Malueg and A. Yates, "Equilibria in Rent-Seeking Contests with Homogeneous Probability Functions," *Economic Theory*, Vol. 27, 2006, pp. 719-727.
32. D. Malueg and A. Yates, "Citizen Participation in Pollution Permit Markets", *Journal of Environmental Economics and Management*, Vol. 51, 2006, pp. 205-217.
33. D. Malueg and A. Yates, "Comparative Statics in Two-Player Contests," *European Journal of Political Economy*, Vol. 21, 2005, pp. 738-752.
34. D. Malueg and A. Yates, "Rent Seeking with Private Values," *Public Choice*, Vol. 119, 2004, pp. 161-178. Reprinted in R. Congleton, A. Hillman, and K. Konrad (Eds.) *Forty Years of Research on Rent Seeking*, Springer, 2008.
35. S. Smith. and A. Yates, "Optimal Pollution Permit Endowments in Markets with Endogenous Emissions," *Journal of Environmental Economics and Management* Vol. 46, 2003, pp. 425-445.
36. J. Heckelman and A. Yates, "And a Hockey Game a Broke Out: Crime and Punishment in the NHL," *Economic Inquiry*, Vol. 41, 2003, pp. 705-712
37. S. Smith and A. Yates, "Should Consumers be Priced Out of Pollution Permit Markets?" *Journal of Economic Education*, Vol. 34, 2003, pp. 181-189.

38. E. Stone, A. Yates, and A. Caruthers, "Risk Taking in Decision Making for Others versus the Self," *Journal of Applied Social Psychology*, Vol. 32, 2002, pp. 1797-1824.
39. A. Yates, "Decentralization in Pollution Permit Markets," *Journal of Public Economic Theory*, Vol. 4, 2002, pp. 641-660.
40. J. Heckelman and A. Yates, "Incumbency Preservation through Electoral Legislation: The Case of the Secret Ballot," *Economics of Governance*, Vol. 3, 2002, pp. 47-57.
41. A. Yates and J. Heckelman, "Rent Setting in Multiple Winner Rent Seeking Contests," *European Journal of Political Economy*, Vol. 17, 2001, pp. 835-852.
42. A. Yates and M. Cronshaw, "Pollution Permit Markets with Intertemporal Trading and Asymmetrical Information," *Journal of Environmental Economics and Management*, Vol. 42, 2001, pp. 104-118.
43. A. Yates, "On the Separation of Risk Assessment and Risk Management," *Journal of Environmental Planning and Management*, Vol. 44, 2001, pp. 509-524.
44. A. Yates, "The Knowledge Problem, Entrepreneurial Discovery, and Austrian Market Process Theory," *Journal of Economic Theory*, Vol. 91, 2000, pp. 59-85. Reprinted in S. Gloria-Palermo (Ed.) *Modern Austrian Economics*, Pickering and Chatto, 2002.
45. A. Yates and R. Stroup, "Media Coverage and EPA Pesticide Decisions," *Public Choice*, Vol. 102, 2000, pp. 297-312.
46. A. Yates, "Optimality and Lindahl Equilibrium," *Journal of Economic Research*, Vol. 4, 1999, pp. 37-60.
47. I. Speizer and A. Yates, "Polygyny and African Couple Research," *Population Research and Policy Review* Vol. 17, No. 6, December 1998, pp. 551-570.
48. A. Yates, "The Equal Marginal Value Principle: A Graphical Analysis with Environmental Applications," *Journal of Economic Education*, Vol. 29, No. 1, Winter 1998, pp. 23-31.
49. A. Yates and D. Luenberger, "An Efficiency Hierarchy for Constrained Economies," *Public Finance / Finances Publiques* Vol. 52 No. 2, 1997, pp. 270-288.
50. A. Yates, "Hotelling and the New York Stock Exchange," *Economics Letters*, Vol. 56, No. 1, 1997, pp. 107-110.
51. A. Yates, "The Unobserved Relation Regressions Model with an Application to Used Truck Prices," *Southern Economic Journal*, Vol. 64, No. 1, July 1997, pp. 45-55.
52. A. Yates, "A Sufficiency Result for Constrained Economies," *Journal of Mathematical Economics*, Vol. 27, No. 4, May 1997, pp. 411-424.

## MANUSCRIPTS IN PREPARATION

H. Fell, S. Holland, and A. Yates, "Optimal subsidies for green hydrogen generation", revise and resubmit, *Journal of the Association of Environmental and Resource Economists*

S. Holland, E. Mansur, and A. Yates, "Electrification in the Long Run".

S. Holland, E. Mansur, V. Verdier, and A. Yates, "Regularization from Economic Constraints: A New Estimator for Marginal Emissions".

S. Holland, M. Kotchen, E. Mansur, and A. Yates, "On the Feasibility, Costs, and Benefits of an Immediate Phasedown of Coal for U.S. Electricity Generation".

## RESEARCH GRANTS

The coupled, co-evolving roles of drought and electricity systems in humans' exposure to air pollution, *National Science Foundation*, 2020-2024, Role: Co-PI, Effort 0.5 month per year. With J. West, T. Pavelsky, J. Kern, and S. Skiles, Total Budget from NSF \$1,599,708

Designing Robust and Adaptive Water Management Strategies in Regions Transitioning from Abundance to Scarcity, *National Science Foundation*, 2014-2018, Role: Co-PI, Effort: 1 month per year. With G. Characklis, L. Band, J. Hughes, and P. Reed, Total Budget from NSF \$1,701,235.

The Proper Scale of Environmental Markets with Applications to Nitrogen Trading in the Neuse River Basin, *National Science Foundation*, 2009-2013, Role: PI, Effort: 1 month per year. With M. Doyle and K. Schnier, Total Budget from NSF \$540,583.

## PROFESSIONAL ACTIVITIES

Co-editor, *Journal of the Association of Environmental and Resource Economists*, 2014-2022.

Co-editor, *Journal of Environmental Economics and Management*, 2010-2013.

### Referee

<i>American Economic Review</i>	<i>American Journal of Agricultural Economics</i>
<i>B.E. Journal of Theoretical Economics</i>	<i>Canadian Journal of Economics</i>
<i>Contemporary Economic Policy</i>	<i>Economic Theory</i>
<i>Econometrica</i>	<i>Ecological Economics</i>
<i>The Energy Journal</i>	<i>Energy Policy</i>
<i>Environmental and Resource Economics</i>	<i>Environmental Science and Technology</i>
<i>European Journal of Political Economy</i>	<i>European Economic Review</i>
<i>Games and Economic Behavior</i>	<i>Health Effects Institute</i>
<i>International Economic Review</i>	<i>International Journal of Economic Theory</i>
<i>International Journal of Industrial Organization</i>	<i>Journal of Economic Education</i>
<i>Journal of Economic Research</i>	<i>Journal of Economic Surveys</i>
<i>Journal of Economic Behavior and Organization</i>	<i>Journal of Environmental Economics and Management</i>
<i>Journal of the European Economic Association</i>	<i>Journal of Public Economics</i>
<i>Journal of Public Economic Theory</i>	<i>Journal of Optimization Theory and Applications</i>
<i>Journal of Sports Economics</i>	<i>Journal of the Assoc. of Environ. and Resource Econ.</i>
<i>Mathematical Social Sciences</i>	<i>Management Science</i>
<i>Public Choice</i>	<i>Quarterly Journal of Economics</i>
<i>Review of Economics and Statistics</i>	<i>Review of Economic Design</i>
<i>Review of Industrial Organization</i>	<i>Scandinavian Journal of Economics</i>
<i>Southern Economic Journal</i>	<i>Strategic Behavior and the Environment</i>
<i>Theory and Decision</i>	<i>Water Resources Research</i>

## RECENT PRESENTATIONS

“Decarbonization and Electrification in the Long Run”, Bern Energy Economics Workshop, August 2021, NBER Summer Institute, July 2022, EPIC-China, November 2022.

“Measuring the environmental benefits from transportation electrification: Urban electric buses”, NBER conference on New Directions in Transportation Economics, June 2021.

“Decompositions and policy consequences of an extraordinary decline in air pollution from electricity generation”, NBER Spring Meeting, Stanford CA, March 2019, University of Kansas, May 2019.

“Second best dynamic subsidies for the adoption of electric durable goods”, Workshop on Environmental Taxes v. Other Approaches: What Have We Learned? University of Maryland, September 2018.

“Distributional effects of air pollution from electric vehicle adoption”, London School of Economics, Decem-

ber 2016, Toulouse School of Economics, December 2016, University of Hamburg, December 2016, AERE Summer Conference, June 2017.

“Measuring the spatial heterogeneity in environmental externalities from driving: A comparison of gasoline and electric vehicles”, AEA Annual Meeting, January 2015. NBER Energy and Environmental Economics Spring Meeting, March 2015. USAEE Annual Meeting, October 2015. Southern Economic Association Annual Meeting, November 2015. University of Maryland, March 2016.

“The optimal scale for water quality markets”, PERC Summer Workshop, July 2014.

“Optimal trading ratios for pollution permit markets”, East Carolina University, February 2014. Triangle Resource and Environmental Economics seminar series, March 2014.

“Linking and Delinking Pollution Permit Markets”, AERE summer conference, June 2013.

“Permit Markets for Non-uniformly Mixed Pollution: Trading Ratios Versus Zones”, AERE summer conference, June 2012.

“Optimal Contracts for Wetland Mitigation”, Southern Economic Association annual meeting, November 2011.

“Market Power, Private Information, and Scale in Pollution Permit Markets”, AERE summer conference, June 2011. Resources for the Future research seminar, May 2011.

## **UNDERGRADUATE HONOR THESIS SUPERVISION**

1. Andrew Conroy, Economics, UNC “Bitcoin mining and electrical grid reliability”, 2024.
2. Pallavi Maladkar, Economics, UNC “Impact of carbon emissions regulation policies in Canadian provinces on greenhouse gas emissions and macroeconomics measures, 2024.
3. Hannah Rubenstein, Economics, UNC “Charging the Renewable Transition: Modeling the Role of Battery Storage in the Energy Grid”, 2023.
4. Harrison Cho, Economics, UNC “The Airborne Toxic Event: The Effects of Socioeconomic Characteristics on Ambient Air Pollution and the Decision to Over Pollute”, 2020.
5. Shuhan Xia, Economics, UNC “The short run effects of the double score policy in China”, 2018.
6. Jailing Jiang, Economics, UNC “Environmental Policy and Air Pollution”, 2017.
7. Robert Harris, Economics, UNC “Price volatility in renewable energy certificate markets: Implementing rate standards”, 2016.
8. John Burrows, Curriculum for the Environment and Ecology, UNC “Resilient timber construction in the era of climate change: lessons from the mountain pine beetle”, 2014.
9. John Schmale, Economics, UNC “The impact of the EU carbon price changes on the stock performance of European electricity firms”, 2014.
10. Gregory Grissom, Economics, UNC “Determining the Optimal Subsidy for Plug-in Electric Vehicles in the United States by County”, 2013.

## **GRADUATE STUDENT DISSERTATION COMMITTEES**

### **Main Advisor**

1. Julien Isnard, Economics, UNC: Defended November 2022.

2. Abe Martin, Economics, UNC: Defended May 2021.

## **Reader**

1. Estonia Black, Economics UNC: Defended April 2023.
2. Johanna Kangas, Agriculture and Forestry, University of Helsinki, Defended April 2022 (external pre-examiner).
3. Andrey Minaev, Economics, UNC: Defended March 2021.
4. A. R. El-Khattabi, City and Regional Planning, UNC: Defended March 2020.
5. Eddie Watkins, Economics, UNC: Defended April 2019.
6. Aisling Winston, Economics, UNC: Defended June 2018.
7. Brad Shrago, Economics, UNC: Defended May 2017.
8. Evan Johnson, Public Policy, UNC: Defended April 2016.
9. Matthew Horne, Economics, UNC: Defended March 2016.
10. Justin Contat, Economics, UNC: Defended July 2015.
11. Kenneth Reddix II, Economics, UNC: Defended May 2015.
12. Yiyi Lui, Economics, UNC: Defended May 2015.
13. Dave Bielen, Economics, Duke: Defended April 2015.
14. Melati Nungsari, Economics, UNC: Defended March 2015.
15. Kimmo Ollikka, Economics and Management, University of Helsinki: Defended April 2014 (external pre-examiner).

## **SERVICE**

### *Economics Department*

Interim Chair (Spring 2019)

Advisory Committee (2014-2015) Curriculum Committee (2015-2016, Chair 2016-2017, 2020-2023, Chair 2022-2023) Recruiting (2017-2018, 2021-2022, 2023-2024) Personnel Committee (2019-2021) Post-Tenure Review Committee (2018-2021), Advisory Committee (2023-2024)

### *Curriculum for the Environment and Ecology*

Graduate Exam Committee (ad hoc), Internal Planning Committee (ad hoc) Graduate Admissions Committee (2015-2017), Recruiting (2018-2019), Director of Graduate Studies (2018-2021), Program Review: Graduate Program (2022-2023), Executive Committee (2023- )

### *University*

Board of Advisors, Center for Climate, Energy, Environment and Economics, UNC Law School (2016-2020) Sustainability Advisory Committee (2015-2020)