

Christopher Timmins

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Employment

- Duke University, Department of Economics, Professor, 2012 - Present
- Duke University, Department of Economics, Associate Professor, September 2004 - 2012
- Duke University, Nicholas School of the Environment, Secondary Appointment, September 2004 - Present
- Yale University, Department of Economics, Associate Professor, May 2002 - June 2004
- Yale University, Department of Economics, Assistant Professor, July 1997 - May 2002
- Yale University, School of Forestry and Environmental Studies, Courtesy Appointment, January 2001 - June 2004
- Yale University, Economic Growth Center, Affiliated Faculty, September 1999 - June 2004

Education

- Stanford University, Ph.D. Economics, October 1997
Dissertation: "Price as a Policy Tool for Dynamic Resource Allocation"
- Georgetown University, BSFS in International Economics, *Summa Cum Laude*, December 1991

Professional Activities

- Editor, *Journal of the Association of Environmental and Resource Economists* (January 2017 – December 2020)
- Co-Editor, *Journal of the Association of Environmental and Resource Economists* (January 2014 – December 2016)
- Co-Editor, *Journal of Environmental Economics and Management* (March 2010 – December 2013)
- Board of Editors, *American Economic Review* (January 2008 – December 2016)

Honors, Awards, and Fellowships

- AERE Fellow, Association of Environmental and Resource Economists, June 2021
- Julian Simon Fellow, Property and Environment Research Center, Bozeman, Montana, June 2016
- Professeur Invites, Toulouse School of Economics, May-June 2015

- 2010 Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the *Journal of Environmental Economics and Management*
- NBER Research Associate, April 2009 - Present
- NBER Faculty Research Fellow, September 2007 - March 2009
- 2002 DeVane Medal for Distinguished Scholarship and Teaching in Yale College
- Resources For The Future, Joseph L. Fisher Dissertation Fellowship
- Center for Economic Policy Research Bradley Dissertation Research Fellowship
- Jacob K. Javits Graduate Fellowship
- Georgetown School of Foreign Service, 1992 Graduation Award in Economics

Funded Research

- National Science Foundation Grant #SES-1851874, with Peter Christensen
- Russell Sage Foundation Grant #17271-00, with Peter Christensen
- National Science Foundation Grant #SES1559481, with James Roberts
- EPA Brownfields Analytical and Technical Contract II (EP-W-07-023)
- New Approaches to Assessing the Benefits of the Superfund Program, EPA PO#EP09W001911
- National Science Foundation Grant #SES-0721136, with Robert MacMillan and Patrick Bayer
- National Science Foundation Grant #SES-0137289, with Patrick Bayer

Department, University and Professional Service

- Duke Center for Civic and Community Engagement Working Group (2022)
- Fuqua Dean Review Committee (2022)
- Adopt-a-Paper Mentoring Program (2021-Present)
- AERE Scholars Mentoring Program (2021-2022)
- Duke Library Council (2020-2022)
- Director, Economics Center for Teaching (EcoTeach) (2008-2010, 2020-2022)
- Duke Teaching for Equity Fellows Program (2018-2019)
- Vice-Provost of Undergraduate Education Search Committee (Spring 2018)
- Co-organizer, Duke Environmental Justice Lab (2017-Present)
- Duke University Pre-Major Advisor (2014-Present)
- Duke Energy Initiative Faculty Advisory Committee (2014-Present)
- Placement Director, Department of Economics (2011-2014, 2016-2020)
- Chair, Economics Junior Recruiting Committee (2009-2010)
- Social Sciences Research Institute Steering Committee (2007-2012)
- Duke Academic Council (2007-2010)
- Director, Micro-Incentives Research Center (2005-2009)
- University Information Technology Advisory Council (2005-2007)
- Economics Department Junior/Senior Recruiting Committee (2005-2006)
- Sanford School of Public Policy Recruiting Committee (2005-2006)

Research Interests

- Environmental Economics
- Urban Economics
- Public Economics
- Industrial Organization

Working Papers (<https://sites.duke.edu/christophertimmins/research/>)

- "The Damages and Distortions from Discrimination in the Rental Housing Market," with Peter Christensen. NBER WP #29049.
- "Racial Discrimination and Housing Outcomes in the United States Rental Market," with Peter Christensen and Ignacio Sarmiento-Barbieri. NBER WP #29516
- "Displacement and the Consequences of Gentrification," with Ashley Qiang and Wen Wang.
- "Housing Precarity and the COVID-19 Pandemic: Impacts of Utility Disconnection and Eviction Moratoria on Infections and Deaths Across US Counties," with Kay Jowers, Nrupen Bhavsar, Qihui Hu and Julia Marshall. NBER WP #28394.
- "Collateral Damage: The Impact of Shale Gas on Mortgage Lending," with Yanyou Chen, James Roberts, and Ashley Vissing. NBER WP # 29494.
- "Cool Cities: The Value of Urban Trees," with Lu Han, Stephan Heblich, and Yanos Zylberberg.
- "The Role of Information in the Rosen-Roback Framework," with Xuwen Gao and Ran Song. NBER WP #28943.
- "Frictional Sorting," with Wenquan Liang and Ran Song. NBER WP #27643.
- "The Fertility Consequences of Air Pollution in China," with Xuwen Gao and Ran Song
- "Learning by Viewing? Social Learning, Regulatory Disclosure, and Firm Productivity in Shale Gas," with T.Robert Fetter, Andrew Steck, and Douglas Wrenn. NBER WP #25401.

Refereed Journal Articles

- "Environmental Justice and Coasian Bargaining: The Role of Race and Income in Lease Negotiations for Shale Gas," with Ashley Vissing. *Journal of Environmental Economics and Management*. Vol. 114 (2022), p.102657.
- "Sorting or Steering: Experimental Evidence on the Economic Effects of Housing Discrimination," with Peter Christensen. *Journal of Political Economy*. Vol. 130, No. 8 (2022), pp.2110-2163.
- "Housing Discrimination and Pollution Exposures in the United States," with Peter Christensen and Ignacio Sarmiento-Barbieri. *Review of Economics and Statistics*. Vol. 104, No. 4 (2022), pp.807-818.
- "Market Tremors: Shale Gas, Earthquakes, and Their Impact on House Prices," with S. Gibbons and S. Heblich. *Journal of Urban Economics*. 122 (2021), pp.1-17.

- "Best Practices in Using Hedonic Property Value Models for Welfare Measurement," with Kelly C. Bishop, Nicolai V. Kuminoff, H. Spencer Banzhaf, Kevin J. Boyle, Kathrine von Gravenitz, Jaren C. Pope, and V. Kerry Smith. *Review of Environmental Economics and Policy*, Vol. 14, No. 2 (2020), pp.260-281.
- "Environmental Justice: Establishing Causal Relationships," with H. Spencer Banzhaf and Lala Ma. *Annual Reviews of Resource Economics*, Vol. 11 (2019), pp. 377–398.
- "Environmental Justice: The Economics of Race, Place, and Pollution," with H. Spencer Banzhaf, Lala Ma. *Journal of Economic Perspectives*. Vol. 33, No. 1 (2019), pp. 185-208.
- "Willingness to pay for clean air in China," with Richard Freeman, Wenquan Liang, and Ran Song. *Journal of Environmental Economics and Management*, Vol. 94 (March 2019), pp. 188-216.
- "Estimating the marginal willingness to pay function without instrumental variables," with Kelly Bishop. *Journal of Urban Economics*. Vol. 109 (2019):66-83.
- "Using Panel Data to Easily Estimate Hedonic Demand Functions," with Kelly Bishop. *Journal of the Association of Environmental and Resource Economists*. Vol.5, No.3 (2018):517-543.
- "Estimating the Impacts of Brownfield Remediation on Housing Property Values," with Kevin Haninger and Lala Ma. *Journal of the Association of Environmental and Resource Economists*. Vol. 4, No.1 (2017):197-241.
- "A Dynamic Model of Demand for Houses and Neighborhoods" with Patrick Bayer, Robert McMillan, and Alvin Murphy. *Econometrica*. Vol.84, No.3 (2016):893-942.
- "The Housing Market Impacts of Shale Gas Development" with Lucija Muehlenbachs and Elisheba Spiller. *American Economic Review*. Vol.105, No.12 (2015):3633-3659.
- "White Flight and Coming to the Nuisance: Can Residential Mobility Explain Environmental Injustice?" with Brooks Depro and Maggie O'Neil. *Journal of the Association of Environmental and Resource Economists*. Vol.2, No.3 (2015):439-468.
- "Environmental Regulations and the Welfare Effects of Job Layoffs in the United States: A Spatial Approach," with Nicolai V. Kuminoff and Todd Schoellman. *Review of Environmental Economics and Policy*. Vol.9, No.2 (2015):198-218.
- "The Effect of Gasoline Taxes and Public Transit Investments on Driving Patterns," with Elisheba Spiller, Heather Stephens and Allison Smith. *Environmental and Resource Economics*. Vol.59, No.4 (2014):633-657.
- "Estimating Network Economies in Retail Chains: A Revealed Preference Approach," with Stephanie Houghton and Paul Ellickson. *RAND Journal of Economics*. Vol.44, No.2 (2013):169-193.
- "The New Economics of Equilibrium Sorting and Policy Evaluation Using Housing Markets," with Nicolai Kuminoff and Kerry Smith. *Journal of Economic Literature*. Vol.51, No.4 (2013):1007-1062.
- "Does Cleanup of Hazardous Waste Sites Raise Housing Values? Evidence of Spatially Localized Benefits," with Shanti Gamper-Rabindran. *Journal of Environmental Economics and Management*. Vol.65, No.3 (2013):345-360.
- "Roy Model Sorting and the Value of a Statistical Life," with Thomas Deleire and Shakeeb Khan. *International Economic Review*. Vol.54, No.1 (2013):279-306.
- "A Rational Expectations Approach to Hedonic Price Regressions with Time-Varying Unobserved Product Attributes: The Price of Pollution," with Patrick Bajari, Jane Cooley Fruehwirth, Kyoo Il Kim. *American Economic Review*. Vol.102, No.5 (2012):1898-1926.

- "Hazardous Waste Cleanup, Neighborhood Gentrification, and Environmental Justice: Evidence from Restricted Access Census Block Data," with Shanti Gamper-Rabindran. *American Economic Review: Papers & Proceedings*. Vol. 101, No.3 (2011):620-624.
- "Nonparametric Identification and Estimation in a Roy Model with Common Nonpecuniary Returns," with Patrick Bayer and Shakeeb Khan. *Journal of Business and Economic Statistics*. Vol.29, No.2 (2011):201-215.
- "The impact of piped water provision on infant mortality in Brazil: A quantile panel data approach," with Shanti Gamper-Rabindran and Shakeeb Khan. *Journal of Development Economics*, Vol.92, No.2 (2010):188-200.
- "Climate Change and Conservation in Brazil: CGE Evaluation of Health and Wealth Impacts," with Subhrendu K. Pattanayak, Martin T. Ross, Brooks M. Depro, Simone C. Bauch, Kelly J. Wendland, and Keith Alger. *The B.E. Journal of Economic Analysis & Policy*, Vol. 9 : Iss. 2 (Contributions), Article 6 (2009).
- "How Do Gas Prices Affect Fleet Fuel Economy?" with Shanjun Li and Roger von Haefen. *American Economic Journal: Economic Policy* Vol.1, No.2 (2009):113-37.
- "Reduced-Form versus Structural Modeling in Environmental and Resource Economics," with Wolfram Schlenker. *Annual Review of Resource Economics*, Vol.1 (2009):351-380.
- "Connecting Lagging and Leading Regions: The Role of Labor Mobility," with Somik Lall and Shoyue Yu. *Brookings-Wharton Papers on Urban Affairs*, pp.151-174, The Brookings Institution, Washington, D.C., 2009.
- "Agglomeration Effects in Foreign Direct Investment and the 'Pollution Havens' Hypothesis," with Ulrich Wagner. *Environmental and Resource Economics*, Vol.43 (2009):231-256.
- "Migration and Hedonic Valuation: The Case of Air Quality," with Nathaniel Keohane and Patrick Bayer. *Journal of Environmental Economics and Management*, Vol.58, No.1 (2009): 1-14.
- "A Revealed Preference Approach to the Measurement of Congestion in Travel Cost Models," with Jennifer Murdock. *Journal of Environmental Economics and Management*, Vol.53, No.2 (2007):230-249.
- "If You Can't Take the Heat, Get Out of the Cerrado... Recovering the Equilibrium Amenity Cost of Non-Marginal Climate Change in Brazil," *Journal of Regional Science*, Vol.47, No.1 (2007): 1-25.
- "Estimating Equilibrium Models of Sorting Across Locations," with Patrick Bayer. *Economic Journal*, Vol.117, No.518 (2007):353-374.
- "Endogenous Land Use and the Ricardian Valuation of Climate Change," *Environmental and Resource Economics*, Vol.33, No.1 (2006):119-142.
- "Estimating Spatial Differences in the Brazilian Cost-of-Living With Household Location Choices," *Journal of Development Economics*, Vol.80, No.1 (June 2006):59-83.
- "On the Equilibrium Properties of Locational Sorting Models," with Patrick Bayer. *Journal of Urban Economics*, Vol.57 (2005):462-477.
- "How Do Changes in Welfare Law Affect Domestic Violence? An Analysis of Connecticut Towns, 1990 - 2000," with Jennifer Nou. *Journal of Legal Studies*, Vol.34, No.2 (2005):445-470.
- "Estimable Equilibrium Models of Locational Sorting and Their Role in Development Economics," *Journal of Economic Geography*, Vol.5 (2005):83-100.

- "Demand-Side Technology Standards Under Inefficient Pricing Regimes: Are They Effective Water Conservation Tools in the Long-Run?" *Environmental and Resource Economics*, Vol.26, No.1 (2003):107-124.
- "Does the Median Voter Consume Too Much Water? Analyzing the Redistributive Role of Residential Water Bills," *National Tax Journal*, Vol. LV, No.4 (2002):687-702.
- "Measuring the Dynamic Efficiency Costs of Regulators' Preferences: Municipal Water Utilities in the Arid West," *Econometrica*, Vol.70, No.2 (2002):603-629.

Courses Taught (Duke University)

- Economics 201, *Intermediate Microeconomics*
- Economics 339, *Environmental Economics*
- Economics 432S, *Environmental Justice: The Economics of Race, Place, and Pollution*
- Economics 821, *Non-Market Valuation*
- Economics 881, *Externalities and Pigouvian Policy*

Conference Participation (Last Ten Years, Excluding Departmental Seminars)

- San Francisco Federal Reserve Bank, Climate Risks: Theory and Practice Conference, San Francisco, CA (November 2022) – Panelist
- AERE Environmental Justice Research in Economics: Context, Tools, and Methodologies Fall Workshop, Virtual (October 2022) – Panelist
- Environmental Justice and Interventions Workshop, Santa Barbara, CA (August 2022) – Presenter
- General Motors Trends Conference: Sustainability (May 2022) – Panelist
- Triangle Econometrics Conference (May 2021) – Presenter
- ASSA Annual Meetings, Virtual (January 2021) – Discussant
- Urban Economics Association, Virtual (October 2020) – Presenter
- Cisco SustainX (October 2020) – Presenter
- EMEE, Quebec City (July 2019) – Keynote Address
- From Theory to Practice: New Developments in Structural Econometrics and Policy Analysis, University of Chicago (May 2019) – Presenter
- Symposium on Dynamics of Spatial Inequality (University of Sheffield, March 2019) – Presenter
- ASSA Annual Meetings, Atlanta GA (January 2019) – Presenter
- China Meetings of the Econometrics Society, Shanghai, China (June 2018) – Invited Presentation
- Low Carbon Markets Workshop, Sao Paulo, Brazil (December 2017) – Keynote Address
- Heartland Environmental and Resource Economics Workshop, Champaign-Urbana, IL (October 2017) – Keynote Address

- NBER Environmental and Energy Economics Summer Institute, Cambridge, MA (July 2017) – Organizer
- Rediscovering Inequalities: Exploring the Interconnections Between Crime, Education and Urban Segregation, Edinburgh, Scotland (October 2016) – Presenter
- Workshop on Natural Resources and Governance, Bergen, Norway (September 2016) – Presenter
- New Directions in the Analysis of Environmental Justice, Durham, NC (August 2016) – Conference Organizer
- IGC Conference on Energy and Growth, London, U.K. (November 2015) – Discussant
- Kraks Fond Conference on Residential Location Choice, Copenhagen, Denmark (October 2015) – Organizer and Presenter
- UCLA Ziman Center Urban Economics and Real Estate Conference, Los Angeles, California (April 2015) – Presenter
- NBER Spring Meetings (EEE), Cambridge, Massachusetts (March 2015) – Presenter
- IZA Workshop: Labor Market Effects of Environmental Policies, Bonn, Germany (September 2014) – Presenter
- NBER Summer Institute (EEE), Cambridge, Massachusetts (July 2013) – Discussant
- AERE North American Meetings, Banff, Alberta (June 2013) – Presenter
- Scottish Institute for Research in Economics, Short Course on Hedonic Methods, Stirling, Scotland (July 2012)