

## ANTONIO MIGUEL R. BENTO

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### EDUCATION:

Ph.D. Agricultural and Resource Economics (joint w/Economics), University of Maryland, 2000

Licenciatura in Economics, Universidade Nova de Lisboa, Portugal, 1996

### EMPLOYMENT HISTORY:

2015-	Professor, Sol Price School of Public Policy, U. of Southern California
2015-	Professor, Department of Economics, U. of Southern California
2014-15	Professor, Dyson School of Applied Economics and Management (and Department of Economics), Cornell U.
2007-14	Associate Professor, Dyson School of Applied Economics and Management (and Department of Economics), Cornell U.
2004-07	Assistant Professor, School of Public Policy, U. of Maryland
2002-04	Visiting Assistant Professor, Department of Economics and Stanford Institute for Economic Policy Research, Stanford U.
2000-04	Assistant Professor, Bren School of Environmental Sciences and Management (and Department of Economics), U. of California, Santa Barbara
1997-00	Fixed-term Research Consultant, Development Research Group, The World Bank
1997	Summer Research Intern, Resources for the Future

## **OTHER AFFILIATIONS:**

- 2015- Faculty Fellow, USC Schwarzenegger Institute
- 2015- Faculty Fellow, USC Price Executive Education Forum
- 2014- Research Associate, National Bureau of Economic Research
- 2012-15 Faculty Fellow, Atkinson Center for a Sustainable Future, Cornell U.
- 2012 (Fall) Faculty Fellow, Institute for the Social Sciences, Cornell U.
- 2000-04 Faculty Fellow, U. of California Transportation Center

## **RESEARCH INTERESTS:**

Environmental Economics, Energy Economics, Sustainable Development, Urban Economics, Public Economics, Transportation Economics, Applied Econometrics and Big data

Public Policy Analysis, Sustainability Science

## **TEACHING INTERESTS:**

Environmental Economics and Policy, Energy Economics and Policy, Sustainable Development, Sustainable Communities, Microeconomics for Policy Analysis, Public Policy Analysis, Climate Change Policy

Interdisciplinary Methods for Sustainability Education

International Intensive Labs with client organizations for Global Education in Public Policy and Sustainability Science

Executive Education for Local and Global Leaders (customized education training programs for domestic and foreign policy-driven organizations and government agencies; customized programs for senior executives, global NGOs and administrators that have identified a specific training need)

Online Teaching Methods for Global Education in Public Policy and Sustainability Science

## **PUBLICATIONS:**

### Journal Articles

1. Bento, Antonio M., and Joel Landry. 2020. "Recovering Policymakers Valuation for Unpriced Externalities: Evidence from Biofuels Policies". *Energy Economics*, 85, 1-13.
2. Bento, Antonio M., Kenneth Gillingham, Mark R. Jacobsen, Christopher R. Knittel, Benjamin Leard, Joshua Linn, Virginia McConnell, David Rapson, James M. Sallee, Arthur A. van Benthem, and Kate Whitefoot. 2018. "Flawed analyses of U.S. auto fuel economy standards", *Science*, 363, 1119-1121.

3. Bento, Antonio M., Somik Lall, and Joel Landry. 2018. "Does Titling Matter? Evidence from Housing Markets in India", *The Review of Regional Studies*, 48, 377-400.
4. Bento, Antonio M., Teevrat Garg, and Daniel Kaffine. 2018. "Emissions Reductions or Green Booms? The General Equilibrium Effects of Renewable Portfolio Standards", *Journal of Environmental Economics and Management*, 90: 78-100.
5. Bento Antonio M., Mark Jacobsen, and Antung Liu. 2018. "Environmental Policy in the Presence of an Informal Sector", *Journal of Environmental Economics and Management*, 90: 61-77.
6. Bento, Antonio M., Kevin Roth, and Scarlett Zhou. 2018. "Vehicle Lifetime Trends and Scrappage Behavior in the U.S. Used Car Market", *Energy Journal*, 39(1)
7. Bento, Antonio M., Ravi Kanbur, and Benjamin Leard. 2016. "On the Importance of Baseline Setting in Markets for Carbon Offsets", *Climatic Change*, 137: 625-637.
8. Ho, Benjamin, John Taber, Gregory Poe, and Antonio M. Bento. 2016. "The Effects of Moral Licensing and Moral Cleansing in Contingent Valuation and Laboratory Experiments on the Demand to Reduce Externalities", *Environmental and Resource Economics*, 64:317-340.
9. Bento, Antonio M., Matthew Freedman, and Corey Lang. 2015. "Who Benefits from Environmental Regulation? Evidence from the Clean Air Act Amendments", *Review of Economics and Statistics*, 97: 610-622.
10. Bento, Antonio M., Benjamin Ho, and Mario Ramirez. 2015 "Optimal Price Instruments in Voluntary Emissions Markets", *Energy and Environmental Economics*, 41: 202-223.
11. Bento, Antonio M., Ravi Kanbur, and Benjamin Leard. 2015. "Designing Markets for Carbon Offsets with Distributional Constraints", *Journal of Environmental Economics and Management* 70: 51-71.
12. Bento, Antonio M., Joel Landry, and Richard Klotz. 2015. "Are there Carbon Savings from US Biofuel Policies? The Critical Importance of Accounting for Leakage in Land and Fuel Markets", *Energy Journal*, 36(3): 75-109.
13. Bento, Antonio M., Daniel Kaffine, Kevin Roth, and Matthew Zaragoza. 2014. "The Unintended Consequences of Regulation in the Presence of Multiple Unpriced Externalities: Evidence from the Transportation Sector", *American Economic Journal: Economic Policy*, 6(3): 1- 29.
14. Bento, Antonio M., and Richard Klotz. 2014. "Climate Policy Decisions Require Policy-Based Lifecycle Analysis", *Environmental Science and Technology*, 10: 5379-5387.
15. Bento, Antonio M., Scott Lowe, and Emeric Henry. 2013. "The Determinants of Credit Allocations in a Market-based Trading System: Evidence from the RECLAIM Program", *The Review of Regional Studies*, 43(1): 58-80.

16. Bento, Antonio M. 2013. "Equity Impacts of Environmental Policy", *Annual Review of Resource Economics*, 5(23): 181-196.
17. Bento, Antonio M., Jonathan Hughes, and Daniel Kaffine. 2013. "Carpooling and Driver Responses to Fuel Price Changes: Evidence from Traffic Flows in Los Angeles", *Journal of Urban Economics*, 77: 41-56.
18. Bento, Antonio M. 2013. "Regional and Local Air Pollution from Stationary Sources", *Encyclopedia of Energy, Natural Resource and Environmental Economics*, 39: 103-108.
19. Bento, Antonio M., Shanjun Li, and Kevin Roth. 2012. "Is there an Energy Paradox in Fuel Economy?", *Economics Letters*, 115(1): 44-48.
20. Bento, Antonio M., Sofia Franco, and Daniel Kaffine. 2011 "The Welfare Effects of Anti-Sprawl Policy in the Presence of Urban Decline", *Agricultural and Resource Economics Review*, 40(3):1-10.
21. Bento, Antonio M., Sofia Franco, and Daniel Kaffine. 2011."Effectiveness of Housing Rehabilitation Subsidies in the Presence of Zoning", *Regional Science and Urban Economics*, 41(3): 196-206.
22. Bento, Antonio M., Sofia Franco, and Daniel Kaffine. 2011 "Is There a Double-Dividend from Anti-Sprawl Policies?", *Journal of Environmental Economics and Management*, 61(2): 135-152.
23. Auffhammer, Maximilian, Antonio M. Bento, and Scott Lowe. 2011. "The City Level Effects of the 1990 Clean Air Act Amendments", *Land Economics*, 87(1):1-18.
24. Bento, Antonio M., Lawrence H. Goulder, Mark Jacobsen, and Roger Von-Haefen. 2009. "Efficiency and Distributional Impacts of Increased U.S. Gasoline Taxes", *American Economic Review* 99 (3):667-699.
25. Auffhammer, Maximilian, Antonio M. Bento, and Scott Lowe. 2009 "Measuring the effects of the Clean Air Act Amendments on ambient  $PM_{10}$  concentrations: The critical importance of a Spatially disaggregated analysis", *Journal of Environmental Economics and Management* 58 (1):15-26.
26. Bento, Antonio M., Sofia Franco, and Daniel Kaffine. 2009. "Efficiency and Spatial Impacts of Development Taxes: The Critical Role of Alternative Revenue-Recycling Schemes", *American Journal of Agricultural Economics*, 91 (5):1304-1311.
27. Bento, Antonio M., Scott Lowe, Gerrit Knaap, and Arnab Chakraborty. 2009. "Housing Market Effects of Inclusionary Zoning", *Cityscape* 11 (2): 7-26.

28. Takeuchi, Akie, Maureen Cropper, and Antonio M. Bento. 2008. "The Welfare Effects of Urban Land Use Policies on Slum Dwellers: The case of Mumbai, India", *Journal of Urban Economics* 64: 65-84.
29. Bento, Antonio M., Charles Towe, and Jacqueline Geoghegan. 2007. "The Effects of Moratorium on Residential Development: Evidence from a Matching Approach", *American Journal of Agricultural Economics* 89 (5), 1211-1218.
30. Takeuchi, Akie, Maureen Cropper, and Antonio M. Bento. 2007. "The Impact of Policies to Control Motor Vehicle Emissions in Mumbai, India", *Journal of Regional Science* 47 (1): 27-46.
31. Bento, Antonio M., and Mark Jacobsen. 2007. "Ricardian Rents, Environmental Policy, and the 'Double Dividend' Hypothesis", *Journal of Environmental Economics and Management* 53 (1):17-31.
32. Bento, Antonio M., Sofia Franco, and Daniel Kaffine. 2006. "The Efficiency and Distributional Impacts of Anti-Sprawl Policies", *Journal of Urban Economics*, 59(1): 121-141.
33. Bento, Antonio M., Maureen Cropper, Mushfiq Moborak, and Katja Vinha. 2005. "The Impact of Urban Spatial Structure on Travel Demand in the United States", *Review of Economics and Statistics*, 87(3): 466-478.
34. Bento, Antonio M., Lawrence Goulder, Emeric Henry, Mark Jacobsen, and Roger Von-Haefen. 2005. "Distributional and Efficiency Impacts of Gasoline Taxes: An Econometrically-Based Multi-Market Study", *American Economic Review Papers and Proceedings*, 95(2), 282-287.
35. Parry, Ian, and Antonio M. Bento. 2002. "Estimating the Welfare effect of Congestion Taxes: The Critical Importance of other Distortions within the Transportation System", *Journal of Urban Economics* 51(2): 339-365.
36. Parry, Ian, and Antonio M. Bento. 2001. "Revenue-Recycling and the Welfare Effects of Road Pricing", *Scandinavian Journal of Economics* 103 (4): 645-671.
37. Parry, Ian, and Antonio M. Bento. 2000. "Tax Deductions, Environmental Policy, and the 'Double Dividend' Hypothesis", *Journal of Environmental Economics and Management* 39(1): 67-96.

Conference Proceedings

38. Bento, Antonio M. 2009. "Biofuels: Economic and Public Policy Considerations", *Chapter 11, Proceedings of the Scientific Committee on Problems of the Environment (SCOPE) International Biofuels Project Rapid Assessment, 22-25 September 2008, Gummersbach, Germany. R.W. Howarth and S. Bringezu, Editors.*
39. Stephen Porder, Antonio M. Bento, A. Leip, L.A. Martinelli, J. Samseth, T.W. Simpson. 2009. "Quantifying the Environmental Impacts of Biofuel Production: Knowns and Unknowns",

*Chapter 14, 233-248.* Proceedings of the Scientific Committee on Problems of the Environment (SCOPE) *International Biofuels Project Rapid Assessment*, 22-25 September 2008, Gummersbach, Germany. R.W. Howarth and S. Bringezu, Editors.

40. Bento, Antonio M. 2007. "Adequate Public Facilities Ordinances in Maryland: Inappropriate Use, Inconsistent Standards and Unintended Consequences", *Conference Paper 12, 1-18.* Smart Growth at 10 – A critical examination of Maryland's Landmark Land Use Program, Edited by Gerrit Knapp and Margaret Walls. *National Center for Smart Growth and Resources for the Future.*

Chapters in books

41. Bento, Antonio, Mark Jacobsen, Christopher Knittel, and Arthur van Benthem. "Estimating the Costs and Benefits of Fuel-Economy Standards". Forthcoming, in *Environmental and Energy Policy and the Economy* edited by Kotchen, Stock and Wolfram, National Bureau of Economic Research.
42. Rose, Adam, Dan Wei, and Antonio Bento. 2019. "Equity Implications of the COP21 Intended Nationally Determined Contributions to Reduce Greenhouse Gas Emissions" pp.63-95, in *Climate Justice* edited by Ravi Kanbur and Henry Shue, Oxford University Press.
43. Dasgupta, Purnamita, Ottmar Edenhofer, Adriana Amezcua, Antonio M. Bento, Simon Caney, David de la Croix, Augustin Fasu, Michael Jakob, Marianne Samm, Kristin Shrader-Frechette, John Wayant, and Liangzhi You. 2018. "Economic Growth, Human Development and Welfare". *Chapter 4. The International Panel on Social Progress*, Cambridge University Press.
44. Parry, Ian, and Antonio M. Bento. 2002. "Tax Deductions, Environmental Policy, and the 'Double Dividend' Hypothesis", reprinted in *Environmental Policy Making in Economies with Prior Tax Distortions Series in New Horizons in Environmental Economics*, Edited by Lawrence H. Goulder.
45. Bento, Antonio, Scott Lowe, Gerrit Knapp, Arnab Chakraborty. 2012. Housing Market Effects of Inclusionary of Zoning. reprinted in *The Affordable Housing Reader*, Routledge.
46. Bento, Antonio M., Lawrence H. Goulder, Mark Jacobsen, and Roger Von-Haefen. 2011. "Distributional and Efficiency Impacts of Increased U.S. Gasoline Taxes," reprinted in *Fuel Taxes and the Poor: The Distributional Effects of Gasoline Taxation and Their Implications for Climate Policy*, Ed. Thomas Sterner, Washington DC: RFF Press.
47. Auffhammer, Maximilian, Antonio M. Bento, and Scott Lowe. 2010. "Measuring the effects of the Clean Air Act Amendments on ambient  $PM_{10}$  concentrations: The critical importance of a Spatially disaggregated analysis", reprinted in *The Economics of Pollution Control*, Edited

by Kathleen Segerson, Edward Elgar Publishing.

Monographs, Reports, and Policy Briefs

48. Auffhammer, Maximilian, Antonio M. Bento, Scott Lowe. 2005. "Forming Coalitions for Cleaner Air", *Giannini Foundation of Agricultural Economics Update* 8(5).
49. Bento, Antonio M., and Jim Cohen. 2006. "The effects of Adequate Public Facilities Ordinances in Maryland", *National Homebuilders Association Magazine*.
50. Bento, Antonio M., and David Wolfe. 2009 "Creating a Role for Agriculture and Forestry in Carbon Markets", Cornell Policy Brief.
51. Bento, Antonio M., Genevieve Giuliano, and Maged Dessouky . "The cost-effectiveness of alternative policies for reducing GHG emissions in the freight sector". A Research report from the Pacific Southwest Region University Transportation Center.

Research under Review

52. Bento, Antonio M., Kenneth Gillingham, and Kevin Roth. "The Effects of Regulation in Multi-Output Firms: Safety Impacts from CAFE Standards". NBER Working Paper 23340
53. Bento, Antonio M., Kevin Roth, and Andrew Waxman. "Avoiding Congestion Externalities? The Value of Urgency"
54. Bento, Antonio M., Mereheen Mookerjee, and Edson Severnini. "A New Approach for Measuring Climate Change Impacts and Adaptation"
55. Richard Klotz, Joel Landry, and Antonio M. Bento. "Marginal Emissions from Expansion in Clean Technology are Non-constant and policy dependent".
56. Bento, Antonio, Cheng Keat Tang, Li Pei, Daxuan Zhao. "Brown(er) Skies after Blue Skies Days? The Unintended Consequences of Short-Term Bans on Air Pollution"
57. Bento, Antonio M., Claudio Lucinda, and Noah Miller. "The Welfare Effects of Gasoline Price 'Holidays': Evidence from Brazil"

Work in Progress/Current Projects

58. Bento, Antonio M. and Edson Severnini. "Climate Change exacerbates Pollution Inequalities: Evidence from Los Angeles and Mexico City"
59. Adler, David, Antonio M. Bento, Noah Miller, and Edson Severnini. "Climate Change can undo the Benefits of the Clean Air Act"
60. Bento, Antonio, Jonathan Hall, and Kilian Heilmann. "Estimating Congestion Externalities"

using Big Data”

61. Bento, Antonio and Kilian Heilmann. “Using big data to estimate the environmental benefits of congestion pricing in the Los Angeles metropolitan area”
62. Bento, Antonio, Mohammad Haque, and Bing Zhang. “Is China winning the war against Ozone?”
63. Bento, Antonio, Ruozi Song and Bing Zhang. “*Incomplete Regulation and Leakage: Evidence from China’s short-term winter heating ban*”
64. Bento, Antonio, Joel Landry, and Daniel Kaffine. “Should States set environmental standards above the federal level?”
65. Bento, Antonio and Chengcheng Mei. “A new large-scale model for poverty alleviation: Evidence from Wanda’s Danzhai touristic village’

## **FELLOWSHIPS AND AWARDS:**

2019	Inaugural High Impact Research Award, USC Sol Price School of Public Policy
2013	Fellowship - Institute of Social Sciences, Cornell University
1997	Rhona Latin Award, Department of Agricultural and Resource Economics, University of Maryland
1996-00	Rotary International Foundation Graduate Fellowship

## **SEMINARS AND OTHER PROFESSIONAL PRESENTATIONS**

Prior to 2000: Cambridge University, University College of London, University of Warwick, Resources for the Future, University of California Santa Barbara, University of California Davis, University of Maryland, Boston College, University of Connecticut, University of Minnesota, K.U. Leuven, First World Congress of Environmental and Resource Economists, Colorado Workshop in Environmental and Resource Economics, Camp Resources, The World Bank.

2001-2006: AEA/ASSA (2001, 2002, 2003, 2004, 2005, 2006), NBER, World Congress of Environmental and Resource economists, Southern Economic Association, National Tax Association, Association of Public Policy, Association of Environmental and Resource Economists Summer Workshop, Occasional California Workshop in Environmental and Resource Economics, European Association of Environmental and Resource Economists Summer Meetings, Camp Resources, American Agricultural Economics Association, Colorado Workshop in Environmental and Resource Economics, University College of London, Institute for Fiscal Studies, World Resources Institute, University of Minnesota,



Macalester College, University of Texas Austin, Stanford University, Stanford Institute for Economic Policy Research, University of Illinois, Georgia State University, University of California Berkeley, University of California Davis, University of California Irvine, University of California San Diego, University of California Santa Barbara, University of California Santa Cruz, University of Central Florida, University of Maryland.

2007-2015: AEA/ASSA (2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015), NBER Summer Institute, Urban Economics Meetings, Association of Environmental and Resource Economics Summer Workshop, Occasional California Workshop in Environmental and Resource Economics, European Association of Environmental and Resource Economists, Inter-American Development Bank, Cornell University, University of Wisconsin, American Agricultural Economics Association Meetings, Colorado Workshop in Environmental and Resource Economics, Resources for the Future, Columbia University, Duke University, University of Illinois, University of California Berkeley, University of Connecticut, University of California Davis, University of California Los Angeles, University of California Merced, University of Maryland College Park, Clarkson University, University of Wisconsin Madison, New York University, EPA National Center for Environmental Economics, Yale University, Case Western University, Rutgers University, National University of Singapore, Harvard University, UC-Riverside, Johns Hopkins University (SAIS), George Mason University, George Washington University, Georgetown University, INSEAD, KU Leuven, Rice, Toronto, USC, Penn State, Carnegie Mellon, The World Bank, World Congress of Environmental and Resource Economists.

2016- AEA/ASSA (2016, 2017, 2018, 2019), NBER Summer Institute, NBER-EEE Spring Meetings, Inaugural NBER-Environmental and Energy Policy and the Economy Conference, UCLA, UC-Davis, UC-Davis ITS, USC Metrans, USC Urban Growth, Empirical Methods in Energy Economics, World Bank, International Monetary Fund, OECD, Center for European Research, Cornell University, Stanford, Indian Statistical Institute, UCSB Occasional Workshop in Environmental Economics, UC-Berkeley, University of Oregon, TWEEDS, Toulouse School of Economics, University of Zurich, ETH Zurich, University of St. Gallen, Bocconi University, Paris School of Economics, Hertie School of Public Policy, Universidad de Los Andes, Centro de Investigación y Docencia Economicas (CIDE), Fundação Gertulio Vargas – Escola de Administração Pública (São Paulo), Fundação Gertulio Vargas – Departamento de Economia (Rio de Janeiro), Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Climate Policy Initiative Institute (Rio de Janeiro), Instituto Saúde e Sustentabilidade, Universidade de São Paulo, Ribeirão Preto (USP), Renmin University, University of Toronto, Simon Fraser University, University of British Columbia, Indiana University, University of Michigan, University of Georgia, American University, North Carolina State University, Duke.

## **WORKSHOPS ORGANIZED AND DISTINGUISHED GUEST LECTURES**

2019            Co-organizer, USC Center for Sustainability Solutions and Secretaria del Medio Ambiente (SEDEME) joint technical workshop on Air Pollution, Mexico City, Mexico

- 2019 Invited Technical Speaker, meeting of the Regional Council (RC) of the Southern California Association of Governments, Los Angeles.
- 2019 Invited Technical Speaker, meeting of the Community, Economic and Human Development Committee (CEHD) of the Southern California Association of Governments, Los Angeles.
- 2019 Keynote Address, Beijing Humboldt Forum, Congress organized by the Leibniz Center for European Economic Research (ZEW), Beijing, China.
- 2019 Opening Speaker, Faculty Symposium as part of the inauguration of USC President, Dr. Carol Folt.
- 2019 Panelist, "Where Should Money Be Spent on Fighting Climate Change?", Panel organized by NPR/KPCC, Los Angeles.
- 2019 Speaker, Panel on "Sustainability at the University of Southern California", organized by the University Club, University of Southern California.
- 2019 Organizer, USC Panel with Faculty and Students following the "Presidential Townhall on the Climate Crisis".
- 2019 Keynote Address, 25<sup>th</sup> International Sustainable Development Research Society, Nanjing, China.
- 2019 Keynote Address, Summer Conference of the East Asian Association of Environmental and Resource Economists, Beijing, China.
- 2019 Organizer, USC Center for Sustainability Solutions and Nanjing University Center for Environmental management and Policy Analysis joint workshop on Environmental Economics
- 2019 Co-organizer, Workshop - "Los Angeles County Sustainability Plan: Gearing up Economic Opportunity and Jobs", organized jointly with the Los Angeles County Chief Sustainability Office, USC Schwarzenegger Institute, UCLA Luskin Center for Innovation, and UCLA Sustainable LA Grand Challenges.
- 2019 Speaker, "Making Climate Policies Pay", a workshop on the Social Cost of Carbon organized by the Energy Policy Institute at the University of Chicago and California Air Resources Board.
- 2019 Keynote Address, "Distinguished Lecture in Sustainability", organized jointly by the Center for the Sustainable Development Goals for Latin America and Caribbean and the Environment for Development Initiative.
- 2019 Speaker, North America World Carbon Congress, Los Angeles.
- 2019 Panelist, "Climate Forward: Navigating the Politics of Climate Change", Conference organized by the USC Center for the Political Future and the USC Schwarzenegger Institute for State and Global Policy

- 2019 Panelist, “Federal Carbon Pricing: Opportunities and Considerations”, organized by the Los Angeles Clean Tech Incubator.
- 2018 Co-organizer, “The 3<sup>rd</sup> Annual Water Data Summit” organized with California Data Collaborative, and Waternow Alliance. Los Angeles.
- 2018 Keynote Address, “Challenges and Opportunities for Low Carbon Mobility”, Conference organized by the Leibniz Center for European Economic Research (ZEW), Mannheim, Germany.
- 2018 Panelist, Workshop on “A Sector in Transition: Transportation in the 21<sup>st</sup> Century”, organized jointly by Baker Institute Center for Energy Studies at Rice University and MIT’s Center for Energy and Environmental Policy Research.
- 2018 Speaker, “Environmental Justice Conference: Building Alliances and Progressive Solutions”, organized by the South Coast Air Quality Management District.
- 2018 Organizer, Experts’ meetings to develop a research program for the Mexico City Hub of the USC Center for Sustainability Solutions, Mexico City, Mexico.
- 2018 Speaker, Workshop on Digital Transformation in Urban Society, organized by Lee Kuan Yew Center for Innovative Cities, Singapore University of Technology and Design.
- 2018 Organizer, Experts’ meetings and Technical Rapid Assessment of the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Proposal by the National Highway Traffic Safety Administration and the US-Environmental Protection Agency.
- 2018 Technical speaker, Regional Council (RC) of the Southern California Association of Governments, Los Angeles.
- 2018 Speaker, “China: Finding Solutions”, workshop organized the USC US-China Institute.
- 2018 Organizer, Experts’ meetings to develop a research program for the São Paulo Hub of the USC Center for Sustainability Solutions, São Paulo, Brazil.
- 2018 Speaker, “Global People’s Summit”, organized by the Los Angeles Hub for the United Nations.
- 2018- Organizer, bi-annual roundtable “Roadmap for Modernizing the California Water Industry”, USC Center for Sustainability Solutions.
- 2018- Organizer, “Voices for a Sustainable and Equitable Future” campus-wide Sustainability colloquium, University of Southern California.
- 2017 Distinguished Speaker, “Energy Forum” organized by the Hertie School of Public Policy and the Schwarzenegger Institute.
- 2017 Organizer, “10<sup>th</sup> International Workshop on Empirical Methods in Energy Economics”, University of Southern California.

- 2017- Organizer, "Weekly seminar series in Environmental Economics and Policy", University of Southern California.
- 2017- Organized, "Weekly Environmental Economics Graduate Student's brownbag lunch", University of Southern California.
- 2016 Speaker, "Summit on Science and Technology Enablement for the Sustainable Development Goals", organized by the New York Academy of Sciences.
- 2015 Co-organizer, "3<sup>rd</sup> Northeast Workshop on Energy Policy and Environmental Economics", Co-organizer (with Ravi Kanbur, and Kenneth Gillingham), Yale University
- 2014 Keynote Address, "Closing the Carbon Price Gap: Public Finance and Climate Policy", International Conference organized by the Mercator Research Institute on Global Commons and Climate Change. Berlin, Germany.
- 2013 Keynote Address, "International Workshop on the Economics of Low-Carbon Markets", São Paulo, Brazil
- 2013 Co-organizer, "2<sup>nd</sup> Northeast Workshop on Energy Policy and Environmental Economics", Co-Organizer (with Ravi Kanbur and Kenneth Gillingham), Cornell University.
- 2012 Co-organizer, "1<sup>st</sup> Northeast Workshop on Energy Policy and Environmental Economics", Co-Organizer (with Ravi Kanbur and Shanjun Li), Cornell University.
- 2011 Co-organizer, "Congress on The Role of Carbon Offsets in Climate Policy", Cornell University.
- 2007-14 Organizer, "Environmental Policy and Environmental Economics Working Group", Cornell University.
- 2007-14 Co-organizer, "Environmental, Urban, and Real Estate Economics Seminar Series", Cornell University.
- 2006 Co-organizer, Symposium to honor Nobel Laureate Thomas Schelling, School of Public Policy and Department of Economics joint Symposium, University of Maryland.
- 2005-07 Co-organizer, Applied Microeconomics Seminars, School of Public Policy and Department of Economics joint seminar, University of Maryland.
- 2005 Keynote Address, "The Importance of Computable General Equilibrium Modeling to Environmental Economics" at the 8<sup>th</sup> Occasional California Workshop on Environmental and Resource Economics, University of California, Santa Barbara.
- 2005 Keynote Address, "Invoking Moratoria in Priority Funding Areas in Maryland" at the 8<sup>th</sup> Annual Maryland's Homebuilders Association Conference on Growth.
- 2003 Guest Speaker, "Panel on Linking Ecological and Economic Models: Dual Perspectives" Guest Speaker, Camp Resources XI, North Carolina

- 2003 Organizer, special contributing session, “The Importance of Spatial Modeling to Environmental and Resource Economics”, Contributing AERE session at the Annual Meetings of the American Agricultural Economics Association
- 2003 Co-organizer, “Workshop on Equilibrium Modeling Approaches at the Boundaries of Industrial Organization, Public Economics and Environmental Economics”, Stanford University, (jointly organized with Kenneth Arrow and Lawrence Goulder)
- 2003 Organizer, “The Importance of Spatial Modeling to Environmental and Resource Economics”, Contributing AERE session at the Winter Meetings of the ASSA/American Economic Association
- 2002 Guest Speaker, “Panel on Locational Equilibrium Models” Guest Speaker, Camp Resources X, North Carolina.
- 2002 Organizer, “The Economics of Land Use Change and Urban Sprawl” (organizer) Contributing Session to the Second World Congress of Environmental and resource Economists, Monterrey, CA.
- 2002 Organizer, Short Course on “The Economics of Urban Sprawl and Land Use Change”, University of California, Santa Barbara, course organized in conjunction with the Second World Congress of Environmental and Resource Economists (jointly organized with Charles Kolstad)
- 2001 Guest Speaker, Expert’s Meeting on Spatial Externalities, Organized by the Center for Spatially Integrated Social Sciences, University of California, Santa Barbara.
- 2000 Guest Speaker, “The Double Dividend Hypothesis and its relevance to European Environmental Policy”, Guest Lecture at the International Dimension of Environmental Policy Workshop organized by the EURESCO, Netherlands.
- 1999 Invited speaker, “The Double Dividend Hypothesis and its relevance to European Environmental Policy”, workshop at the European Commission DG XI seminars, Belgium

### **EDITORIAL POSITIONS:**

- 2019- Editorial Board, *Journal of Sustainable Energy Engineering*
- 2012- Editorial Board, *Journal of Environmental Economics and Management*
- 2013- Editorial Board, *Urban Studies Research*

### **PROFESSIONAL SOCIETIES:**

- 2018- Member, International Sustainable Development Research Society

- 2015-17 Board of Directors, Association of Environmental and Resource Economists
- 2015- Member, American Society for Public Administration
- 2015- Member, American Association for the Advancement of Science
- 2005- Member, Association of Public Policy Analysis and Management
- 2004- Member, Urban Economics Association
- 1999- Member, American Economic Association
- 1999- Member, Association of Environmental and Resource Economists
- 1999- Member, European Association of Environmental and Resource Economists

### **ADVISORY COMMITTEES AND EXPERT PANELS:**

- 2019 Congressional Testimony at the hearing on the Trump Administration's Clean Cars Rule Rollback. US House of Representatives, Committee on Oversight and Reform
- 2019 - Founding Member, External Environmental Economics Advisory Committee to the U.S. Environmental Protection Agency (EPA)
- 2019- Member, Technical Advisory Committee, FASTLinkDTLA.
- 2019- Member, California Clean Energy Business Roundtable.
- 2017- Technical Member, Partnership to support zero emissions transportation in the Los Angeles Region by 2028, Los Angeles Clean Tech Incubator.
- 2015-18 Lead Author, International Panel of Social Progress: Rethinking Society for the 21<sup>st</sup> Century
- 2012-14 Contributing Author, Intergovernmental Panel on Climate Change (IPCC) *Fifth Assessment Report*, Working Group III.
- 2009-15 Member, 25'X25 Carbon Working-group.
- 2009-15 Member, New York State Climate Change Action Plan Working Group
- 2007-10 Member, Scientific Committee on Problems of the Environment (SCOPE), International SCOPE Biofuels Rapid Assessment, International Council of Science, Summer 2009
- 2007-10 Lead Author, Scientific Committee on Problems of the Environment (SCOPE): International Biofuels Project

### **OTHER PROFESSIONAL ACTIVITIES:**

Contributions to the organization of Major Conferences:

- 2019 Reviewer, 25<sup>th</sup> Summer Congress of the International Sustainable Development Research Society
- 2018- Member, Committee of the Association of Environmental and Resource Economists for the Oates Outstanding Doctoral Dissertation Award
- 2018 Reviewer, 6<sup>th</sup> World Congress of Environmental and Resource Economists
- 2015- Member of the Scientific Committee, International Workshop on Empirical Methods for Energy Economics.
- 2014 Reviewer, 5<sup>th</sup> World Congress of Environmental and Resource Economists
- 2013- Founding Member of the Scientific Committee, International Workshop on the Economics of Low-Carbon Markets, São Paulo, Brazil
- 2012 Co-organizer, 2<sup>nd</sup> Summer Conference of Association of Environmental and Resource Economists Summer Conference
- 2011- Reviewer, Summer Conferences of the Association of Environmental and Resource Economists
- 2010-13 Program Committee Chair, Association of Environmental and Resource Economists sessions at the ASSA and AAEA annual meetings
- 2010 Reviewer, 4<sup>th</sup> World Congress of Environmental and Resource Economists
- 2006 Reviewer, 3<sup>rd</sup> World Congress of Environmental and Resource Economists
- 2002 Reviewer, 2<sup>nd</sup> World Congress of Environmental and Resource Economists
- 2000- Reviewer, Summer Conference of European Association of Environmental and Resource Economists
- 1998 Reviewer, 1<sup>st</sup> World Congress of Environmental and Resource Economists

### Reviewing activities

Referee to: National Science Foundation, United States Environmental Protection Agency, United States Department of Energy, United States Department of Transportation, California Department of Transportation, California Air Resources Board, California Strategic Growth Council, Alfred P. Sloan Foundation, Hewlett Foundation, Energy Foundation, MacArthur Foundation, Doris Duke Charitable Foundation, Ford Foundation, Joyce Foundation, Gordon and Betty Moore Foundation, Packard Foundation, Park Foundation, Leonardo DiCaprio Foundation, Surdna Foundation, Science, Nature, PNAS, Nature: Climate Change, Nature: Sustainability, Nature: Energy, Science: Advances, PLOS: One, American Economic Review, American Economic Review: Insights, American Economic Journal: Economic Policy, American Economic Journal: Applied Economics, Journal of Political Economy, Quarterly Journal of Economics, Review of Economics and Statistics, Journal of Public Economics, Journal of Environmental Economics and Management, Journal of the Association of Environmental and Resource Economists, National Science Foundation, Environmental and Development

Economics, Resource and Energy Economics, Energy Economics, Energy Journal, Journal of Urban Economics, Journal of Policy Analysis and Management, Regional Science and Urban Economics, Journal of Regional Science, Environment and Planning

## **UNIVERSITY SERVICE:**

### University of Southern California

- 2019- Member, Sol Price School Research Committee
- 2017-18 Member, Joint Provost-Senate Task Force on Interdisciplinary Communities
- 2016-18 Member, University Committee on Academic Review
- 2015-19 Member, Sol Price School Appointments, Promotion, and Tenure Committee
- 2015-16 Diversity and Inclusion School Liaison, USC initiative on Diversity
- 2015-19 Member, Senate Sustainability Committee, USC Academic Senate
- 2015- Member, Sol Price School Task Force on Diversity, Social Justice, and Inclusion

### Cornell University

- 2011-14 Member, Provost's Task Force for a new School of Public Policy/Affairs
- 2010-14 Chair, Environmental and Energy Economics Multi-School Faculty Cluster Hires Search Committee sponsored by the Atkinson Center for a Sustainable Future
- 2009-12 Member, Climate Change Interdisciplinary Faculty Cluster Hires Search Committee sponsored by Atkinson Center for a Sustainable Future
- 2009-11 Member, Provost's Social Sciences Task Force
- 2008-14 Member, Faculty Appointments, Promotion, Tenure Committee, Dyson School of Applied Economics and Management

### School of Public Policy, University of Maryland

- 2006-07 Chair, Admissions Committee, Master of Public Policy
- 2005-07 Member, PhD Program Committee
- 2005-06 Member, Schelling Distinguished Visiting Professor Search Committee
- 2004-06 Member, Junior Faculty Search Committee

### Bren School of Environmental Sciences and Management, UCSB

- 2002-04 Chair, PhD Committee
- 2002-03 Member, Junior Faculty Search Committee



- 2001-02      Member, PhD Committee
- 2000-02      Member, Admissions Committee, Master of Environmental Sciences and Management

## **TEACHING, MENTORING, and ADVISING:**

### Teaching

*Courses taught at the Bren School of Environmental Sciences and Management and the Department of Economics, University of California, Santa Barbara*

Microeconomic Principles for Environmental Management (Masters' Level)  
Fall 2000, Fall 2001, Fall 2002 and Fall 2003

Cost-Benefit Analysis (Masters' Level)  
Spring 2001, Fall 2001, Fall 2002 and Fall 2003

Environment and Development (Short course)  
Spring 2004, Spring 2005 (invited), Spring 2006 (invited)

Environmental Economics (PhD Level)  
Spring 2001, Spring 2002, Spring 2003, Spring 2004

*Courses taught at the School of Public Policy, University of Maryland*

Quantitative Aspects of Public Policy (Masters' Level)  
Fall 2004, Fall 2005

Quantitative Methods for Leaders (Executive Program)  
Fall 2006

Quantitative Analysis of Policy Issues (PhD Level)  
Fall 2006, Spring 2007

Microeconomic Analysis of Government Policy (PhD Level)  
Spring 2006, Spring 2007

*Courses Taught at the Dyson School of Applied Economics and Management and the Department of Economics, Cornell University*

Environmental Economics (PhD Level)  
Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Fall 2014

Applied Microeconomics (PhD Level)

Spring 2011, Spring 2012, Spring 2013, Spring 2015

*Courses Taught at the Sol Price School of Public Policy and the Department of Economics, USC*

Economics for Public Policy (Masters' Level)  
Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019

Sustainable Communities (Undergraduate Level)  
Spring 2016, Fall 2018, Fall 2019

Environmental Economics (PhD Level)  
Spring 2019, Spring 2020

Mentoring and Advising

*Current PhD Students at USC:*

Amanda Ang  
Thomas Ash  
Mohammad Islamul Haque  
Noah Miller  
Tal Roitberg  
Renzhi Shen  
Ruozi Song

*Postdoctoral Scholars at USC:*

Cheng Keat Tang (Assistant professor of economics at Nanyang Technological University, Singapore)

*PhD Students at Cornell:*

Corey Lang, 2011 PhD in Economics (Associate Professor of Environmental and Resource Economics, University of Rhode Island)  
Mario Ramirez, 2011 PhD in Economics (Senior Economist, World Bank)  
Kevin Roth, 2012 PhD in Economics (Assistant Professor, University of California, Irvine)  
Joel Landry, 2014 PhD in Applied Economics and Management (Assistant Professor at Pennsylvania State University)  
Benjamin Leard, 2014 PhD in Applied Economics and Management (Fellow, Resources for the Future)  
Richard Klotz, 2015 PhD in Applied Economics and Management (Assistant Professor, Colgate University)  
Andrew Waxman, 2016 PhD in Applied Economics and Management (Assistant Professor, University of Texas Austin)

Mehreen Mookerjee, 2017 PhD in Economics (Assistant Professor, Zayed University, United Arab Emirates)

Sanket Roy, 2017 PhD in Economics (Assistant Professor, American University of Sharjah, United Arab Emirates)

*PhD Students at the University of Maryland:*

Constant Tra, 2007 PhD in Agricultural and Resource Economics (Associate Professor, University of Nevada, Las Vegas)

*PhD Students at University of California, Santa Barbara*

Daniel Kaffine, 2004 PhD in Environmental Science and Management (Professor, University of Colorado, Boulder)

Sofia Franco, 2004 PhD in Environmental Science and Management (Associate Professor, NOVA School of Economics and Business, Portugal)

Scott Lowe, 2002 PhD in Environmental Science and Management (Professor, Boise State University)

Patricia Silva, 2003 PhD in Economics (Professor, University of Copenhagen)

*Undergraduate Honors Thesis, Cornell University*

Alexander Latkza, 2010 (currently PhD student at the University of Wisconsin Madison)

Clayton Munnings, 2013 (currently a research associate at Resources for the Future)

*Undergraduate Honors Thesis, Department of Economics, Stanford University*

Wendy Sheu, 2003 (co-advisor with Lawrence H. Goulder)

Justin Dinar, 2004 (co-advisor with Lawrence H Goulder)

*Undergraduate Honors Thesis, Department of Economics, University of Maryland*

Rafeal Nieto, 2005