

## Jay P. Shimshack December 2023

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### ACADEMIC APPOINTMENTS

University of Virginia. Professor and Associate Professor of Public Policy and Economics. Frank Batten School of Leadership and Public Policy. Department of Economics (by courtesy).	2014 – present
Tulane University. Associate and Assistant Professor. Department of Economics.	2008 – 2014
Tufts University. Assistant Professor. Department of Economics.	2002 – 2008

### ADMINISTRATIVE APPOINTMENTS

Associate Dean for Academic Affairs, UVA Frank Batten School.	2019 – 2023
Director of Graduate Studies, Tulane University Department of Economics.	2012 – 2014
Program Director, Program for Responsible Regulation, Center for Public Policy Tulane University Murphy Institute.	2011 - 2014

### OTHER PROFESSIONAL APPOINTMENTS

Co-editor, <i>Journal of Environmental Economics and Management</i> .	2014 – 2017
Visiting Professor of Business Econ. & Public Policy, University of Michigan. Erb Institute for Sustainable Enterprise, Ross School of Business.	2009 – 2010
Visiting Academic Researcher. UC Santa Barbara. Donald Bren School.	2004 – 2005

### EDUCATION

<b>Ph.D.</b> University of California, Berkeley Agricultural and Resource Economics	2002
<b>M.S.</b> University of California, Berkeley Agricultural and Resource Economics	2000
<b>B.S.</b> Cornell University, College of Agricultural and Life Sciences Business Marketing and Management	1995

### PROFESSIONAL INTERESTS

Environmental and Resource Economics, Regulation, Corporate Social Behavior and ESG issues, Environmental Disparities, Law and Economics, Environmental Enforcement, Water Resources, Risk Communication / Disclosure and Transparency, Benefits and Costs of Public Policy.

## SCHOLARLY PAPERS

- “Costly sanctions and the treatment of frequent violators in regulatory settings,” w/ M. B. Ward. *Journal of Environmental Economics and Management (JEEM)*. 116 (October 2022): 102745.
- “Environmental justice in urban Mexico: Evidence from toxic water pollution,” w/ L. Chakraborti. *Resource and Energy Economics (REE)*. 67(February 2022): 101281.
- “Policy Brief - The Evolution of the ‘Waters of the United States’ and the Role of Economics,” w/ D. Keiser, S. Olmstead, K. Boyle, V. Flatt, B. Keeler, D. Phaneuf, and J. Shapiro. *Review of Environmental Economics and Policy (REEP)*. 16:1 (Winter 2022): 146-152.
- “Why are Pollution Damages Lower in Developed Countries? Insights from High-Income, High-Particulate Matter Hong Kong,” w/ J. Colmer, D. Lin, S. Liu. *Journal of Health Economics (JHE)*. 79 (September 2021): 102511.
- “New water rule turns a blind eye to transboundary pollution: We can’t presume that states will fill gaps in federal oversight,” w/ D. Keiser, S. Olmstead, K. Boyle, V. Flatt, B. Keeler, C. Kling, D. Phaneuf, and J. Shapiro. *SCIENCE*. 372(6539) (16April2021): 241-243.
- “Hurricanes and Gasoline Price Gouging,” w/ T. Beatty and G. Lade. *Journal of the Association of Environmental and Resource Economics (JAERE)*. 8(2) (March 2021): 347–374.
- “Disparities in PM2.5 air pollution in the United States,” w/ J. Colmer, I. Hardman, and J. Voorheis. *SCIENCE*. 369(6503) (31July2020): 575-578.
- “Information Provision.” Handbook of U.S. Environmental Policy. Edward Elgar (Konisky, ed). 2020.
- “Monitoring, Enforcement and the Choice of Environmental Policy Instruments,” w/ M. Cohen. Policy Instruments in Environmental Law. Edward Elgar (Richards and van Zeven, eds.) 2020.
- “Disaster preparedness and disaster response: Evidence from sales of emergency supplies before and after hurricanes,” w/ T. Beatty and R. Volpe. *Journal of the Association of Environmental and Resource Economics (JAERE)*. 6(4) (July 2019): 633–668.
- “Enforcement spillovers: Lessons from strategic interactions in regulation and product markets,” w/ M. Evans and S. Gilpatrick. *Journal of Law and Economics (JLE)*. 61 (November 2018): 739-769.
- “Quantitatively measuring deterrence: empirical tools for assessing the impact of environmental monitoring and enforcement actions.” in Compliance and Enforcement of Environmental Law. (Paddock, Markell, Bryner, eds). Edward Elgar. (May 2017): Chapter 17.
- “Valuing Marine Diversity in the Gulf of Mexico: Evidence from the Proposed Boundary Expansion of the Flower Garden Banks National Marine Sanctuary,” w/ S. Stefanski. *Marine Resource Economics (MRE)*. 31(2) (2016): 211-232.
- “Environmental Disclosure: Evidence from Newsweek’s Green Companies Ranking,” w/ T. Lyon. *Business and Society (BAS)*. 54(5) (2015): 632-675.
- “The Economics of Environmental Monitoring and Enforcement: A Review,” *Annual Review of Resource Economics (ARRE)*. 6 (2014): 339–60.
- “Information Disclosure,” in Environmental and Natural Resource Economics. J Whitehead and T Haab, editors. Greenwood Publishers. ABC-CLIO. (March 2014).

- “Air Pollution and Children’s Health: a Cohort Analysis,” w/ T. Beatty. *Journal of Environmental Economics and Management (JEEM)*. 7(1) (2014): 39-57.
- “Information Programs.” in Encyclopedia of Energy, Natural Resource, and Environmental Economics. J Shogren, editor. Elsevier. 3 (April 2013): 169-173.
- “Absolute Humidity, Temperature, and Influenza Mortality: 30 Years of County-Level Evidence from the United States,” w/ A. Barreca. *Amer Journal of Epidemiology (AJE)*. 176 (2012): S114-S122.
- “Economic Perspectives on Corporate Social Responsibility,” w/ M. Kitzmueller. *Journal of Economic Literature (JEL)*. 50(1) (March 2012): 51-84. REPRINTED in Economics of Corporate Social Responsibility, ed. McWilliams. Edward Elgar. January 2015.
- “School Buses, Diesel Emissions, and Respiratory Health,” w/ T. Beatty. *Journal of Health Economics (JHE)* 30(5) (2011): 987-999.
- “The Effectiveness of Environmental Monitoring and Enforcement: A Review of the Empirical Evidence,” w/ W. Gray. *Review of Environmental Economics and Policy (REEP)*. 5(1) (2011): 3-24. REPRINTED in Enforcement of Environmental Law, edited by Ludwig Krämer. The International Library of Law and the Environment, Edward Elgar, 2016.
- “Mercury Advisories and Household Health Trade-offs,” w/ M.B. Ward. *Journal of Health Economics (JHE)* 29(5) (2010): 674-685.
- “The Impact of Climate Change Information: New Evidence from the Stock Market,” w/ T. Beatty. *B.E. Journals of Economic Analysis and Policy*. 10:1 (2010): Art. 105.
- “Public & Private Enforcement: Substitutes or Complements?” w/ C. Langpap.” *Journal of Environmental Economics and Management (JEEM)* 59(3) (2010): 235-249.
- “Mandatory Information Disclosure in the Electricity Industry,” w/ M. Delmas and M. Montes. *Economic Inquiry (ECIN)* 48(2) (2010): 483-498.
- “Enforcement and Over-compliance,” with M.B. Ward. *Journal of Environmental Economics and Management (JEEM)* 55(1) (2008): 90-105. REPRINTED in Corporate Sustainability, eds. Diermeier, Lyon, and Dowell. Sage, London, England. 2014.
- “Curbside Recycling in the Presence of Alternatives.” with T. Beatty and P. Berck. *Economic Inquiry (ECIN)* 45(4) (2007): 739-755.
- “Mercury Advisories: Information, Education, and Fish Consumption” with M.B. Ward and T. Beatty. *Journal of Environmental Economics and Management (JEEM)* 53(2) (2007): 158-179.
- “Regulator Reputation, Enforcement, and Environmental Compliance” with M.B. Ward. *Journal of Environmental Economics and Management (JEEM)* 50(3) (2005):519-540. REPRINTED in Making Law Work: Environmental Compliance & Sustainable Development, eds. Zaelke, Kaniaru, and Kružiková. Cameron May, London, England. Ch. 4. 2005.
- “The Effects of the Private-Label Invasion in Food Industries,” with M.B. Ward, J. M. Perloff, and J.M. Harris. *American Journal of Agricultural Economics (AJAE)* 84(4) (2002): 961-973.

## **(SHORT) PUBLISHED BOOKS**

“Environmental Enforcement and Compliance: Lessons from Pollution, Safety, and Tax Settings,” w/J. Alm. Published as a short BOOK in the *Foundations and Trends in Microeconomics* series, Boston: Now Publishers Inc. (2014). Also published as an article in the *Foundations and Trends in Microeconomics* Journal. 10 (2014): 209-274. REPRINTED in Environmental Taxation and the Law (Janet Milne, editor). Edward Elgar. September 2017.

## **SELECTED RESEARCH IN PROGRESS**

“Environmental Citizen Complaints,” W/ J. Colmer and M. Evans.

“The effect of compliance assistance on pollution discharges and violations of environmental regulations,” w/ P. Ferraro.

“Industrial facilities and cancer clusters in China: A village-level analysis,” w/ X. Zhang and H. Yin.

“Does Mandatory Labeling of Outfall Points influence Pollution and Compliance? Evidence from a natural experiment in Ohio,” w/ X. Liu.

## **PUBLISHED EXPERT & CONGRESSIONAL TESTIMONY, GOVERNMENT REPORTS**

“Report on the Repeal of the Clean Water Rule and its Replacement with the Navigable Waters Protection Rule to Define Waters of the United States (WOTUS),” w/ D. Keiser, S. Olmstead, K. Boyle, V. Flatt, B. Keeler, D. Phaneuf, and J. Shapiro. *External Environmental Economics Advisory Committee (E-EEAC) report* on the state of economic science as it relates to the Waters of the United States. December 2020.

“Declaration of Jay Shimshack,” State of New York et al v. U.S. Environmental Protection Agency *et al*, U.S. District Court for the Southern District of New York, No. 1:20-cv-03714-CM. 2020.

“An academic perspective on EPA’s enforcement program,” *Testimony before the U.S. House of Representatives Committee on Energy and Commerce*. February 26, 2019.

“The Performance of Clean Water Act Monitoring and Enforcement,” *Testimony before the U.S. House of Representatives Committee on Transportation and Infrastructure*. Oct. 15, 2009.

“Pilot Comparative Analysis of Monitoring and Enforcement Impact Measures” *State-of-Science White Paper Prepared for the Environmental Protection Agency’s Office of Enforcement and Compliance Assurance*. 40pp. June 2009.

“Monitoring, Enforcement, and Environmental Compliance: A User’s Guide,” with Wayne Gray. *State-of-Science White Paper Prepared for the Environmental Protection Agency’s Office of Enforcement and Compliance Assurance*. 39pp. Public version: 18pp. January 2009.

“Monitoring, Enforcement, and Environmental Compliance: A Multiple Sector Analysis,” *State-of-Science White Paper Prepared for the Environmental Protection Agency’s Office of Enforcement and Compliance Assurance*. 60pp. September 2008.

“Monitoring, Enforcement, and Environmental Compliance: Metrics and Model Calibration,” *State-of-Science White Paper Prepared for the Environmental Protection Agency’s Office of Enforcement and Compliance Assurance*. 24pp. July 2008.

“Monitoring, Enforcement, and Environmental Compliance: Understanding Specific and General Deterrence,” *State-of-Science White Paper Prepared for the EPA’s Office of Research and Development and Office of Enforcement and Compliance Assurance*. 47 pp. Oct. 2007.

## **PUBLISHED COMMENTARIES & OUTREACH**

“Next Generation Compliance and Evidence-Based Policy.” *Regulatory Review: A Publication of the Penn Program on Regulation* (Dec 21, 2023). Online [here](#).

“How citizens help expose environmental wrongdoing,” w/ J. Colmer and M. Evans. *CentrePiece Magazine: A publication of the LSE Centre for Economic Performance*, 28(2): Summer 2023. Online [here](#).

“Citizen complaints can be a useful early warning system for governments to act on environmental violations,” w/ J. Colmer and M. Evans. *LSE Centre for Economic Performance and UK Research and Innovation’s Economic and Social Research Council*. April 18, 2023. Online [here](#).

“Air Pollution and the Public’s Health,” w/ J. Colmer. *Public Health Post* (October 15, 2020). Online [here](#).

“Fine-particle air pollution has decreased across the US, but poor and minority communities are still the most polluted,” w/ J. Colmer. *The Conversation* (July 30, 2020). Online [here](#).

“Informing the Controversy over Clean Water Act Enforcement.” *UVA Global Water Initiative Blog* (July 13, 2018). Online [here](#).

“Do investors care about green ratings?” w/ T. Lyon. *Alliance for Research on Corporate Sustainability* (Oct 25, 2014). Online [here](#).

“Environmental Monitoring and Enforcement in the United States: Empirical Evidence from the Economics Literature,” with W. Gray. *Int’l Network for Enviro. Compliance and Enforcement* (2011). Translational Research Report. Online [here](#).

“Improving Clean Water Act Enforcement,” *Resources for the Future (RFF) Weekly Policy Commentary* (Jan. 8, 2010). Online [here](#).

“Mercury Advisories for Commercial Fish,” *RFF Weekly Policy Commentary* (May 5, 2008). Reprinted in *Issues of the Day*, eds. Parry and Day. Resources for the Future, Washington, DC, USA. Ch. 91, pgs. 192-193. 2010. Online [here](#).

“Price, Promotion, and Differentiation Effects of the Private-Label Invasion,” with Michael B. Ward, Jeffrey M. Perloff, and J. Michael Harris. *Ag. and Res. Economics Update*. (5:6) July/Aug 2002.

## **PUBLISHED BOOK REVIEWS**

“Review of Full Disclosure: The Perils and Promise of Transparency by Fung et al.,” *Political Science Quarterly* 122(4) (Winter 2008): 705-706.

## **PUBLISHED TEACHING CASE MATERIALS**

“The Economics of Corporate Social Responsibility.” w/ P. Debaere. *Technical Business Case*. Darden Business Publishing. Ref No. UVA-GEM-0143. (10 August 2016): 7 pages.

## GRANTS & CONTRACTS

- UVA Dean's Opportunity Fund (Grand Challenges Initiative)*. "Building a Household-level Data and Public Engagement Infrastructure for Quantitative Social Science Research on Inequality in Coupled Human-Natural Systems." Co-PI (for research). 2023-2028.
- UVA Bankard Fund for Political Economy*. "Environmental citizen complaints." Co-PI. 2023-2024.
- US Department of Agriculture (USDA) Agriculture and Food Research Initiative (AFRI) Grant*. "Quantitatively evaluating food safety monitoring and enforcement tools." Co-PI. 2018-2022.
- UVA Environmental Resilience Institute, Interdisciplinary Co-Lab Grant Program*. "Surface Water Quality in the United States: Data, Methods, and Causes." Co-PI. 2019.
- UVA Environmental Resilience Institute, Rapid Response Grant Program*. "Natural Disasters and Price Gouging: Evidence from Gasoline Sales before and after US Hurricanes." PI. 2018.
- UVA Bankard Fund for Political Economy*. "Does mandatory labeling of outfall points influence pollution and compliance?" PI. 2017-2018.
- US Department of Agriculture (USDA) Food Safety and Inspection Service*, "Quantitatively Evaluating FSIS monitoring and enforcement tools." PI. 2016-2018.
- UBS Asset Management (Americas)*. Environmental, Social, Governance Research. Contractor. 2016.
- US Environmental Protection Agency (USEPA), Office of Enforcement and Compliance Assurance*, "Memorandum of Understanding on Next Generation Compliance Research." PI, 2015-2017.
- UVA Bankard Fund for Political Economy*. "The Effectiveness of Pollution Self-Reporting as Regulatory Policy: Evidence from the Clean Water Act." PI. 2015.
- National Science Foundation. Research Experience for Undergraduates (REU)*. "Tulane REU in Applied Microeconomics and Program Evaluation." Participant. 2010-2013.
- Tulane Murphy Institute Seed Grant*. "Enforcement and Environmental Compliance," PI. 2010.
- Tulane University COR Award*, "Recidivism, Enforcement, and Environmental Compliance," PI. 2009.
- Tulane Public Service Planning Grant*, "Economics Public Service Planning," Co-PI. 2009.
- US Environmental Protection Agency (USEPA), Office of Research and Development*, "Pilot Comparative Analysis of Monitoring and Enforcement Impact Measures," PI. 2008-2009.
- US Environmental Protection Agency (USEPA), Office of Research*, "Measurement of General and Specific Deterrent Impacts of Compliance Monitoring and Enforcement," PI. 2008.
- US Environmental Protection Agency (USEPA), Office of Research and Development*, "Compliance and Deterrence Research," PI. 2007.
- Tufts University Summer Faculty Research Award*, "Mandatory Information Disclosure in the Electric Utility Industry," PI. 2007.
- Tufts University Faculty Research Awards*, PI. 2003, 2005.
- National Institutes of Health (NIH): Graduate Training Grant*. "Water and Health Training." Participant (Paul Kirshen and Beatrice Rogers, co-PIs), Participant. 2004.

*National Institutes of Health (NIH): Health, Environment and Economic Development. “The Quito Integrated Environment and Policy (QUIEP) Study”, Participant (Jeffrey Griffiths, PI), 2003.*

## **HONORS & AWARDS**

*UVA Research Dean Honoree, UVA Vice President for Research, Awarded for support of research excellence at the University of Virginia. Awarded 2020 - 2023.*

*Batten Excellence in Service Award, Frank Batten School of Leadership and Public Policy, UVA. Awarded to one member of the school for outstanding contributions to service. Awarded 2022.*

*Batten Excellence in Research Award, Frank Batten School of Leadership and Public Policy, UVA. Awarded to one member of the school for outstanding contributions to research. Awarded 2021.*

*UVA Research Achievement Honoree, UVA Vice President for Research, Awarded for individual research excellence at the University of Virginia. Awarded 2021.*

*Batten Excellence in Teaching Award, Frank Batten School of Leadership and Public Policy, UVA. Awarded to one member of the school for outstanding contributions to teaching. Awarded 2015.*

*Lawrence Schloss Economics Prize, Tulane University. Awarded to one member of the university community for outstanding contributions to economics (research). Awarded 2010.*

*Best Economics Paper, American Agricultural Economics Association, Food Safety and Nutrition. “Mercury Advisories: Information, Education, & Fish Consumption.” Awarded 2008.*

*Undergraduate Initiative in Teaching (UNITE) Award, Tufts University. Awarded to one full-time junior faculty member in the College of A&S for superior teaching and advising. Awarded 2007.*

*Junior Faculty Research Fellowship, Mellon Foundation and Tufts University. “Public Policy, Economic Incentives, and the Environment.” Awarded 2005.*

*National Merit Scholar, Cornell University. Awarded 1991-1995.*

## **SELECTED LEADERSHIP DEVELOPMENT ACTIVITIES**

*ACC Academic Leaders Network. Leadership development program designed to support cross-institutional networking and collaboration among academic leaders at ACC conference institutions. March 16-18, 2023 (UNC); June 15-17, 2023 (Syracuse); and Nov 9-11, 2023 (Duke).*

*Leadership Toward Racial Equity: a Place-based Leadership Development Seminar. Selective professional academic leadership development program. June 6-10, 2022.*

*Leadership in Academic Matters: Faculty Development Program. Selective professional development program supporting those who have demonstrated leadership characteristics at UVA. Fall 2017.*

## **OTHER PROFESSIONAL ACTIVITIES, ETC.**

Editorial Council, *Journal of the Assoc. of Environmental & Resource Economists*. 2014 – present.

Participant, *USEPA Office of Enforcement and Compliance Assurance*. Compliance Learning Agenda Working Group. 2021.

*Technical Working Group, Mathematica & US Department of Labor, Compliance projects.* 2019-20.

*Scientific Advisory Board, COMPLIANCE Project.* The Economics of Climate Policy Compliance: Monitoring, Reporting, Verification & Enforcement. 2018-2020.

Co-editor, *Journal of Environmental Economics and Management.* 2014-2017.

*BHP Billiton Visiting Professorship.* “Conducting and Publishing Applied Economics Research,” Sept 29 – Oct 6, 2017. University of Western Australia. Perth, Australia.

*Shanghai Jiao Tong, Antai College of Econ and Management, Graduate Summer Forum in Economics,* “Conducting and Publishing Applied Economics Research,” July 3-7, 2017. Shanghai, China.

*Uruguay National Agency for Research and Innovation, Linkages to Distinguished International Researchers Program,* October 17-19, 2016. Montevideo, Uruguay.

*Keynote Address, Latin American Environmental and Energy Economics workshop.* “The economics of environmental monitoring and enforcement.” September 25-26, 2015. Aguascalientes, Mexico.

*Shanghai Jiao Tong, Antai College of Economics and Management, Graduate Summer Forum in Economics,* “Frontiers in Environmental Economics and Policy,” July 3-4, 2014. Shanghai, China.

Editorial Council, *Journal of Environmental Economics and Management.* 2009 – 2013.

## SELECTED MEDIA CITATIONS

“Disparities in PM2.5 air pollution in the United States,” w/ J. Colmer, I. Hardman, and J. Voorheis was covered by more than 100 news outlets including *AAAS, Reuters / New York Times, the Guardian, Science News, NPR, Gizmodo,* and *UPI news.*

Media coverage of other work on corporate social responsibility, disaster preparedness, environmental policy, mercury in seafood was picked up by *the Atlantic, Boston Globe, Futurity, Huffington Post, Le Monde, NPR, NY Times, Newsweek, Seattle Times, Slate, Vox, Washington Post,* and others.

## SELECTED POLICY ENGAGEMENT: PRACTITIONER-RESEARCHER COLLABORATIONS

Lead author, *IPBES Business and Biodiversity Assessment* 2023 - present

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development. Current membership exceeds 140 countries. Contributing to: *The Methodological Assessment of the Impact and Dependence of Business on Biodiversity and Nature’s Contributions to People.*

Co-Organizer, *Evidence-Based Programs for Environmental Compliance* webinars 2017 – 2019

This webinar series, hosted by EPA Office of Enforcement and Compliance Assurance and the Environmental Council of the States (ECOS) explored collaborations between administrators at local, state, and federal agencies and researchers to identify effective and measurable approaches for enhancing environmental compliance. Social and behavioral scientists from top research universities present research findings on innovative enforcement and compliance. Policy-makers discuss program initiatives that may be tested through collaboration with academic researchers.



Co-Organizer, *Sustainability Officer Roundtables*

2016 – 2018

With UVA Darden faculty and external partners, these annual sustainable business roundtables brought together corporate sustainability officers from large multi-national firms and small groups of academics and policy practitioners for facilitated dialogue. Key themes included: (1) What can companies do to become leaders in sustainability innovation? (2) What should government policy makers do to encourage and incentivize sustainable business in the US?

Co-Organizer, *Innovative Approaches to Foster Environmental Compliance* workshop

Jan 2017

This workshop brought together regulators from federal, regional, and state agencies and a select group of academic scholars from a variety of disciplines for a constructive dialogue about how research can inform the pursuit of innovative approaches to foster environmental compliance. The topics centered on “Next Generation Environmental Compliance” initiatives. Event organized and hosted by Katharine Abraham (UMD), Jay Shimshack (UVA), and Michael Toffel (Harvard Business School), in consultation with the US EPA Office of Enforcement and Compliance Assurance (OECA) and other EPA offices.

Co-Organizer, *Reflections on Responsible Regulation* workshop

March 2013

This mini - conference brought together leading law, economic, and business scholars to address the complexities of ‘responsible regulation.’ Goals were to facilitate: (1) insights relevant to regulation in general, regardless of area; (2) a scholarly dialogue about regulation transcending disciplinary boundaries.

Policy Advisor, Federal Monitoring and Enforcement Agencies

2015 - 2019

These formal collaborations between UVA and the US Environmental Protection Agency, and between UVA and the US Department of Agriculture, serve to help agencies create and evaluate monitoring and enforcement tools for assuring compliance with federal regulations.

## **SELECTED POLICY ENGAGEMENT: PANELS AND PRESENTATIONS**

*Brookings Institute*, Data-driven environmental economics research from the EPA. "Lessons Learned from Using EPA Data." Invited presenter. May 3, 2022.

*Brazil ANA (Brazilian Water and Sanitation Agency) and US EPA*. "Improving environmental compliance: A brief tour of the research literature." Webinar. May 6, 2022.

*US EPA*. Improving Small Municipal WWTP compliance: A national symposium. "What Do We Know about How to Deter Municipalities from Violating?" Invited presenter. Oct. 27, 2022.

*UVA Grand Challenges Research Investments*. “Research forum on environmental resilience & sustainability: Climate Adaptation & Resilience.” Nov. 16, 2021.

*US EPA, Office of Enforcement and Compliance Assurance*, “The Effect of Compliance Assistance on Compliance and Pollution,” w/ Paul Ferraro. May 26, 2021.

*George Mason University Institute for a Sustainable Earth and UVA Environmental Resilience Institute*. “Solve Climate by 2030: The Co-Benefits of Clean Energy in Virginia.” Apr. 7, 2021.

*US EPA, Office of Enforcement and Compliance Assurance and Johns Hopkins EPIC*, “Planning Conference on Advancing Evidence-Based Compliance Assurance Projects.” Dec. 17-18, 2020.

*UVA Batten Expert Chat*, “The persistence of Air Pollution Disparities,” w/ J Colmer. Aug. 19, 2020.

*US EPA Office of Enforcement and Compliance Assurance and Johns Hopkins University EPIC*, “Reporting and signage: How transparency and disclosure affect compliance,” August 12, 2020.

*UVA Environmental Resilience Institute*. “Covid-19 and the Environment.” May 6, 2020.

*US EPA and State EPAs*. National Significant Non-Compliance Symposium. “What do we know about improving environmental compliance? A whirlwind tour of the research literature” January 22, 2020. Dallas, TX.

*US EPA Office of Compliance*, “Environmental Deterrence: A Whirlwind Tour of the Research Literature,” June 17, 2019. EPA NETI Sponsored Webinar.

*University of Florida Levin College of Law*. Cross-Disciplinary Compliance Conference. “Environmental compliance.” January 18, 2019. Gainesville, FL.

*UVA Bicentennial Sustainability Leadership Summit*. October 29, 2018. “Interdisciplinary Sustainability Research.” Charlottesville, VA.

*UVA Wahoos for Sustainability*. Earth Week lunch talk. April 21, 2018. Charlottesville, VA.

*US FDA* “Quantitatively evaluating monitoring and enforcement activities at federal agencies.” January 9, 2018. White Oak, Md. FDA Policy briefing.

*UVA Law School*. “Discrimination of Natural Disasters.” Panel participant. October 30, 2017. Charlottesville, VA.

*US EPA and Environmental Council of the States (ECOS)*, “Reporting and Transparency as Compliance Tools,” October 24, 2017. EPA/ECOS Sponsored Webinar.

*USDA Food Safety and Inspection Service*, “Quantitatively Evaluating FSIS Monitoring and Enforcement Tools.” September 20, 2017. Washington, DC.

*University of Michigan*. Social Movements and Private Environmental Governance. “Information Disclosure Programs.” May 4-6, 2017. Ann Arbor, MI.

*Harvard Law School*. Animal Welfare Act at 50 conference. Panel Moderator. “Animal Welfare Act Enforcement.” December 2, 2016. Cambridge, MA.

*US EPA and OHIO EPA* “Does Mandatory Labeling of Outfall Points influence Pollution and Compliance? Evidence from Ohio,” January 14, 2016. EPA Sponsored Webinar.

*US EPA*, “The Accuracy of Self-Reported Pollution Data: Evidence from the Clean Water Act,” October 29, 2015. Washington, DC.

*US EPA*, “Does Mandatory Labeling of Outfall Points influence Pollution and Compliance?” October 28, 2015. Washington, DC.

*UVA Datapalooza*. Research Overview. September 18, 2015. Charlottesville, VA.

*Harvard Business School and Univ of Maryland*, Research on Effective Government: Inspection and Compliance Workshop, “Effective Enforcement.” June 1, 2015. Washington, DC.

*US FDA*, Risk Communication Advisory Committee, “Risk Communication for Fish Consumption,” November 3, 2014. Washington, DC.

*USDA Economic Research Service, AAEA*, Economic Analysis and Food Safety: The Food Safety Modernization Act, “Monitoring and Enforcement: Lessons from Environmental, Health, Safety, and Tax Compliance.” Aug. 7, 2013. Washington, DC.

*Murphy Institute*, Reflections on Responsible Regulation Conference, “Reflections on Responsible Regulation.” March 1, 2013. New Orleans, LA.

*University of Heidelberg, German Ministry of Research*, Workshop on Regulation by Environmental Information, “Environmental Information Disclosure,” February 8-9, 2013. Heidelberg, Germany.

*US EPA, GW Law, Berkeley Law, Berkeley Goldman School, Environmental Law Institute*, Next Generation Environmental Compliance Workshop, “The Accuracy of Self-Reported Pollution Data,” December 11-12, 2012. Washington, DC.

*US EPA and Resources for the Future*, Greenhouse Gas Reporting Program Workshop, Working Group Participant. October 12, 2012. Washington, DC.

*US EPA, National Center for Environmental Research*, Information Disclosure Workshop, “Economic Perspectives on Environmental Information Disclosure,” January 18, 2011. Washington, DC.

*NOAA*, National Enforcement Summit, “Compliance and Deterrence in Environmental and Natural Resource Contexts,” August 3, 2010. Washington, DC.

*US House of Representatives, Committee on Transportation and Infrastructure*. “The Performance of Clean Water Act Monitoring and Enforcement,” Oct. 15, 2009. Washington, DC.

*The National Press Club*, “Corporate Transparency and Accountability: The Role of Information Disclosure,” Feb 6, 2009. Washington, DC.

*US EPA, Office of Enforcement and Compliance Assurance*, “Monitoring, Enforcement, and Environ. Compliance: Metrics and Model Calibration,” October 23-24, 2008. Washington, DC.

*Australian Agricultural and Resource Economics Society*, “School Buses, Diesel Emissions, and Respiratory Health.” June 19, 2008. Canberra, ACT, Australia.

*National Environmental Partnership Summit*, “Practical Measures and Models: Environmental Behavior and Results,” May 21, 2008. Baltimore, MD.

*US EPA, Office of Enforcement and Compliance Assurance*, “Monitoring, Enforcement, & Environmental Compliance: the State of Science,” Dec 18-19, 2007. Washington, DC.

*Harvard Mossavar-Rahmani Center for Business & Government*. “Information Provision in the Electric Utility Industry,” October 19, 2006. Cambridge, MA.

*Yale School of Forestry Center for Business & Environment*. “Information Provision in Environmental Policy: An Economist’s Perspective” Sept. 27, 2006. New Haven, CT.

*American Agricultural Economics Association Symposium*. “What Do We Know About Seafood Advisories?” July 25, 2005. Providence, RI.

*National Academies of Science – Institute of Medicine (IOM)*, “The Economics of Seafood Advisories” April 11, 2005. Washington, DC.

## SELECTED RESEARCH CONFERENCE PRESENTATIONS

*Northeast Workshop on Energy Policy and Environmental Economics.* Presentation, June 6-7, 2023. Cornell University. Ithaca, NY.

*Southeastern Workshop on Energy & Environmental Economics & Policy.* Presentation. Georgia Tech. Oct 19-20, 2023. Atlanta, GA.

*Southern Economic Association (SEA) Annual Meetings.* Presentation and/or Discussion. 2023 (New Orleans), 2020 (Virtual), 2016 (Washington, DC); 2015 (New Orleans); 2012 (New Orleans); 2004 (New Orleans).

*Association of Environmental and Resource Economists (AERE) Annual Meeting.* Presentation and/or Discussion. 2022 (Miami), 2021 (Virtual), 2020 (Virtual); 2019 (Lake Tahoe); 2016 (Breckenridge); 2015 (San Diego); 2013 (Banff); 2012 (Asheville); 2011 (Seattle); 2008 (Health and Env Workshop, Berkeley).

*Association of Environmental and Resource Economists: Sessions at the American Economic Association (AEA) Annual Meetings.* Presentations and/or Discussion. 2022 (Virtual); 2019 (Atlanta); 2018 (Philadelphia); 2017 (Chicago); 2015 (Boston); 2012 (Chicago); 2010 (Atlanta); 2008 (New Orleans); 2007 (Chicago).

*National Bureau of Economic Research (NBER) Summer Institute or Spring Meetings.* Cambridge, MA. Presentation and/or Discussion. 2019; 2013; 2007; 2005; 2004; 2003.

*Association for Public Policy Analysis and Management (APPAM) Fall Research Conference.* Presentation, Discussion, and/or Chair. 2020 (Virtual); 2017 (Chicago); 2016 (Washington DC); 2015 (Miami).

*Center for Natural Resource Economics and Policy (CNREP): 6<sup>th</sup> National Forum on Socioeconomic Research in Coastal Systems.* Presentation. May 19-21, 2019. New Orleans, LA.

*Canadian Resource and Environmental Economics (CREE) Annual Conference.* Presentation. October 1-2, 2016. Banff, Alberta, Canada.

*European Association of Environmental and Resource Economists (EAERE) Annual Meeting.* Presentation. June 22-25, 2016. Zurich, Switzerland.

*Heartland Environmental and Resource Economics Workshop.* Presentation. 2013, 2009. Urbana, IL.

*Informing Green Markets Conference.* Presentation and Discussion. Ross School of Business. June 2-4, 2011. Ann Arbor, MI.

*International Workshop on the Law and Economics of Environmental Sanctioning.* Presentation. September 21-22, 2010. Leuven, Belgium.

*World Congress of Environmental and Resource Economists.* Presentation and/or Discussion. 2010 (Montreal). 2006 (Kyoto); 2002 (Monterey).

*Alliance for Research on Corporate Sustainability: Workshop on Corporate Sustainability Data.* Workshop Participant. January 7, 2010. Washington, DC.

*Association of Environmental and Resource Economists: Sessions at the American Agricultural Economics Assoc. Annual Meetings.* 2009 (Milwaukee); 2006 (Long Beach); 2005 (Providence).

*American Marketing Association: Marketing and Public Policy Conference.* Research Presentation. May 28-30, 2009. Washington, DC.

*Society for Risk Analysis: Annual Meeting.* Research Presentation. December 7-10, 2008. Boston, MA.

*University of Colorado Environmental and Resource Economics Workshop.* Research Presentation. September 19-20, 2008 (Vail), 2007 (Vail).

*Occasional California Workshop on Environmental Economics.* Presentation. Santa Barbara 2006, 2005, 2003, 2001.

*Western Economics Association Meetings.* Research Presentation. July 5-8, 2005. San Francisco, CA.

*Northeast Agricultural & Resource Economics Association Conference.* Presentation. June 20-23, 2004. Halifax, Nova Scotia.

### **SELECTED INVITED RESEARCH SEMINARS (several multiple visits)**

Columbia, CIDE Mexico City, Duke / NC State / RTI, Georgia State, Harvard, Hong Kong Univ of Science and Technology, Indiana, Iowa State, Johns Hopkins, Louisiana State University, Loyola U Chicago, Mississippi State, Montana State, Northern Illinois, Rand Corporation, Occidental College, Oregon State, Resources for the Future, Tulane, Tufts, U British Columbia, UC Berkeley, UC Davis, UC Energy Institute, UC San Diego, UC Santa Barbara, U Calgary, U Chicago, U Connecticut, U Guelph, U Maryland, U Massachusetts, U Michigan, U Minnesota, U Montevideo, U North Dakota, U Virginia, U Washington, U Western Australia, U Western Ontario, USDA Economics Research Service, USEPA National Center for Environmental Economics, USFTC Bureau of Economics, Vanderbilt, Virginia Commonwealth, Virginia Tech, Wake Forest, Washington State, Wellesley, Williams, Yale

### **SELECTED PROFESSIONAL SERVICE**

External Faculty Reviewer (for promotion, tenure, endowed positions, etc.): 20 R1 (or internationally equivalent) universities, 5 Liberal Arts Colleges / R2 universities

External Member, *Journal of the Association of Environmental and Resource Economists* best paper awards committee. 2018-2021.

Faculty Mentor, "Camp Resources XXVI." Asheville, NC. August 11-13, 2019.

Blog co-editor, "Global Water Blog," UVA Global Water Initiative. 2018 – 2019.

Ad hoc Manuscript Reviewer (many multiples): *Agricultural and Resource Econ Review (ARER)*, *American Economic Journal: Applied (AEJ-applied)*, *American Economic Journal: Policy (AEJ-policy)*, *American Economic Review (AER)*, *American Journal of Agricultural Econ (AJAE)*, *B.E. Journals in Econ Analysis and Policy (BEJEAP)*, *Business and Society (BAS)*, *Canadian Journal of Agricultural Econ (CJAE)*, *Contemporary Econ Policy (COEP)*, *Ecological Econ (ECOLEC)*, *Economic Inquiry (ECIN)*, *Economic Journal (EJ)*, *Energy Policy (JEPO)*, *Environment and Resource Economics (ERE)*, *Environmental Management, Environmental Sciences, International Review of Law and Econ (IRLE)*, *Journal of the Association of Env & Res Econ (JAERE)*, *Journal of Econ Behavior and Organization (JEBO)*, *Journal of Econ and Management Strategy (JEMS)*, *Journal of Empirical Legal Studies (JELS)*, *Journal of Environmental Econ and Management (JEEM)*, *Journal of Environmental Management (JEM)*, *Journal of Health Economics (JHE)*, *Journal of Human Resources (JHR)*, *Journal of Law and Econ (JLE)*, *Journal of Law Econ and Org (JELO)*, *Journal of Legal Studies (JLS)*, *Journal of Management Studies (JMS)*, *Journal of*

*Policy Analysis and Management (JPAM), Journal of Political Econ (JPE), Journal of Public Econ (JPUBE), Journal of Regulatory Economics (JREG), Journal of Wine Econ, Land Econ, Nature Energy (NENERGY), Organization and the Environment, Proceedings of the National Academies of Science (PNAS), Quarterly Journal Economics (QJE), Regional Studies (CRES), Regulation and Governance (REGGOV), Resource & Energy Econ (REE), Review of Environmental Econ and Policy (REEP), SCIENCE, Southern Economic Journal (SEJ), Strategic Behavior and the Environment (SBE),*

Ad hoc Book or Grant Proposal Reviewer: McGraw-Hill, National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), Sea Grant, Sloan Foundation, USEPA National Center for Environmental Economics (NCEE), USEPA National Priorities, W.W. Norton & Company.

### **SELECTED COLLEGE-LEVEL SERVICE**

UVA Batten School, Associate Dean for Academic Affairs	2019-23
UVA Batten School, Distinguished Professorship Search Committee, chair	2020-21
UVA Batten School, Ad Hoc Committee on Research Centers, co-chair	2019-21
UVA Batten School, Faculty Reappointments Committees (5), co-chair	2015-19
UVA Batten School, Ad Hoc Promotion & Tenure Committees (4)	2015-18
UVA Batten School, Executive Committee, Elected Member	2016-17
UVA Batten School, Tenured Appointments Search Committee (3)	2015-16
UVA Batten School, Health Economics Search Committee, Member	2015-16
UVA Batten School, Teaching Innovator Personnel Search Committee, Chair	2014-15
UVA Batten School, Academic General Faculty Search Committee, Chair	2014-15
Tulane Economics, Director of Graduate Studies	2012-14
Tulane Economics, Awards Committee	2009-13
Tulane Economics, Search Committee	2010-11
Tulane Economics, Seminar Coordinator	2008-09

### **SELECTED UNIVERSITY-LEVEL SERVICE**

UVA, Leadership Council, Organizational Excellence	2022-23
UVA, Environmental Resilience Institute Steering Committee	2020-22
UVA, Office of the Vice Provost, Dual Career Director Search Committee	2021-22
UVA, Office of the Vice President for Research, Research Computing Working Group	2021
UVA, Department of Economics, Ad Hoc Promotion and Tenure Committee	2019-20
UVA, University Committee on Sustainability	2016-19
UVA, Dean's Reappointment committee	2017-18
UVA, Bankard Fund Review Committee	2017-19
UVA, Committee on Sustainability, Teaching and Research Subcommittee Member	2015-19
UVA, President's Ad Hoc Group on University Climate and Culture, Working Group on Prevention of Sexual Violence, Member & Subcommittee Chair	2015-16
Tulane Law School and Tulane Murphy Institute, Appointments Committee	2013-14
Tulane Law School, Payson Center Steering Committee	2012-14
Tulane School of Liberal Arts, Environmental Studies Committee	2010-14
Tulane University, Task Force for Environmental Research	2011-12
Tulane School of Liberal Arts, Strategic Planning Committee	2008-09
Tufts Interdisciplinary Water (WSSS) Graduate Program, Steering Committee	2006-08
Tufts Environmental Studies, Executive Committee	2005-08

### **COURSES TAUGHT**

- Economics of Public Policy II; University of Virginia Frank Batten School. 14 sections 2015-23. Mean Overall Instructor Rating: 4.7/5.0.

- Tri-Sector Leadership Program; University of Virginia Frank Batten School, Darden School of Business, School of Law. Fall 2017. No evaluations.
- Benefit-Cost Analysis; University of Virginia Frank Batten School. 3 sections Spring 2016-2018. Mean Overall Instructor Rating: 4.6/5.0.
- PhD Research Methods; Tulane University; Spring 2014. Mean Overall Instructor Rating: 4.8/5.0
- Environmental and Natural Resource Economics; Tulane University; 8 semesters 2010-14. Mean Overall Instructor Rating: 4.9/5.0
- Public Service Learning; Tulane University; Problem-Based Service Learning for Enviro. Econ. Fall 2010; Spring 2011; Fall 2011; Spring 2012; Fall 2012; Spring 2013. No Evaluations.
- Introduction to Microeconomics; Tulane University; Fall 2011 (2 sections). Mean Overall Instructor Rating: 4.7/5.0
- The (Law and) Economics of Compliance and Enforcement; Tulane University; Spring 2011. Mean Overall Instructor Rating: 4.7/5.0
- Topics in Environmental Economics; Tulane University; 3 semesters 2009 – 2013. Mean Overall Instructor Rating: 4.9/5.0
- The Environment and Public Policy; Tulane University; Fall 2008. Mean Overall Instructor Rating: 5.0/5.0
- Economic Statistics; Tulane University; Fall 2008. Mean Overall Instructor Rating: 4.6/5.0
- Environmental Economics and Policy; Tufts University; 10 semesters 2002-2008. Mean Overall Instructor Rating: 4.7/5.0
- Topics in Environmental Economics; Tufts University; 5 semesters 2003-2008. Mean Overall Instructor Rating: 4.9/5.0
- Statistics; Tufts University; 4 semesters 2003-2008. Mean Overall Instructor Rating: 4.6/5.0