# Sheila M. Olmstead

Associate Professor of Public Affairs Lyndon B. Johnson School of Public Affairs The University of Texas at Austin P.O. Box Y, Austin, TX 78713-8925 Tel. (512) 471-2064 sheila.olmstead@austin.utexas.edu

### **EDUCATION**

Ph.D., Public Policy, John F. Kennedy School of Government, Harvard University, 2002 M.P.Aff., Lyndon B. Johnson School of Public Affairs, University of Texas at Austin, 1996 B.A., Political and Social Thought, with High Distinction, University of Virginia, 1992

#### RESEARCH AND TEACHING FOCUS

Environmental and natural resource economics and policy, with a focus on water resources

#### ACADEMIC AND RESEARCH APPOINTMENTS

#### **Current Appointments**

Associate Professor, Lyndon B. Johnson School of Public Affairs The University of Texas at Austin, 2013-

Visiting Fellow, Resources for the Future, 2013-

Senior Fellow, Property and Environment Research Center, 2015-

Vice President, Board of Directors, Association of Environmental and Resource Economists, 2015-

Deputy Director, Center for Reinventing Aging Infrastructure for Nutrient Management The University of South Florida, Tampa, FL, 2013-

Editorial Council member, *Journal of the Association of Environmental and Resource Economists*, 2014-Co-Editor, *Environmental and Resource Economics*, 2014-Associate Editor, *Water Resources Research*, 2015-

### **Prior Appointments**

Resources for the Future Senior Fellow, April – July 2013 Fellow (with tenure), July 2010 – March 2013 Visiting Scholar, July 2009 – June 2010

Yale University, School of Forestry and Environmental Studies
Associate Professor of Environmental Economics (untenured), December 2007 – June 2010
Secondary joint appointment, Department of Economics, December 2007 – June 2010
Assistant Professor of Environmental Economics, July 2002 – November 2007

Member, Board of Directors, Association of Environmental and Resource Economists, 2012-2014

Associate Editor, Water Resources and Economics, 2012-2014 Book Review Editor, Water Economics and Policy, 2013-2015

#### OTHER PROFESSIONAL EXPERIENCE

Texas Water Development Board, Austin, Texas

\*Research Specialist\*, Office of Project Finance and Construction Assistance, 1998

The University of Texas, Austin, Texas

Assistant Director, Center for Environmental Resource Management in Latin America, 1996-1997

Research Associate, LBJ School of Public Affairs, 1996

Texas Natural Resource Conservation Commission, Austin, Texas *Intern*, Office of Border Affairs, 1995-1996

National Policy Association (formerly National Planning Association), Washington, D.C. *Aid and Development Project Coordinator*, 1993-1994; *Research Assistant*, 1992-1993

#### AWARDS AND DISTINCTIONS

Julian Simon Fellow, Property Environment Research Center, 2015-2016
Award for "Most Engaging Teaching Style", LBJ School of Public Affairs, 2014-2015
Lone Mountain Fellow, Property Environment Research Center, 2014
Best Lecture Course, Yale School of Forestry and Environmental Studies, 2004, 2007, 2008
Savitz Fellow Award, Best Doctoral Paper in Environmental Policy, Harvard University, 2002
Certificate of Excellence in Teaching, President and Fellows of Harvard College, 2001-2002
Pre-doctoral Fellow, Environmental Economics Program at Harvard University, 2001-2002
Joseph Crump Fellow, Kennedy School of Government, Harvard University, 2000-2001
Graduate Departmental Fellowship, Kennedy School of Government, Harvard University, 1997-1999
Emmette S. Redford Award for Outstanding Research, LBJ School of Public Affairs, 1996
Claudia Taylor Johnson Merit Fellowship, LBJ School of Public Affairs, 1994-1996
Phi Beta Kappa, 1992

### PUBLICATIONS AND MANUSCRIPTS

#### **Published Journal Articles**

"Climate change and water resources: some adaptation tools and their limits," *Journal of Water Resources Planning and Management*, in press, with Karen Fisher-Vanden and Renata Rimsaite.

"Damming the commons: an empirical analysis of international cooperation and conflict in dam location," *Journal of the Association of Environmental and Resource Economists* 2(4): 497-526, December 2015, with Hilary Sigman.

"The economics of shale gas development," *Annual Review of Resource Economics* 7: 269-289, October 2015, with Charles F. Mason and Lucija A. Muehlenbachs.

"Characterization and analysis of liquid waste from Marcellus Shale gas development," *Environmental Science and Technology* 49(16): 9557-9565, July 2015, with Shimon Anisfeld, Ziyan Chu, Lucija Muehlenbachs, James

Saiers, and Jhih-Shyang Shih.

"Water quality and quantity impacts of hydraulic fracturing," *Current Sustainable/Renewable Energy Reports*, doi: 10.1007/s40518-014-0023-4, January 2015, with Yusuke Kuwayama and Alan Krupnick.

"Managing the risks of shale gas development using innovative legal and regulatory approaches," *William & Mary Environmental Law and Policy Review* 39(1): 177-199, December 2014, with Nathan Richardson.

"Risks and risk governance in unconventional shale gas development," *Environmental Science and Technology* 48(15): 8289-8297, August 2014, with Mitchell J. Small, Paul C. Stern, Elizabeth Bomberg, Susan M. Christopherson, Bernard D. Goldstein, Andrei L. Israel, Robert B. Jackson, Alan Krupnick, Meagan S. Mauter, Jennifer Nash, D. Warner North, Aseem Prakash, Barry Rabe, Nathan Richardson, Susan Tierney, Thomas Webler, Gabrielle Wong-Parodi, and Barbara Zielinska.

"Climate change adaptation and water resource management: A review of the empirical literature," *Energy Economics* 46: 500-509, November 2014.

"Strategically placing green infrastructure: benefits and costs of land conservation in the floodplain," *Environmental Science and Technology* 47(8): 3563-3570, April 2013, with Carolyn Kousky, Margaret Walls, and Molly Macauley.

"Shale gas development impacts on surface water quality in Pennsylvania," *Proceedings of the National Academy of Sciences*, 110(13): 4962-4967, February 2013, with Lucija Muehlenbachs, Jhih-Shyang Shih, Ziyan Chu, and Alan Krupnick.

"Moving pollution trading from air to water: potential, problems, and prognosis," *Journal of Economic Perspectives* 27(1): 147-172, Winter 2013, with Karen Fisher-Vanden.

"The value of scarce water: measuring the inefficiency of municipal regulations," *Journal of Urban Economics* 71: 332-346, February 2012, with Erin T. Mansur.

"Three key elements of a post-2012 international climate policy architecture," *Review of Environmental Economics and Policy* 6(1): 65-85, January 2012, with Robert N. Stavins.

"The value of household water service quality in Lahore, Pakistan," *Environmental and Resource Economics* 49(2): 173-198, doi: 10.1007/s10640-010-9429-7, May 2011, with Agha Ali Akram.

"The economics of managing scarce water resources," *Review of Environmental Economics and Policy* 4(2), Summer 2010: 179-198. Reprinted in: Robert N. Stavins, ed., 2012, *Economics of the Environment: Selected Readings*, 6<sup>th</sup> edition, New York: W. W. Norton & Company: 398-420.

"The economics of water quality," Review of Environmental Economics and Policy 4(1), Winter 2010: 44-62.

"The economic valuation of environmental amenities and disamenities: Methods and applications," *Annual Review of Environment and Resources*, 34, November 2009: 325-347, with Robert Mendelsohn.

"Sampling out: Regulatory avoidance and the Total Coliform Rule," *Environmental Science and Technology* 43(14), July 2009: 5176-5182, with Lori S. Bennear and Katrina K. Jessoe.

"Comparing price and non-price approaches to water conservation," *Water Resources Research*, 45(4), W04301, doi:10.1029/2008WR007227, April 2009, with Robert N. Stavins. Reprinted in R. Quentin Grafton et al., eds., *Water Security, Governance and Economics*, Prahran, Australia: Tilde University Press, 2013, pp. 306-323.

- "Reduced-form vs. structural models of water demand under non-linear prices," *Journal of Business and Economic Statistics* 27(1), January 2009: 84-94.
- "The impact of the 'right to know': Information disclosure and the violation of drinking water standards," *Journal of Environmental Economics and Management* 56(2), September 2008: 117-130, with Lori Bennear.
- "Water demand under alternative price structures," *Journal of Environmental Economics and Management* 54(2), September 2007: 181-198, with W. Michael Hanemann and Robert N. Stavins.
- "A meaningful second commitment period for the Kyoto Protocol," *The Economists' Voice* 4(3), June 2007, with Robert N. Stavins. Reprinted in J. E. Stiglitz, A. Edlin and J. Bradford Delong, eds., *The Economists' Voice: Top Economists Take on Today's Problems*, Columbia University Press, New York: 28-36.
- "An international policy architecture for the post-Kyoto era," *American Economic Review, Papers and Proceedings* 95(2), May 2006: 35-38, with Robert N. Stavins.
- "Thirsty *colonias*: Rate regulation and the provision of water service," *Land Economics* 80(1), February 2004: 136-150.
- "Water supply and poor communities: What's price got to do with it?" *Environment* 45(10), December 2003: 22-35.
- "Environmental regulation in the 1990s: A retrospective analysis," *Harvard Environmental Law Review* 27(2), July 2003:377-415, with Robert W. Hahn and Robert N. Stavins. Reprinted in R. N. Stavins, ed., *The Political Economy of Environmental Regulation*, Edward Elgar, Cheltenham, UK, pp. 533-571; and R. N. Stavins, ed., *Economics of the Environment: Selected Readings*, 5<sup>th</sup> edition, W. W. Norton & Company, New York: 616-648.

## **Books**

*Markets and the Environment: An Introduction to Environmental and Resource Economics*, with Nathaniel O. Keohane, Island Press, Washington, D.C. First edition 2007, Second edition 2016.

Wastewater and Shale Formation Development (Editor), July 2015, Apple Academic Press, Waretown, N.J.

### **Book Chapters**

- "Water quality and economics: willingness to pay, efficiency, cost-effectiveness, and new research frontiers," in: *The Handbook on the Economics of Natural Resources*. Ed. David Layton and Robert Halvorsen, Elgar, Amsterdam: 474-501 (2015), with Yusuke Kuwayama.
- "The role of market incentives in environmental policy," in: *The Oxford Handbook of U.S. Environmental Policy*. Ed. Sheldon Kamieniecki and Michael E. Kraft, Oxford University Press, New York: 553-581 (2012).
- "In harm's way: Homeowner behavior and wildland fire policy," in: *Wildfire Policy: Law and Economics Perspectives*. Ed. Dean Lueck and Karen Bradshaw, Taylor and Francis, Washington, DC: 178-199 (2011), with Carolyn Kousky and Roger Sedjo.
- "Applying market principles to environmental policy," in: *Environmental Policy: New Directions for the Twenty-First Century*, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> editions. Ed. Norman J. Vig and Michael E. Kraft, Congressional Quarterly Press, Washington, DC (2009, 2012, 2015).

"The whole and the sum of its parts: Comments on David Victor's 'Fragmented carbon markets and reluctant nations'," in: *Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World.* Ed. Joseph Aldy and Robert Stavins, Cambridge University Press, Cambridge, UK: 173-184 (2007).

### **Other Publications**

"Should we all take a bit of Lithium?!" RFF Common Resources Blog, 5 November 2014, with Paul vonHippel.

"Exporting the cost of dams," RFF Common Resources Blog, 8 August 2014, with Hilary Sigman.

"Managing the risks of shale gas development using innovative legal and regulatory approaches," RFF Common Resources Blog, 23 June 2014, with Nathan Richardson.

"Making the most of Texas SWIFT water rescue," *Austin American-Statesman*, Op-Ed, 2 April 2014, with Ron Griffin.

"Pathways to dialogue: what the experts say about the environmental risks of shale gas development." RFF Report, February 2013, Resources for the Future, Washington, DC, with Alan Krupnick and Hal Gordon.

"Water and the California Economy," Public Policy Institute of California Report, May 2012, San Francisco, CA. With E. Hanak, J. Lund, B. B. Thompson, W. B. Cutter, B. Gray, D. Houston, R. Howitt, K. Jessoe, G. Libecap, J. Medellín-Azuara, D. Sumner, D. Sunding, B. Thomas, and R. Wilkinson.

"Unnatural disasters?" Resources 179: 21-23, February 2012, with Carolyn Kousky.

"The role of land use in adaptation to increased precipitation and flooding: A case study in Wisconsin's Lower Fox River Basin," RFF Report, November 2011, Resources for the Future, Washington, DC, with Carolyn Kousky, Margaret Walls, Molly Macauley, and Adam Stern.

"Use prices to conserve water when supplies are scarce," RFF Weekly Policy Commentary, 8 August 2011, with Erin T. Mansur, available at: http://www.rff.org/Publications/WPC/Pages/Use-Prices-to-Conserve-Water-when-Supplies-are-Scarce.aspx.

"A case study in economic analysis of the National Water Quality Assessment Program: Salinity control in the upper Colorado River Basin." RFF Report, November 2010, Resources for the Future, Washington, DC, with Jhih-Shyang Shih.

"The essential pillars of a new climate pact," The Boston Globe, Op-Ed, 20 Sept. 2009, with Robert Stavins.

"Information disclosure and drinking water quality." RFF Weekly Policy Commentary, 1 Dec. 2008, with Lori S. Bennear, available at: http://www.rff.org. Reprinted 2009 in *Resources* 173: 6-7.

## **Working Papers and Work in Progress**

"Induced development in risky locations: Fire suppression and land use in the American West," with Carolyn Kousky (working paper available).

"Droughts, dams and economic activity," with Hilary Sigman (working paper available)

"Fracking, farms and property rights: The impact of unconventional oil and gas development on agriculture," with Tim Fitzgerald, Yusuke Kuwayama, and Alan Krupnick (working paper available).

"An empirical assessment of residential rooftop photovoltaic panel technology choice and performance," with Nour Bouhou, Michael Blackhurst, and Randy Machemehl (working paper available).

"The extreme continental water cycle," with William Boos, Peter Raymond, and Wolfram Schlenker (in progress).

"Does information disclosure induce regulatory avoidance among drinking water providers?" with Jonathan Baker and Lori Bennear (in progress).

"Water markets, welfare and climate adaptation in the western United States," with Karen Fisher-Vanden and Renata Rimsaite (in progress).

"Adaptation and innovation for water technologies," with Antoine Dechezleprêtre and David Popp (in progress).

#### RESEARCH GRANTS

Co-Investigator, "Integrated assessment model development, comparison, and diagnostics project," U.S. Department of Energy, \$133,400 subcontract to the University of Texas at Austin (2013-2016). Pls: John Weyant, Stanford University and Karen Fisher-Vanden, Pennsylvania State University.

Co-Investigator, "Reinventing aging infrastructure for nutrient management," U.S. Environmental Protection Agency, Science to Achieve Results (STAR) Program, \$2,220,649 (\$206,187 subcontract to the University of Texas at Austin) (2014-2018). PI: Jim Mihelcic, University of South Florida.

Co-Investigator, "Regulating risks from shale gas development," Alfred P. Sloan Foundation, \$1,171,667 (2011-2013). PI: Alan Krupnick; Co-Investigators: Lucija Muehlenbachs, Juha Siikamäki, Jhih-Shyang Shih.

Principal Investigator, "Damming the commons: an analysis of international cooperation and conflict over water," World Bank Knowledge for Change Program, \$42,285 (2011-2012). Co-PIs: Hilary Sigman and Fan Zhang.

Co-Investigator, "The role of land use in adaptation to increased precipitation and flooding," \$128,250 (2011) National Oceanic and Atmospheric Administration, PI: Carolyn Kousky.

Principal Investigator, "Wildland fire suppression and land development in the wildland/urban interface," Joint Fire Science Program, \$149,949 (2010-2012). Co-PIs: Carolyn Kousky and Roger Sedjo.

Principal Investigator, "Collaborative research: the impact of the 'Right to Know': information disclosure and drinking water quality," National Science Foundation, Social, Behavioral and Economic Sciences, \$116,445 (2007-2010). Co-PI: Lori Bennear.

Co-Investigator, "Collaborative research: modeling and analyzing the use, efficiency, value and governance of water as a material in the Great Lakes region through an integrated approach," National Science Foundation, Materials Use: Science, Engineering, and Society (MUSES), \$921,000 (2007-2012). PI: Julie Zimmerman; Co-Investigators: Alex Mayer, Jim Mihelcic, David Watkins, Qiong Jane Zhang.

Co-Investigator, "Analysis of future climate impacts on China's Yellow River," Yale University, School of Forestry and Environmental Studies, \$21,000 (2007-08). Co-PIs: Robert Mendelsohn, Jim Saiers.

Principal Investigator, "Does public information disclosure reduce drinking water violations? Evidence from Massachusetts," Hixon Center for Urban Ecology, Yale University, \$3,600 (2006).

Co-Investigator, "Water in, water out: an analysis of water and nitrogen use in the City of New Haven," Hixon Center for Urban Ecology, Yale University, \$14,510 (2002-06). Co-PI: Shimon Anisfeld.

Co-Investigator, "Climate change response strategies for water resources: price and non-price demand management," National Science Foundation, Social, Behavioral and Economic Sciences, \$237,918 (2001-04). Co-PIs: Robert Stavins, W. Michael Hanemann.

#### INVITED ACADEMIC SEMINARS

- 2013-2015: American University; Beloit College; Johns Hopkins University; Oregon State University; Pennsylvania State University; Property Environment Research Center (2); Texas A&M University; University of Tennessee, Knoxville; University of Texas at Austin; University of Wisconsin, Madison; University of Waterloo, Ontario, Canada; University of Houston
- 2010-2012: Arizona State University; Colby College; Environmental Defense Fund (2); Harvard Business School; Harvard Kennedy School; Pennsylvania State University; University of California, San Diego; University of Maryland, College Park; University of Maryland, Baltimore County; University of Pennsylvania Law School-Wharton Risk Regulation Seminar; University of Virginia; Virginia Tech; Yale University
- 2007-2009: Federal Reserve Bank of Atlanta; George Mason University; Resources for the Future (2); Rutgers University; Triangle Resource and Environmental Economics Seminar; University of Connecticut; University of Massachusetts, Amherst; University of Texas at Austin, LBJ School of Public Affairs; Williams College
- 2003-2007: Brown University, Environmental Studies; Columbia University, Applied Micro; Dartmouth College, Environmental Studies; Harvard Kennedy School (2); Stanford University, Public and Environmental Economics; University of California, Santa Barbara, Bren School of Environmental Science and Management; University of Maryland; Yale Institute for Biospheric Studies.

### TEACHING

## University of Texas at Austin, Courses Taught

Environmental and Resource Economics and Policy (graduate) Fall 2013, Fall 2014, Fall 2015

Applied Microeconomics for Policy Analysis (graduate)
Spring 2014

Microeconomics (graduate) Fall 2014, Fall 2015

### **Yale University Courses Taught**

Economics of Natural Resource Management (graduate) Fall 2002, Fall 2003, Spring 2005, Fall 2005, Fall 2006, Spring 2009

Economics of Water Quality and Water Scarcity (graduate) Spring 2003, Spring 2005, Spring 2006, Spring 2008 Principles of Microeconomics with Environmental Applications (undergraduate) Spring 2007, Fall 2008

## Teaching Fellow, John F. Kennedy School of Government, Harvard University

Environmental Economics and Policy: Spring 2000, Spring 2001, Spring 2002

Markets and Market Failure: Fall 2000, Fall 2001

Financial Management in Public and Nonprofit Organizations: Fall 1999, Fall 2000

State and Local Public Finance: Spring 1998

### Teaching Assistant, Lyndon B. Johnson School of Public Affairs, University of Texas, Austin

Public Financial Management: Fall 1995

#### PROFESSIONAL AFFILIATIONS AND SERVICE

#### **Ad-Hoc Referee and Review Panelist:**

American Association for the Advancement of Science, American Economic Review, American Journal of Agricultural Economics, Applied Economic Perspectives and Policy, Cambridge University Press, Contemporary Economic Policy, Ecological Economics, Econometrica, Economics Letters, Environmental Economics and Policy Studies, The Environmental Forum, Environmental and Resource Economics, Environmental Research Letters, Environmental Science & Technology, Journal AWWA, Journal of the American Water Resources Association, Journal of the Association of Environmental and Resource Economists, Journal of Applied Econometrics, Journal of Benefit-Cost Analysis, Journal of Development Economics, Journal of Environmental Economics and Management, Journal of Hydrology, Journal of Industrial Economics, Journal of Policy Analysis and Management, Journal of Public Economics, Journal of Regional Science, Journal of Urban Economics, Journal of Water Resources Planning and Management, Journal of Sustainable Forestry, Land Economics, MIT Press, National Science Foundation, Natural Resource Modeling, Natural Resources Forum, PLoS-One, Public Finance and Management, Resource and Energy Economics, Review of Environmental Economics and Management, Scandinavian Journal of Economics, Science, Society and Natural Resources, Southern Economic Journal, U.S. Department of Energy, U.S. Environmental Protection Agency, U.S. Geological Survey, W.W. Norton, Water Resources Management, Water Resources Research, World Bank Economic Review.

#### **Conference Presentations:**

American Economics Association Annual Meeting, San Francisco, CA, January 2016

Climate Change Impacts and Integrated Assessment (CCI/IA) Workshop, Snowmass Village, CO, July 2015 American Chemical Society National Meeting, Denver, CO, March 2015

Association of Environmental and Resource Economists, Summer Conference, Asheville, NC, June 2012 NBER Integrated Assessment Modeling Conference, Cambridge, MA, May 2012

Association of Environmental and Resource Economists, Summer Conference, Seattle, WA, June 2011 Water and Health: Where Science Meets Policy. University of North Carolina, Chapel Hill, October 2010 International Water Resource Economics Consortium. University of California, Berkeley, November 2009.

Occasional California Workshop on Environmental and Resource Economics, University of California, Santa Barbara, October 2005

Camp Resources XIII, Wilmington, NC, August 2005.

Ecological Engineering for Integrated Water Management. Harvard University Graduate School of Design, October 2003

NBER Environmental Economics Working Group, April 2003

#### **Paper Discussant:**

American Economics Association Annual Meeting, January 2016

American Economics Association Annual Meeting, January 2012

Association of Environmental and Resource Economists, Summer Conference, June 2011

U.S. Environmental Protection Agency Workshop: Benefits of Environmental Disclosure, January 2011

American Economic Association Annual Meetings, January 2011

Wildfire: Economics, Law and Policy Symposium, University of Arizona, November 2010

American Economic Association Annual Meetings, January 2010

University of Pennsylvania Law School, Climate Change Law and Policy Workshop, October 2009

National Bureau of Economic Research Summer Institute in Environmental Economics, July 2009

Northeastern Conference in Environmental and Resource Economics, November 2007

Harvard Climate Policy Architecture Workshop, May 2006

## **Invited Panelist/Keynote Speaker:**

National Socio-Environmental Synthesis Center, Post-doc Economics Immersion Program, Annapolis, MD, November 2-5, 2015 (Distinguished Scholar-Lecturer)

George and Cynthia Mitchell Foundation/Carnegie Mellon/University of California, Davis Workshop on "Accelerating Water Conservation in Texas," Austin, TX, October 12, 2015 (panelist)

UT Energy Week, "Assessment of the Full Cost of Electricity," Austin, TX, February 19, 2015 (panelist)

Academy of Medicine, Engineering and Science of Texas, 2014 Texas Water Summit, "Water prices and water values: Applying economics to Texas water management," Austin, TX, May 19, 2014 (panelist)

Upstate New York Society for Risk Analysis, "Shale gas development and Pennsylvania rivers and streams: impacts and policy implications," webinar through EPA Region 3, May 2014 (presenter)

University of Texas at Austin School of Law, "Water Conservation and Reuse Projects in the Age of SWIFT: New Funds and New Priorities," Austin, TX, February 2014 (panelist)

Heartland Environmental and Resource Economics Workshop, "Unconventional oil and gas development and water resources," Champaign-Urbana, IL, November 2013 (panelist)

National Research Council Workshop on Shale Gas Risk Governance, "Managing risks from shale gas development using innovative legal and regulatory approaches," Washington, DC, August 2013 (panelist)

North America Gas Summit, "RFF's shale gas study: Summary and preliminary outcomes," Washington, DC, November 2012 (panelist)

Center for Strategic and International Studies, "Water management concerns for unconventional gas development: an overview," Washington, DC, November 2012 (panelist)

Yale University, School of Forestry and Environmental Studies, "Hydraulic fracturing: bridge to a clean energy future?" New Haven, CT, September 2012 (panelist)

Camp Resources XIX, Wrightsville Beach, NC, August 2012 (lunch speaker and faculty mentor)

Foundation Executives Group, "The environmental implications of shale gas development," Washington, DC, May 2012 (panelist)

Arizona State University, "Understanding residential water use: new approaches to analyzing projecting and managing demand," Phoenix, AZ, May 2012 (panel chair)

Lehigh University, "Shale gas development: communities, people, health, economics," Bethlehem, PA, April 2012 (panelist)

MIT Club of Washington, "Economics and water resources: pricing, markets, and access to drinking water," Washington, DC, March 2012 (keynote dinner speaker)

Hudson Institute, "Energy, water and debt: linked problems, common solutions?" Washington, DC, January 2012 (panelist)

Ground Water Protection Council Annual Forum, "Natural gas development seminar: groundwater protection

and hydraulic fracturing," Atlanta, GA, September 2011 (panelist)

Resources for the Future, First Wednesday Seminar, "Water conflicts and resolution: economy vs. environment?" Washington, DC, March 2011 (moderator)

Center for Water Policy, University of Wisconsin, Milwaukee, Roundtable 2011, May 2011 (panelist) The Atlantic Council, "Energy-water nexus in electric power production," Washington, DC, May 2011 (panelist)

Atlantic Monthly Green Intelligence Forum, "The future of fresh water," Washington, DC, October 2010 (panelist)

Resources for the Future, First Wednesday Seminar, "Coming clean: an economic perspective on water quality policy," Washington, DC, June 2010 (panelist and convener)

Organization for Economic Cooperation and Development, Expert Meeting on Water Economics and Financing, Paris, France, March 2010 (panelist)

The Energy and Resources Institute and Yale Climate and Energy Institute, COP 15 Side Event, "Climate change and water vulnerability." Copenhagen, Denmark, December 2009 (panelist)

Water Policy Institute, Symposium on Water and Economics, Washington, DC, October 2009 (panelist) Federal Reserve Bank of Atlanta, Public Affairs Symposium and Forum, June 2009 (keynote dinner speaker) North Carolina State University, Water Resources Research Institute, November 2008 (keynote speaker) Texas Water Matters Conference, Environmental Defense Fund, Austin, TX, April 2008 (panelist)

### **University of Texas at Austin Service:**

UT Austin Environmental Science Initiative, Science Meets Society Seminar Series, co-organizer (2015-)

LBJ School strategic faculty recruitment committee co-chair (2015-)

LBJ School microeconomics program coordinator (2014-)

UT Austin Faculty Council, LBJ School representative (2014-)

LBJ School faculty search committee, international trade (2014-)

LBJ School information technology services committee (2013-)

LBJ School PhD admissions committee (2013-14)

LBJ School DC Program curriculum committee (2014-15), admissions committee (2015)

LBJ School faculty mentor for Assistant Professor Varun Rai (2013-2014)

LBJ School promotion committee chair for Assistant Professor Varun Rai (2015)

LBJ School diversity committee (2014-2015)

### **Resources for the Future Service:**

Junior hiring committee (2010-11, 2011-12, 2012-13)

#### Yale University Service:

Co-Organizer, Yale Environmental Economics Seminar, Fall 2007 – Spring 2009 Co-Organizer, Northeastern Conference in Environmental and Resource Economics, Fall 2007

Yale University Committee Memberships:

Climate and Energy Initiative, Executive Committee member, 2009-2010 Undergraduate Environmental Studies Major Faculty Advisory Committee member, 2005-2010

Yale School of Forestry and Environmental Studies committee memberships:

Doctoral Studies Committee (2006-2010)

Student Academic Standing Committee (2006-2010)

Yale College Committee (2002-2010)

Curriculum Committee (2003-2006)
Disciplinary Committee (2002-2005)
Senior Target of Opportunity Search Committee (2007-2009)
Economics Search Committee (2008-2009)

#### Other Professional Service:

Advisory committee member, Energy and Environment Program, Alfred P. Sloan Foundation, 2015-2017 Advisory committee member, International Water Resource Economics Consortium, 2009-present Summer conference program committee, Association of Environmental and Resource Economists, 2011, 2012, 2014, 2015

Conference program committee, World Congress of Environmental and Resource Economists, 2014

### **Membership in Professional Societies:**

American Economic Association Association of Environmental and Resource Economists International Water Resource Economics Consortium

### **DOCTORAL STUDENT ADVISEES**

### **University of Texas at Austin**

Amelia Altz-Stamm, LBJ School of Public Affairs, dissertation committee member Sean DeRosa, Department of Civil & Environmental Engineering, dissertation committee member Roger Miranda, LBJ School of Public Affairs, dissertation committee member Pamela Torres, Department of Civil & Environmental Engineering, dissertation committee member Alison Wood, Department of Civil & Environmental Engineering, dissertation committee member Nour El Imane Bouhou, Department of Civil & Environmental Engineering, dissertation committee member (Finished 2015)

### Yale University, School of Forestry and Environmental Studies

Agha Ali Akram, dissertation committee co-Chair (Finished 2014: Post-doctoral Fellow, Evidence Action) Yaniv Stopnitzky, dissertation committee co-Chair (Finished 2012: Assistant Professor, Economics Department, University of San Francisco)

Seth Binder, dissertation committee member (Finished 2011: Post-doctoral Scholar, University of Minnesota, Cedar Creek LTER)

Qiong (Juliana) Wang, dissertation committee member (Finished 2010: Assistant Professor, Environmental Studies, University of Southern California)

Steven Wallander, dissertation committee Chair (Finished 2009: Economic Research Service, U.S. Department of Agriculture)

Katrina Jessoe, dissertation committee Chair (Finished 2009: Assistant Professor, Agricultural and Resource Economics Department, University of California, Davis)

Pradeep Kurukulasuriya, dissertation committee member (Finished 2006: Senior Technical Advisor, United Nations Development Program, Global Environment Facility Unit)

#### **Other Institutions**

Jonathan Baker, Harvard University, Harvard Kennedy School, dissertation committee member Renata Rimsaite, Pennsylvania State University, Agricultural and Resource Economics Department, dissertation committee member

James Nachbaur, University of California, Santa Barbara, Bren School of Environmental Science and

Management, dissertation committee member (Finished 2008) Erez Braude, Ben Gurion University of the Negev, Department of Economics, dissertation reader Atheendar Venkataramani, Yale University School of Public Health, dissertation reader