EDUCATION

2006-10 University of Wisconsin-Madison
 PhD, Agricultural and Applied Economics

 2001-05 Juniata College, Huntingdon, PA
 BA, International Political Economy, Summa Cum Laude

CURRENT POSITION

Associate Professor, 2017-current (Assistant Professor, 2014-2017) University of Pittsburgh Graduate School of Public and International Affairs (primary) Department of Economics (secondary)

RESEARCH AREAS

Energy and Natural Resources, the Environment, Growth and Development, Agriculture

JOURNAL PUBLICATIONS

- 1. "Farming, Fracking, and Water", with C. Hitaj and A. Boslett. Energy Policy, 146, 2020.
- 2. "How Should We Think about Environmental Policy and Jobs? An Analogy with Trade Policy and an Illustration from U.S. Coal Mining", *Review of Environmental Economics and Policy* 14(1): 44-66, 2020.
- 3. "How Local Economic Conditions Affect School Finances, Teacher Quality, and Student Achievement: Evidence from the Texas Shale Boom" with J. Marchand, *Journal of Policy Analysis and Management* 39(1): 36-63, 2020
- 4. "Fracking and Radon: Spurious Correlation or Cause for Concern?" with K. Black and S. McCoy, *Journal of Environmental Economics and Management* 95: 255-273, 2019.
- 5. "Does Resource Ownership Matter? Oil and Gas Royalties and the Income Effect of Extraction" with J. Brown and T. Fitzgerald, *Journal of the Association of Resource and Environmental Economics* 6(6): 1039-1064, 2019.
- 6. "Local Labor Markets and Natural Resources: A Synthesis of the Literature" with J. Marchand, *Journal of Economic Surveys* 32(2): 469-490, 2018.
- 7. "When Externalities are Taxed: The Incidence and Effect of Pennsylvania's Impact Fee on Shale Gas Wells" with K. Black and S. McCoy. *Journal of the Association of Environmental and Resource Economists* 5(1): 107-153, 2018.
- 8. "Natural Resource Ownership, Financial Gains, and Governance: The Case of Unconventional Gas Development in the UK and US" with M. Harleman. *Energy policy* 111: 281-296, 2017.
- 9. "Capturing Rents from Natural Resource Abundance: Private Royalties from U.S. Onshore Oil and Gas Production" with J. Brown and T. Fitzgerald, *Resource and Energy Economics* 46: 23-38, 2016.
- 10. "A Quantitative Description of State-Level Taxation of Oil and Gas Production in the Continental U.S." with Yongsheng Wang and Maxwell Chomas, *Energy Policy* 96: 289-301, 2016.

- 11. "Does Federal Crop Insurance Make Environmental Externalities from Agriculture Worse?" with N. Key and E. O'Donoghue, *Journal of the Association of Environmental and Resource Economists* 3(3): 707-742, 2016.
- 12. "Broadening Benefits from Natural Resource Extraction: Housing Values and Taxation of Natural Gas Wells as Property" with J.W. Burnett and I.M. Xiarchos, *Journal of Policy Analysis and Management* 35(3): 587-614, 2016.
- 13. "What Can We Learn about Shale Gas Development from Land Values? Opportunities, Challenges, and Evidence from Texas and Pennsylvania" with C. Hitaj. *Agricultural and Resource Economics Review* 44(2): 40-58, 2015.
- 14. "Crop Prices, Agricultural Revenues, and the Rural Economy" with C. Wall, J. Brown, and T. Hertz, *Applied Economic Perspectives and Policy* 37(3): 459-476, 2015.
- 15. "Leveraging Wealth from Farmland Appreciation: Borrowing, Land Ownership, and Farm Expansion" with N. Key, *Land Economics* 91(2): 344-361, 2015.
- 16. "Do Wealth Gains from Land Appreciation Cause Farmers to Expand Acreage or Buy Land?" with N. Key, *American Journal of Agricultural Economics* 96(5): 1334-1348, 2014.
- 17. "A Decade of Natural Gas Development: The Makings of a Resource Curse?" *Resource and Energy Economics* 37: 168-183, 2014.
- 18. "Sustainable Rural Development and Wealth Creation: Five Observations Based on Emerging Energy Opportunities" with J. Pender and J. Brown, *Economic Development Quarterly* 25(1): 73-86, 2014.
- 19. "Who Does Not Respond to the Agricultural Resource Management Survey and Does It Matter?" with D. Clay, *American Journal of Agricultural Economics* 95(3): 755-771, 2013.
- 20. "The Effects of a Natural Gas Boom on Employment and Income in Colorado, Texas, and Wyoming," *Energy Economics* 34: 1580-1588, 2012.
- 21. "Social Learning and Technology Adoption: The Case of Coffee Pruning in Peru," *Agricultural Economics* 43: 73-84, 2012.
- 22. "Keeping ARMS Relevant: Extracting Additional Information from ARMS" with A. Featherstone and T. Park, *Agricultural Finance Review* 72(2): 233-246, 2012.
- 23. "How Much Do Decoupled Payments Affect Production? An Instrumental Variable Approach with Panel Data" with N. Key, *American Journal of Agricultural Economics* 94(1): 52-66, 2012.
- 24. "The Economic Sustainability of Certified Coffee: Recent Evidence from Mexico and Peru" with B. Barham, *World Development* 40(6): 1269-1279, 2012.
- 25. "Fair Trade-Organic Coffee Cooperatives, Migration, and Secondary Schooling in Southern Mexico" with S. Gitter, B. Barham, M. Callenes, and J. Lewis, *Journal of Development Studies* 48(3), 445-463, 2012.
- 26. "Do ICDPs Work? An Empirical Evaluation of Forest-Based Microenterprises in the Brazilian Amazon" with E.O. Sills, S.K. Pattanayak, and S. Bauch, *Land Economics* 84(4): 645-681, 2011.
- 27. "How Much More Do Growers Receive for Fair Trade-Organic Coffee?" *Food Policy* 36(2): 678-685, 2011.
- 28. "Fair Trade/Organic Coffee, Rural Livelihoods, and the 'Agrarian Question': Southern Mexican Coffee Families in Transition" with B. Barham, M. Callenes, S. Gitter, and J. Lewis, *World Development* 39(1): 134-145, 2011.
- 29. "Fair Trade Coffee Enthusiasts Should Confront Reality," Cato Journal 27(1): 109-117, 2007.

PAPERS IN PROCESS

- 1. "Environmental Hazards and Local Investment: A Half-Century of Evidence from Abandoned Oil and Gas Wells", with M. Harleman and D. Berkowitz. USAEE Working Paper No. 20-470.
- 2. "Defining the End: Minimum Production Thresholds for Natural Gas Wells", with many others.

BOOK CHAPTERS

- 1. "Rural Wealth Creation and Emerging Energy Industries: Lease and Royalty Payments to Farms", with J. Pender and J. Brown. In <u>Rural Wealth Creation</u>, Eds. J. Pender, B. Johnson, M. Fannin. *Routledge*, 2014.
- 2. "The Boom, the Bust, and the Cost of the Cleanup: Abandoned Oil and Gas Wells in Pennsylvania and Implications for Shale Gas Governance" with N. McClure and I. Simonides. In Boom or Bust? Governance, Planning, and Economic Impacts of the US Shale Boom, Eds. S. Deitrick and I. Murtazashvili. Cornell University Press, in press.

USDA ECONOMIC RESEARCH SERVICE PUBLICATIONS

- 1. "Ownership of Oil and Gas Rights: Implications for U.S. Farm Income and Wealth" with C. Hitaj and K. Erickson, USDA *Economic Information Bulletin* 193, 2018.
- 2. "Farmland Values, Land Ownership, and Return to Farmland, 2000-2016," with C. Burns, N. Key, S. Tulman, and A. Borchers. *USDA Economic Research Report* 245, 2018.
- 3. "Natural Gas Extraction and Local Economies–No Evidence of a "Natural Resource Curse," *Amber Waves* August, 2014.
- 4. "Onshore Oil and Gas development in the Lower 48 States: Introducing a County-Level Database of Production for 2000-2011" with S. Low and N. Walsh, *Amber Waves* February, 2014.
- 5. "Emerging Energy Industries and Rural Growth" with J. Brown and T. Wojan, USDA *Economic Research Report* 159, 2013.
- 6. "The Off-Farm Occupations of U.S. Farm Operators and Their Spouses" with J. Brown, USDA *Economic Information Bulletin* 117, 2013.
- 7. "When Working Off the Farm, Farm Operators Most Commonly Work in Management and Professional Occupations" with J. Brown, *Amber Waves* September, 2013.
- 8. "Understanding Farm Income's Role in Farm Household Finances" with R. Durst, *Amber Waves* April, 2013.
- 9. "Natural Gas Extraction Creates Local Jobs in the Short Term," *Amber Waves* December, 2012.
- 10. "Expansion in Direct Payments Did Not Lead to More Crop Production" with N. Key, *Amber Waves* September, 2012.
- 11. "Farm Household Income, Net Worth, and Well-Being" with M. Ahearn. Chapter in "Agricultural Income and Finance Outlook"AIS-91, Economic Research Service, U.S. Department of Agriculture, December, 2011.
- 12. "Farm Household Income, Net Worth, and Well-Being" with M. Ahearn. Chapter in "Agricultural Income and Finance Outlook,"AIS-90, Economic Research Service, U.S. Department of Agriculture, December, 2010.

OTHER PUBLICATIONS

- 1. "Shale Development, Impact Fees, and Municipal Finances in Pennsylvania" with M. Harleman, Center for Metropolitan Studies Policy Brief, Winter 2015/2016.
- 2. "U.S. Agricultural Subsidies May Have Merits, But Rural Economic Development Is Not One of Them," London School of Economics blog on American Politics and Policy, September 21, 2015.
- 3. "Is the Natural Gas Revolution all its Fracked Up to Be for Local Economies" with J.W. Burnett, *Choices* 4th quarter, 2014.
- 4. "Shale Development and Agriculture" with C. Hitaj and A. Boslett, *Choices* 4th Quarter, 2014.
- 5. "Shale Gas Drilling and Farm Real Estate Values" with C. Hitaj, National Agricultural and Rural Development Policy Center, Brief 25, June, 2014.
- 6. "In the Good Times and the Bad: Shale Gas Development and Local Employment," *Rural Connections* June, 2013.
- 7. "Fair Trade Coffee–Lessons for Healthy Grown" with P.D. Mitchel and B. Barham, *The Badger Common 'Tater* 62(8): 9-11, 2010.
- 8. "Lessons in a Cup of Coffee," *The Marketplace* March/April, 2007.

PRIOR POSITIONS/CONSULTANTCIES

2019-20	Chief Economist for Energy Policy (November 2019-June 2020) Senior Economist (January 2019-October 2019) White House Council of Economic Advisers
2010-14	Research Economist, Rural and Resource Economics Economic Research Service, U.S. Department of Agriculture
2013	Adjunct Faculty, Master's Program in Applied Economics Johns Hopkins University, Krieger School of Arts and Sciences
2009	Consultant, Development Economics Group, World Bank
2008–10	Research Assistant, Department of Agricultural and Applied Economics, University of Wisconsin-Madison
2007	Visiting Researcher, Amazon Institute of People and the Environment, Brazil
2005-06	Field Research with Peruvian Coffee Grower Cooperatives MEDA Consulting Group/Peruvian Fulbright Commission, Peru
2004	Project Assistant, MEDA Consulting Group, Peru

GRADUATE SERVICE

- Leadership roles at the University of Pittsburg-GSPIA: MPA program director; PhD program director; Shale Gas Governance Center director, GSPIA Energy & Environment Blog editor
- University of Pittsburgh Sustainability Task Force
- Graduate Courses Taught: Introduction to Econometrics (Johns Hopkins); Introduction to
 Quantitative Methods (GSPIA); Intermediate Quantitative Methods (GSPIA); Causal Inference
 for Policy Analysis (GSPIA); Contemporary U.S. Energy Policy (GSPIA); Energy Production
 and the Local Economy (GSPIA); Environmental Economics and Policy (GSPIA)
- Dissertation Committee Service: Katie Jo Black (Ph.D., Economics), Shawn McCoy (Ph.D., Economics), Xiaoxi Zhao (Ph.D., Economics), Farhod Yuldashev (Ph.D. Public Affairs)

PROFESSIONAL SERVICE/CONSULTING

- Consultant to prepare an expert reporting on well bonding policy, Sierra Club (2020-2021)
- Guest Editor, *Economic Inquiry* special issue on the New Energy Economics (2020-2021)
- Associate Editor, *Resources Policy* (2017-current)
- Member of the National Academy of Sciences (Committee on National Statistics) panel to review data collection and measurement by U.S. Department of Agriculture National Agricultural Statistics Service and Economic Research Service (2015-2017)
- Member of Organizing Committee, 2017 Summer Conference of the Association of Environmental and Resource Economists (2016-2017)
- Steering-Committee Member of the NSF-funded Research Coordination Network on the impacts of energy production (2015-current)
- Member of the Energy for the Power of 32 Regional Energy Policy Team (2015-2016)
- Member of the Economic Statistics and Information Resources Committee, Agricultural and Applied Economics Association (2014-2015)
- Reviewer for Agricultural Economics, Agricultural and Resource Economics, American Economic Review, American Journal of Agricultural Economics, Australian Journal of Agricultural and Resource Economics, Contemporary Economic Policy, Ecological Economics, Economic Inquiry, Energy Policy, Energy Technology, Energy Journal, Environmental and Resource Economics, European Review of Agricultural Economics, Growth and Change, Finnish Economic Papers, Food Policy, Journal of Agricultural and Applied Economics, Journal of Econometrics, Journal of Economic Behavior and Organization, Journal of the European Economic Association, Journal of Human Resources, Journal of Public Economics, Journal of Regional Science, Regional Science and Urban Economics, Resource and Energy Economics, Review of Regional Studies, World Development, World Bank Economic Review

HONORS AND AWARDS

2020	Juniata College Young Alumni Achievement Award
2019	Best Working Paper of the Year, US/International Association for Energy Economics
2016	Outstanding Applied Economic Perspectives and Policy Article
2014	USDA "Best Amber Waves Data Feature, 2014" for county-level oil and gas dataset (with S. Low and N. Walsh)
2012	Cash award for outstanding annual performance review
2011	Cash award and certificate of merit for contribution to farm income estimates
2011	Henry C. Taylor Doctoral Dissertation Award, Dept. of Agricultural and Applied Economics, University of Wisconsin-Madison.

GRANTS AND FELLOWSHIPS

2018	Mascaro Center for Sustainable Innovation Seed Grant, \$17,000
2017	USDA-ERS Cooperative Grant for work on energy and agriculture, \$7,500
2015-17	Mascaro Center for Sustainable Innovation Faculty Fellowship in Sustainability, \$50,000
2016	Social Sciences and Humanities Research Council grant with Joseph Marchand, \$25,000
2012	USDA-ERS grant for cooperative agreement with faculty at UW-Madison, \$15,000

2010	Peruvian National Coffee Board/Rainforest Alliance, financing for data collection, \$2,500
2007	UW-Madison Latin American Studies, travel grant for research in Brazil, \$1,500
2007-08	U.S. Dept. of Education Foreign Language Area Studies Fellowship, Portugues
2006-07	Helen Firstbrook Franklin Fellowship, UW Latin American Studies
2005-06	Fulbright Grantee, Peru

MEDIA AND EDITORIALS

- Interviewed for: Al Jazeera, the Baltimore Sun, BBC Science & Environment, Bloomberg Business, NPR Planet Money, PBS Wisconsin, Pittsburgh Quarterly, Science Magazine, USA Today.
- Work cited in: Wall Street Journal, Vancouver Sun, Richmond Federal Reserve Econ Focus, the Wilson Quarterly, High Country News, Natural Gas Now.
- Pittsburgh Post-Gazette editorials: World Wolf's gas tax be out of line? (December 6, 2014) Pennsylvania should consider the value of natural gas when levying property taxes (November 1, 2015).

GSPIA ENERGY AND ENVIRONMENT BLOG POSTS

- Energy prices, not policy, continue to bring cuts to coal production and jobs.
- The promise of Zillow data for research on communities and the environment.
- Abandoned oil and gas wells in Pennsylvania: What do state records show?
- Shale gas royalties in Pennsylvania: How much goes to local or state residents?
- Abandoned unconventional natural gas wells: A looming problem for Pennsylvania?
- Does the U.S. already have a carbon tax?
- Energy production and policy: Quickly changing; Increasingly relevant.

LANGUAGES

English (native), Spanish (fluent), Portuguese (advanced)