

**Janie M. Chermak**

Department of Economics  
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University of New Mexico  
Albuquerque, NM 87131-0001  
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**ACADEMIC EXPERIENCE**

**UNIVERSITY OF NEW MEXICO**

Professor of Economics, Department of Economics	July 2007 -
Interim Dean, College of Arts and Sciences	March 2023 - August 2023
Chair of Economics, Department of Economics	July 2021 - February 2023
	August 2012 - July 2016
Associate Professor of Economics, Department of Economics	July 2000 - June 2007
Graduate Director, Department of Economics	August 2020 – July 2021
	August 2018 - July 2019
	August 2003 - July 2007
	August 2008 - July 2009
Assistant Professor of Economics, Department of Economics	August 1995 - June 2000
Member of the Water Resources Faculty	August 1999 -

**UNIVERSITY OF COLORADO - DENVER**

Associated Faculty – Global Energy Management Program

July 2010 -

**RUTGERS UNIVERSITY**

Visiting Scholar, Rutgers Business School

August 2001-December 2001

**NAVAL POSTGRADUATE SCHOOL, Defense Resources Management Institute**

Assistant Professor of Economics

August 1992 - August 1995

**COLORADO SCHOOL OF MINES, Mineral Economics Department**

Postdoctoral Research Associate	May 1991 - July 1992
Research and Teaching Assistant	May 1988 - May 1992

**METROPOLITAN STATE COLLEGE, Department of Economics**

Adjunct Instructor

August 1990-May 1991

**FORMAL EDUCATION**

Ph.D. Mineral Economics	1991	Colorado School of Mines, Golden, Colorado
M.Sc. Mineral Economics	1988	Colorado School of Mines, Golden, Colorado
B.A. Geology	1979	Western State College, Gunnison, Colorado

**RESEARCH and TEACHING INTERESTS**

Applied Microeconomics, Natural Resource and Environmental Economics with an emphasis in energy and water.

## PROFESSIONAL PUBLICATIONS

### *Refereed Journal Articles and Book Reviews:*

“Examining willingness to pay for energy futures in a fossil and renewable energy-rich locale,” with K. Walters and J. Thacher. In *Energy Policy*: 181. (2023). <https://doi.org/10.1088/1748-9326/aa9e54>

“Adaptive governance strategies to address wildfire and watershed resilience in New Mexico’s Upper Rio Grande Watershed,” with M. Morgan, A. Webster, Matt Piccarello, Kelly Jones, Laura McCarthy, and Jaishri Srinivasan in *Frontiers in Climate* (2023) <https://doi.org/10.3389/fclim.2023.1062320>.

“Demand and Price Fluctuations Effect on Risk and Profit of Single and Clustered Microgrids during COVID-19 Pandemic, with T. Kahlili and A. Bidram, in *International Journal of Electrical Power and Energy Systems* 140: (2022) <https://doi.org/10.1016/j.ijepes.2022.108093>

“Determinants of Demand Response Program Participation: Contingent Valuation Evidence from a Smart Thermostat Program,” with J. Kaczmariski and B.A. Jones, *Energies* (2022) <https://doi.org/10.3390/en15020590>.

"Is Less Always More: Conservation, Education and Water Education Programs," with J. Wang, *Ecological Economics*. 184: (2021).

"Assessing the Economic and Environmental Impacts of Alternative Renewable Portfolio Standards: Winners and Losers," with J. Mamkhezri and L.A. Malczynski, *Energies*. 14(11): (2021).

"Consumer Preferences for Solar Energy: A Choice Experiment," with J. Mamkhezri and J Thacher, *The Energy Journal*. 41(5): (2020).

"Does the Solemn Oath Lower WTP Responses in a Discrete Choice Experiment Application to Solar Energy?" with J. Mamkhezri, J. Thacher, and R. Berrens. *Journal of Environmental Economics and Policy*. 10.1080/21606544.2020.1738276: (2020)

"Private vs. Public Prisons? A Dynamic Analysis of the Long-Term Tradeoffs Between Cost-Efficiency and Recidivism in the US Prison System" with S. Mamun, X. Li, Brady P. Horn, *Applied Economics*. 52(21): (2020).

Review of *Energy Economics: Theory and Applications*, by Peter Zweifel, Aaron Praktiknjo, and Georg Erdmann (Springer 2017) 324 pages, ISBN 2192-4333. Hardback. *The Energy Journal* 40(6): (2019).

“Mapping the energy footprint of produced water management in New Mexico,” with K. Zemlick, E. Kalhor, B.M. Thomson, E.J. Sullivan Graham, and V.C. Tidwell, *Environmental Research Letters*, 13: (2018). <https://doi.org/10.1088/1748-9326/aa9e54> .

Review of *Energy Economics Markets, History and Policy*, by Roy L. Nersesian (Routledge, U.S. 2016), 628 pages, ISBN: 978-1-138-85837-4 Hardcover, eBook ISBN: 978-1-315-71806-4. In *The Energy Journal* 39(6): (2018).

“Modeled Impacts of Economics and Policy on Historic Uranium Mining Operations in New Mexico,” with K. Zemlick, B.M. Thomson, and VC. Tidwell. *New Mexico Geology*, 39(1): 11-24 (2017).

“PLAN or Get SLAM’ed: Optimal management of invasive species in the presence of indirect health externalities,” with B.A. Jones and S. McDermott. *Journal of Environmental Management*. 180: 538-550 (2016).

“Linking Forest to Faucets in a Distant Municipal Area: Public Support for Forest Restoration and Water Security in Albuquerque, New Mexico,” with D. Adhikari, J. A. Thacher, and R.P. Berrens. *Water Economics and Policy*. 2(3): (2016).

“Wildfire Smoke Health Costs: A Methods Case Study for a Southwestern US “Mega-Fire” with B.A. Jones, J. Thacher, and R. Berrens. *Journal of Environmental Economics and Policy*, 5(2): 181-199 (2016).

“Low-Flow Appliances and Household Water Demand: An Evaluation of Demand-Side Management Policy in Albuquerque, New Mexico,” with J. Price and J. Felardo. *Journal of Environmental Management*, 133(Jan): 37-44 (2014).

“Moving Forward by Looking Back: Comparing Laboratory Results with *Ex Ante* Market Data,” with K. Krause, D.S. Brookshire, and H.S. Burness. *Economic Inquiry*, 51(1): 1035-1049 (2013).

“The Teaching Penalty: Evidence from a Public Research University,” with M. Binder, K. Krause, and J. Thacher. *Economics Letters*, 117(1): 39-41 (2012).

“Invasive Alien Weeds and Western Cattle Ranching: Lessons Learned from Yellow Starthistle in New Mexico,” with J. Thacher, K. Krause, K. Grimsrud, and J. Price. *Western Economic Forum*, 9(1): 19-26 (2010.)

“Same Work, Different Pay? Evidence from a US Public University,” with M. Binder, J. Gilroy, K. Krause, and J. Thacher. *Feminist Economics*, 16(4): 105-35 (2010).

“Preferences for Privacy and Security: An Experimental Investigation,” with C. Jill Stowe and K. Krause. *Economics of Peace and Security Journal* 5(1): 34-42 (2010).

“A Two-Agent Dynamic Model with an Invasive Weed Diffusion Externality: An Application to Yellow Starthistle (*Centaurea Solitialis*) in New Mexico,” with K. Grimsrud, J. Hansen, K. Krause, and J. Thacher, *Journal of Environmental Management*, 89(2008): 322-35 (2008).

“Economics of Transboundary Aquifer Management,” with R.H. Patrick and D.S. Brookshire, *Ground Water*, 43(5): 731-36 (2005).

“Western Municipal Water Conservation Policy: The Case of Disaggregated Demand,” with H.S. Burness and K. Krause, *Water Resources Research*, 41(3): (2005).

“Water Use in a Mountain Front Recharge Aquifer,” with S. Burness and D. Brookshire, *Water Resources Research*, 40(W0621): (2004).

“The Demand for Water: Consumer Response to Scarcity,” with K. Krause and D. Brookshire, *Journal of Regulatory Economics*. 23(2): 167-191 (2003).

“Comparing Tests of the Theory of Exhaustible Resources,” with R.H. Patrick, *Resource and Energy Economics*; 24:301-325 (2002).

“Western Urban Water Demand,” with S. Burness, D. Brookshire, and K. Krause, *Natural Resource Journal*; 42(4): 1-26 (2002).

“Individual Responses and Intergenerational Common Pool Problems,” with K. Krause, *Journal of Environmental Economics and Management*: 43:47-70 (2002).

“A Microeconomic Test of the Theory of Exhaustible Resources,” with R.H. Patrick, *Journal of Environmental Economics and Management*; 42:82-103 (2001).

“Marketing Western Water: Can a Process Based Geographic Information System Improve Reallocation Decisions?” with O.P. Mathews, L. Scuderi, D. Brookshire, K. Gregory, S. Snell, K. Krause, B. Cullen, and M. Campana, *Natural Resources Journal*: 41(2): 329-371 (2001).

“A Hybrid Economic-Engineering Model for Natural Gas Production,” with J. Crafton, S.M. Norquist, and R.H. Patrick, *Energy Economics*; 21: 67-94:(1999).

“Order 636 and the Natural Gas Industry,” *Resources Policy*: 24(2): 207-16 (1998).

“A New Look at a New Discount Rate,” with J.K. Lowe and N.J. Webb, *Armed Forces Comptroller*; 42(1): 27-32 (1997).

“The Economic Possibilities of Natural Gas Conservation: Antithetical Results of Prorating Regulation,” *Journal of Regulatory Economics*; 10:147-163 (1996).

Review of “*The Emerging New Order in Natural Gas Markets versus Regulation*” by A.S. DeVany and W.D. Walls, *Journal of Economic Literature*; XXXIV (June): 798-800 (1996).

“A Well-Based Cost Function and the Economics of Exhaustible Resources: The Case of Natural Gas,” with R.H. Patrick, *Journal of Environmental Economics and Management* 28:174-189 (1995).

“Technological Advancement and the Recovery of Natural Gas: The Value of Information,” with R.H. Patrick, *The Energy Journal*: 16(1): 113-35 (1995).

“Emerging Environmental Markets: Improving the Competitiveness of Natural Gas,” *The Energy Journal*: 15(3): 75-91 (1994).

“Political Risk Analysis: Past and Present,” *Resources Policy*; 18(3), 167-78 (1992).

**Book Chapters:**

"Introduction to the Economics and Animal and Plant Biosecurity," with D. Schimmelpfennig in *Tactical Sciences for Biosecurity in Animal and Plant Systems* edited by K.F. Cardwell and K.L. Bailey (2022). IGI Global.

“Exhaustible Resources” with R.H. Patrick in *Environmental and Natural Resource Economics: An Encyclopedia* edited by T. Haab and J. Whitehead. (Greenwood Press: Santa Barbara, CA): pp. 138-41 (2014).

“Harold Hotelling” with R.H. Patrick in *Environmental and Natural Resource Economics: An Encyclopedia* edited by T. Haab and J. Whitehead. (Greenwood Press: Santa Barbara, CA): pp. 181-82 (2014).

“Benefit and Informational Transfers,” with D. Brookshire, in *Environmental Value Transfer: Issues and Methods*, S. Navrud and R. Ready (eds.), in the Kluwer Academic Publishers series *The Economics of Non-Market Goods and Resources*, pp. 11-22 (2007).

“Uncertainty, Benefit Transfers, and Physical Models: A Middle Rio Grande Valley Focus,” with D. Brookshire and R. DeSimone, in *Environmental Value Transfer: Issues and Methods*, S. Navrud and R. Ready (eds.), in the Kluwer Academic Publishers series entitled *The Economics of Non-Market Goods and Resources*, pp. 111-130 (2007).

“Reallocation of Water and the Hydrological Effects of Climate Change: the Upper Rio Grande Basin, Southwestern USA” with M. Campana, L. Scuderi, O.P. Matthews, D. Brookshire, K. Krause, B. Cullen, S. Snell and K. Gregory, in *Water Resources Perspectives: Evaluation, Management and Policy*, A. S. Alsharhan and W.W. Wood, (eds.), *Developments in Water Science* 50, Elsevier, Amsterdam, pp. 169-181 (2003).

“Integrated Modeling: Data Transfers from the Physical And Social Sciences, with D. Brookshire, in *First International Symposium on Transboundary Water Management*, A. A. Aldama, J. A. Mijares, R. Equihua (eds.), AMH-IMTA: (2002).

“Borders Crossing Borders: Efficiency and Equity Considerations of Groundwater Markets in the Ciudad Juárez/El Paso Region Along the Mexico/United States Border,” with D. Brookshire and M. Ewers, *The 46<sup>th</sup> International Seminar On Nuclear War and Planetary Emergencies*: (2002).

"Incentives in Pipeline Pricing and Capacity," in *Incentive Regulation for Public Utilities*, with R.H. Patrick, M.A. Crew (ed.), Kluwer Academic Publishers, Boston: 157-184 (1994).

**Reports:**

*Recycled Plastics in Infrastructure: Current Practices, Understanding, and Opportunities.* Washington, DC: The National Academies Press. National Academies of Sciences, Engineering, and Medicine. 2023. <https://doi.org/10.17226/27172>.

“Economic Impacts,” chapter in *On the road to carbon neutrality in the intermountain west, Phase I Final Report.* Author Chapter 12: “Economic Impacts” Los Alamos National Labs. Sponsored by the DOE Office of Fossil Energy (FECM) and Carbon Management and the DOE Office of Energy Efficiency and Renewable Energy (EERE) Bioenergy Technologies Office (BETO) (2023)

“An Analysis of the Relationship Between Water, Oil Gas in New Mexico: Investigation of Past and Future Trends,” with B. Thomson. Water Resources Research Institute. (2021).

“Modeling the Impact of Energy Efficiency Programs Across the New Mexico Council of Government Districts” with J. Mamkhezri for New Mexico State Energy, Minerals, and Natural Resource Department (2021)

“An Economic Evaluation of Flow Management on the Rio Chama,” with S Stradling. U.S. Bureau of Reclamation. (2019).

“Measuring Non-Market Values for Hydropower Production and Water Storage on the Colorado River: A White Paper Investigation,” with Lowry, T.S., J.M. Chermak, D.S. Brookshire, C.R. Shaneyfelt, and P.H. Kobos SANDIA REPORT SAND2017-0132. (2017).

“The Upper Rio Grande, Water Rights and Market Value,” report prepared for the Interstate Stream Commission. (2016).

“The U.S. Research Community’s Liquid Helium Crisis,” prepared for the American Physical Society and the Materials Research Society. (Washington, D.C., American Physical Society. (2016)

“New Mexico Universities Working Group on Water Supply Vulnerabilities: Final report to the Interim Committee on Water and Natural Resources,” with D.S. Gutzler, P. Johnson, J. P. King, L. Reynis, G. Aldrich, and M. O'Donnell. NM Bureau of Geology and Mineral Resources Open File Report – 577. Available at <http://geoinfo.nmt.edu/publications/openfile/details.cfm?Volume=577> (2015).

“New Mexico Fire and Water: Lessons Learned from the Las Conchas Fire,” Lead Author with B. Parmenter, D. Bushnell, C. Dahm, H. Balas, and V. Tidwell. Prepared for the New Mexico First Town Hall on Fire and Water (June 555-6, 2012, Albuquerque, NM). Available at <http://nmfirst.org/events/fire-and-water>. (2012).

“Review of ‘Economic Sustainability Plan for then Sacramento San-Joaquin Delta,” with R. Adams, R. Gilbert, T. Harris, and W. Markuson, III. Prepared for the Delta Science Program. (2011).

“Assessing Customer Preferences and Willingness to Pay: A Handbook for Water Utilities,” with J.A. Thacher, M. Marsee, H. Pitts, J. Hansen, and B. Thomson. Prepared for the American Water Research Foundation: (2010).

“The Economic Value of River Restoration: The Effect of Peak-Flow Restoration on Non-Market Values for the Gunnison River,” with J. Price. Report Prepared for the National Park Service: (2010).

“Measuring the Economic Impact of Drought in New Mexico: Problems and Challenges,” with J. Hwang, prepared for the Drought Mitigation Center, University of Nebraska: (2010).

“Water Quality and Land Use: Implications for Regulation and Urban Planning,” with G. Aldrich and J. Thacher. Technical Completion Report No, 346 for the New Mexico Water Research Institute: (2008).

“Potential Impacts of the Western Climate Initiative on New Mexico: Phase 2 Modeling Output Analysis,” for the New Mexico Environmental Department: (2008).

“Faculty Compensation at UNM: Is the Reward Structure Equitable?” with M. Binder, J. Gilroy, K. Krause, and J. Thacher. UNM Office of the Provost and Office of the Dean of Arts and Sciences: (2006).

“Fully Integrated System Dynamics Toolbox for Water Resources Planning: Economic Components,” with D. Brookshire, J. Thacher, K. Grimsrud. Sandia National Laboratories: (2006).

“A Quantitative Assessment of the Economic and Institutional Impacts of Climate Change on the Upper Rio Grande Valley Using an Integrated Geographic System,” with L. Scuderi, O.P Matthews, D.Brookshire, M. Campana National Science Foundation: (2004).

“An Integrated GIS Framework for Water Allocation and Decision-Making in the Upper Rio Grande Valley,” with L. Scuderi, O.P Matthews, M. Campana, D. Brookshire and K. Krause for the U.S. Environmental Protection Agency: (2004).

“The Impact of Heterogeneous Consumer Response on Water Conservation Goals,” with Kate Krause, Technical Completion Report No. 315 for the Water Resource Research Institute: (2001).

“The Impacts of Selling the Federal Helium Reserve,” with the Committee, prepared the the National Academy of Science: (2000). <https://www.nap.edu/catalog/9860/the-impact-of-selling-the-federal-helium-reserve>

“Preparing for a Changing Climate,” (P.I. W.A. Sprigg) report prepared for the U.S. Global Change Research Program, <http://www.ispe.arizona.edu/research/swassess/report.html>: (2000).

“The Economics of Technology Research and Development: Recovery of Natural Gas from Tight Sands,” with R.H. Patrick for the Gas Research Institute, Report No. GRI-92/0267: Washington, D.C.: National Technical Information Service: (1992).

**Conference Proceedings:**

“Urban Water Pricing: A Historical Perspective and the Challenges for the Future,” Proceedings of the 50<sup>th</sup> Annual New Mexico Water Conference: (2005).

“Measuring Transfer Prices, Option Values, and Pollution Control Costs with Limited Information,” with R.H. Patrick. Proceedings of the 13<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economics: (2004).

“A Generalized Economic-Hydrologic Model for Efficient Groundwater Production: The Value of Information,” with R.H. Patrick and J. Roach, Proceedings of the 13<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economics: (2004).

“Optimal Cropping and the Potential Impact of a Water Market on an Agrarian Community: A Case Study of the San Luis Valley, Colorado,” with M. Ewers and D. Brookshire, Proceedings of the 13<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economics: (2004).

“Urban Consumer Water Demand: A Field/Experimental Investigation,” with K.Krause, D.S. Brookshire, and H.S. Burness, *Hydrology: Science & Practice for the 21st Century*, Volume II, eds. B. Webb et al, British Hydrological Society: (2004).

“Development of a Model for the Reallocation of Water and Assessment of the Hydrological Effects of Climate Change in the Upper Rio Grande Basin, Southwestern USA,” with M. Campana, L. Scuderi, P. Matthews, D. Brookshire, K. Krause, K. Gregory, S. Snell, in A. Alsharan and W. Wood (eds.), Proceedings, *Dubai International Conference on Water Resources and Integrated Management in the Third Millennium*, London, A.A. Balkema: (2002).

“The Real Price of Oil: A Dynamic CGE Model of US Oil Policy,” with Roy Boyd, *Proceedings of the 22<sup>nd</sup> International Conference of the International Association for Energy Economics*: (1999).

“Comparing Tests of the Theory of Exhaustible Resources,” with R.H. Patrick, *World Congress of Environmental and Resource Economists Book of Abstracts*: (1998).

“A Microeconometric Test of the Theory of Exhaustible Resources,” with R.H. Patrick, *Abstracts for the Eighth Annual Conference of the European Association of Environmental and Resource Economists*: (1997).

“Modeling Uncertainty in Producing Natural Gas from Tight Sands,” with C.A. Dahl and R.H. Patrick in *Proceedings of the 18th International Conference of the International Association for Energy Economics*: (1995).

“Modeling Uncertainty in Production from Tight Gas Sand,” with C.A. Dahl and R.H. Patrick in *Proceedings of the 1995 Mineral Economics Management Society Annual Meeting*: (1995)



“A Well-Based Extraction Cost Function and the Economics of Exhaustible Resources: the Case of Natural Gas,” with R.H. Patrick, *Abstracts for the Fifth Annual Conference of the European Association of Environmental and Resource Economists*: (1994).

“Downstream Environmental Benefits Through Upstream Efficiency Improvements: The Natural Gas Industry,” with R.H. Patrick in *Proceedings of the 1993 North American Meetings of the International Association for Energy Economics*: (1993).

“Decreasing Marginal Production Costs and the Theory of Exhaustible Resources: The Case of Natural Gas,” with R.H. Patrick in *Proceedings of the 1993 Mineral Economics Management Society Annual Meeting*: (1993).

“The Role of Price Expectations in Natural Gas Drilling Activity: Policy Implications for the U.S. Industry,” with D.L. Moss in *Proceedings of the 1992 North American Meetings of the International Association for Energy Economics*: (1992).

“Policy Implications of Exhaustible Resource Theory for Natural Gas,” with R.H. Patrick in *Proceedings of the 1992 North American Meetings of the International Association for Energy Economics*: (1992).

“An Expository Note on the Calculation of Natural Gas Reserves,” *Proceedings of the Coal Market Strategies Conference*: (1991).

## **SUBMITTED AND WORKING PAPERS**

“Adaptive governance strategies to address wildfire and watershed resilience in New Mexico’s Upper Rio Grande Watershed,” M. Morgan, A. Webster, M. Piccarello, K. Jones, , L. McCarthy and J. Srinivasan.

“Differences in Energy Preferences: Examining willingness to pay for energy,” with K. Walter and J.A. Thacher.

“Residential Water Consumer Response to Price: A Field Experiment,” with R.H. Patrick, D.S. Brookshire, and K. Krause.

“Living Within Our Means,” with J.K. Hansen

“The Cost of Wildfire in the West,” with K. Walters.

“Oil Prices: Speculation, User Cost, or Market Power,” with R.H. Patrick.

“My Neighbor’s Cattle: Strategic Behavior in a Spatial-dynamic Model with an Invasive Weed,” with K. Grimsrud, J. Thacher, K. Krause, D. Schimmelpfennig, and J. Hansen.

“A Differential Game Model of Agent Response with Individually, Diffusing Stocks: Ranching and Invasive Weed Infestations,” with K. Grimsrud, J. Thacher, and K. Krause.

“Irreconcilable Differences: Tests of the Theory of Exhaustible Resources?” with R.H. Patrick.

“Measuring Pollution Control Costs under Imperfect Information,” with R.H. Patrick.

“Irreversible Discrete Capital Investments in Natural Resource Production,” with R.H. Patrick.

“When Supply and Demand are Inter-related: The Case of Water Markets Under Prior Appropriations,” with R.H. Patrick.

#### **INVITED PRESENTATIONS AND PANELS:**

“Economic Analysis in a Regional Economy,” Los Alamos National Laboratories TEA and LCA Workshop, Los Alamos, NM, July 20, 2023.

“Recycled Plastics in Infrastructure,” Straight to Webinair, National Academy of Science, Engineering and Medicine. Sept. 15, 2023. Recording. Available at: <https://webinar.mytrb.org/StraightToRecording/Details/72>

“Energy, Water, the Environment, and Economics,” 21 Club, Albuquerque, NM, October 11, 2021.

"New Mexico's Economy: Current Situation and Outlook for the Future," the New Mexico Legislative Economic and Rural Development Committee, virtual presentation, Aug 3, 2020.

"An Economic Evaluation of Flow Management on the Rio Chama," Rio Chama Working Group Annual Meeting, Albuquerque NM, Oct. 29, 2019.

“Attitudes and Preferences: Impact on the Future of New Mexico Energy,” the Farmington Museum’s Innovations in Energy. Farmington, NM, Nov. 11, 2017.

New Mexico’s Energy Road Map Steering Committee Meeting “*New Mexico, Energy and Policy*,” Albuquerque, NM, Aug. 10, 2017.

“Leadership in a Multi-disciplinary Environment: Creating a Shared Vision for Excellence, Inclusion and Growth,” AESE, Pennsylvania State University, State College, PA: Dec. 8, 2016.

“Combining the Social and Natural Sciences in Research,” Science on Tap Series, Albuquerque, NM: Sept. 8, 2016.

“People + Resources = Problems,” New Mexico Museum of Natural History’s Voice in Sciences Series, Albuquerque, NM: Dec 8, 2015.

“Economic Perspective on Water and Energy Supply in New Mexico,” UNM Water & Energy in NM Seminar Series, Albuquerque, NM: Sept 9, 2015.

“New Mexico Universities Working Group on Climate Vulnerability – Final Report,” “New

Mexico Legislative Water and Natural Resources Committee, Taos, NM: July 27, 2015.

“Human Preferences and Behavior and Their Impact on the Physical System,” Museum of Natural History Curator’s Coffee, Albuquerque, NM: May 12, 2015.

“New Mexico Universities Working Group on Climate Variability – Preliminary Findings,” New Mexico Legislative Water and Natural Resources Committee, Santa Fe, NM: Dec 2, 2014.

“New Mexico Universities Working Group on Climate Variability – Preliminary Findings,” WRRRI 59<sup>th</sup> Annual Water Conference, Santa Fe, NM: Nov 19, 2014.

“An Interdisciplinary Approach to Water Issues,” New Mexico Water Judges’ Seminar. Albuquerque, NM: Nov 7, 2014.

“Economics of Climate Change,” Briefing organized by the Union of Concerned Scientists to State of New Mexico Cabinet Secretaries (Agriculture, Environment, Minerals and Natural Resources, and State Engineer). Santa Fe, NM: Sept 17, 2014

“Water Use for Energy,” New Mexico Energy, Minerals, and Natural Resources Department’s “Listening Tour for the New Mexico Energy Plan (invited speaker), Las Cruces, NM, Mar 11, 2014.

“Economics, Climate Change, and New Mexico,” Union of Concerned Scientists, Business Leaders Roundtable. Albuquerque, NM: Mar 28, 2014.

“Water Pricing Structures,” ABCWUA Customer Advisory Board. Albuquerque, NM: Dec. 5, 2013.

“Wildfire Costs and WTP for Watershed Management.” Rio Grande Watershed Management Advisory Committee: Albuquerque, NM, Nov 15, 2013.

“Economics of Hydraulic Fracturing.” UNM Regent’s Committee on Academic/Student Affairs and Research: Albuquerque, NM, Oct 31, 2013.

“Economics of Hydraulic Fracturing.” Bingaman Day at the University of New Mexico, Albuquerque, NM, July 11, 2013.

“Review of the New Mexico Town Hall and Research Outcome,” EPSCoR External Review Team, Albuquerque, NM. Nov 29, 2012.

“Water Rates and Affordability Revisited” with J.K. Hansen. 2012 New Mexico Infrastructure Finance Conference. Taos, NM Oct 23, 2012.

“The Economics of Hydraulic Fracturing,” Invited presentation UNM Community and Regional Planning, Environmental Seminar, Albuquerque, NM Oct 9, 2012.

“Roundtable Discussion on Fire and Water in New Mexico,” Invited panelist, New Mexico First Town Hall on Fire and Water: Lessons Learned from the Las Conchas Fire: Albuquerque, NM June 5-6, 2012.

“Unconventional Gas and Oil - Innovation,” Invited panelist, 4<sup>th</sup> Global New Energy Summit. Colorado Springs, Colorado: April 10, 2012.

“Water Resource Policy and Climate Change: Future Challenges,” 3<sup>rd</sup> Annual EPSCoR Tri-State Consortium Meeting. Santa Ana Pueblo, New Mexico: April 7, 2011.

“Water Planning in Hard Times: Playing the Odds,” Plenary Address to The New Mexico Water Dialogue. Albuquerque, New Mexico. January 13, 2011.

“Oil Prices: Speculation, User Cost, or Market Power,” Rice University-University of Houston Empirical Microeconomics Seminar Series: November 30, 2010.

“Oil Prices: Speculation, User Cost, or Market Power,” University of New Mexico Department of Economics Seminar Series: November 5, 2010.

“Socioeconomic/Dynamic System Overview,” Presentation to the NSF EPSCoR Site Team. Albuquerque, New Mexico: October 26, 2010.

“Network/Transition,” Invited panelist, New Mexico EPSCoR All Hands Meeting, Albuquerque, New Mexico: October 18, 2010.

“The Economics Impact of Climate Change on New Mexico,” Sierra Club of Northern New Mexico: March 23, 2010.

“The Future of Energy in New Mexico: A discussion on Proposed Regulations for Carbon Emissions and New Energy Sources.” Invited panelist. Hosted by The Greater Albuquerque Chamber of Commerce: January 27, 2010.

“My Neighbor’s Cattle: Strategic Behavior in a Spatial-dynamic Model with an Invasive Weed,” presented in the Agricultural Economics and Rural Sociology Seminar Series, Pennsylvania State University: University Park, PA: November 5, 2009.

“Strategic Agent Behavior with an Invasive Weed,” 2009 PREISM Workshop, USDA, Washington, D.C.: October 22, 2009.

“Potential Impacts of Climate Change to New Mexico,” with Kristine Grimsrud: Fifth Annual Meeting of the Radioactive and Hazardous Materials Committee, Santa Fe, NM: November 12, 2009.

“Integration of Urban Water Demand Experiments into a DS Model,” presented at the 9<sup>th</sup> Annual Meeting of SAHRA, an NSF funded Science and Technology Center, Tucson, AZ: September 24, 2009.

“Climate Change will Cost No Matter What,” presented at the League of Women Voter’s Climate Change Workshop, Albuquerque, NM: August 21, 2009.

“Residential Water Pricing: Economics and Policy Issues,” presented in the Institute for Water

and Watersheds 2008 Water Resources Seminar Series, Oregon State University, Corvallis, OR: October 22, 2008.

“Economics and Water,” presented at the New Mexico Association of Grant Makers Water Conference, Las Vegas, NM: July 14, 2008

“Economics and Water in the Middle Rio Grande,” presented in the UNM, Department of Civil Engineering’s Rio Grande Seminar, Albuquerque, NM: November 28, 2006.

“Strategic Behavior, Incentives, Heterogeneity, and Invasive Species Management: An Update,” presented at the Workshop on the Program of Research on the Economics of Invasive Species Management, Washington, DC: October 19, 2006.

“Dynamic Modeling, Information Transfers, and Uncertainty,” presented at CREATE’s Workshop on Benefit Methodologies for Homeland Security Analysis, Washington, DC: June 9, 2006

“Strategic Behavior, Incentives, Heterogeneity, and Invasive Species Management,” invited presentation to the U.SDA Economic Research Service, Washington, DC: December 1, 2005.

“Water Rates and Affordability,” invited presentation at the State of New Mexico Water Infrastructure Conference, Albuquerque, NM: October 27, 2005.

“Integrating Behavioral and Physical Models: A Case Study of Tight Gas Sand Production,” presented in the UNM Earth and Planetary Science Colloquium Series, Albuquerque, NM: February 3, 2006.

“Urban Water Pricing: A Historical Perspective and the Challenges for the Future,” presented at the 50<sup>th</sup> Annual New Mexico Water Conference, Las Cruces, NM: October 19, 2005.

“Economic and Behavioral Considerations in Water Forbearance Programs,” with P. Ganderton, presented to the Water Acquisition and Management Committee, Albuquerque, NM: October 12, 2005.

“Water and Economic and Community Development,” presented to the 2<sup>nd</sup> UNM Water Forum, Albuquerque, NM: September 9, 2005.

“Urban Consumer Water Demand,” presented to the Water Dialogue Group, Albuquerque, NM: September 23, 2005.

“NM Water Rates and Affordability” with J. Hansen, presented to the State of New Mexico Interim Legislative Committee on Resources and Water, Albuquerque, NM: September 1, 2006.

“Water Prices and Expenditures in New Mexico” presented to the State of New Mexico Water Infrastructure Initiative Team, Santa Fe, NM: August 9, 2005.

“The Effect of Rate Policy on Water Use: Some Observations” presented at the University of New Mexico School of Law Second Annual Water Policy Seminar, Albuquerque, NM: May 20, 2005.

“Water Markets and the Value of Water,” plenary presentation to the Arizona Hydrological Society Annual Technical Symposium, Tucson, AZ: September 17, 2004.

“Water Prices and Scarcity,” presented to the State of New Mexico Interim Legislative Committee on Resources and Water, Albuquerque, NM: August 11, 2004

“Mexico-U.S. Transboundary Water Issues: An Economic View,” presented at an International Education Week Symposium at the University of New Mexico, sponsored by the Latin American and Iberian Institute, Albuquerque, NM: November 19, 2003.

“SAHRA Science: Improving Understanding of Semi-arid Hydrology Supply and Demand.” Invited presentation at the 3<sup>rd</sup> Annual Meeting of SAHRA, an NSF funded Science and Technology Center, Tucson, AZ: October 15, 2003.

“Urban Water, Prices, and Scarcity,” presented to the State of New Mexico Interim Legislative Committee on Natural Resources and Water, Red River, NM: July 17, 2003

“Assessing Tradeoffs in Water Policy Using Integrated Modeling,” with D.S. Brookshire presented to the Governor’s Blue Ribbon Task Force on Water, Albuquerque, NM: May 15, 2002.

#### **CONFERENCE SESSIONS ORGANIZER:**

The 120<sup>th</sup> Meeting of the American Economics Association. Organized the AERE Session “Extensions and New Applications of the Hotelling Model,” New Orleans, LA: January 2008.

#### **CONFERENCE PRESENTATIONS (peer reviewed)**

The 33<sup>rd</sup> Annual Western Conference on Regulation and Competition in Network Industries. "Consumer Response to a Utility Controlled Conservation Program." Monterey, CA: June 24-26, 2020.

The 32<sup>nd</sup> Annual Western Conference on Regulation and Competition in Network Industries. "Modeling Residential Water Pricing Mechanisms." Monterey, CA: June 26-28, 2019.

The 31<sup>st</sup> Annual Western Conference on Regulation and Competition in Network Industries, “Welfare Impacts of Residential Water Pricing Mechanisms.” Monterey, CA: June 27-29, 2018.

The 30<sup>th</sup> Annual Western Conference on Regulation and Competition in Network Industries, “Optimizing Production of Hydrocarbons and Water.” with R.H. Patrick. Monterey, CA: June 28-30, 2017.

The 34<sup>th</sup> US Association of Energy Economics/International Association of Energy Economics North American Conference, “Optimizing Production of Hydrocarbons and Water: Incentives for Goods and Bads.” with R.H. Patrick. Tulsa, OK: Oct. 23-26, 2016.

EPI’s 6<sup>th</sup> Energy Policy Research Conference “Optimizing Production of Hydrocarbons and Water: Incentives for Goods and Bads.” with R.H. Patrick. Santa Fe, NM: Sept. 8-9, 2016.

The 33<sup>rd</sup> US Association of Energy Economics/International Association of Energy Economics North American Conference, “Modeling Oil Markets,” with R.H. Patrick. Pittsburgh, PA: Oct 25 – 28, 2015.

The 28<sup>th</sup> Annual Western Conference on Regulation and Competition in Network Industries, “Water Commodity Pricing and Conservation Incentives,” with K. Krause, D.S. Brookshire and R.H. Patrick: Monterey, CA June 24-26, 2015

The 27<sup>th</sup> Annual Western Conference on Regulation and Competition in Network Industries, “The Energy-Water Nexus and the Disconnect of Regulation and Policy,” with R.H. Patrick. Monterey, CA: June 25-27, 2014.

The 26<sup>th</sup> Annual Western Conference on Regulation and Competition in Network Industries, “The Economics of Shale Gas Production,” with R.H. Patrick and J.W. Crafton. Monterey, CA: June 19-21, 2013.

The 31<sup>st</sup> US Association of Energy Economics/International Association of Energy Economics North American Conference. “Synchronizing Electricity and Natural Gas Markets,” with R.H. Patrick. Austin, TX: Nov. 4-7, 2013.

The 31<sup>th</sup> Annual Eastern Conference of the Advanced Workshop in Regulation and Public Utility Economics: “Shale Gas, Competition and Regulation,” with R.H. Patrick and J.W. Crafton. Delaware, PA: May 18-19, 2012.

The American Water Resources Association Annual Water Resources Conference:

- “Demand Side Management: The Impact of Incentives under Increasing Scarcity,” with V. Tidwell, J.I. Price, J. Felardo, and J. Roach.
- “Residential Water Consumer Behavior Under Increasing Water Prices,” with K. Krause and D. S. Brookshire.

Albuquerque, NM: November 7-10, 2011.

The 30<sup>th</sup> US Association of Energy Economics/International Association of Energy Economics North American Conference. “Option Values of Alternative Completion and Production Strategies in Shale Gas Plays,” with J. Crafton and R.H. Patrick, Washington, D.C., October 9-12, 2011.

The 18<sup>th</sup> Annual Conference of the European Association for Environmental and Resource Economists. “Oil Prices: Speculation, Option Value, or Market Power,” with R.H. Patrick, Rome, Italy, June 29-July 2, 2011.

The American Water Resources Association Annual Conference: “Market Power, Price

Volatility, and Market Mechanisms in Water Markets Under Prior Appropriations,” with R.H. Patrick, Albuquerque, NM: October 12-15, 2007.

The American Water Resources Association Annual Conference: “Interdisciplinary Water Resource Modeling: When Economics and Hydrology Interact,” with V.C. Tidwell, D.S. Brookshire, L. Malczynski J. Thacher, K. Grimsrud, J. Roach, and J. Hansen, Albuquerque, NM: October 12-15, 2007.

The 117<sup>th</sup> Meeting of the American Economic Association (AERE Session): “The Theory of Exhaustible Resources: What Are Econometric Methodologies Testing?” with R.H. Patrick, Philadelphia, PA: January 6-9, 2005.

The 2<sup>nd</sup> International Symposium on Transboundary Water Management: “Issues in the Experimental Determination of Urban Water Demand,” with K. Krause, D.S. Brookshire, S. Stewart, and H.S. Burness, Tucson, AZ: November 17-19, 2004.

British Hydrological Society International Conference, “Water Consumption: Comparing Consumer Response for Water Demand In and Out of the Laboratory,” with K. Krause and D.S. Brookshire, London England: July 12-16, 2004

The European Geophysical Society-American Geophysical Union-European Union of Geosciences Joint Assembly 2003:

- “Water Scarcity, Market-based Incentives, and Consumer Response,” with K. Krause and D.S. Brookshire
  - “Integrated Modeling, Data Transfers, and Physical Models,” with D.S. Brookshire
- Nice, France: April 6-11, 2003.

The Second World Congress of Environmental and Resource Economists: “Water Demand: Consumer Response to Scarcity,” with K. Krause and D. Brookshire. Monterey, CA: June 2002.

The 114<sup>th</sup> Meeting of the American Economic Association (AERE Session): “Water Consumption: Comparing Consumer Response in and Out of the Lab,” with K. Krause and D. Brookshire. Atlanta, GA: January 2002

The 10<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economists:

- “Benefit Transfers: A Case study of the Middle Rio Grande,” with D. Brookshire and R. DiSimone
  - “A Microeconomic Test of the Theory of Exhaustible Resources,” with R.H. Patrick.
- University of Crete, Rhythmo, Greece: June 2000

The 112<sup>th</sup> Annual Meeting of the American Economic Association (AERE Session): “Reconciling Empirical Tests of the Theory of Exhaustible Resources,” with R.H. Patrick, Boston, MA: January 2000.

CU Environmental and Resource Economic Workshop “Product Pricing and the Impact of Heterogeneous Demand for Environmental Goods,” with K. Krause, Boulder, CO, July 1999.



The 12<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Competition: “Product Pricing and the Impact of Heterogeneous Demand for Environmental Goods,” with K. Krause, San Diego, CA: July 1999.

World Congress of Environmental and Resource Economists: “Comparing Empirical Tests of the Theory of Exhaustible Resources,” with R.H. Patrick, Venice, Italy: June 1998.

Workshop on Creating Career Opportunities for Female Economists sponsored by the National Science Foundation and the American Economic Association Committee for the Status of Women in the Economics Profession: Participant, Chicago, IL: January 1998.

The 18<sup>th</sup> Annual North American Conference of the International Association for Energy Economics:

- “Order 636 and the Natural Gas Industry,” and
- “A Microeconomic Test of the Theory of Exhaustible Resources,” with R.H. Patrick, San Francisco, CA: September 1997.

The 10<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics: “Order 636 and the Natural Gas Industry,” San Diego, CA: July 1997.

The 8<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economists: “A Microeconomic Test of the Theory of Exhaustible Resources,” with R.H. Patrick, Tilburg University, Tilburg, The Netherlands: June 1997.

The 108<sup>th</sup> Annual Meeting of the American Economic Association (AEA Session): “A Microeconomic Test of the Theory of Exhaustible Resources,” with R.H. Patrick, San Francisco, CA: January 1996.

The 8<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics: “The Economic Possibilities of Natural Gas Conservation: Antithetical Results of Prorating Regulation,” San Diego, CA: July 1995

The 5<sup>th</sup> Annual Meetings of the Mineral Economic Management Society: “Modeling Uncertainty in Production from Tight Gas Sands,” with C.A. Dahl and R.H. Patrick, Boulder, CO: March 1995.

The 16<sup>th</sup> Annual North American Meetings of the International Association for Energy Economics: “Modeling Uncertainty in Producing Natural Gas from Tight Sands,” with C.A. Dahl, and R.H. Patrick, Dallas, TX: October 1995.

The 7<sup>th</sup> Annual Western Conference of the Advanced Workshop in Regulation and Public Utility Economics: “Incentives in Pipeline Pricing and Capacity,” San Diego, CA: July 1994.

The 5<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economists: “A Well-Based Cost Function and the Economics of Exhaustible Resources: The Case of Natural Gas,” with R.H. Patrick, University College, Dublin, Ireland: June 1994.

The 15<sup>th</sup> Annual North American Meetings of the International Association for Energy Economics: “Downstream Environmental Benefits Through Upstream Efficiency Improvements:

The Natural Gas Industry,” with R.H. Patrick, Seattle, WA: October 1993.

The 105<sup>th</sup> Meeting of the American Economic Association (AERE Session): “Policy Implications of Exhaustible Resource Theory for Natural Gas Production, Contracting, and Regulation,” with R.H. Patrick, Anaheim, CA: January 1993.

The 14<sup>th</sup> Annual North American Meetings of the International Association for Energy Economics: “Policy Implications of Exhaustible Resource Theory for Natural Gas,” with R.H. Patrick, New Orleans, LA: October 1992.

The Coal Market Strategies Conference: “An Expository Note on the Calculation of Natural Gas Reserves,” Denver, CO: October 1991.

## GRANTS

### Funded:

Department of Energy, "Energy Transitions in the Intermountain West", (LANL Lead Institution) UNM Sub-award Lead-PI, \$150,000: 07/01/2021-06/30/2022.

National Science Foundation, SRS RN: "Transforming Rural-Urban Systems: Trajectories for Sustainability in the Intermountain West," Senior Personnel (PI: M Stone): \$15,000,000: 09/01/21 - 08/31/2026

Department of Energy, "San Juan Basin CarbonSAFE Phase III: Ensuring Safe Subsurface Storage of CO<sub>2</sub> in Saline Reservoirs," (NM Tech Lead Institution) UNM Sub-award Lead-PI, UNM Budget , \$183,500: 10/01/2020 - 09/30/2022.

NM WRI Faculty Water Research Grant, “Analysis of the Relationship Between Water, Oil and Gas in New Mexico: Investigation of Future Trends,” Co-PI (PI - B.Thomson), \$30,000: 02/01/2020-06/31/2020.

New Mexico Energy Conservation and Management Division, "Modeling the Impact of Energy Efficiency Programs Across the NM Council of Government Districts," PI, \$50,000: 01/01/2020-12/31/2020

National Science Foundation, “CREST Center for Water and the Environment II (Renewal)” Investigator with PI Kerry Howe, \$5,000,000; 2020 -2024

National Science Foundation. “New Mexico EPSCOR Smart Grid Center,” Investigator with William Michener (PI), \$21,000,000: 09/01/2018 – 08/31/2023.

NM Water Resources Research Institute FY19 Student Research Grant Q01982: (Student Researcher: Alyssa Latuchie): \$6,000 06/01/2018-05/31/2019.

NM Water Resources Research Institute FY18 Student Research Grant Q01982: (Student Researcher: Suzanne Stradling): \$6,000 06/01/2018-05/31/2019.

Bureau of Reclamation, “Rio Chama Environmental Flows Project,” Co-PI with Mark Stone (PI), \$69,700: 9/21/2017 – 9/21/2019.

Thornburgh Foundation, “Economic Drivers of Rangeland Use,” Co-PI with S. McDermott (PI) and J. Thacher (Co-PI), \$67,000: 07/01/2015 – 06/30/2016.

Water Research Foundation, “Identifying and Evaluating Opportunities for Reducing Variability of Utility Revenues,” participant with H. Himmelberger (PI), J. Thacher (participant) and J. Wang (participant), \$278,000; 01/01/2015-07/01/2016.

New Mexico Legislature, “New Mexico Universities Working Group on Climate Variability and Drought Vulnerabilities in New Mexico: Working Group,” Co-PI, \$100,000; 2015.

National Science Foundation, “CREST Center for Water and the Environment,” Investigator with PI Kerry Howe, \$4,967,000; 2015-2019

National Science Foundation. “Energize New Mexico,” Co-PI with W. Michner, (PI), J. Thacher, Investigator, \$21,000,000 (UNM Econ \$585,000); 2013-2017.

College of Arts and Sciences. Maximizing Ecological Sustainability with Ensuring Economic Viability on the Armendaris Ranch: Valuing Tradeoffs among Competing Ranch Activities, Co-PI with J. Thacher, PI, \$10,000; 2012-2013.

National Science Foundation. “New Mexico EPSCOR RII 3: Climate Change Impacts on New Mexico’s Mountain Sources of Water,” (\$148,000 UNM Economics: Co-PI) 2008/2013.

State of New Mexico Department of Taxation and Revenue. “Western Climate Initiative,” PI. (\$24,000) 2008.

National Parks Service. “Valuation of Riparian and Aquatic Resources, Black Canyon of the Gunnison NP,” PI. (\$54,924) 2007/2009.

American Water Works Association Research Foundation “Setting Water Utility Investment Priorities: Assessing Customer Preferences and Willingness to Pay,” Co-PI with J. Thacher (PI) and B. Thomson. (\$476,860) 2008/2009.

United States Department of Agriculture, Risk Management Agency, subcontract through National Drought Mitigation Center (University of Nebraska), “Drought, Risk and Mitigation Information System,” PI. (\$50,950) 2007/2009.

United States Department of Agriculture, Economic Research Service “Strategic Behavior, Incentives, Heterogeneity, and Invasive Species Management,” PI with K. Grimsrud, J. Thacher, and K. Krause (\$240,000) 2005/2008.

Water Resources Research Institute, "Predicting Land Use Change and Its Effect of Nonpoint Source Pollution, Co-PI with J. Thacher (PI). (\$30,000) 2005/2007.

UNM Office of the Provost and Office of the Dean of Arts and Sciences, "Equity in Faculty Compensation and Advancement at UNM" (Co-PI) with M. Binder, K. Krause, and J. Thacher. (\$27,000) 2005/2006.

Los Alamos National Laboratories, "The ZeroNet Project," Co-PI. (\$69,400). 2004/2005.

Sandia National Laboratory, "Fully Integrated System Dynamics Toolbox for Water Resources Planning," PI with D. Brookshire, J. Thacher, K. Grimsrud. (\$300,000). 2004/2006.

Sandia National Laboratory, "Consumer Confidence in Markets," PI with R. Santos. (\$7,500) 2004.

National Science Foundation, "Efficient Management of the Water Resources in a Semi-Arid Region," a Science Technology Center housed at the University of Arizona. Co-PI with D. Brookshire (PI), and K. Krause. (\$700,000 UNM Economics) 2000/2006.

National Science Foundation, "A Quantitative Assessment of the Economic and Institutional Impacts of Climate Change on the Upper Rio Grande Valley Using an Integrated GIS Framework," Co-PI with L. Scuderi, O.P. Mathews (PI), D.S. Brookshire, and M. Campana, (\$675,000) 2000/2002.

Environmental Protection Agency STAR Grant, "An Intergenerational GIS Framework for Water Reallocation and Decision Making In the Upper Rio Grande Basin," Co-PI with O.P. Mathews, D. Brookshire (PI), M. Campana, L. Scuderi, K. Gregory, S. Snell, and K. Krause, (\$451,000) 2000/2002

National Science Foundation Research Opportunities for Undergraduate Education, "Industrial and Commercial Water Demand," PI with D. Brookshire and K. Krause (in conjunction with the Science and Technology Center at the University of Arizona). (\$14,500) 2001/2003.

Water Resources Research Institute, "The Impact of Heterogeneous Consumer Response on Water Conservation Goals," PI with K. Krause, (\$14,998). 1999/2000.

United States Geologic Survey, "The Potential Consequences of Climate Variability and Change: An Assessment for the Southwest," (\$12,500) 1998/99.

National Science Foundation and Western Alliance to Expand Student Opportunities, "Intergenerational Responsibility for Environmental Resources," PI with K. Krause, (\$1,650) 1998.

## Select Media INTERVIEWS

New Mexico In Focus Facebook

"The Truth about Inflation," Dec 20, 2021 available at:  
<https://www.facebook.com/nminfocus/videos/3048222822133070/>

## New Mexico In Focus

"Economics of Climate Change," Feb 18, 2021 available at:  
<https://www.newmexicopbs.org/productions/newmexicoinfofocus/talking-tax-reform-economics-of-climate-change-deb-haaland-nomination-fight/>

## Here and There with David Marash (KSFR Radio);

06/08/2020 - Turbulent Oil Markets Keep NM in the Resource Trap. Pod cast available at:  
<https://davemarash.com/2020/06/08/janie-chermack-unm-turbulent-oil-markets-keep-nm-in-the-resource-trap/>

01/10/2017 - Oil Price. Pod cast available at  
<http://davemarash.com/2017/01/10/tuesday-110-janie-chermak-university-new-mexico-energy-economics-new-mexico/>

07/30/2015 - Falling Oil Price. Pod cast available at  
<http://ksfr.org/post/july-30-unm-economist-janie-chermack-says-global-oil-market-has-farther-fall#stream/0>

01/16/2015 – The Impact of Falling Oil Prices. Pod cast available at  
<https://itunes.apple.com/us/podcast/hereandtherewithdavemarashs/id930978944>

## Santa Fe New Mexican

“Permian Basin Asks: How long can boom last?” (01/13/2019)

## Carlsbad Current Argus

“Oil prices reach 4 year high, experts question consistency” (05/18/2018)

## KOAT Action 7 News:

Holiday Gasoline Prices: June 30, 2018  
4<sup>th</sup> of July Gasoline Prices: June 30, 2016.

Albuquerque Free Press: “Beer Town: Will the Beer Bubble Burst?” T. Bannermann June 15-28, 2016. Available at: <http://www.freeabq.com/wp-content/uploads/2016/06/Vol-III-Issue-12-June-15-2016.pdf>

## Real Money with Ali Velshi (Al Jazeera America);

11/06/2014 – Impact of Oil Prices  
08/06/2014 – Hydraulic Fracturing  
05/14/2014 – Drought and Energy

**AWARDS, HONORS, AND APPOINTMENTS**

Invited member of the Committee on Repurposing Waste in Infrastructure: National Academies of Sciences, Engineering, Medicine. 2021-2023

Invited member of the Scientific Advisory Board for LandValUse: Integrated welfare assessment of climate and biodiversity impacts of land use: From promise to policy solutions, funded by The Research Council of Norway. 2021-2025.

*Resources* Topics Editor. 2020-2021

Rio Grande Water Fund Invited Executive Board Member. 2020 -

Invited Participant of the Technical Group of the New Mexico, Energy, Minerals and Natural Resource Department Grid Modernization Advisory Group. 2020

Albuquerque Bernalillo Water Utility Authority Technical Customer Advisory Committee. 2016- (Committee Chair 2019)

Invited member of the Science Advisory Council convened to review the science of the American Water Resources Association and of the Journal of the American Water Resources Association. 2016-2017.

Global Energy Management Program (UC-Denver). Outstanding Instructor 2016.

Invited study committee member on the Economics of Helium sponsored by the American Physical Society (APS)'s Panel on Public Affairs, the Materials Research Society, and the American Chemical Society, 2015.

*Water Resources Research* Associate Editor. 2009-2014

Western State College, Named one of the Top 100 Westerners of All Time. 2012.

Invited member of the review panel for the Economic Sustainability Plan for the Sacramento San-Joaquin Delta (Delta Science Project) 2011.

University of New Mexico, Office of Graduate Studies, Faculty Mentor Award, 2011.

National Academy of Science's National Research Council. Committee on Understanding the Impact of Selling the U.S. Helium Reserve Member, 2008-2009.

Bernalillo County Ground Water Quality Board Member, 2006-2009. Invited Member of the New Mexico Technical Team on Climate Change and the Impact on Water. 2005/2006.

Curriculum Board Member Water Resources Program. University of New Mexico. 2001-2008

Invited Member of the Southwest Climate Change Assessment Team. Sponsored by the U.S. Global Change Research Program in conjunction with the White House Office of Science and Technology Policy, 1998/99.

Invited Member of the Second World Congress of Environmental and Resource Economists Site Selection Committee, 1999.

Association of Environmental and Resource Economists Travel Grant to attend the World Congress of Environmental and Resource Economists, Venice, Italy: June, 1998.

Invited Participant to the Workshop on Creating Career Opportunities for Female Economists, sponsored by the National Science Foundation and the American Economic Association's Committee for the Status in the Economics Profession, Chicago, IL: January 1998.

Outstanding Research Achievement Award, Naval Postgraduate School 1994.

### **DISSERTATION COMMITTEES Major Advisor\*/Committee Member**

#### ***In Progress:***

Ewa Olzowska\*

Michael Ford\*A

#### ***Completed:*** (initial placement)

##### Major Advisor or Co-Advisor:

Aditi Sarkar 2023 (Discover)

Jake Organ 2020 (University of Pittsburgh)

Kara Walters 2019 (Colorado Mesa University)

Elmira Kalhor 2019 (Post-doctoral Fellowship Princeton University)

Salah Al-Mamun 2019 (Post-doctoral Fellowship University of Minnesota)

Jamal Mamkhezri 2019 - passed with distinction (New Mexico State University)

Na Lu 2019 (Presbyterian Health)

Janak Joshi 2018 (Central Michigan University)

Dadhi Adhikari 2017 (Northern Virginia Community College)

Yingzhe Cheng 2017 (The NPD Group)

Benjamin Jones 2015 - passed with distinction (University of Oklahoma)

Jeff Felardo 2013 (Eckerd College)

David Dixon 2011 (Eckerd College)

Jason Hansen 2009 - Tom J. Popejoy Dissertation Prize Winner (Naval Postgraduate School)

Rohnn Sanderson 2009 (Brescia University)

Gwen Aldrich 2008 (State of New Mexico)

Joe Saloio 2008 (Sandia National Laboratories)

Mary Ewers 2004 (Los Alamos National Laboratories)

James Cash 2000 (USDA Economic Research Service)

##### Committee Member

Jesse Kaczmarek 2023 (Alaska Center for Energy and Power)

Tohid Khalili 2022 [Electrical Engineering] (Public Service of New Mexico)

Mo O'Donnell 2018 (NM Bureau of Business and Economics)

Katie Zemlick 2018 [Civil Engineering - UNM] (NSF Post-doctoral fellowship)  
 Heidi Pitts 2015 (State of New Mexico Public Regulatory Commission)  
 Robby Fonner 2014 (State of Oregon Public Utility Commission)  
 James I. Price 2012 (Post-doctoral fellowship University of British Columbia – Okanagan)  
 Jesse Roach - [Hydrology - University of Arizona] - 2007 (Sandia National Laboratories)  
 Hale Thurston 1999 (US Environmental Protection Agency)  
 Christian Schmidt 1996 (Deutsche Bundespost)

### **MASTERS COMMITTEES Major Advisor\*/Committee Member**

Vanessa Vargas\* 2010  
 Chi-Hsin Chang \* 2010  
 Angely Andrea Carcamo Gallardo 2010  
 Amber Ritter M.A. 2009

### **PROFESSIONAL PROJECTS (\*Major Advisor)**

#### Water Resources Program

Meghan Oldham\* 2018  
 Ashley Hooper 2014  
 Ralph Monfort 2012  
 Rachel Friedman 2012  
 Katie Zemlick 2011  
 Megan Marsee 2010  
 Shawn Hardeman 2008  
 Emma Nolan\* 2007  
 Annelia Tinklenburg 2007  
 Andrew Funk\* 2006  
 Julie Anderson 2005  
 Anne Demint 2005  
 Barbara Heemink 2005  
 Steve Kolk 2003  
 Lynne Paretchan 2003  
 Hirotako Sato 1999

#### School of Architecture and Planning

Julia Bingham 1997.  
 Julia Sabin 1996.

### **COURSES TAUGHT**

#### ***Graduate:***

#### University of New Mexico

Survey of Natural Resource and Environmental Economics (Fall: 1999, 2010)  
 Natural Resource Economics (Fall: 1996, 2002, 2005, 2008, 2011, 2013, 2015 Spring: 2004, 2018, 2021)  
 Natural Resource Modeling (Fall: 2006, Spring: 2008)  
 Economic Theory (Fall: 2003, 2004)



Microeconomic Theory I (Spring: 1996, 1997, 1998, 2002, 2003, 2006, Fall: 2007, 2008, 2016)  
 Microeconomic Theory II (Fall: 2007)  
 Mathematical Economics (Fall: 1997, 1998, 2011)  
 Seminar in Industrial Organization (Fall: 2006, 2012, Spring: 2009)  
 Seminar in Energy Markets (Spring 2011)  
 Seminar in the Economics of Energy and Climate Change (Spring 2019)  
 Interdisciplinary Water Resources I: Basin Survey (Fall: 2000)  
 Interdisciplinary Water Resources II: Modeling (Spring: 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015)

#### University of Colorado - Denver

Global Energy Economics and Markets (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022)

#### Naval Postgraduate School

Managerial Economics (Summer: 1994)  
 Resources Management Short Course. Domestic and International including: Romania (1995), Hungary (1993, 1995), Slovakia (1994), Czech Republic (1994), Norway (1993), Sri Lanka (1993)

#### ***Undergraduate:***

Seminar in the Economics of Energy and Climate Change (Spring: 2010, 2012, Fall 2014, 2019)  
 Seminar in Energy Markets (Spring 2011)  
 Industrial Organization (Fall: 2000, 2002, 2005, Spring 2022)  
 History of Economic Theory and Models (Spring 2000)  
 Intermediate Microeconomics (Fall 2016, 2018, 2019, 2020; Spring 2017, 2020, 2023)  
 Mathematical Methods in Economics (Spring: 1999, 2001, 2005, Fall: 2003)  
 Principles of Microeconomics (Fall: 1990, 1995, 1996, 1997, 1998, 1999, Spring: 1991, 1995, 1996, 1997, 1998, 1999, 2002, 2005, 2021)  
 Natural Resource Economics (Fall: 1995, Spring: 2000, 2015, 2016, 2017)  
 Society and the Environment (Fall 2002: Spring 2024)

#### **REVIEWS FOR JOURNALS**

*Contemporary Economic Policy, Economic Inquiry, Environmental and Development Economics, Environmental and Resource Economics, European Journal of Political Economy, Journal of Economic Literature, Journal of Regulatory Economics, Journal of Econometrics, Journal of Environmental Economics and Management, Natural Resources Modeling, Northwest Journal of Business and Economics, Resources and Energy Economics, Resources Policy, The Energy Journal, International Transactions in Operational Research, Choices, Land Economics, Engineering Economics, Berkeley Electronic Press Journal of Economic Analysis and Policy, Water Resources Research, Ecological Economics, Society and Rationality, Journal of Environmental Management, Economic Inquiry, Natural Resources Modeling, Energy Economics, Journal of Economic Behavioral and Organization, Journal of the European Economic Association, Energy Policy, Hydrogeology Journal, Mineral Economics, Energy Strategy Reviews, Energy Efficiency, Journal of Policy Analysis and Management, Energy Efficiency, Sustainable Cities and Society, Energy*

#### **REVIEWS FOR AGENCIES OR ORGANIZATIONS**

National Science Foundation, Social Sciences and Humanities Research Council of Canada, U.S. Environmental Protection Agency, Energy Information Administration, South Asian Network for Development and Environmental Economics, Delta Science Program, American Water Resources Association Strategic Review, Massachusetts Agricultural Experiment Station Grant Proposals

## UNIVERSITY SERVICE

### *College or University:*

- 2023-2024: Office of the President Budget Leadership Team; Faculty Senate Research Committee
- 2022-2023: Office of the President Budget Leadership Team; Faculty Senate Research Committee; Faculty Senate Governmental Relations Committee; College of Arts and Sciences Scholarship Committee; College of Arts and Sciences Space Allocation Committee; College of Arts and Sciences Associate Dean Search Committee Chair; College of Population Health Executive Committee Member; Associate Vice President of Research Search Committee Member.
- 2021-2022: Office of the President Budget Leadership Team; Faculty Senate Research Committee; Faculty Senate Governmental Relations Committee; College of Arts and Sciences Scholarship Committee; College of Arts and Sciences Space Allocation Committee
- 2020-2021: Office of the President Budget Leadership Team; Faculty Senate Budget Committee; Faculty Senate Research Committee; Internal Review Member Department of Political Science External Review, Faculty Senate Governmental Relations Committee; Sustainability Studies Program Lecturer Hiring Committee; Water Resources Program Director Hiring Committee Chair
- 2019-2020: Office of the President Budget Leadership Team; Faculty Senate Budget Committee Chair; A&S Senior Promotion Committee; Computer Science Faculty Search; Faculty Senate Research Committee; Faculty Senate Governmental Relations Committee
- 2018-2019: Office of the President Budget Leadership Team; Faculty Senate Budget Committee; A&S Senior Promotion Committee; Computer Science Faculty Search
- 2017-2018: Office of the President Budget Leadership Team
- 2016-2017: Office of the President Budget Leadership Team
- 2016-2017: Faculty Senate Budget Committee Co-Chair; A&S Senior Promotion Committee; Office of the Vice President of Research's Strategic Research Planning Committee; Chair, Office of the Vice President of Research's Environmental Research Scan Subcommittee; Office of the President Budget Leadership Team; Internal Review Member Department of Geography External Review
- 2015-2016: Faculty Senate Budget Committee Co-Chair; A&S Senior Promotion Committee; Provost's Committee on Salary Equity
- 2014-2015: Faculty Senate Budget Committee
- 2013-2014: Faculty Senate Budget Committee Member; Provost's Promotion and Tenure Review
- 2011-2012: Faculty Senate, Senate Graduate and Professional Committee, Provost's Promotion and Tenure Review
- 2009-2012: Senate Graduate and Professional Committee
- 2008-2009: Conflict of Interest Sub-C Committee, Geography Department Chair Search

## Committee

2007-2008: Conflict of Interest Sub-C Committee  
 2006-2007: Conflict of Interest Sub-C Committee, Water Planning Advisory Group  
 Geography Department Faculty Search Committee  
 2005-2006: Search Committee Co-Chair for the Director of the Water Resources Program  
 Water Planning Advisory Group  
 2004-2005: Search Committee for Director, the Office for Policy, Security and Technology  
 2002-2004: Sabbatical Committee

**Departmental:**

2022-2023: Personnel Committee  
 2020-2021: Graduate Studies Committee, Graduate Director  
 2019-2020: Graduate Studies Committee; Faculty Search Committee Chair  
 2018-2019: Graduate Studies Committee; Graduate Director; Salary Committee  
 2017-2018: Microeconomics Core Examination Committee; Salary Committee  
  
 2016-2017: Personnel Committee  
 2015-2016: Chair, Personnel Committee, Faculty Hiring Officer; Chair Microeconomics Core  
 Examination Committee  
 2014-2015: Chair, Personnel Committee, Faculty Hiring Officer  
 2013-2014: Chair, Personnel Committee, Faculty Hiring Officer  
 2012-2013: Chair, Personnel Committee, Faculty Hiring Officer  
 2011-2012: Graduate Studies, Core Examination (chair), Faculty Search (ERE chair), Salary  
 2010-2011: Graduate Studies, Core Examination Committee, External Review Committee, Co-  
 Chair  
 2009-2010: Graduate Studies, Hiring  
 2008-2009: Graduate Studies, Graduate Director, Microeconomic Core Examination Committee,  
 Seminar Committee  
 2007-2008: Microeconomic Core Examination Committee, Seminar Committee, Hiring  
 2006-2007: Graduate Studies, Graduate Director, Microeconomic Core Examination  
 Committee, Seminar Committee, Applied Masters Feasibility Committee  
 2005-2006: Graduate Studies, Graduate Director, Microeconomic Core Examination Committee  
 2004-2005: Graduate Studies, Graduate Director, Microeconomic Core Examination Committee  
 2003-2004: Graduate Studies, Graduate Director (Fall 2003-), Faculty Hiring, Chair (Spring  
 2003), Salary Committee, Natural Resource and Environmental Field Examination,  
 Microeconomic Core Examination, Macroeconomic Core Examination Committee  
 2002-2003: Graduate Studies, Faculty Hiring (Chair), Salary, Natural Resource and  
 Environmental Field Examination, Microeconomic Core Examination  
 2001-2002: Graduate Studies, Salary, Natural Resource and Environmental Field, Examination,  
 Microeconomic Core Examination  
 2000-2001: Graduate Studies, Personnel, Natural Resource and Environmental Field  
 Examination, Experimental Lab,  
 1999-2000: Undergraduate Studies (Undergraduate Advisor: Spring 2000), Natural Resource and  
 Environmental Field Examination, Departmental Evaluation, Experimental Lab  
 1998-1999: Microeconomic Core Examinations, Natural Resource and Environmental Field  
 Examinations (Chair), Departmental Evaluation, Experimental Lab  
 1997-1998: Microeconomic Core Examination, Natural Resource and Environmental Field

Examination, Graduate Studies, Departmental Evaluation, Peer Teaching Review  
 1996-1997: Microeconomic Core Examination, Natural Resource and Environmental Field  
 Examination (Chair), Faculty Recruitment, Information, Experimental Lab, Student  
 Evaluation Review  
 1995-1996: Microeconomic Core Examination, Natural Resource and Environmental Field  
 Examination, Faculty Recruitment

## ADVISING AND REVIEW CONSULTATIONS

GRYNBERG PETROLEUM Denver, CO	Aug 2020 -
SANDIA NATIONAL LABORATORIES Albuquerque, NM	July 2015 – Dec 2018
GRYNBERG PETROLEUM Denver, CO	Jan 2018 – July 2018
INTERSTATE-STREAM COMMISSION Santa Fe, NM	Mar 2015 – June 2016
INDUSTRIAL ECONOMICS INC. Boston, MA	Jan 2013 – July 2013
SCIENCE PERFORMANCE INC. Evergreen, CO	July 2011 – June 2012
DELTA SCIENCE PROJECT Sacramento, CA	Oct. 2011 - Dec. 2011
GALLEGOS LAW FIRM, P.C. Santa Fe, New Mexico	Feb. 2010 - May 2011
NEW MEXICO ENVIRONMENTAL DEPARTMENT Santa Fe, NM	Jan. 2010 - Sept 2010

## OTHER WORK EXPERIENCE

Economic and Geologic Analyst for: AMERICAN WELDING SOCIETY Denver, Colorado; HOMESTAKE MINING COMPANY, Denver, Colorado; MINPROC, Denver, Colorado	Aug. 1986-April 1990
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Exploration and Production Geologist, NATURAL GAS CORPORATION OF CALIFORNIA, Denver, Colorado	Oct. 1981-July 1986
Exploration Geologist, FMC CORPORATION, Denver, Colorado	May 1981-September 1981
Geologist, HOMESTAKE MINING COMPANY, Gunnison, Colorado	May 1979-April 1981
Drafter, HOMESTAKE MINING COMPANY, Gunnison, Colorado	Aug. 1977-April 1979