CURRICULUM VITA

PAUL L. FACKLER

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Professor, Department of Agricultural and Resource Economics Associate Professor, Department of Applied Ecology North Carolina State University - Box 8109 Raleigh NC 27695-8109 PHONE: (919) 515-4535 FAX: (919) 515-6268 E-MAIL: paul_fackler@ncsu.edu

EDUCATION AND BACKGROUND

Ph.D., Agricultural and Applied Economics (minor in Economics), University of Minnesota, 1986 Dissertation title: "The Informational Content of Option Premiums."
M.S., Agricultural and Resource Economics, University of Maine, 1982

Thesis title: "Forecasting Maine Potato Prices."

B.A., Economics, Colby College, Waterville, ME, 1978.

POSITIONS HELD

Professor, North Carolina State University, July 2007 – present. Associate Professor, North Carolina State University, July 1993 – June, 2007. Assistant Professor, North Carolina State University, January 1987 - June 1993. Lecturer, University of Minnesota, August 1986 - December 1986. Research Assistant, University of Minnesota, September 1982 - June 1986. Research Assistant, University of Maine, September 1980 - August 1982.

MAIN RESEARCH AREAS

Environmental economics and resource management Computational economics Futures and options markets and commodity market analysis

Master's and Doctoral Theses Directed

Kenneth Mathews, Ph.D. 1989, Committee Co-Chair Caroline Nelson, ME. 1991, Committee Chair Kevin McNew, Ph.D. 1994, Committee Chair Maximillion Strobl, M.E. 1994, Committee Co-Chair Jake Pasternak, M.E. 1994, Committee member Jose Herrara, Ph.D. 1996, Committee Co-Chair Darren Frechette, Ph.D. 1997, Committee member Michael Livingston, Ph.D. 1999, Committee Co-Chair Ozlem Ertugrul, M.E. 2001, Committee Chair Bradford Scott Weir, M.S. Mathematics 2001, Committee member Casey Dirienzo, Ph.D. 2002, Committee Co-Chair Pedro Oviedo, Ph.D. 2003, Committee member Yanjun Tian, Ph.D. 2003, Committee Chair Wen Ji, Ph.D. 2003, Committee Co-Chair Bonu Sengupta, Ph.D. 2003, Committee member Husevin Tastan, Ph.D. 2003, Committee Co-Chair Franz Hamann, Ph.D. 2004, Committee Co-Chair Roger Aliaga Diaz, Ph.D. 2006, Committee Co-Chair Nick Kuminoff, Ph.D. 2006, Committee member Metin Balikcioglu, Ph.D. 2008, Committee Chair Jacob Brimlow, Ph.D. 2009, Committee Co-chair

Alex Martin, Ph.D. 2009, Committee Chair

Refereed Journal Articles

- Paul L. Fackler (2018) Gambling with extinction: Comments on Chauvenet et al. (2010). *Ecological Applications*. Accepted for publication.
- Jaime A. Collazo, Adam J. Terando, Augustin C. Engman, Paul F. Fackler & Thomas J. Kwak (2018) Toward a Resilience-Based Conservation Strategy for Wetlands in Puerto Rico: Meeting Challenges Posed by Environmental Change. Wetlands. https://doi.org/10.1007/s13157-018-1080-z
- Paul L. Fackler (2018) Algorithm XXX: Efficient Computation with Kronecker Products. *Transactions on Mathematical Software*. Accepted for publication.
- David R. Smith, Paul L. Fackler, Sheila M. Eyler, Laura Villegas Ortiz & Stuart A. Welsh (2017) Optimization of Decision Rules for Hydroelectric Operation to Reduce Both Eel Mortality and Unnecessary Turbine Shutdown: A Search for a Win-Win Solution. *River Research and Applications*. 33: 1279–1285. 10.1002/rra.3182
- David Kling, James Sanchirico and Paul L. Fackler (2017) Optimal monitoring and control under state uncertainty: application to lionfish management. *Journal of Environmental Economics and Management*. 84: 223-245. 10.1016/j.jeem.2017.01.001.
- Baggio, Michele and P.L. Fackler. (2016). Optimal management with reversible regime shifts. *Journal of Economic Behavior & Organization*. 132:124-136.
- MacLachlan, Matthew J., Michael R. Springborn and Paul L. Fackler (2016) Learning about a Moving Target in Resource Management: Optimal Bayesian Disease Control. *American Journal of Agricultural Economics*. 99: 140-162.
- Fred A. Johnson, Paul L. Fackler, G. Scott Boomer, Guthrie Zimmerman, Byron K. Williams, James D. Nichols and Robert M. Dorazio (2016) State-Dependent Resource Harvesting With Lagged Information About System States. *PLoS ONE*, 11(6). http://dx.doi.org/10.1371/journal.pone.0157373.
- Fackler PL, Pacifici K, Martin J, McIntyre C (2014) Efficient Use of Information in Adaptive Management with an Application to Managing Recreation near Golden Eagle Nesting Sites. *PLoS ONE* 9(8): e102434. doi:10.1371/journal.pone.0102434
- J.M. Nichols, P. Fackler, K. Pacifici, K. D. Murphy and J. D. Nichols (2014) Reducing Fatigue Damage For Ships in Transit Through Structured Decision Making. *Marine Structures*. 38: 18–43
- Paul L. Fackler. (2014) Structural and Observational Uncertainty in Environmental and Natural Resource Management. International Review of Environmental and Resource Economics. 7:1-31.
- Fackler, Paul L. and Robert G. Haight. (2014). Monitoring as a Partially Observable Decision Problem. *Resource and Energy Economics*. 37: 226–241

- Paul L. Fackler and Krishna Pacifici. Addressing Structural and Observational Uncertainty in Resource Management. *Journal of Environmental Management*, 133 (2014): 27-36.
- Lucile Marescot, Guillaume Chapron, Iadine Chadès, Paul L. Fackler, Christophe Duchamp, Eric Marboutin and Olivier Gimenez. Complex decisions made simple: a primer on stochastic dynamic programming. *Methods in Ecology and Evolution*, 4(2013):872-884.
- Jaime A. Collazo, Paul L. Fackler, Krishna Pacifici, Thomas H. White Jr., Ivan Llerandi-Roman and Stephen J. Dinsmore. Optimal allocation of captive-reared Puerto Rican parrots: Decisions when divergent dynamics characterize managed populations. *Journal of Wildlife Management*, 77(2013):1124-1134.
- Fackler, Paul L. "Category count models for resource management." Methods in Ecology and Evolution. 3(2012): 555-563.
- Martin J, Fackler PL, Nichols JD, Lubow BL, Runge, MC, McIntyre CL, Lubow BL, McCluskie MC, Schmutz JA. "Adaptive-Management Framework for Optimal Control of Hiking Near Golden Eagles Nests in Denali National Park." Conservation Biology 25(2011): 316–323.
- Martin J, Nichols JD, Fackler PL, Lubow BL, Eaton MJ, Runge, MC, Stih BM, Langtimm CA. "Structured decision making as a proactive approach to dealing with sea level rise in Florida." *Climatic Change* 107(2011): 185-202.
- Metin Balikcioglu, Paul L. Fackler and Robert S. Pindyck. "Solving Optimal Timing Problems in Environmental Economics." *Resource and Energy Economics* 33(2011): 761–768.
- Steve Polasky, Erik Nelson, Jeff Camm, Blair Csuti, Paul Fackler, Eric Lonsdorf, Claire Montgomery, Denis White, Jeff Arthur, Brian Garber-Yonts, Robert Haight, Jimmy Kagan, Anthony Starfield, Claudine Tobalske. "Where to Put Things? Spatial Land Management to Sustain Biodiversity and Economic Returns." *Biological Conservation*, 141(2008):1505-1524.
- Fackler, Paul L. and Huseyin Tastan. "Estimating the Degree of Market Integration." American Journal of Agricultural Economics, 90(2008): 69-85.
- Fackler, Paul L. "Comment on Conrad and Kotani." Resource and Energy Economics, 29(2007): 159-164.
- Fackler, Paul L. "A MATLAB Solver for Nonlinear Rational Expectations Models." *Computational Economics*, 26(2005): 173-181.
- Polasky, Stephen, Erik Nelson, Eric Lonsdorf, Paul Fackler and Anthony Starfield. "Conserving Species in a Working Landscape: Land Use with Biological and Economic Objectives." *Ecological Applications*, 15(2005):1387-1401.
- Livingston, M.J., G.A. Carlson, and P.L. Fackler. "Managing Resistance Evolution in Two Pests to Two Toxins with Refugia" American Journal of Agricultural Economics, 86(2004): 1-13.
- Livingston, M.J., G.A. Carlson, and P.L. Fackler. "Use of mathematical models to estimate characteristics of pyrethroid resistance in Tobacco Budworm and Bollworm Lepidoptera: Noctuidae) field populations. "*Journal of Economic Entomology*, 95(2002): 1008-1017.
- Fackler, Paul L. and Michael J. Livingston. "Optimal Storage by Crop Producers." *American Journal of Agricultural Economics*, 84 (2002): 645-659.
- Frechette, Darren L. and Paul L. Fackler. "What Causes Commodity Price Backwardation?" American Journal of Agricultural Economics. 81(1999): 761-771.
- Fackler, Paul L. and Kevin P. McNew. "Experimental Economics Using EMP." *Journal of Agricultural and Applied Economics*, 30(1998): 151-162.
- McNew, Kevin P. and Paul L. Fackler. "Testing Market Equilibrium: Is Cointegration Informative?" *Journal of Agricultural and Resource Economics*, 22(1997):191-207.
- Fisher, L.A., P.L. Fackler and D. Orden. "Long-Run Identifying Restrictions for an Error-Correction Model of New Zealand Money, Prices and Output." *Journal of International Money and Finance*, 14(1995):127-147.
- Fackler, P.L. "Commentary on Girou, McIllwain and Petty." Review of Futures Markets, 13(1994): 979-991.
- McNew, K.P and P.L. Fackler. "Non-Constant Hedge Ratios and Nested Hypotheses Tests." *Journal of Futures Markets*, 14(1994): 619-635.
- Fackler, Paul L. "Delivery and Manipulation in Futures Markets." Journal of Futures Markets, 13(1993): 693-702.
- Fackler, Paul L. and Kevin P. McNew. "Multivariate Hedging: Theory, Estimation and an Application." *Review of Agricultural Economics*, 15(1993): 521-535.
- Fackler, Paul L. "Liquidation and Delivery in the Cattle and Hog Futures Markets." *Review of Futures Markets*, 11(1992): 184-203.
- Fackler, Paul L. "Modeling Interdependence: An Approach to Simulation and Elicitation." *American Journal of Agricultural Economics* 73(1991): 1091-1097.
- Fackler, Paul L. "Commentary on M. Miranda and J. Glauber, 'The Effects of Price Supports on the Valuation of Options on Agricultural Futures." *Review of Futures Markets*, 9(1990), 126-128.
- Fackler, Paul L. and Robert P. King. "The Calibration of Option Based Probability Forecasts for Agricultural Commodity Prices." American Journal of Agricultural Economics, 72(1990):73-83.

Fackler, Paul L. "A Note on Alternative Market and Governmental Risk Transference Mechanisms." Southern Journal of Agricultural Economics, 21(Dec. 1989):203-209.

Orden, David and Paul L. Fackler. "Identifying Monetary Impacts on Agricultural Prices in VAR Models." *American Journal of Agricultural Economics*, 71 (May 1989): 495-502.

Fackler, Paul L. "Vector Autoregressive Techniques for Structural Analysis." Revista de Analisis Economico, 3(1988): 119-134.

Books

Miranda, Mario J. and Paul L. Fackler. Applied Computational Economics and Finance. MIT Press. 2002.

Book Chapters

Fackler, Paul L. and Barry K. Goodwin. "Spatial Price Analysis." <u>Handbook of Agricultural Economics</u>, Gorden Rausser and Bruce Gardner, ed. Elsevier Science B.V., New York. 2001.

Patents, Software and New Cultivars

EMP – The Electronic Marketplace (software to implement simulated markets on computer networks) CompEcon Toolbox (software for solving economic models) MDPSolve (software for solving Markov Decision Problems)

Posters

Fackler, Paul L. "EMP -The Electronic Market Place." Presented at the AAEA Annual Meeting, San Antonio, TX, Aug., 1996.

Workshops

Led 4 workshops discussing the use of dynamic optimization for resource management, 2016 Led a week long workshop on dynamic optimization for resource management, 2011 Led a two day workshop on dynamic modeling in resource economics, Oregon State University, Corvallis OR 2000 Led a two day workshop on dynamic programming, University of California, Davis CA 1997 Presented a Frontier Workshop on computational dynamic programming, AAEA Annual Meeting 1996

Other Publications

Dowd, Kevin and Paul L. Fackler. "Estimating VaR with Copulas." <u>Financial Engineering News</u>, September, 2004. Fackler, Paul L. "Recent Problems in the Futures Markets" and "Impact of Recent Reforms." <u>NC State Economist</u>, June, 1992.

Published Conference Proceedings

- Livingston, Mike, Gerald Carlson, and Paul Fackler. "Bt resistance under conventional insecticide use." <u>Proceedings Beltwide</u>, <u>Cotton Conferences</u>. In <u>2000 Proceedings Beltwide Cotton Conferences</u>, San Antonio, USA. Eds: Dugger, P. and D. Richter. National Cotton Council, Memphis, USA. 2(2000): 1033-1037
- Livingston, Mike, Gerald Carlson, and Paul Fackler. "Efficient Bt refuge policies." In <u>Proceedings, Beltwide Cotton Conferences</u>. National Cotton Council, Memphis TN. 1(2000): 345-348.
- Fackler, Paul L. and Bailey Norwood. "Forecasting Crop Yields with Condition Indices." In <u>Applied Price Analysis, Forecasting,</u> <u>and Market Risk Management</u>, Proceedings of the NCR-134 Conference, Chicago, IL; April 19-20, 1999. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK.
- Fackler, Paul L and Yanjun Tian. "Volatility Models for Commodity Markets." In <u>Applied Price Analysis, Forecasting, and</u> <u>Market Risk Management</u>, Proceedings of the NCR-134 Conference, Chicago, IL; April 19-20, 1999. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK.
- Fackler, Paul L and Michael J. Livingston. "Optimal On-Farm Storage" In <u>Applied Price Analysis, Forecasting, and Market Risk</u> <u>Management</u>, Proceedings of the NCR-134 Conference, Chicago, IL; April 22-23, 1996. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK. Pp. 176-190.
- Fackler, Paul L. "Spatial Price Analysis: A Methodological Review." In <u>Applied Price Analysis, Forecasting, and Market Risk</u> <u>Management</u>, Proceedings of the NCR-134 Conference, Chicago, IL; April 22-23, 1996. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK. Pp. 122-145.
- Fackler, Paul L., Douglas L. Young and Gerald A. Carlson. "Estimates of Trend and Variability Patterns in U.S. Crop Yields." <u>Quantifying Long Run Agricultural Risks and Evaluating Farmer Responses to Risk</u>. Proceedings of a Seminar sponsored by Southern Regional Project S-232, Jekyll Island, Georgia, March 24-26, 1993. Department of Resource Economics and Policy, University of Maine, Orono, Maine. pp. 226-252.

- Fackler, Paul L. and Douglas L. Young. "Notes on Modeling Regional Crop Yields." <u>Quantifying Long Run Agricultural Risks</u> and Evaluating Farmer Responses to Risk. Proceedings of a Seminar sponsored by Southern Regional Project S-232, San Antonio, TX, March 17-20, 1991. Department of Agricultural Economics and Rural Sociology, University of Arkansas, Fayetteville, Arkansas. pp. 89-105.
- Fackler, Paul L. "Modeling Trend and Higher Moment Properties in U.S. Corn Yields," in <u>Quantifying Long Run Agricultural</u> <u>Risks and Evaluating Farmer Responses to Risk</u>. Proceedings of a Seminar sponsored by Southern Regional Project S-232, Sanibel Island, Florida, April 9-12, 1989. Agricultural Economics Department, Texas A&M University, College Station, Texas. July 1989. pp. 65-80.
- Fackler, Paul L. "An Analysis of Alternative Market and Governmental Risk Transference Mechanisms." in <u>Agricultural Stability</u> and Farm Programs, edited by Daniel A. Sumner. Westview Press, 1988. Pp. 57-77.
- Fackler, Paul L. & Robert P. King. "The Evaluation of Probability Distributions with Special Emphasis on Price Distributions Derived from Option Premiums," in <u>Future Directions in Risk Analysis for Agricultural Production Firms</u>, Proceedings of a Seminar Sponsored by Southern Regional Project S-180 Conference "An Economic Analysis of Risk Management for Agricultural Production Firms", San Antonio, Texas, March 22-25, 1987. Department of Agricultural and Applied Economics, University of Minnesota, Saint Paul, MN. August, 1987. Pp. 108-132.
- Fackler, Paul L. "On the Relationship Between Futures Price Movements and USDA Reports." In <u>Applied Price Analysis</u>, <u>Forecasting, and Market Risk Management</u>, Proceedings of the NCR-134 Conference, Chicago, IL; May 2–3, 1985. Department of Economics, Iowa State University, Ames Iowa. Pp. 247-66.

Presented Papers

- Fred A Johnson, Mathieu Bonneau, Julien Martin, Christina M Romagosa, Paul Fackler, Brian Smith, Nahid Jafari, Brad J Udell, Katie M O'Donnell, Jed Redwine, Tony Pernas, Leroy Rodgers, Bo Zhang, Donald Deangelis. 2016. Decision analysis for optimal control of invasive species in the Everglades. Annual Meeting Ecological Society of America.
- Katie O'Donnell, Fred Johnson, Mathieu Bonneau, Julien Martin, Paul Fackler, Susan Walls. 2016. Using structured decision making and category count models to develop optimal policies for imperiled salamander habitat restoration. Annual Meeting Ecological Society of America
- Fackler, Paul L., Krishna Pacifici and Julien Martin. "Efficient Use of Information in Adaptive Management with an Application to Managing Recreation Near Nesting Sites." 2012 AMCS Conference, Ithaca, NY, June 2012.
- Fackler, Paul L. "A Modeling and Solution Framework for MDPs." 2012 AMCS Conference, Ithaca, NY, June 2012.
- Fackler, Paul L. and Krishna Pacifici. "Addressing Structural and Observational Uncertainty in Resource Management." 2012 AMCS Conference, Ithaca, NY, June 2012.
- Fackler, Paul L. "Solving Optimal Switching Models." Society for Computational Economics, Conference on Computing in Economics and Finance, June 14-16, 2007, Montreal, Canada.
- Balikcioglu, Metin and Paul L. Fackler. "A Numerical Method for Multidimensional Singular and Impulse Control Problems." Society for Computational Economics, Conference on Computing in Economics and Finance, June 14-16, 2007, Montreal, Canada.
- Fackler, Paul L. "Wilderness Preservation." University of Washington, Economics Seminar. June 1, 2007.
- Brimlow, Jacob N., Paul L. Fackler and Evan Mercer. "Real Options Approaches to Conservation Easements." Triangle Resource and Environmental Economics Workshop, February 7, 2007.
- Fackler, Paul L. "Discounting and the Price of Risk." Heartland Environmental and Resource Economics (HERE) Workshop, Ames, Iowa, September 22-23, 2002.
- Paul L. Fackler. "Modeling Commodity Futures Term Structure." NCSU Workshop on Research in Financial Mathematics and Engineering, Raleigh, NC, May 24, 2001.
- Michael J. Livingston, Gerald A. Carlson and Paul L. Fackler. "Bt Cotton Refuge Policy," American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30-August 2, 2000.
- Yanjun Tian and Paul Fackler. "Volatility Models for Commodity Markets." American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30-August 2, 2000.
- Yanjun Tian and Paul Fackler. "A Seasonal Stochastic Volatility Model for Futures Price Term Structure." American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30-August 2, 2000.
- Casey Dirienzo, Paul Fackler And Barry Goodwin. "Modeling Spatial Dependence And Spatial Heterogeneity In County Yield Forecasting Models." American Agricultural Economics Association Annual Meeting, Tampa, Florida, July 30-August 2, 2000.
- Fackler, Paul L. and Mario Miranda. "Hybrid Methods for Dynamic Programming." Society for Computational Economics, Computing in Economics and Finance '99 Conference, June 24-26, 1999, Boston College.
- Fackler, Paul L. "Stochastic Dynamic Programming in Agricultural and Resource Economics: A Synthesis." SRIEG 70 Agricultural Risk and Environmental Management Conference, Gulf Shores AL, May 27, 1998.

- Fackler, Paul L. "Computational Methods in Dynamic Programming." Workshop presented at the University of California, Davis, CA. May, 1997.
- Fackler, Paul L. "Optimal Storage by Crop Producers." Southern Regional Information Exchange Group on Economics and Management of Risk in Agriculture and Natural Resources (SRIEG 70), March 25-27, 1999. Gulf Shores, AL.
- Frechette, Darren and Paul L. Fackler. "Agricultural Marketing on the Space-Time Continuum." Presented at NCR-134 Conference, Chicago, IL; April, 1997.
- Fackler, Paul L. "Continuous-Time Dynamic Methods in Agricultural and Resource Economics." Frontier Session presented at the AAEA Annual Meeting, San Antonio, TX, Aug., 1996.
- Fackler, Paul L. "Spatial Price Analysis: A Methodological Review." Presented at the Agricultural Economics Workshop, Michigan State University, April 1996, at IFPRI, Washington, D.C., Feb. 1997, and at the Department of Agricultural Economics, University of Maryland, Feb. 1997.
- Fackler, Paul L. "Economic Experiments." Presented at an organized symposium on Innovations in Teaching Futures Market Analysis at the 1994 AAEA Annual Meeting, San Diego, CA, August, 1994.
- Fackler, Paul L. "Spatial Market Integration and the Dynamic Properties of Prices: Theory and Econometric Tests." Presented to the Agricultural Economics Dept., Virginia Tech. Univ., Nov. 1992.
- Fackler, Paul L. "Evaluating Spatial Market Integration: Are Prices Enough?" Presented to the Agricultural Economics/International Workshop, NCSU, Oct. 1992.
- Kevin P. McNew and Paul L. Fackler. "Multivariate Hedging: Theory, Estimation and an Application." Presented (by McNew) at the 1992 AAEA Annual Meeting, Baltimore, Maryland, August, 1992.
- Fisher, L.A., D. Orden and P.L. Fackler. "Long-Run Identifying Restrictions for Vector Error-Correction Models of the New Zealand Economy." Presented (by Fisher) at the Australasian Econometric Society Meeting, July, 1992.
- Musser, W. and P.L. Fackler. "A Historical Overview of Estimation of Historical Risk Coefficients." Invited Paper, Western Agricultural Economics Association Meeting, July, 1992 (presented by Musser).
- Strobl, Max, Paul L. Fackler and T. Randell Fortenbery. "An Examination of the Spatial and Intertemporal Aspects of Basis Determination." Presented (by Strobl) at the NCR-134 Conference on Applied Price Analysis, Forecasting, and Market Risk Management, Chicago, IL, April, 1992.
- Fackler, Paul L. and Kevin P. McNew. "Speculative Effects on Price Variability in Agricultural Futures Markets." Presented (jointly) to the Agricultural Economics Workshop, NCSU, Aug. 1991.
- Mathews, K.H. and P.L. Fackler. "Hedge Ratios in the Presence of Heteroskedasticity." Presented (by Mathews) at the Annual Meeting of the American Agricultural Economics Association, Manhattan, KS, Aug. 1991.
- Fackler, Paul L. "Manipulation in Futures Markets: Corners and Squeezes." Presented September 22, 1989, Department of Agricultural and Resource Economics Workshop, University of Maine, Orono, ME and September 25, 1989, Department of Economics Workshop, Colby College, Waterville, ME.
- Fackler, Paul L. "Stochastic Trend Models for U.S. Corn Yields." Presented to the Agricultural Economics Workshop, NCSU, Feb. 1989.
- Fackler, Paul L. & Robert P. King. "Generation of Dependent Random Variates with Given Marginal Distributions and Fractile Correlation Structure." Presented at the 1988 AAEA Annual Meeting, Knoxville, TN; August 1-3, 1988. Abstract published in <u>American Journal of Agricultural Economics</u>, 70 (Dec 1988): 1194.
- Fulton, Joan, Robert P. King & Paul L. Fackler. "Combining Farm and County Data to Construct Farm Level Yield Distributions." Presented (by Fulton) at the 1988 AAEA Annual Meeting, Knoxville, TN; August 1-3, 1988. (Published as Staff Paper P88-20, Department of Agricultural and Applied Economics, University of Minnesota, June 1988). Abstract published in <u>American Journal of Agricultural Economics</u>, 70 (Dec 1988): 1193-4.
- Fackler, Paul L. "Calibration and Goodness of Fit Testing." Presented to the Decision Sciences Institute Workshop, Duke University, March, 1988.
- Fackler, P.L. "Futures Price Volatility: Modeling Non-constant Variance." Presented at the 1986 AAEA Annual Meeting, Reno, Nevada, July 27-30, 1986. Abstract published in <u>American Journal of Agricultural Economics</u>, 68 (Dec 1986): 1390.

Contracts and Grants

Principle Investigator. Wild Turkey Management. National Wild Federation. \$3,500. 2017-current.

- Co- Principle Investigator. American eel Management on the Shenandoah River. U.S. Geological Survey. \$100,000. May 2015-May 2017.
- Co-Investigator. Extending the Adaptive Management Framework. U.S. Geological Survey. \$100,000. September 2011-August 2012.
- Principle Investigator. "Supply and Demand of Conservation Easements: A Real Options Analysis." U.S. Forest Service. \$25,000. September 2006-May 2007.

Co-Investigator. "A Tool for Evaluation of Pricing and Crop Insurance Strategies" USDA/CSREES. \$68,485. July 1999-June 2001.

Co-Investigator. "Hedging Strategies for Soybean Growers" North Carolina Soybean Growers Association. \$35,000. 1989.