

## Klaus Moeltner

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### Professor

Department of Agricultural and Applied Economics, Virginia Tech  
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web: <http://faculty.agecon.vt.edu>

### Academic Employment:

Professor, Department of Agricultural and Applied Economics, Virginia Tech (current)  
Associate Professor, Department of Agricultural and Applied Economics, Virginia Tech (2011-2015)  
Associate Professor, Department of Resource Economics, University of Nevada, Reno (2006 –2010)  
Assistant Professor, Department of Resource Economics, University of Nevada, Reno (2000 - 2006)

### Other Professional Experience:

Visiting Scholar, Luskin Center for Innovation, School of Public Affairs, UCLA (Aug-Dec. 2010)  
Visiting Instructor, Free University, Amsterdam (Dec. 2009)  
Visiting Instructor, University of Innsbruck (June 2008, 2009)

### Education:

Ph.D. in Economics, University of Washington (2000)  
M.A. in Economics, University of Washington (1998)  
M.A. in International Policy Studies, Monterey Institute of International Studies (1994)  
M.S. in Environmental Planning & Engineering,  
University of Agriculture and Forestry, Vienna, Austria (1990)

### Languages:

German (native), French (fluent), Spanish (working knowledge)

### Journal Publications

Johnston, R., K. Moeltner, S. Peery, T. Ndebele, Z. Yao, S. Crema, W.M. Wollheim, E. Besedin (forthcoming). Spatial dimensions of water quality value in New England River Networks, *Proceedings of the National Academy of Sciences*.

Moeltner, K., T. Fanara, H. Foroutan, R. Hanlon, V. Lovko, S. Ross, and D. Schmale III (2023). Harmful algal blooms and toxic air: The economic value of improved forecasts, *Marine Resource Economics* 38, 1-28

Ross, S.D, J. Fish, K. Moeltner, E.M. Bolt, L. Bilyeu, T. Fanara (2022). Beach-level 24-hour forecasts of Florida red tide-induced respiratory irritation, *Harmful Algae* 111, 102149

Moeltner, K., F. Ramsey, and C. Neill (2021). Bayesian Kinked Regression with Unobserved Thresholds: An Application to the von Liebig Hypothesis, *American Journal of Agricultural Economics* 103, 1832-1856.

Bagheri, O., K. Moeltner, W. Yang (2020). Respiratory Illness, Hospital Visits, and Health Costs: Is it Air Pollution or Pollen? *Environmental Research* 187, 109572

Netusil, N.R., K. Moeltner, M. Jarrad, K. Moeltner (2019). Floodplain Designation and Property Sale Prices in an Urban Watershed, *Land Use Policy* 88, 104112

Moeltner, K., J.A. Balukas, E. Besedin, and B. Holland (2019). Waters of the United States: Upgrading Wetland Valuation via Benefit Transfer, *Ecological Economics* 164, 106336

Netusil, N.R., M. Jarrad, K. Moeltner (2019). Research Note: The Effect of Stream Restoration Project Attributes on Property Sale Prices, *Landscape and Urban Planning* 185, 158-162.

Johnston, R., K. Moeltner (2019). Special Flood Hazard Effects on Coastal and Interior Home Values: One Size Does Not Fit All, *Environmental and Resource Economics* 74, 181-210.

Moeltner, K., (2019). Bayesian Nonlinear Meta Regression for Benefit Transfer, *Journal of Environmental Economics and Management*, 93, 44-62.

Moeltner, K., K. Spears, L. Yu (2019). Breakfast at School: A First Look at the Role of Time and Location for Participation and Nutritional Intake, *American Journal of Agricultural Economics*, 101, 39-57.

Cohen, J., K. Moeltner, J. Reichl, M. Schmidthaler (2018). Valuing Electricity-dependent Infrastructure: An Essential-input Approach, *Energy Economics*, 73, 258-273.

Jarrad, M., N.R. Netusil, K. Moeltner, A.T. Morzillo, J.A. Yeakley (2018). Urban Stream Restoration Projects: Do Project Phase, Distance, and Type Affect Nearby Property Sale Prices? *Land Economics*, 94, 368-385.

Cohen, J., K. Moeltner, J. Reichl, M. Schmidthaler (2018). Effect of Global Warming on Willingness-to-pay for Uninterrupted Electricity Supply in European Nations, *Nature Energy*, 3, 37-45.

Pekka-Kuusela, O., G. Amacher, K. Moeltner (2017). Enforcing the Rules in Timber Concessions: Performance Bonding in the Presence of Corruption Risk, *Forest Policy and Economics*, 85, 52-64

Moeltner, K., C. Blinn, T. Holmes (2017). Forest Pests and Home Values: The Importance of Accuracy in Damage Assessment and Geocoding of Properties, *Journal of Forest Economics*, 26, 46-55

Cohen, J., K. Moeltner, J. Reichl, M. Schmidthaler (2016). Linking the Value of Energy Reliability to the Acceptance of Energy Infrastructure: Evidence from the EU, *Resource and Energy Economics*, 45, 124-143

Cohen, J., K. Moeltner, J. Reichl, M. Schmidthaler (2016). An Empirical Analysis of Local Opposition to new Transmission Lines across the EU-27, *Energy Journal*, 37(3), 59-82

Cohen, J., C. Blinn, K. Boyle, T. Holmes, K. Moeltner (2016). Hedonic Valuation with Translating Commodities: Mountain Pine Beetles and Host Trees in the Colorado Front Range. *Environmental and Resource Economics*, 63(3), 613-642

Vinoles, V., K. Moeltner, S. Stoddard (2015). Length of Residency and Water Use in an Arid Urban Environment, *Water Resources and Economics*, 12(Oct.), 52-66

- Yu, L., S. B. Ball, C. E. Blinn, K. Moeltner, S. Peery, V.A. Thomas, R. H. Wynne (2015). Cloud-Sourcing: Using an Online Labor Force to Detect Clouds and Cloud Shadows in Landsat Images. *Remote Sensing*, 7(3), 2334-2351
- Castledine, A., K. Moeltner, M.K. Price, S. Stoddard (2014), Free to Choose: Promoting Conservation by Relaxing Outdoor Watering Restrictions. *Journal of Economic Behavior & Organization*, 107(A), 324-343
- Johnston, R., K. Moeltner, (2014). Meta-Modeling and Benefit Transfer: The Empirical Relevance of Source-Consistency in Welfare Measures. *Environmental and Resource Economics*. 59, 337-361
- Moeltner, K, R.S. Rosenberger, (2014). Cross-Context Benefit Transfer: A Bayesian Search for Information Pools. *American Journal of Agricultural Economics*, 96(2), 469-488
- Moeltner, K, M.K. Kim, E. Zhu, W. Yang, (2013). Wildfire Smoke and Health Impacts: A Closer Look at Fire Attributes and their Marginal Effects. *Journal of Environmental Economics and Management*, 66(3), 476-496
- Kobayashi, M., K. Moeltner, K. Rollins, (2012). Latent Thresholds Analysis of Choice Data under Value Uncertainty. *American Journal of Agricultural Economics*, 94(1), p. 189-208
- Moeltner K., R. von Haefen, (2011). Microeconomic Strategies for Dealing with Unobservables and Endogenous Variables in Recreation Demand Models. *Annual Review of Resource Economics*, 3, p.375-396
- Dekker T., R. Brouwer, M. Hofkes, K. Moeltner, (2011). The Effect of Risk Context on the Value of a Statistical Life: A Bayesian Meta-model. *Environmental and Resource Economics*, 49, p.597-624
- Moeltner K., J. S. Shonkwiler, (2010). Intercept and Recall: Examining Avidity Carryover in On-Site Collected Trip Reports. *Transportation Research Part D: Transport and Environment*, 15(7), p.418-427
- Davis A., K. Moeltner, (2010). Valuing the Prevention of an Infestation: The Threat of the New Zealand Mud Snail in Northern Nevada. *Agricultural and Resource Economics Review*, 39 (1), p.56-74.
- Moeltner K., R. Johnston, R. S. Rosenberger, J. M. Duke, (2009). Benefit Transfer from Multiple Contingent Experiments: A Flexible Two-Step Model Combining Individual Choice Data with Community Characteristics. *American Journal of Agricultural Economics*, 91 (5), p. 1335-42.
- Moeltner, K., R. Woodward (2009). Meta-Functional Benefit Transfer for Wetland Valuation: Making the Most of Small Samples. *Environmental and Resource Economics*, 42 (1), p. 89-109.
- Moeltner K., R. S. Rosenberger (2008), Meta-Regression and Benefit Transfer: Data Space, Model Space, and the Quest for 'Optimal Scope'. *B.E. Journal of Economic Analysis & Policy*, 8 (1), *Contributions*. <http://www.bepress.com/bejeap/vol8/iss1/art31/>
- Moeltner, K., K.J. Boyle, R. W. Paterson (2007). Meta-Analysis and Benefit-Transfer for Resource Valuation: Addressing Classical Challenges with Bayesian Modeling. *Journal of Environmental Economics and Management*, 53 (2), p.250 – 269.

Curtis, K. R., K. Moeltner, (2007). Consumer Risk Perception and Purchase Propensity for Genetically Modified Foods in Romania. *Agribusiness*. 23 (2), p. 263-278.

Curtis, K. R., K. Moeltner, (2006). Genetically Modified Food Market Participation and Consumer Risk Perceptions: A Cross-Country Comparison. *Canadian Journal of Agricultural Economics*, 54(2), p. 289-310.

Englin, J. E., J. McDonald, K. Moeltner, (2006). Valuing Ancient Forest Ecosystems: An Analysis of Backcountry Hiking in Jasper National Park. *Ecological Economics*. 57, (4), p. 665-678.

Moeltner, K., J. S. Shonkwiler, (2005). Correcting for On-Site Sampling in Random Utility Models. *American Journal of Agricultural Economics*, 87(2), p. 327-339.

Hagerty, D., K. Moeltner, (2005). Specification of Driving Costs in Models of Recreation Demand. *Land Economics*, 81(1), p.127-143.

Manley, J., G. C. van Kooten, K. Moeltner, D. W. Johnson (2005) Creating Carbon Offsets in Agriculture through Zero Tillage: A Meta-Analysis of Costs and Carbon Benefits. *Climatic Change*, 68, 41-65.

Englin, J. E., K. Moeltner, (2004). The Recreational Value of Snowfall to Skiers and Boarders. *Environmental and Resource Economics*, 29(1), p. 123-136..

Moeltner, K., J. E. Englin (2004). Choice Behavior Under Time-Variant Quality: State Dependence Versus 'Play-It-By-Ear' in Selecting Ski Resorts. *Journal of Business & Economic Statistics*, 22(2), p. 214-224.

Moeltner, K, S. Stoddard. (2004) A Panel Data Analysis of Non-Residential Customers' Water Price Responsiveness Under Block Rates, *Water Resources Research*, 40(1).

Moeltner, K. (2003) Addressing Aggregation Bias in Zonal Recreation Models. *Journal of Environmental Economics and Management*, 45(1), p.128-144.

Moeltner, K., C.G. van Kooten (2003). Voluntary Environmental Action and the Profit Motive: The Case of Forest Certification. *Journal of Agricultural and Resource Economics*, 28(2),p. 302-315.

Moeltner, K., D. F. Layton. (2002). A Censored Random Coefficients Model for Pooled Survey Data with Application to the Estimation of Power Outage Costs. *Review of Economics and Statistics*, 84 (3), p. 552-561.

### **Book Chapters:**

Cohen, J., K. Moeltner, J. Reichl, M. Schmidthaler (2016). Electricity Supply Security, Service Valuation and Public Perception of Energy Infrastructures, in *Protecting Electricity Networks from Natural Hazards*, Organization for Security and Co-operation in Europe (OSCE), p.36-44.

K. Moeltner (2015). Optimal Scope and Bayesian Model Search in Benefit Transfer, in *Benefit Transfer of Environmental and Resource Values: A Handbook for Researchers and Practitioners*, R. J. Johnston, J. Rolfe, R. S. Rosenberger, and R. Brouwer, eds., Springer Publishing.

K. Moeltner, J. J. Murphy, J. K. Stranlund, and M.A. Velez (2013). Institutional Heterogeneity in Social Dilemma Games: A Bayesian Examination, in *Handbook on Experimental Economics and the Environment*, J. List and M. Price, eds., Edward Elgar Publishing.

Layton, D. F., K. Moeltner (2005). The Cost of Power Outages to Heterogeneous Households - An Application of the Gamma-Lognormal Distribution, in *Applications of Simulation Methods in Environmental and Resource Economics*, R. Scarpa and A. Alberini, eds., Springer Publishing, Dordrecht, The Netherlands.

### **Research in Progress:**

Locally-weighted meta-regression and benefit transfer; in review

Assessing residents' support for environmentally-friendly public transportation upgrades across Europe; in review

Regression and matching in hedonic analysis: Empirical guidance for estimator choice (with R. Johnston and R. Puri); in progress

Opportunity between the turbines: Willingness-to-pay for off-shore wind farm co-location activities (with S. Fluharty, J. van Senten, and D. Bosch); in progress

Respondent experience and willingness to pay: Reconciling stated preference data with scientific evidence (with Z. Yao); in progress

Bayesian nonparametric estimation of mixed logit models: Dissecting the Status Quo effect; in progress

The ABCs of residential bidding models for environmental valuation; in progress

### **Presentations (last 4 years):**

*"Locally-weighted meta-regression and benefit transfer,"* presented at:

- (i) the W4133 Regional Project Meetings, Hood River, OR, Apr. 26, 2022
- (ii) the annual meetings of the European Association of Environmental and Resource Economists (EAERE), Rimini, Italy, Jun. 28 – Jul. 1, 2022.
- (iii) Symposium "50<sup>th</sup> Anniversary of the Clean Water Act: The Role of Environmental Economics in Improving Regulatory Analysis," Washington, D.C., Sep. 7-9, 2022.
- (iv) the annual meetings of the Southern Economics Association, Ft. Lauderdale, FL, Nov. 18-21, 2022

*"Harmful algal blooms and toxic air: The economic value of improved forecasts,"* presented at:

- (i) the W4133 Regional Project Meetings, (virtual mode), Mar. 4 - 5, 2021
- (ii) the annual meetings of the European Association of Environmental and Resource Economists (EAERE), virtual, Jun. 25, 2021.

*"Variable uncertainty in free-form environmental valuation models,"* presented at the W4133 Regional Project Meetings, Athens, GA, Feb. 12 - 14, 2020

*"Variable uncertainty in spatially informed discrete choice models,"* presented at:

- (i) the 2019 summer conference of the Association of Environmental and Resource Economists (AERE), Incline, NV, May 30-31, 2019

(ii) Ohio State University, Nov. 1, 2019

**Grant Activities as PI / Co-PI**

\$799,994 Johnston, R., K. Moeltner, E. Besedin, I. Morin, S. Peery, "PARTNERSHIP: Next Generation Choice Experiment Architecture for Spatially Explicit Agricultural Conservation and Ecosystem Service Valuation." National Institute for Food and Agriculture, USDA, 06/22 – 05/26.

\$499,683 Johnston, R., K. Moeltner, E. Besedin, I. Morin, "Spatially Explicit Ecosystem Service Benefit Transfer for Policy Evaluation: An Integrated Biophysical And Meta-Analytic Approach." National Institute for Food and Agriculture, USDA, 09/20 – 09/23.

\$23,310. Moeltner, K., H. Foroutan, S. Ross, D. Schmale. "Measuring, modeling, and forecasting red tide aerosol dispersion along the central Florida gulf coast to facilitate socio-economic adaptation." Seed grant, Global Change Center (GCC) and Institute for Society, Culture, and Environment (ISCE) (both at Virginia Tech), 11/19-06/20.

\$223,599. Ramsey, F., K. Moeltner, C. Neill. "Market Opportunity and Segmentation for U.S. Rice in China and Ethnic Chinese Communities." USDA Agricultural Marketing Service, 09/19-09/22.

\$799,940. Johnston, R., K. Moeltner, W. Wollheim. "Estimation of Spatially Explicit Water Quality Benefits throughout River Systems: Developing of Next Generation Stated Preference Methods Using National Probability Samples and Online Labor Pools." U.S. EPA, STAR grant, 01/16-01/21.

\$26,000. Moeltner, K. "Weather Events, Climate Change, and the Cost of Power Outages to Austrian Households." Energy Institute, Johannes Kepler University, Linz, Austria, 05/15 - 12/15.

\$314,000. Moeltner, K., N. Netusil. "Adaptive Matching Estimators for Property Valuation with Application to Urban Stream Restoration." National Institute for Food and Agriculture – Agriculture and Food Research Initiative, 01/ 15 – 01/17.

\$46,000. Moeltner, K., T. Holmes. "Watershed Restoration: Downstream Benefits to Home Owners." U.S. Forest Service, 08/14 – 07/15.

\$175,000. Johnston, R., C. Blinn, K. Moeltner. "Coastal Hazards and Northeast Housing Values: Comparative Implications for Climate Change Adaptation and Community Resilience." Northeast Sea Grant Consortium, 02/ 14 – 01/16.

\$34,960. Moeltner, K. "Promoting Public Support for Energy-Related Infrastructure Projects". Energy Institute, Johannes Kepler University, Linz, Austria, 06/13 - 11/14

\$800,000. Wynne, R.H., C.E. Blinn, K.J. Boyle, E.B. Brooks, H.E. Burkhart, J.W. Coulston, T.R. Fox, K. Moeltner, V.A. Thomas, "Making Multitemporal Work". USGS, 12/12 – 11/16.

\$81,667. Boyle, K., K. Moeltner, R.H. Wynne, "Large Scale Hedonic Property Value Analysis of Forest Pests, Phase II". USDA, Forest Service, 08/12 – 09/13.

\$28,800. Boyle, K., K. Moeltner, E. Wiseman, R.H. Wynne, "Meta-Analysis of Forest-Based Hedonic Property Value Studies". USDA, Forest Service, 06/11 – 07/12.

\$69,500. Boyle, K., K. Moeltner, E. Wiseman, R.H. Wynne, "Large Scale Hedonic Property Value Analysis of Forest Pests". USDA, Forest Service, 06/11 – 07/12.

\$163,300. Alwang J.R., K. Moeltner, G. Norton, "Measuring and Assessing Poverty Impacts of Beans and Sweet Potato Varieties in Africa". International Potato Center, 02/11 – 12/12.

\$253,000. Moeltner K., Karen Spears, " Breakfast At School: The Effect Of Price, Location, and Timing on Economic Costs And Nutritional Outcomes", Nevada Agricultural Experiment Station, 07/10 - 07/12.

\$14,000. Moeltner K., Tahoe Non-Motorized Boating Survey, California Department of Boating and Waterways, 7/08 – 9/08.

\$198,000. Moeltner K., Robert J. Johnston, Randall S. Rosenberger, "Meta-Analysis and Benefit Transfer at Different Levels of Aggregation: Comparing Group-Averaged and Individual-Level Models Using Hierarchical Bayesian Methods", U.S. EPA, STAR grant, 09/07 - 04/09.

\$20,000. Moeltner, K. "Assessment of angler awareness, contamination risk, and economic implications of a New Zealand mud snail infestation of the Truckee / Carson / Walker watersheds", Matching Grant, U.S. Fish and Wildlife Service, 10/05 - 7/06.

\$15,000. Moeltner, K. "Assessment of angler awareness, contamination risk, and economic implications of a New Zealand mud snail infestation of the Truckee / Carson / Walker watersheds", University of Nevada Junior Faculty Research Grant, 7/05 - 6/06.

\$107,000. Rollins, K., T. Harris, K. Moeltner, M. Haverkamp. "Economic Impacts of Changes in NV Elk Populations Across Multiple User Groups and Counties", Nevada Arid Rangeland Initiative, 7/05 - 6/08.

\$16,000. Moeltner, K. "Tahoe Recreation Frequency and Duration Survey", Tahoe Coalition of Recreation Providers, 7/04-9/04.

\$320,000. Shaw, D., Jakus, P. Moeltner, K., Riddel, M., Walker, M., "Perceptions and Exposure to Arsenic in private and Public Drinking Water", U.S. Environmental Protection Agency, 7/05 - 6/07.

\$60,000. Englin, J., K. Moeltner, S. Shonkwiler. "Strategic Development of a Competitive Grape Industry in Nevada", Nevada Agricultural Experiment Station, 7/02 - 7/04.

\$40,000. Englin, J., K. Moeltner, S. Shonkwiler. "Personal Watercraft Use in the Tahoe Area," Nevada Agricultural Experiment Station, 7/00 - 7/02.

### **Teaching and Advising:**

#### *Undergraduate Courses:*

Introduction to Environmental and Resource Economics (UNR)

Introduction to Statistical Methods (UNR)

Valuation of Non-Market Goods (UNR)

#### *Graduate Courses:*

Bayesian Data Analysis (UNR)

Econometrics I (UNR)

Econometrics II (UNR)

Microeconomic Theory II (UNR)  
Valuation of Non-Market Goods (UNR)

Bayesian Econometric Analysis (VT)  
Econometrics II ("Empirical Economics", VT)  
Economic Valuation of Environmental Change (VT)  
Environmental Economic Theory and Policy (VT)

*Courses and Workshops outside of UNR and VT:*

An Introduction to Bayesian Econometrics with Applications in Non-market Valuation, Free University of Amsterdam, Dec. 2009 (1 week)  
Workshop on Bayesian Estimation Methods in Meta-Analysis, Oregon State University, Oct. 1, 2009  
Modern Micro-Econometric Methods, University of Innsbruck, Austria, June 2008 and 2009 (2-3 weeks)

*Current advising:*

6 PhD students (Chair or Co-Chair for 2), 2 MS students

**Service Activities**

*Departmental (VT)*

Director of Graduate Program, May 2017 – August 2022  
Graduate Committee, Jan. 2011 – August 2022  
PhD Qualifying Exam committee, Fall 2011 – present

*Refereeing:*

Agricultural and Resource Economics Review  
American Journal of Agricultural Economics  
Australian Journal of Agricultural and Resource Economics  
Conservation and Society  
Contemporary Economic Policy  
Ecological Economics  
Economic Inquiry  
Energy Economics  
Energy Journal  
Environment and Development Economics  
Environmental and Resource Economics  
Journal of Agricultural and Applied Economics  
Journal of Agricultural and Resource Economics  
Journal of the Association of Environmental and Resource Economists  
Journal of Econometrics  
Journal of Economic Behavior and Organization  
Journal of Environmental Economics and Management  
Journal of Environmental Management  
Journal of Forest Economics  
Journal of Leisure Research  
Land Economics  
Marine Resource Economics  
Scandinavian Journal of Economics  
Science of the Total Environment  
Tourism Management  
Resource and Energy Economics



Review of Economics and Statistics  
Water Resources Research

*Other Service Activities*

Co-Editor, Journal of Environmental Economics and Management (2022 - current)

Co-Editor, Environmental and Resource Economics (2013 – 2021)

Editorial Board, Journal of the Association of Environmental and Resource Economists  
(2014 – current)

President, W1133 Association "Benefits and Costs of Resource Policies Affecting Public and Private  
Lands", March 2005 - Feb. 2006

**Honors and Awards**

Committee member, honorable mention for best Master's Thesis 2022 (by Shannon Fluharty), SAEA  
2018 best paper award by the Virginia Association of Economists (VAE)

Best paper published in *Environmental and Resource Economics* during 2014,  
European Association of Environmental and Resource Economists (EAERE)

Advisor, best Master's Thesis 2014 (by Jed Cohen),  
Agricultural and Applied Economics Association (AAEA)

College of Agriculture, Biotechnology, and Natural Resources (CABNR) Outstanding Instructor 2004  
James O. York Fellowship, University of Washington, 1996  
Scholarship for Graduate Studies Abroad, Austrian Ministry for Science and Research, 1994-1996