# J. ISAAC MILLER

(ZACK MILLER)

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## EDUCATION

PhD, Economics, Rice University (2005)

MA, Economics, Rice University (2004)

BA *magna cum laude*, Economics and Russian, University of Pennsylvania (1998)

## ACADEMIC POSITIONS

| | |
|---|---|
| 2020- | Professor, Economics, University of Missouri (MU) |
| 2019- | Associate Department Chair, Economics, MU |
| 2012-20 | Associate Professor, Economics, MU |
| 2012-14 | Director of Undergraduate Studies, Economics, MU |
| 2005-12 | Assistant Professor, Economics, MU |
| 2008-09 | Visiting Assistant Professor, Economics, Texas A&M University |

## FELLOWSHIPS

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|---|---|
| 2020- | Senior Fellow, Rimini Center for Economic Analysis |
| 2020- | Research Fellow, Economic & Policy Analysis Research Center, MU |
| 2018-21 | Faculty Fellow for Student Retention, College of Arts and Science, MU |
| 2020-21 | Melissa and David Skeens Faculty Fellow, Economics, MU |
| 2017-18 | Ted and Margaret Murray Research Fellow, Economics, MU |
| 2016-17 | Walter Johnson Excellence in Teaching Fellow, Economics, MU |
| 2015-16 | Arts and Science Faculty Fellow, College of Arts and Science, MU |
| 2000-01 | Rimlinger Memorial Fellow, Rice University |

## CITATIONS AND IMPACT

Scopus: 493 citations

Google Scholar: 1089 citations

ResearchGate: 711 citations, 20.64 RG score

## PROFESSIONAL SERVICE

2021+ Associate Editor, Themed Issue of *Journal of Econometrics*, "Climate Econometrics"

Co-Editor, Special Issue of *Energy Economics*, "New Developments in the Econometric Analysis of Energy and Climate"

Co-Editor, *Advances in Econometrics* Volume, "Essays in Honor of Joon Y. Park"

Organizing and Program Committees, Advances in Econometrics Conference in Honor of Joon Y. Park

2020 Contributed Session Organizer, World Congress of the Econometric Society

2019 Organizing and Program Committees, Workshop on Energy Economics: Econometric Analysis of Energy Demand and Climate Change

2017 Scientific Program Committee, International Conference on Computational and Financial Econometrics

2016 Scientific Program Committee and Invited Session Organizer, International Conference on Computational and Financial Econometrics

2015 Invited Session Organizer, International Conference on Computational and Financial Econometrics

2015 Contributed Session Organizer, World Congress of the Econometric Society

2014 Scientific Committee, European Conference of the Econometrics Community

2013 Scientific Committee, European Conference of the Econometrics Community

## REFEREED JOURNAL ARTICLES

Time-Varying Cointegration and the Kalman Filter (with B.A. Eroğlu and T. Yiğit), *Econometric Reviews*, forthcoming.

Forecasting Regional Long-Run Energy Demand: A Functional Coefficient Panel Approach (with Yoosoon Chang, Yongok Choi, Chang Sik Kim, and Joon Y. Park), *Energy Economics* 96, 2021, 105117.

Dating Hiatuses: A Statistical Model of the Recent Slowdown in Global Warming – and the Next One (with K. Nam), *Earth System Dynamics*, 11(4), 2020, 1123-1132.

Evaluating Trends in Time Series of Distributions: A Spatial Fingerprint of Human Effects on Climate (with Y. Chang, R.K. Kaufmann, C.S. Kim, J.Y. Park, and S. Park), *Journal of Econometrics* 214(1), 2020, 274-294.

Testing Cointegrating Relationships Using Irregular and Non-Contemporaneous Series with an Application to Paleoclimate Data, *Journal of Time Series Analysis* 40, 2019, 936-950.

Modeling and Extrapolating Wheat Producer Support Using Income and Other Factors (with J. Zhao and W. Thompson), *Journal of Agricultural Economics* 69, 2018, 338-350.

Simple Robust Tests for the Specification of High-Frequency Predictors of a Low-Frequency Series, *Econometrics and Statistics* 5, 2018, 45-66.

Disentangling Temporal Patterns in Elasticities: A Functional Coefficient Panel Analysis of Electricity Demand (with Y. Chang, Y. Choi, C.S. Kim, and J.Y. Park), *Energy Economics* 60, 2016, 232-243.

A New Approach to Modeling the Effects of Temperature Fluctuations on Monthly Electricity Demand (with Y. Chang, C.S. Kim, J.Y. Park, and S. Park), *Energy Economics* 60, 2016, 206-216.

Implementing Residual-Based KPSS Tests for Cointegration with Data Subject to Temporal Aggregation and Mixed Sampling Frequencies (with X. Wang), *Journal of Time Series Analysis* 37(6), 2016, 810-824.

Conditionally Efficient Estimation of Long-Run Relationships Using Mixed-Frequency Time Series, *Econometric Reviews* 35(6), 2016, 1142-1171.

Testing for Cointegration with Temporally Aggregated and Mixed-Frequency Time Series (with E. Ghysels), *Journal of Time Series Analysis* 36(6), 2015, 797-816.

Time-Varying Long-Run Income and Output Elasticities of Electricity Demand with an Application to Korea (with Y. Chang, C.S. Kim, J.Y. Park, and S. Park), *Energy Economics* 46, 2014, 334-347.

Mixed-Frequency Cointegrating Regressions with Parsimonious Distributed Lag Structures, *Journal of Financial Econometrics* 12(3), 2014, 584-615.

On the Spatial Correlation of International Conflict Initiation and Other Binary and Dyadic Dependent Variables (with S. Luo), *Regional Science and Urban Economics* 44(1), 2014, 107-118.

Long-Term Oil Price Forecasts: A New Perspective on Oil and the Macroeconomy (with S. Ni), *Macroeconomic Dynamics* 15(S3), 2011, 396-415.

Testing the Bounds: Empirical Behavior of Target Zone Fundamentals, *Economic Modelling* 28(4), 2011, 1782-1792.

Cointegrating Regressions with Messy Regressors and an Application to Mixed-Frequency Series, *Journal of Time Series Analysis* 31(4), 2010, 255-277.

Nonlinearity, Nonstationarity, and Thick Tails: How They Interact to Generate Persistence in Memory (with J.Y. Park), *Journal of Econometrics* 155(1), 2010, 83-89.

A Nonlinear IV Likelihood-Based Rank Test for Multivariate Time Series and Long Panels, *Journal of Time Series Econometrics* 2(1), 2010.

Crude Oil and Stock Markets: Stability, Instability, and Bubbles (with R.A. Ratti), *Energy Economics* 31(4), 2009, 559-568.

Extracting a Common Stochastic Trend: Theory with Some Applications (with Y. Chang and J.Y. Park), *Journal of Econometrics* 150(2), 2009, 231-247.

## OTHER REFEREED SCHOLARLY WORK

On the Size Distortion from Linearly Interpolating Low-Frequency Series for Cointegration Tests (with E. Ghysels), in *Essays in Honor of Peter C.B. Phillips (Advances in Econometrics, Volume 33)*, T.B. Fomby, J.Y. Park, and Y. Chang (eds.), 2014.

## POLICY REPORT

"Econometric Analysis of the Daily Peak Demand of Electricity: A Semiparametric Approach Using Weather-Driven Cross Temperature Response Functions," Economic & Policy Analysis Research Center Report for the Korea Energy Economics Institute, 2020.

## RECENT WORKING PAPERS

Beyond RCP8.5: Marginal Mitigation Using Quasi-Representative Concentration Pathways (with W.A. Brock)

Local Climate Sensitivity: What Can Time Series of Distributions Reveal about Spatial Heterogeneity of Climate Change?

Common Factors and Heterogeneity in Long-Run Energy Demand: A Functional Coefficient Panel Approach (with Yoosoon Chang, Yongok Choi, Chang Sik Kim, and Joon Y. Park)

Modeling and Forecasting Agricultural Commodity Support in the Developing Countries (with J. Zhao, J. Binfield, and W. Thompson)

Peak Electricity Demand: A Semiparametric Approach Using Weather-Driven Cross Temperature Response Functions (with K. Nam)

## INVITED SEMINARS (ECONOMICS, UNLESS OTHERWISE INDICATED)

Georgia State University, Indiana University, Korea Energy Economics Institute, Maastricht University (Quantitative Economics), Michigan State University, Michigan Technological University (Mathematical Sciences), Northern Illinois University, Ohio State University, Pusan National University, Rice University, Simon Fraser University, Sungkyunkwan University, Texas A&M University, University of British Columbia, University of Exeter, University of Florida, University of Leeds (Leeds University Business School), University of Maryland, University of Missouri, University of North Carolina-Chapel Hill, University of Nottingham (Granger Centre for Time Series Econometrics), University of Oxford (Nuffield College), University of York, Vanderbilt University, Virginia Tech

## CONFERENCE PRESENTATIONS (SINCE 2011)

2020 American Geophysical Union, (Virtual) Fall Meeting
Econometric Society, Virtual World Congress, Bocconi University

2019 Midwest Econometrics Group Meeting, Ohio State University
Conference on Econometric Models of Climate Change, University of Milan-Bicocca
Workshop on Energy Economics: Econometric Analysis of Energy Demand and Climate Change, Sungkungkwan University and Korea Power Exchange (conference co-organizer)
Symposium of the Society for Nonlinear Dynamics and Econometrics, Federal Reserve Bank of Dallas

2018 Southern Economic Association, Annual Meeting, Washington, DC (presidential session)
Midwest Econometrics Group Meeting, University of Wisconsin-Madison
Conference on Econometric Models of Climate Change, University of Rome Tor Vergata
Agricultural & Applied Economics Association, Annual Meeting, Washington, DC (invited track session)
International Symposium on Forecasting, University of Colorado Boulder (invited session)
International Conference on the Economics of Oil, Fundação Getulio Vargas, Rio de Janeiro (invited session)

2017 Midwest Econometrics Group Meeting, Texas A&M University
Conference on Econometric Models of Climate Change, University of Oxford
Econometric Society, North American Summer Meeting, Washington University in St. Louis

2016 International Conference on Computational and Financial Econometrics, University of Seville (session organizer)
Conference on Econometric Models of Climate Change, Aarhus University
Symposium of the Society for Nonlinear Dynamics and Econometrics, University of Alabama

2015 International Conference on Computational and Financial Econometrics, University of London (session organizer)
Midwest Econometrics Group Meeting, Federal Reserve Bank of St. Louis
Econometric Society, World Congress, Montreal (session organizer)
International Symposium on Forecasting, University of California, Riverside (invited session)

2014 NBER-NSF Time Series Conference, Federal Reserve Bank of St. Louis
Kansas Workshop on Advanced Econometrics, University of Kansas (invited)

2013 24th European Conference of the Econometrics Community (EC)$^2$,
University of Cyprus
Advances in Econometrics Conference in Honor of Peter Phillips,
Southern Methodist University
NBER-NSF Time Series Conference, Board of Governors of the
Federal Reserve System
International Symposium on Econometric Theory and Applications,
Sungkyunkwan University

2012 NBER-NSF Time Series Conference, Texas A&M University
SMU-ESSEC Symposium on Empirical Finance and Financial Econometrics,
Singapore Management University
Midwest Econometrics Group Meeting, University of Kentucky
Missouri Economics Conference, University of Missouri

2011 NBER-NSF Time Series Conference, Michigan State University
Econometric Society, North American Summer Meeting,
Washington University in St. Louis
Midwest Econometrics Group Meeting, University of Chicago

## GRANTS

*Extramural*

2018 $25,000, Commissioned Paper (co-PI), International Agricultural Trade Research Consortium, University of Minnesota

*Intramural*

2017 Faculty International Travel Grant, MU

2015 Faculty International Travel Grant, MU

2013 Economic & Policy Analysis Research Center Grant, MU

2012 Faculty International Travel Grant, MU

2011 Economic & Policy Analysis Research Center Grant, MU

2011 Assistant Professor Travel Grant, MU

2010 Economic & Policy Analysis Research Center Grant, MU

2009 Assistant Professor Travel Grant, MU

2008 Assistant Professor Travel Grant, MU

2006 Faculty International Travel Grant, MU

## TEACHING

*University of Missouri*

Introductory Econometrics (BA/BS core)
Introductory Time Series (BA/BS elective, offered as an independent study)
Energy Economics (BA/BS elective, offered as an independent study)
Statistics for Economists (MA/PhD core)
Applied Econometrics (MA core, PhD elective for social sciences outside economics)
Econometric Theory I (PhD core, 1st semester econometrics)
Econometric Theory II (PhD core, 2nd semester econometrics)
Advanced Topics in Econometrics I (PhD field, 1st semester time series)
Advanced Topics in Econometrics III (PhD field, 2nd semester time series)

*Texas A&M University*

Introduction to Econometrics (BA/BS core)

*Rice University*

Principles of Economics II (BA core, introductory macroeconomics)

## STUDENT ADVISING

| *PhD Dissertations, Advisor* | | (Placement) |
|---|---|---|
| 2018 | Kyungsik Nam | (Korean Energy Economics Institute) |
| 2016 | Xi Wang | (Bank of America) |
| 2014 | Tengda Cheng | (American Credit Acceptance) |
| 2013 | Junchuan (Jesse) Zeng | (JPMorgan Chase) |
| 2012 | Shali Luo | (University of Illinois at Chicago) |

*MA Theses, Advisor or Co-Advisor*

2020 Zimin Miao, Economics and Mathematics

2017 Hope Moorhead, Economics and Statistics

2016 Seungyub (Eric) Lee, Economics

2015 Patrick McDermott, Economics and Statistics
Xi Wang, Economics

2014 Tengda Cheng, Economics and Mathematics

2013 Keyang (Daniel) Yang, Economics and Mathematics

2012 Jewelwayne Cain, Economics
Scott Glosemeyer, Economics

2011 Zhen Cai, Economics
Liuyu (Lily) Qin, Economics and Mathematics
Haibo Yu, Economics and Statistics
Xingting Zhang, Economics

*Undergraduate Honors Thesis or Research Mentorship, Advisor* (Placement)

| | | |
|---|---|---|
| 2017 | Michelle Wickman | (Economics, MU) |
| 2014 | Logan Graham | (Applied Mathematics & Statistics, Stony Brook U.) |
| | Brett Nardoni | (Federal Reserve Bank of Kansas City) |
| 2007 | Aaron Jennings | (Law, University of Iowa) |

Committee member for numerous MA and PhD students since 2005 in Economics, Agricultural & Applied Economics, Statistics, Finance, and Mathematics

## DEPARTMENTAL, COLLEGE, UNIVERSITY, AND EXTRAMURAL SERVICE

*Extramural*

Phi Beta Kappa National Honor Society, Alpha of Missouri Chapter
(President, 2017-18, 2020-21)
(Vice President, 2015-17)
(Programming Chair, 2019-20)
Omicron Delta Epsilon Economics Honor Society, Beta of Missouri Chapter
(Faculty Advisor, 2013-18)

*University of Missouri*

Resource Allocation Model Student Services and Administrative Committee
(co-chair: 2020- )
MU Connect Analytics Pilot Team (ad hoc, 2018-19)
Committee on Undergraduate Education (CUE) (2013-16)

*University of Missouri: College of Arts and Science*

Faculty Fellow for Student Retention (2018-21)
Executive Committee (2015-18, chair: 2017-18)
Curriculum, Instruction, and Advising Committee (2012-14)
(Various other committees since 2016)

*University of Missouri: Department of Economics*

Associate Chair (2019- )
Econometrics Field/Comprehensive/Qualifying Exam Committee
(member: 2005-2016, chair: 2016- )
Postdoc Recruiting Committee (chair: 2020-21)
Junior Faculty Mentor (2015-18)
Director of Undergraduate Studies (2012-14)
Salary Advisory Committee (2012-14)
Faculty Recruiting Committee (2005-06, 2012-13)
Graduate Studies Committee (2005-07, 2009-12, 2017-19)
(Various other committees since 2005)

## AD HOC REFEREE SERVICE

*Advances in Econometrics, Applied Economics,* Cambridge University Press, *Climate of the Past, Communications in Statistics – Simulation and Computation, Econometric Reviews, Econometric Theory, Econometrics, Economic Modelling, Economics Bulletin, Economics Letters, Empirical Economics, Energies, Energy and Environment, Energy Economics, Energy Journal, Geophysical Research Letters,* HICSS-48, *International Journal of Climatology, International Journal of Forecasting, Japan and the World Economy, Journal of Applied Econometrics, Journal of Business & Economic Statistics, Journal of Commodity Markets, Journal of Econometrics, Journal of Economic Dynamics and Control, Journal of Empirical Finance, Journal of International Money and Finance, Journal of Labor Research, Journal of Machine Learning Research, Journal of Nonparametric Statistics, Journal of Productivity Analysis, Journal of Risk and Financial Management, Journal of Statistical Planning and Inference, Journal of Time Series Analysis, Journal of Time Series Econometrics, Mathematical Reviews,* Oxford University Press, *Physica A: Statistical Mechanics and its Applications, Quaternary Science Reviews, Southern Economic Journal,* Springer Nature, *Statistics: A Journal of Theoretical and Applied Statistics, Studies in Nonlinear Dynamics and Econometrics, Sustainability,* University of Missouri Research Board

## HONORS & AWARDS

2020 MU Connect Champions Award, MU

2019 Winemiller Excellence Fund Data Analytics Award, MU

2001 Gulf Coast Mensa Scholarship Award

1999 Phi Beta Kappa National Honor Society, University of Pennsylvania

## PUBLICITY

*Gasoline prices and energy efficiency*

2018 KOMU Channel 8 News (Columbia), KOMU Channel 8 News (Columbia)

2016 Missouri Business Alert

2015 WalletHub.com, KOMU Channel 8 News (Columbia)

2014 KOMU Channel 8 News (Columbia)

2013 KBIA, Mid-Missouri Public Radio

2011 ABC Channel 17 News (Columbia), KOMU Channel 8 News (Columbia)

2010 KOMU Channel 8 News (Columbia)

*Universal Rating System for chess*

2017 Wikipedia (and similar), St. Louis Public Radio, Chess.com (and similar)

## CURRENT PROFESSIONAL MEMBERSHIPS

American Economic Association, Computational and Financial Econometrics Network, Econometric Society, Society for Nonlinear Dynamics and Econometrics

## CONSULTING & NON-ACADEMIC PROFESSIONAL EXPERIENCE

2020 Korea Energy Economics Institute

2015-17 Grand Chess Tour; Chess Club and Scholastic Center of St. Louis

2002 Fundamentals Group, El Paso Merchant Energy, Houston, Texas

1998-00 International Trade Practice, Dewey Ballantine LLP, Washington, DC