

CURRICULUM VITAE

NAME: Roger Koenker

POSITION: William B. McKinley Professor of Economics
and Professor of Statistics

ADDRESS: Department of Economics 504 W. Pennsylvania.
University of Illinois Urbana, IL 61801
Urbana, IL 61801

TELEPHONE: (217) 333-4558 (217) 367-5108

EMAIL: roger@ysidro.econ.uiuc.edu

WEB: <http://www.econ.uiuc.edu/~roger>

DEGREES: A.B. Grinnell College 1969
Ph.D. University of Michigan 1974

SPECIALIZATION: Econometric Theory and Applications

EXPERIENCE: Assistant Professor of Economics, University of Illinois, 1974-76
Member of Technical Staff, Economics Research,
Bell Telephone Laboratories, 1976-1983
Visiting Associate Professor of Economics,
University of Pennsylvania, Winter 1982
Professor of Economics, University of Illinois, 1983-
Professor of Statistics, University of Illinois, 1992-
McKinley Professor of Economics, University of Illinois, 1997-
Visiting Fellow, CEMMAP and University College London, Spring 2003
Visiting Professor, University College London, Spring 2011

EDITORIAL: Associate Editor, *Econometrica*, 1991-1994
Associate Editor, *Econometric Theory*, 1994-
Associate Editor, *Journal of Statistical Software*, 2002-
Associate Editor, *Journal of American Statistical Association*, 2004-14

HONORIFIC: Fellow of Econometric Society, 1998
International Fellow, CEMMAP, 2003
Fellow of American Statistical Association, 2008
Fellow of Institute of Mathematical Statistics, 2008
Emanuel and Carol Parzen Prize for Statistical Innovation, 2010

TEACHING: Economics Graduate Student Organization

Outstanding Teaching Award 1995-96
Economics Graduate Student Organization
Outstanding Teaching Award 1996-97
Economics Graduate Student Organization
Outstanding Teaching Award 1997-98
Economics Graduate Student Organization
Outstanding Teaching Award 2004-05
Economics Graduate Student Organization
Outstanding Teaching Award 2007-08
Economics Graduate Student Organization
Outstanding Teaching Award 2011-12

GRANTS: National Science Foundation, 1984-86
National Science Foundation, 1987-88
International Research and Exchanges Board, 1989
National Science Foundation, 1989-90
National Science Foundation, 1990-92
National Science Foundation, 1992-94
NATO Cooperative Research Grant, 1993-5
National Science Foundation, 1994-97
National Science Foundation, 1997-00
National Science Foundation, 2000-03
National Science Foundation, 2003-06
National Science Foundation, 2006-09
National Science Foundation, 2009-12
National Science Foundation, 2012-15

PUBLICATIONS:

1. Books:

Quantile Regression, Econometric Society Monograph Series, Cambridge U. Press.
Economic Applications of Quantile Regression (2001), (edited with B. Fitzenberger, and J.A.F. Machado), Physica-Verlag.

1. Papers on Econometric and Statistical Methods

“Convex Optimization, Shape Constraints, Compound Decisions and Empirical Bayes Rules,” (with Ivan Mizera), 2014, *J. of Am. Stat. Assoc.*, 109, 674–685.
“Frailty, Profile Likelihood and Medfly Mortality,” (with Jiaying Gu), to appear in *Contemporary Developments in Statistical Theory: A Festschrift for Hira Lal Koul*, 2013.

- “Adaptive Estimation of Regression Parameters for the Gaussian Scale Mixture Problem,” Festschrift for Siegfried Heiler, eds, Jan Beran, Yuanhua Feng, and Hartmut Hebbel, 2013.
- “What do kernel density estimates optimize?” (with Ivan Mizera and Jungmo Yoon) *J. of Econometric Methods*, 2012, forthcoming.
- “Additive Models for Quantile Regression: Model Selection and Confidence Bands,” *Brazilian J. of Statistics*, (2011), 25, 239-262.
- “Quasi-Concave Density Estimation,” (with Ivan Mizera) *Annals of Statistics*, (2010), 38, 2998-3027.
- “March Madness, Quantile Regression Bracketology and the Hayek Hypothesis,” (with G. Bassett), *J. of Bus. and Econ. Statistics*, (2010) 28, 26-35.
- “Conditional Quantile Estimation for GARCH Models,” (with Zhijie Xiao) *J. of Am. Stat. Assoc.*, 2009, 104, 1696-1712.
- “Copula-Based Nonlinear Quantile Autoregression,” (with Zhijie Xiao and Xiaohong Chen), *Econometric Journal*, 2009, 12, 50-67.
- “Parametric Links for Binary Response Models,” (with Jungmo Yoon), *J. of Econometrics*, 2009, 152, 120-130 .
- “Density Estimation by Total Variation Regularization,” *Advances in Statistical Modeling and Inference: Essays in Honor of Kjell Doksum*, V.N. Nair (ed.) (2007), 613-634.
- “Quantile Autoregression,” (with Zhijie Xiao) *J. of Am. Stat. Assoc.*, with discussion and rejoinder, (2006), 475, 980-1006.
- “Testing Stationarity using M-Estimators,” in *Econometric Theory and Practice: Essays in Honor of P.C.B. Phillips*, (2007), D. Corbae, S.N. Durlauf, and B.E. Hansen, (eds), Cambridge U. Press.
- “Quantile Regression Methods for Recursive Structural Equation Models,” (with Lingjie Ma), *J. of Econometrics*, (2006), 134, 471–506.
- “Quantile Regression Methods for Reference Growth Charts,” (with Ying Wei, Anneli Pere, and Xuming He), *Statistics in Medicine* (2006), 25, 1369-1382.
- “Inequality Constrained Quantile Regression,” (with Pin Ng) *Sankhya*, (2005), 418-440.
- “A Frisch-Newton Algorithm for Sparse Quantile Regression”, (with Pin Ng) *Acta Mathematicae Applicatae Sinica* , (2005), 21, 225–236.
- “Pessimistic Portfolio Allocation and Choquet Expected Utility,” (with G. Bassett and G. Kordas), *J. of Financial Econometrics*, (2004), 2, 477-492.
- “Unit Root Quantile Autoregression Inference,” (with Z. Xiao) *J. of Am Stat. Assoc.*, (2004), 94, 775-787.
- “Quantile Regression for Longitudinal Data,” *J. of Multivariate Analysis*, (2004), 91, 74-89.
- “Penalized Triograms: Total Variation Regularization for Bivariate Smoothing”, (with I. Mizera), *J. Royal Stat. Soc. (B)*, (2004), 66, 145-163.

- “SparseM: A Sparse Matrix Package for R”, (with P. Ng), *J. Stat. Software*, (2003), 8, 1-9.
- “Inference on the Quantile Regression Process,” (with Z. Xiao) *Econometrica*, (2002), 81, 1583–1612.
- “Goodness of Fit and Related Inference Processes for Quantile Regression,” (with J.A.F. Machado), *J. of Am Stat. Assoc.*, (1999), 94, 1296-1310
- “GMM Inference when the Number of Moment Conditions is Large,” (with J.A.F. Machado), *J. of Econometrics*, (1999), 93, 327-344.
- “The Gaussian Hare and the Laplacean Tortoise: Computability of Squared-error vs Absolute Error Estimators,” (with S. Portnoy). *Statistical Science*, (1997) **12**, 279-300.
- “Robust rank tests of the unit root hypothesis” (with M.N. Hasan), *Econometrica*, (1997), 65, 133-161.
- “Conditional quantile estimation and inference for ARCH models” (with Q. Zhao), *Econometric Theory*, (1996), 12, 793-813.
- “An interior point algorithm for nonlinear quantile regression” (with B.J. Park), *Journal of Econometrics*, (1996), 71, 265-285.
- “Adaptive Choice of Trimming Proportions” (with J. Jureckova, and A. H. Welsh), *Annals of the Institute of Statistical Mathematics*, (1994), 46, 731-755.
- “L-estimation for linear heteroscedastic models” (with Q. Zhao), *J. of Nonparametric Statistics* (1994), 3, 223-235.
- “Momentary Lapses: Moment expansions and the robustness of minimum distance estimators” (with J.A.F. Machado, Chris Skeels, and Alan Welsh), *Econometric Theory*, (1994), 10, 172-197.
- “Quantile Smoothing Splines” (with P. Ng and S. Portnoy), *Biometrika*, (1994), 81, 673-680.
- “A note on Amemiya’s form of the weighted least squares estimator” (with J. Machado, C.L. Skeels, and A.H. Welsh), *Australian Journal of Statistics*, (1994), 35, 155-174.
- “Tests of Linear Hypotheses based on Regression Rank Scores” (with J. Jureckova, C. Gutenbrunner and S. Portnoy), *Journal of Nonparametric Statistics*, (1993), 2, 307-331.
- “Tail Behavior of Regression Estimators and their Breakdown Points” (with J. Jureckova, S. Portnoy, and X. He), *Econometrica*, 58, (1990), 1195-1214.
- “M-Estimation of Multivariate Regressions” (with S. Portnoy), *Journal of the American Statistical Association*, 85, (1990), 1060-1068.
- “Adaptive L-Estimation for Linear Models” (with S. Portnoy), *Annals of Statistics*, 17, (1989), 362-381.
- “L-Estimation for the Linear Model” (with S. Portnoy), *Journal of the American Statistical Association*, (1987), 851-857.

“Computing Regression Quantiles” (with V. D’Orey), *Journal of the Royal Statistical Society (C)*, 36, (1987), 383-393.

“Strong Consistency of Regression Quantiles and Related Empirical Processes,” *Econometric Theory*, 2, (1986), 191-201.

“On Boscovich’s Estimator” (with G. Bassett), *Annals of Statistics*, 13, (1986), 1625-29.

“Tests of Linear Hypotheses and L1 Estimation” (with G. Bassett), *Econometrica*, 50, (1982), 1577-1583.

“An Empirical Quantile Function for Linear Models with iid Errors” (with G. Bassett), *Journal of the American Statistical Association*, 77, (1982), 407-415.

“Robust Tests for Heteroscedasticity Based on Regression Quantiles” (with G. Bassett), *Econometrica*, 50, (1982), 43-61.

“Asymptotic Theory of Least Absolute Error Regression” (with G. Bassett), *Journal of the American Statistical Association*, (1978), 618-622.

“Regression Quantiles” (with G. Bassett), *Econometrica*, 46, (1978), 33-51.

2. Econometric and Statistical Applications

“Pay and Performance: The Impact of Salary Distribution on Firm-Level Outcomes in Baseball” (with L. Debrock and W. Hendricks) *Journal of Sports Economics* (2004) 5, 243-261.

“Uncertainty, Hiring and Subsequent Performance: The NFL Draft” (with L. DeBrock and W. Hendricks), *Journal of Labor Economics*, (2003), 21, 857-886.

“Quantile regression for duration data: A reappraisal of the Pennsylvania reemployment bonus experiments, (with Y. Biliyas), *Empirical Economics*, 26, 199-220.

“Reappraising Medfly Longevity: A Quantile Regression Approach,” (with O. Geling), *J. of Am Stat. Assoc.*, 96, 458-468.

“The Economics of Persistence: Graduation Rates of Athletes as Labor Market Choice” (with L. DeBrock and W. Hendricks), *The Journal of Human Resources*, (1996), 31, 511-39.

“Quantile regression models for global temperature change” (with F. Schorfheide), *Climatic Change*, (1994), 28, 395-404.

“Hierarchical Spline Models for Conditional Quantiles and the Demand for Electricity” (with W. Hendricks), *Journal of the American Statistical Association*, (1992), 87, 58-69.

“Asymptotic Theory and Econometric Practice, ” *Journal of Applied Econometrics*, 3, (1988), 139-147.

“Welfare Econometrics of Peak-Load Pricing of Electricity: A Continuous-Time Approach” (with A. R. Gallant), *Journal of Econometrics*, 26, (1984), 83-113.

“Pricing Interactive Computer Services: A Rationale and Some Proposals for UNIX Implementation” (with W. A. Gale), *Computer Journal*, 27, (1984), 8-17.

“Product Differentiation, Monopolistic Competition, and Public Policy” (with M. Perry), *Bell Journal of Economics*, 12, (1981), 217-231.

“Stochastic Parameter Models for Panel Data” (with W. Hendricks and D. Poirier), *International Economic Review*, 20, (1979), 707-724.

“Optimal Peak Load Pricing with Time Additive Consumer Preference,” *Journal of Econometrics*, 9, (1979), 175-192.

“Residential Demand for Electricity: An Econometric Approach” (with W. Hendricks and D. Poirier), *Journal of Econometrics*, 9, 1979, 33-57.

“Consumption Patterns for Electricity” (with W. Hendricks and R. Podlasek), *Journal of Econometrics*, 5, (1977), 135-153.

“Was Bread Giffen? The Demand for Food in England circa 1790,” *Review of Economics and Statistics*, 59, (1977), 225-229.

“Optimal Scale and the Size Distribution of American Trucking Firms,” *Journal of Transport Economics and Policy*, (1977), 54-67.

“An Empirical Note on the Elasticity of Substitution between Land and Capital in a Monocentric Housing Market,” *Journal of Regional Science*, 12 (2), August (1972), 299-305.

3. Surveys

“Convex Optimization in R,” (with Ivan Mizera), forthcoming, *J. Stat. Software*, 2013.

“Quantile regression” *Encyclopedia of Environmetrics* A.-H. El-Shaarawi and W. Piegorsch (eds). Wiley, Chichester.

“Reproducible Econometric Research,” (with A. Zeileis), *J. of Applied Econometrics*, 2009, 24, 833-847.

“Econometrics in R: Past, Present, and Future” (with A. Zeileis) *J. of Applied Econometrics*, 2008, 27, 1-5.

“Censored Quantile Regression Redux,” *J. of Stat. Software*, (2008), 27.

“Quantile Regression: An Introduction,” (with K. Hallock), *J. of Economic Perspectives*, (2001), 15, 143-156.

“Galton, Edgeworth, Frisch and prospects for quantile regression in econometrics,” *J. of Econometrics*, (2000), 95, 347-374.

“Rank Tests for Linear Models,” *Handbook of Statistics*, 15, (1997), G.S. Maddala and C.R. Rao (eds.) Amsterdam: North Holland.

“Robust Methods in Econometrics” (with discussion), *Econometric Reviews*, 1, (1982), 213-255.

4. Notes, Comments, and Discussion

“A Compound Decision Bakeoff” *Stat*, forthcoming.

“Living Beyond Our Means: Comment on Thomas Kneib’s Beyond Mean Regression,” *Statistical Modeling*, (2013), 13, 323-33..

- “Comment on ‘Local Quantile Regression’ by Vladimir Spokoiny” *J. of Stat. Planning and Inference*, (2013), forthcoming.
- “A Note on Laplace Regression with Censored Data” *Biometrical Journal*, (2011), 5, 855–860.
- “The Median is the Message: Wilson and Hilferty’s Reanalysis of C.S. Peirce’s Experiments on the Law of Errors,” *American Statistician*, 63, 20-25.
- “The Median is the Message: Toward the Fréchet Median” *Journal de la Société Française de Statistique*, 147, 61-65.
- “Primal and dual formulations relevant for the numerical estimation of a probability density via regularization,” (with I. Mizera), *Tatra Mountains Math. Pub.*, 39, 255-264.
- “The alter egos of the regularized maximum likelihood density estimators: deregularized maximum-entropy, Shannon, Renyi, Simpson, Gini, and stretched strings,” (with I. Mizera) Proceedings of the 7th Prague Symposium on Asymptotic Statistics, (2006).
- “Elastic and Plastic Splines: Some Experimental Comparisons,” (with I. Mizera) Statistical Data Analysis based on the L1-norm and Related Methods, (Y. Dodge, ed.), Birkhauser, Basel, 2002, 405-414.
- “Comment on Spline Adaptation in Extended Linear Models,” (with I. Mizera), *Statistical Science*, (2002), 17, 30-31.
- “Tail Behavior of the Least Squares Estimator,” (with J. Jureckova and S. Portnoy), *Stat. and Prob. Letters*, (2002), 55, 377-84.
- “Some pathological regression asymptotics under stable conditions,” (with S. Portnoy), *Stat. and Prob. Letters*, (2002), 50, 219-228.
- “Comment: Regression Depth, P.Rousseeuw and M. Hubert, *J. Am. Stat. Assoc.*, (1999), 94, 405-7.
- “The Falstaff Estimator,” (with J.A.F. Machado), *Economics Letters*, 61, (1998), 23-28.
- “A Remark on Bartels and Conn’s linearly constrained discrete l_1 problems” (with P. Ng), *ACM Transactions on Mathematical Software*, (1996), 22, 493-95.
- “Remark on Algorithm AS 229: Computing dual regression quantiles and regression rank scores” (with V. d’Orey), *Applied Statistics*, (1994), 43, 410-414.
- “A note on recent proposals for computing l_1 estimates” (with G. Bassett), *Computational Statistics and Data Analysis*, (1994), 14, 207-211.
- “Rank-Based Robust Analysis of Linear Models: Comment on Draper” (with S. Portnoy), *Statistical Science*, 3, (1988), 259-261.
- “Discussion of Welsh: The Trimmed Mean in the Linear Model,” *Annals of Statistics*, 15, (1987), 39-44.
- “Four (Pathological) Examples in Asymptotic Statistics” (with G. Bassett), *American Statistician*, 38, (1984), 209-212.
- “A note on L-estimates for linear models”, *Stat. and Prob Letters*, 2, (1984), 323-5.

“A Note on Studentizing a Test for Heteroscedasticity,” *Journal of Econometrics*, 17, (1981), 107-112.

5. Conference Proceedings

“Additive Models for Quantile Regression: Risk Factors for Childhood Malnutrition in India,” Proceedings of a Conference on R in the Social Science, Springer, forthcoming.

“How to be Pessimistic: Choquet Risk and Portfolio Optimization”, (with G. Bassett and G. Kordas) Proceedings of the 4th L_1 Neuchatel Conference on Statistical Methods, Birkhauser, forthcoming.

“ L_1 Computation: An interior monologue”, in *L_1 -Statistical Procedures and Related Topics*, ed. Y. Dodge, IMS Monograph Series, **31**, 15-32.

“Confidence Intervals for Regression Quantiles,” in *Proceedings of the 5th Prague Symposium on Asymptotic Statistics*, P. Mandl and M. Huskova (eds), (1994), Heidelberg: Physica-Verlag.

“Computing Quantile Smoothing Splines” (with P. Ng), *Proceedings of the 24th Symposium of the Interface: Computing Science and Statistics*, forthcoming.

“Nonparametric estimation of conditional quantile functions” (with S. Portnoy, and P. Ng), *Proceedings of the Second International Conference on Statistical Data Analysis based on the L_1 norm and Related Methods*, (1992), New York: North-Holland.

“Quantile Smoothing Splines” (with P. Ng), *Proceedings of the International Symposium on Nonparametric Statistics and Related Topics*, (1991), New York: North-Holland.

“A Comparison of Asymptotic Testing Methods for l_1 -Regression,” *Statistical Data Analysis Based on the l_1 Norm*, ed. Yadolah Dodge, (1987), New York: North-Holland.

“Demand for Electricity by Time of Day: An Evaluation of Experimental Results” (with W. Hendricks), in *Issues in Public Utility Pricing and Regulation*, (1980), M. A. Crew, ed., Lexington Books.

“Optimal Nonuniform Pricing for Electricity: Some Illustrative Examples” (with D.S. Sibley), in *Public Utility Pricing: The Crisis*, (1978), Sichel, ed., Praeger.

6. Under Review

Testing for Homogeneity in Mixture Models, (With Jiaying Gu, and Stanislav Volgushev)

Unobserved Heterogeneity in Longitudinal Data: An Empirical Bayes Perspective, (with Jiaying Gu)

REFeree: *Econometrica*, *American Economic Review*, *Journal of Political Economy*, *Review of Economic Studies*, *Journal of Econometrics*, *Journal of the American Statistical Association*, *Annals of Statistics*, *Econometric Theory*, *Bernoulli*, National Science Foundation, Swiss NSF, Czech NSF, South African NSF, German NSF, *Journal of Computational and Graphical Statistics*, *SIAM Journal of Optimization*, *Biometrika*, *American Statistician*, *International Economic Review*, *Statistics & Decisions*, *Climatic Change*, *Society for Industrial and Applied Mathematics*,

Council for International Exchange of Scholars, Annals of the Institute of Statistical Mathematics, The Canadian Journal of Statistics, Statistics, Metrika, JRSS(B), Australian Journal of Statistics, Brazilian Journal of Statistics, Communications In Statistics, Journal of Applied Econometrics, Journal of Empirical Finance, Journal of Nonparametric Statistics, Quarterly Review of Economics and Business.

SEMINARS – Economics: Penn State, UCLA, UCSD, Stanford, Texas (Austin), Cornell, Maryland, Boston University, EUI-Florence, Nuffield, LSE, UCL, Warwick, Harvard-MIT, University of Kansas, Yale, McGill, University of Chicago, Malinvaud Seminar INSEE, Mannheim, Columbia, Iowa, Duke, Freiburg, North Carolina, Toulouse, Northwestern, Berkeley, University of Pennsylvania, Maryland, Georgetown, Indiana, Rice, Utah, Michigan, Chicago, Wisconsin, Rutgers, Tilburg, Ohio State, Tokyo University, SHUFE

SEMINARS – Statistics: University of Glasgow, Cambridge University, Waseda, Fudan, Victoria (Wellington), North Carolina, ULB-Brussels, Carlos III de Madrid, U. Dortmund Southampton, Purdue, Texas A&M, NYU, University of Toronto, University of Pennsylvania, Bell Labs, Charles University, Johns Hopkins,

INVITED CONFERENCE TALKS: 5th School on Models of Regression, Campos dos Jordao, Brazil, (1997); Joint Statistical Meetings, Anaheim, (1997); 3rd Conference on Statistical Data Analysis based on the L_1 and related methods, Neuchatel, (1997), Workshop on Nonparametric Statistics, Prague, 1998, 7th Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius, Lithuania, 1998, Principles of Econometrics Conference, Madison, 1998. Economic Applications of Quantile Regression, Konstanz, 2000. Controlling Complexity for Strong Stochastic Dependencies, Oberwolfach, 2000. Quantile Regression Inference, Neuchatel, 2000. Robust Statistics, Vorau, Austria, 2001. Workshop on Quantile Regression, Liberec, Czechia, 2001. South African Statistical Association, 2001, 34^{es} Journées de Statistique, Brussels, 2002; Conference on Nonparametrics, Crete, 2002; 4th Conference on L_1 Methods in Statistics, Neuchatel, 2002; Conference on Modern Statistical Inference, Brno, 2002. Masterclass on Quantile Regression, UCL, 2003, Conference on Quantile Regression Methods and Applications, CEMMAP/UCL, 2003, Workshop on Regularization, Banff 2003, NAK Workshop, Groningen, 2003. Workshop on Longitudinal Data Analysis, IMS-National University of Singapore, 2005. European Courses in Advanced Statistics, La Roche-en-Ardenne, 2005 Econometrics in Rio, 2006, JASA Invited JSM Talk, Seattle, 2006. Workshop on Quantile Regression and Related Methods, Edinburgh, 2006. Oberwolfach Workshop on Qualitative Assumptions and Regularization, 2006, Far East Meeting of the Econometric Society, Taipei, 2007 Forecasting in Rio, Vargas Foundation, 2008; Expanding Core Statistical Theory, Banff, 2008, CEMMAP Conference on Quantile Regression, UCL, 2009, ICORS, Parma, 2009, Parzen Prize Lecture, Texas A&M, 2010, ICORS, Prague, 2010, Science and Society, Beijing, 2010, H.O. Hirschfeld (Hartley) Lectures, Berlin, 2010. Advanced techniques for robust methodology, CEMMAP, 2011, Short Course on Quantile Regression, LSE, 2011. Rmetrics Conference on Finance, Meielisalp, Switzerland, 2011, Midwest Econometric Group, Chicago, 2011; 8th World Congress of the IMS and Bernoulli Society, Istanbul, 2012; Workshop on New Developments in Econometrics and Time Series, Rome, 2012; Robust methods for economic and financial modeling, Lisbon, 2012; Frontiers of Quantile Regression, Oberwolfach, 2012, Swiss Doctoral School in Les

Diablerets, 2013. Stochastic Dominance and Related Methods, Cambridge, 2013. Symposium on Statistical Methods, Kanazawa, Japan, 2013. CeMMaP Advances in Microeconometrics, HKUST, 2014

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