

Stanislav Kolenikov: Curriculum Vitae

Date of birth: 23 April 1973

Citizenship: Russia (US permanent resident)

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CURRENT POSITION

Adjunct Assistant Professor, Department of Statistics, University of Missouri, Columbia

PROFESSIONAL INTERESTS / EXPERTISE

applied statistics: spatial and environmental statistics; missing data

survey statistics: estimation and inference, resampling methods

quantitative social sciences: structural equation models with latent variables

econometrics: microeconometrics, program evaluation, asymptotic theory

statistical programming: Stata software

EDUCATION

- 2000–2005 University of North Carolina at Chapel Hill, Department of Statistics, Ph.D. (2005) Title: "A modification of the EM algorithm with applications to spatio-temporal modeling". Advisor: Prof. Richard L. Smith, co-advisor: Prof. Kenneth A Bollen
- 1997–2000 Central Economics and Mathematics Institute, Moscow, post-graduate studies. Advisor: Prof. S.A.Aivazian
- 1996–1998 New Economic School, Moscow, Russia, MA in Economics (July 1998). GPA 4.7 out of 5.0, *Diploma with honors*, ranked 6 out of 35
Master's Thesis: "Statistical Methods of the Quality of Life Assessment"
- 1990–1996 Moscow University of Electronic Technology (MIET), Zelenograd, Russia
Diploma of Higher Education in Semiconductor Physics and Technology *With Honors*
Physical engineer in VLSI technology, GPA 4.9 out of 5.0
Graduation Paper: The ANOVA-based Design of Statistical Quality Control System for Microelectronic Production

Additional training

- 2008 SAS Base Programming Certificate
- 2006–2007 New Faculty Teaching Scholars, training program, University of Missouri system
- 2004–2005 Certificate Program in Survey Methodology, Odum Institute for Research in Social Sciences, UNC, Chapel Hill.
- 1999 NetCourses NC151 and NC152 on Advanced Stata Programming
- 1993–1995 Courses on English-Russian technical translation, MIEE. Certified English-Russian technical translator.

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RESEARCH PUBLICATIONS

Peer reviewed

- 2009 'Confirmatory factor analysis with `confa`', *Stata Journal*, vol. 9(3), pp. 329–373.
- 2009 'Socioeconomic status measurement with discrete proxy variables: Is principal component analysis a reliable answer?', with Gustavo Angeles, *Review of Income and Wealth*, vol. 55 (1), pp. 128–165.
DOI: 10.1111/j.1475-4991.2008.00309.x
- 2008 'Constrained vs. Unconstrained Estimation in Structural Equation Modeling', with Victoria Savalei, *Psychological Methods*, vol. 13 (2), pp. 150--170, 2008. DOI: 10.1037/1082-989X.13.2.150
Awards: 2009 Winemiller award for collaboration in Statistics and Psychology
- 2005 'A Decomposition Analysis of Regional Poverty in Russia', with Anthony Shorrocks, *Review of Development Economics*, vol. 9 (1), 25--46, 2005, doi:10.1111/j.1467-9361.2005.00262.x. A version of the paper is also published as a chapter of *Spatial Disparities in Human Development: Perspectives from Asia*, edited by R. Kanbur, A. Venables, G. Wan, United Nations University Press, 2005.
- 2003 'Spatio-temporal modeling of PM_{2.5} data with missing values'. With Richard L. Smith and Lawrence H. Cox, *Journal of Geophysical Research*, vol. 108, no. D24, 9004, doi:10.1029/2002JD002914, 2003
Awards: ASA Student Travel Award (2002), CDC/ATSDR Best Applied Papers Award (2004)
- 2001 'Workers' Heterogeneity and Risk Aversion: A Segmentation Model of the Russian Labor Market', with Irena Grosfeld, Claudia Senik-Leygonie, Thierry Verdier and Elena Paltseva, *Journal of Comparative Economics*, vol. 29, pp. 230--256, doi:10.1006/jceec.2001.1711, 2001.
- 1999 'Efficiency of the Conservative Treatment in Idiopathic Scoliosis: Mathematical Models of the Effect of the Brace Treatment in Patients with Adolescent Idiopathic Scoliosis'. With G.P.Dmitrieva, R.D.Nazarova, A.A.Peresetsky, E.Paltseva. In collective volume *Research Into Spinal Deformities*, IOS Press Amsterdam, ed. I.A.F.Stokes, 2, 1999.

Under review

- 2009 'Resampling variance estimation for complex survey data' (under review)
- 2009 'Empirical likelihood estimation and inference in structural equation models', with Yiyong Yuan (under review)
- 2008 'Testing Negative Error Variances: Is a Heywood Case a Symptom of Misspecification?', with Kenneth Bollen (R&R in *Sociological Methods and Research*)
- 2008 'On the costs of repeated clustered surveys', with Gustavo Angeles (R&R in *Survey Methodology*)

Monographs

- 2009 *Statistics in the Social Sciences: Current Methodological Developments*. Co-editor of the volume, with Douglas Steinley and Lori Thombs, forthcoming in Wiley.
- 2003 *Applied Econometric Analysis With Stata*. Lecture notes, 2000, updated in 2003. Published by New Economic School in the NES Lecture Notes series (KL/2001/00).

In progress

- 'Estimating equations, sandwich variance estimator and parameter biases in misspecified structural equation models', with Ni Li and Kenneth Bollen
- 'How many factors? Underidentification issues in factor analysis', with Victoria Savalei
- 'Applications of quasi-Monte Carlo methods for survey resampling inference'

Reviews / Proceedings / Working papers

- 2007 *Applications of quasi-Monte Carlo methods in inference for complex survey data*, ASA Survey Research Methods Section Proceeding
- 2007 *On reuse of clusters in repeated studies*, with Gustavo Angeles. Statistics Canada International Symposium Series.
- 2006 *Specification Tests with Heywood Cases*, with K. Bollen and V. Savalei, 2006 Proceedings of American Statistical Association [CD-ROM], Alexandria.
- 2006 *A Modification of the EM Algorithm with Application to Spatio-Temporal Models*, 2006 Proceedings of American Statistical Association [CD-ROM], Alexandria.
- 2004 *The Use of Discrete Data in Principal Component Analysis: Theory, Simulations, and Applications to Socioeconomic Indices*, with Gustavo Angeles. Working Paper of MEASURE/Evaluation project, No. WP-04-85, Carolina Population Center, UNC.
- 2001 *Modeling of Expenditure Distribution By a Lognormal Mixture*, with S.A. Aivazian. 2001 Proceedings of the American Statistical Association, Statistical Computing Section [CD-ROM], Alexandria, VA: American Statistical Association.
- 2001 Review of Stata 7. *Journal of Applied Econometrics*, vol. 16 (5), 637--646 (2001).
- 2001 *Poverty and Expenditure Differentiation Of Russian Population*, with S. A. Aivazian. Working Paper No. 01/01E , Economics Education and Research Consortium, Moscow.

WORK EXPERIENCE: Research

- Aug 2005–June 2009 Assistant Professor, Department of Statistics, University of Missouri, Columbia.
- Asymptotic theory of structural equation models; M-estimation, non-regular problems, empirical likelihood
 - Design-based inference for complex survey data; quasi-Monte Carlo resampling inference
- Jan 2002–Aug 2005 Research Assistant, MEASURE/Evaluation project at Carolina Population Center. Projects:
- Discrete data in principal component analysis, with applications to socio-economic status estimation
 - The re-use of clusters in repeated multistage surveys
 - Permutation testing for program evaluation
- May – Aug 2002 Centre for Economic and Financial Research, Moscow. Worked in projects:
- Social Protection Implementation: Profiling of the Unemployed
 - Tax-Benefit Modelling for Russia
- May – June 2001 Summer internship at the World Institute for Development Economics Research, Helsinki.
- Jan – May 2001 Research Assistant, environmental statistics project for EPA.
- July 1998 – Aug 2000 Russian-European Center for Economic Policy. Economist. Industrial Policy and Social Policy Teams
- Sep 1999 – July 2000 NES, Research Assistant, *Social Policy in Russia* GET research project

MEMBERSHIPS

American Statistical Association, Institute of Mathematical Statistics, Statistical Society of Canada, Psychometric Society

WORK EXPERIENCE: Full responsibility teaching

Continuing education courses

August 09	Bootstrap for complex surveys: half day CE course, JSM 2009
University of Missouri, Columbia	
Winter 09	Stat 3500 Introduction to Probability and Statistics II, business undergraduate Stat 4310/7310 Sampling Techniques, upper undergraduate/graduate
Winter 07	Stat 9100 Advanced Topics: Complex Survey Data Analysis
Winter 07, Fall 07, Spring 08, Fall 08	Stat 4710/7710: Statistics for Engineering Students, upper undergraduate/non-major graduate
Winter 06, Spring 08	Stat 9370: Multivariate Analysis, an advanced graduate course
Fall 05	Stat 4750/7750, Introduction to Probability Theory, Upper undergraduate/Master's level

Duke University, AEA Summer Program and Minority Scholarship

June-July 2004	Introduction to Stata, a part of Data Analysis and Research Seminar
New Economic School, Moscow, Russia	
May-June 2003	Visiting professor, MA in Economics program, "Data Analysis".
Aug 2003, March 2004	Visiting professor, NES outreach program, "Applied microeconometrics and labor economics" (Vladivostok, August 2003; Alma Aty, March 2004).
April-May 2000	Instructor, NES outreach program. Seminars on applied econometrics with Stata 6 at Voronezh State University and Urals State University, Ekaterinburg

University of North Carolina, Chapel Hill

Spring 2002 – Fall 2003	Instructor, Stat 11 and Stat 31, "Introduction to Statistics and Data Analysis", an introductory undergraduate course.
Spring 2002, Fall 2003	Instructor, Stat 31 "Introductory Statistics", undergraduate business statistics

Students advised

Seungmin Jahng (MA Stat 2008), 'A Mixed Model for Variance of Successive Difference of Stationary Time Series: Modeling Temporal Instability in Intensive Longitudinal Data'

Ni Li (MA Stat 2008), 'Derivatives of the Fitting Functions and Sandwich Estimator of Variance for Structural Equation Models'

Yiyong Yuan (MA Stat 2007), 'Empirical Likelihood Estimation of SEM'

Teaching activities

Sep 2006 – May 2007	New Faculty Teaching Scholars program, University of Missouri system
Winter 2007	Econometrics reading group, jointly with Douglas J Miller (MU Economics)

Online materials

Stata tutorials	GLLAMM: http://www.unc.edu/~skolenik/stata/gllamm-demo.html Regression diagnostics, bootstrap: http://web.missouri.edu/~kolenikovs/stata
Research seminar	Stata and LaTeX: http://www.duke.edu/~skolenik/
Engineering statistics	Course portfolio: http://web.missouri.edu/~kolenikovs/Stat4710

WORK EXPERIENCE: Service

- Referee reports National Science Foundation, New Economic School (MA Theses), Springer *Psychometrika*, *Journal of Educational and Behavioral Statistics*, *British Journal of Mathematical and Statistical Psychology*, *Survey Methodology*, *Review of Income and Wealth*, *The Economics of Transition*, *International Regional Science Review*, *Journal of Official Statistics*, *Methodology*.
- U of Missouri Seminar series in Statistics, Committee Chair, 2005-06
Social Science Statistics Center, faculty affiliate, 2005–present

AWARDS

- 2009 *Constrained vs. Unconstrained Estimation in Structural Equation Modeling*, Winemiller award for collaboration in Statistics and Psychology, with Victoria Savalei (\$500)
- 2007 *Balancing the bootstrap with the quasi-Monte Carlo methods*, Summer Research Fellowship Award (\$7000), University of Missouri system
- 2006 *Sixth Winemiller Symposium: New Methodological Developments in Statistics in Social Sciences*, Partial support: \$20000, NSF award #DMS-0605679, NSF Division of Mathematical and Physical Sciences
- 2006–2009 *Collaborative research: Research: Structural Misspecification in Latent Variable Models: Symptoms, Consequences, and Diagnostic Tests*, with Kenneth Bollen, NSF Methodology, Measurement and Statistics program, award No. 0617193, role: PI (\$122,000)
- 2005 *Informatively missing data in longitudinal studies*, Winemiller Award for Collaboration in Statistics and Psychology, status: awarded. Joint work with Phillip K Wood (University of Missouri, Columbia Psychology) and Tiffany Whittaker (University of Missouri, Columbia Education, Department of Educational, School and Counseling Psychology)
- 2004 Best Applied Papers Award, The Centers for Disease Control and Prevention / Agency for Toxic Substances and Disease Registry
- 2002 Best Student Paper Travel Award for the 2002 Joint Statistical Meetings in Atlanta, sponsored by the Section on Statistics and the Environment.
- 2001 Best Student Paper Travel Award for the 2001 Joint Statistical Meetings in Atlanta, sponsored by the Government Statistics Section, Social Statistics Section, and Section on Survey Research Methods.
- 2000–2001 Merit Assistantship by the Graduate School, UNC
- 1999–2000 Economics Education and Research Consortium grant for research on the topic: "Poverty and Expenditure Differentiation Of Russian Population" with Prof. S.A.Aivazian
- 1994, 1995 2nd Prize in Russian Mathematical Olympiad among technical students
- 1994 2nd Prize in Moscow Mathematical Olympiad among technical students
- 1993–1995 Mayor's Scholarship, MIEE
- 1991–1994 Academic Council Scholarship, MIEE

Statistical programming

- Stata modules (open access) `bsweights`: complex survey bootstrap weights
`cfa`: confirmatory factor analysis
`denormix`: normal mixtures
`polychoric`: polychoric correlations
- 2008 SAS Base Programming Certificate
- 1999 NetCourses NC151 and NC152 on Advanced Stata Programming

REFERENCES

Richard L. Smith, dissertation advisor (statistical theory)

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Kenneth A. Bollen, dissertation co-advisor (structural equation modeling and quant social sciences)

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Lori Thombs (statistical consulting and social science statistics)

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Gregory Holliday (teaching)

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Charles Becker (economics; teaching)

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Paul Biemer (survey methodology)

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