Tatyana Krivobokova

ADDRESS

Georg-August-Universität Göttingen
Institute for Mathematical Stochastics
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EDUCATION

PhD in statistics (January 2007)
University of Bielefeld, Germany
Thesis: Theoretical and practical aspects of penalized spline smoothing
Adviser: Prof. Dr. Göran Kauermann

Master of Science in Financial Mathematics (August 2002)
University of Kaiserslautern, Germany
Thesis: Optimal portfolios with given payments
Adviser: Prof. Dr. Ralf Korn

Diploma in Applied Mathematics (June 1996)
Kazakh State National University, Almaty, Kazakhstan
Thesis: On the inverse boundary value problem for a loaded heat operator
Adviser: Prof. Dr. M.T. Jenaliev

ACADEMIC EXPERIENCE

Professor (W2) — June 2010 – present
Georg-August-Universität Göttingen, Germany
Institute for Mathematical Stochastics

Junior professor (W1 with tenure-track) — July 2008 – May 2010
Georg-August-Universität Göttingen, Germany
Courant Research Center “Poverty, Equity and Growth in Developing and Transition Countries”

Postdoctoral researcher — April 2007 – June 2008
Katholieke Universiteit Leuven, Belgium
Faculty of Business and Economics, Research center “Operations Research and Business Statistics”

Research assistant — April 2003 – March 2007
Universität Bielefeld, Germany
Faculty of Business Administration and Economics, Chair of Statistics

Student research assistant — December 2000 – March 2003
Fraunhofer IESE (Institute Experimentelles Software Engineering), Kaiserslautern, Germany

PUBLICATIONS

PEER-REVIEWED ARTICLES

Kramlinger, P., Krivobokova, T., Sperlich, S. (2018) Marginal and conditional multiple inference in linear mixed models. *Submitted*.

Serra, P., Krivobokova, T., Rosales, F. (2018) Adaptive non-parametric estimation of mean and autocovariance in regression with dependent errors. *Submitted*.

Dunker, F., Klasen, S., Krivobokova, T. (2018) Asymptotic distribution and simultaneous confidence bands for ratios of quantile functions. *Submitted*.

Yoon, J., Krivobokova, T. (2018) Treatments of non-metric variables in partial least squares and principal component analysis. *Journal of Applied Statistics*, 45(6): 971-987.

Singer, M, Krivobokova, T., Munk, A. (2017) Kernel partial least squares for stationary data. *Journal of Machine Learning Research*, 18(123):1-41.

Serra, P., Krivobokova, T. (2017) Adaptive empirical Bayesian smoothing splines. *Bayesian Analysis*, 12(1): 219-238.

Singer, M., Krivobokova, T., de Groot, B.L. and Munk, A. (2016) Partial least squares for dependent data. *Biometrika*, 103 (2): 351-362.

Schwarz, K., Krivobokova, T. (2016) A unified framework for spline estimators. *Biometrika*, 103(1): 103-120.

Klasen, S., Krivobokova, T., Greb. F., Lahoti, R., Pasaribu, S., Wiesenfarth, M. (2016) International poverty measurement: which way now? *Journal of Economic Inequality*, 14(2): 199-225.

Peter, P., Weickert,J., Munk, A., Krivobokova, T., Li, H. (2015) Justifying tensor-driven diffusion from structure-adaptive statistics of natural images. *Energy Minimization Methods in Computer Vision and Pattern Recognition*, 8932, 263–277.

Greb, F., Krivobokova, T., Munk, A., von Cramon-Taubadel, S. (2014) Regularized Bayesian estimation of generalized threshold regression models. *Bayesian Analysis*, 9(1): 171-196.

Greb, F., von Cramon-Taubadel, S., Krivobokova, T., and Munk, A. (2013) The estimation of threshold models in price transmission analysis. *American Journal of Agricultural Economics*, 95(4): 900-916.

Krivobokova, T. (2013) Smoothing parameter selection in two frameworks for penalized splines. *Journal of the Royal Statistical Society, Series B*, 75(4): 725-741.

Krivobokova, T., Briones, R., Hub, J., Munk, A., de Groot, B. (2012) Partial least squares functional mode analysis: application to the membrane proteins AQP1, Aqy1 and CLC-ec1. *Biophysical Journal*, 103(4): 786-796.

Wiesenfarth, M., Krivobokova, T., Klasen, S., Sperlich, S. (2012) Direct simultaneous inference in additive models and its application to model undernutrition. *Journal of the American Statistical Association*, 107(500): 1286-1296.

Kauermann, G., Krivobokova, T., Semmler, W. (2011) Filtering time series with penalized splines. *Studies in Nonlinear Dynamics and Econometrics*, 15(2).

Krivobokova, T., Kneib, T., Claeskens, G. (2010) Simultaneous confidence bands for penalized spline estimators. *Journal of the American Statistical Association*,105(490): 852-863

Claeskens, G., Krivobokova, T., Opsomer, J.D. (2009) Asymptotic properties of penalized spline estimators. *Biometrika*, 96(3): 529-544.

Kauermann, G., Krivobokova, T., Fahrmeir, L. (2009) Some asymptotic results on generalized penalized spline smoothing. *Journal of the Royal Statistical Society, Series B*, 71(2): 487-503.

Krivobokova, T., Crainiceanu, C.M., Kauermann, G. (2008) Fast adaptive penalized splines. *Journal of Computational and Graphical Statistics*, 17(1): 1-20.

Krivobokova, T., Kauermann, G. (2007) A note on penalized splines with correlated errors. *Journal of the American Statistical Association*, 102(480): 1328-1337.

Krivobokova, T., Kauermann, G. and Archontakis, T. (2006) Estimating the term structure of interest rates. *Statistical Papers*, 47(3): 443-459.

Pfahl D., Laitenberger O., Ruhe G., Dorsch J. and Krivobokova T. (2004) Evaluating the learning effectiveness of using simulations in software project management education: results from a twice replicated experiment. *Information and Software Technology*, 46(2): 127-147.

MISCELLANEA

Krivobokova, T. (2011) Book review: Simultaneous Inference in Regression by Wei Liu. *Journal of the American Statistical Association*, 106(496): 1646.

Munk, A., Krivobokova, T. (2009) Comments on: Goodness-of-fit tests in mixed models by Claeskens, G and Hart, J. *Test*, 18(2): 256-259.

SOFTWARE

Wiesenfarth, M. and Krivobokova, T. (2012) R package *AdaptFitOS* fits semiparametric regression models with spatially adaptive penalized splines and computes simultaneous confidence bands. Available at http://cran.r-project.org/web/packages/AdaptFitOS/index.html.

INVITED PRESENTATIONS SINCE 2010

Adaptive estimation and testing in regression with dependent errors. Gumbel Lecture, Statistische Woche 2018, *Johannes Kepler Universität Linz*, September 2018.

Partial least squares for dependent data. Seminar, *University of Cambridge*, May 2018.

Partial least squares for dependent data. Seminar, *Tsinghua University, Beijing*, September 2017.

Kernel Partial least squares for stationary data. Van Dantzig Seminar, University of Delft, April 2017.

Partial least squares for dependent data. Seminar, *University of Leuven*, November 2016.

Partial least squares for dependent data. Seminar, *Vienna University of Technology*, April 2016.

Partial least squares for dependent data. Seminar, *École Polytechnique Fédérale de Lausanne*, March 2016.

Partial least squares for dependent data. Seminar, *University of Poitiers*, October 2015.

Partial least squares for dependent data. *Workshop "New Developments in Econometrics and Time Series"*, Bochum, June 2015.

Partial least squares for dependent data. Seminar, *University of Geneva*, April 2015.

Nonparametric price transmission analysis. *JSM 2014*, Boston, August 2014.

Unified framework for splines. *2nd Conference of the International Society for NonParametric Statistics*, Cadiz, June 2014.

Nonparametric price transmission analysis. *CFE 2013*, London, December 2013.

Partial least squares to identify functional dynamics of proteins. *The 59th World Statistics Congress*, Hong Kong, August 2013.

Instant trend-seasonal decomposition of time series with splines. *International Symposium on Forecasting* Seoul, June 2013.

Empirical Bayesian tuning parameters. *Oberwolfach Workshop "Mathematical statistics of partially identified objects"*, Oberwolfach, April 2013.

Smoothing parameter selection for spline estimators. *1st Conference of the International Society for NonParametric Statistics*, Chalkidiki, June 2012.

Smoothing parameter selection for spline estimators. Seminar, *Tongji University*, Shanghai, May 2012.

Detrending time series with cycle and seasonal components. *International Workshop on Modern Methods in Financial Statistics*, Suzhou, May 2012.

Equivalent kernels for spline estimators. *Joint Statistical Meeting 2011*, Miami, August 2011.

Simultaneous confidence bands with the volume-of-tube formula and spline estimators. Seminar, *University of Vienna*, June 2011.

Simultaneous confidence bands with the volume-of-tube formula and spline estimators. Seminar, *University of Cambridge*, May 2011.

On equivalent kernels for penalized spline estimators. *28th European Meeting of Statisticians*, Piraeus, August 2010.

Penalized splines as mixed models and their applications. Seminar, *Innsbruck University*, April 2010.

INVITED RESEARCH STAYS

Isaac Newton Institute, University of Cambridge (April – June 2018)

Tsinghua University, Beijing (September 2017)

University of Poitiers (September – October 2015)

REFEREE TASKS FOR

Annals of Statistics, Annals of Applied Statistics, Bernoulli, Biometrical Journal, Biometrics, Biometrika Computational Statistics and Data Analysis, Communications in Statistics, Journal of the American Statistical Association, Electronic Journal of Statistics, Journal of Computational and Graphical Statistics, Journal of Nonparametric Statistics, Journal of Statistical Planning and Inference, Journal of the Royal Statistical Society Series B, Metrika, Scandinavian Journal of Statistics, Statistica Sinica, Statistics and Computing, Statistics in Medicine, Statistical Modeling, Test

Research Foundation Flanders (FWO), German Research Foundation (DFG),
Alexander von Humboldt Foundation, NSA Mathematical Sciences Grant Program

ASSOCIATE EDITOR

Journal of the American Statistical Association (2019 –)

Scandinavian Journal of Statistics (2014 –)

Computational Statistics and Data analysis (2017 – 2018)

Sankhya B, the Indian Journal of Statistics (2012 – 2016)

MEMBER

Member of the steering committee of the DFG-AIMS initiative (2015 –)

Elected member of the European Regional Committee (ERC) of the Bernoulli Society (2016 –)

UNIVERSITY SERVICE

Managing director of the Institute for Mathematical Stochastics (2018 –)

Member of the steering committee of the Center for Statistics (2012 –)

ORGANIZED WORKSHOPS AND SESSIONS

Invited session at ERCIM 2017 "Nonparametric modelling of dependent data".

Invited session at ERCIM 2016 "Advances in model specification tests in regression".

Workshop "Dependent Functional Data" (2013), University of Göttingen.

Workshop "Econometric Aspects of Price Transmission Analysis" (2010, co-organized with S. v. Cramon-Taubadel and A. Munk), University of Göttingen.

THIRD-PARTY FUNDING

Principal investigator in the Research Project "Reducing Poverty Risk in Developing Countries", Ministry of Science and Culture of Lower Saxony, since July 2015.

Principal investigator in Research Training Group 2088 "Discovering Structure in Complex Data", DFG, since October 2015.

Principal investigator in the Research Training Group 1723 "Globalisation and development", DFG, since April 2012.

Principal investigator in SFB 755 "Nanoscale Photonic Imaging", DFG, since July 2011.

Principal investigator in the Swiss-German Research Research Group FOR 916 "Statistical regularization and qualitative contraints", DFG, April 2011 – December 2015.

Principal investigator in the Research Training Group 1644 "Scaling Problems in Statistics", DFG, since October 2010.

Principal investigator in the Research Training Group 1023 "Identification in Mathematical Models – Synergy of Stochastic and Numerical Methods", DFG, October 2008 – October 2011.

PhD STUDENTS

Friederike Greb (2009 – 2012)

Manuel Wiesenfarth (2008 – 2012)

Katsiaryna Schwarz (2008 – 2013)

Jisu Yoon (2012 – 2015)

Francisco Rosales (2011 – 2016)

Marco Singer (2013 – 2016)

Peter Kramlinger (starting October 2016)

Richard Haarburger (starting April 2018)

POSTDOCTORAL STUDENTS

Dr. Paulo Serra (November 2013 – August 2015)

Dr. Fabian Dunker (October 2015 – May 2017)

Dr. Marco Singer (starting August 2016)

TEACHING

Statistical modelling and inference I - IV (in English). University of Göttingen, Summer terms 2016, 2017, Winter terms 2016/17 and 2017/18.

Statistics for Geoscientists (in German). University of Göttingen, Summer term 2017.

Foundations of stochastics (in German). University of Göttingen, Winter term 2015/16.

Applied statistics (in German). University of Göttingen, Summer terms 2015, 2016.

Smoothing methods in statistics (in English). University of Göttingen, Winter term 2008/09, Summer terms 2010, 2013, 2014

Discrete Stochastics (in German). University of Göttingen, Winter terms 2012/13, 2013/14, 2014/15.

Econometrics II (in English). University of Göttingen, Winter term 2012/13, Summer terms 2015, 2018.

R-Praktikum (in German). University of Göttingen, Winter term 2010/11, Summer terms 2011, 2018.

Smoothing with splines (in English). University of Göttingen, Winter term 2009/10, Summer term 2011.

Statistics (in English). Erasmus Mundus Master Programme *Models and Methods of Quantitative Economics*, Bielefeld University, June 2007, March and May 2008.

Statistics and prediction (in German). *German MBA Programme*, Academy of National Economy under the Government of Russian Federation, Moscow, February 2006.

Estimation and hypothesis testing (in German). Bielefeld University, Summer terms in 2004 – 06.

Generalized linear models (in German). Bielefeld University, Winter terms in 2004 – 07.