DACHENG XIU

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APPOINTMENTS

University of Chicago, Booth School of Business

- Associate Professor of Econometrics and Statistics, July 2015 –
- Assistant Professor of Econometrics and Statistics, 2011 – 2015

Duke University, Department of Economics

- Visiting Faculty, Fall 2015

EDUCATION

Princeton University, Ph.D. Applied Mathematics, May 2011
Princeton University, M.A. Applied Mathematics, June 2008
University of Science and Technology of China, B.S. Mathematics, June 2006

RESEARCH INTERESTS

Financial Econometrics, Statistical Learning in Finance, Empirical Asset Pricing, High-Dimensional Statistics, Nonparametric Statistics, Quantitative Finance

PUBLICATIONS

"Knowing Factors or Factor Loadings, or Neither? Evaluating Estimators of Large Covariance Matrices with Noisy and Asynchronous Data," with Chaoxing Dai and Kun Lu, conditionally accepted, *Journal of Econometrics.*

"Efficient Estimation of Integrated Volatility Functionals via Multiscale Jackknife," with Jia Li and Yunxiao Liu, forthcoming in the *Annals of Statistics*.

"Principal Component Analysis of High Frequency Data," with Yacine Aït-Sahalia, forthcoming in the *Journal of the American Statistical Association.*

"A Hausman Test for the Presence of Market Microstructure Noise in High Frequency Data," with Yacine Aït-Sahalia, forthcoming in the *Journal of Econometrics.*

"Resolution of Policy Uncertainty and Sudden Declines in Volatility," with Dante Amengual, *Journal of Econometrics 203 (2018), 297-315.*

"Using Principal Component Analysis to Estimate a High Dimensional Factor Model with High Frequency Data," with Yacine Aït-Sahalia, *Journal of Econometrics 201 (2017), 384-399.*

"Econometric Analysis of Multivariate Realized QML: Estimation of the Covariation of Equity Prices under Asynchronous Trading," with Neil Shephard, *Journal of Econometrics 201 (2017), 19-42.*

"Nonparametric Estimation of the Leverage Effect: A Trade-off between Robustness and Efficiency," with Ilze Kalnina, *Journal of the American Statistical Association Vol. 112, No. 517, (2017), 384 - 396.*

"Generalized Method of Integrated Moments with High Frequency Data," with Jia Li, *Econometrica, Vol. 84, No. 4, (2016), 1613-1633*.

"Increased Correlation Among Asset Classes: Are Volatility or Jumps to Blame, or Both?" with Yacine Aït-Sahalia, *Journal of Econometrics 194 (2016) 205-219.*

"Incorporating Global Industrial Classification Standard into Portfolio Allocation: A Simple Factor-Based Large Covariance Matrix Estimator with High Frequency Data," with Jianqing Fan and Alex Furger, *Journal of Business & Economic Statistics, Vol. 34, No. 4, (2016), 489-503. Big Data Special Issue.*

"A Tale of Two Option Markets: Pricing Kernels and Volatility Risk," with Zhaogang Song, *Journal of Econometrics 190 (2016), 176-196*.
- *Dennis J. Aigner 2017 Honorable Mention* for the best paper in empirical econometrics published by the Journal of Econometrics in 2015 or 2016.
- *Best Paper Award in Derivatives* at the International Symposium on Risk Management and Derivatives in 2012.

"Hermite Polynomial based Expansion of European Option Prices," *Journal of Econometrics 179 (2014), 158-177.*

"Quasi-Maximum Likelihood Estimation of GARCH Models with Heavy-Tailed Likelihoods," with Jianqing Fan and Lei Qi, *Journal of Business & Economic Statistics, Vol. 32, No. 2, (2014), 178-191. Invited Paper with Discussion.*

"High Frequency Covariance Estimates with Noisy and Asynchronous Financial Data," with Yacine Aït-Sahalia and Jianqing Fan, *Journal of the American Statistical Association, Vol. 105, No. 492, (2010), 1504-1517.*

"Quasi-Maximum Likelihood Estimation of Volatility with High Frequency Data," *Journal of Econometrics 159 (2010), 235-250.*

WORKING PAPERS

"Inference on Risk Premia in the Presence of Omitted Factors," with Stefano Giglio.
- *Best Conference Paper Prize* at the 44th EFA.

"Taming the Factor Zoo," with Gavin Feng and Stefano Giglio. Revision requested, *Journal of Finance*.

"When Moving-Average Models Meet High-Frequency Data: Uniform Inference on Volatility," with Rui Da. Revision requested, *Econometrica*.

"Empirical Asset Pricing via Machine Learning," with Shihao Gu and Bryan Kelly.

COMMENTS & BOOK CHAPTERS

"Comment on: Limit of Random Measures Associated with the Increments of a Brownian Semimartingale," with Jia Li, forthcoming in the *Journal of Financial Econometrics*.

"Likelihood-Based Volatility Estimators in the Presence of Market Microstructure Noise: A Review," with Yacine Aït-Sahalia, *Handbook of Volatility Models and their Applications, 2012, 347-361*.

SELECTED HONORS & FELLOWSHIPS

Charles E. Merrill Faculty Scholar, Chicago Booth 2017-2018
Fellow, Journal of Econometrics, 2017
Best Conference Paper Prize, 44th Annual Meeting of the European Finance Association, 2017
Dennis J. Aigner Award (honorable mention), Journal of Econometrics, 2017
Microsoft Azure Research Award, Microsoft, 2016-2017
IBM Corporation Faculty Scholar, Chicago Booth, 2015-2016, 2016-2017
FMC Faculty Scholar, Chicago Booth, 2012-2013
Best Paper Award in Derivatives, International Symposium on Risk Management and Derivatives, 2012
Research Fund from Fama-Miller Center for Research in Finance, Chicago Booth, 2011-2018
Laha Award, the Institute of Mathematical Statistics, 2010
C.V. STARR Fellowship and Prize Scholarship, Princeton University, 2006-2007
Guo Moruo Scholarship (*Summa Cum Laude*), University of Science and Technology of China, 2005

PROFESSIONAL SERVICE

ASSOCIATE EDITOR

Journal of Econometrics, January 2017 – present
Statistica Sinica, August 2017 – July 2020

REFEREE

Econometrics: Econometrica, Review of Economic Studies, Journal of Econometrics, Journal of Business & Economic Statistics, Econometric Theory, Quantitative Economics, Journal of Applied Econometrics, the Econometrics Journal, Journal of Financial Econometrics, Econometric Reviews, Economics Letters
Finance: Journal of Finance, Review of Financial Studies, Journal of Financial Economics, Management Science, Journal of Financial and Quantitative Analysis, Review of Finance, Journal of Empirical Finance, European Journal of Finance, Journal of Banking and Finance
Statistics: Journal of the American Statistical Association, Annals of Statistics, Journal of the Royal Statistical Society B, Scandinavian Journal of Statistics, Statistical Sinica, Computational Statistics & Data Analysis, Journal of Forecasting, Journal of Time Series Analysis

Last Update: March 2018

Quantitative Finance: Mathematical Finance, Finance and Stochastic, Journal of Computational Finance, SIAM Journal of Financial Mathematics, Quantitative Finance
Others: Proceedings of the National Academy of Sciences, Journal of Accounting Research, US National Science Foundation, Swiss National Science Foundation, Netherlands Organization for Scientific Research Grant, Independent Research Fund Denmark

CONFERENCE PROGRAM COMMITTEE

Financial Engineering and Risk Management International Symposium (2018), FMA Conference on Derivatives and Volatility (2016, 2017), Annual Meeting of the European Finance Association (2015, 2016, 2017, 2018), Annual Meeting of the Society of Financial Econometrics (2016), Annual Meeting of the Midwest Finance Association (2016), Asian Meeting of the Econometric Society (2013)

PHD DISSERTATION COMMITTEE

Yongning Wang (Morgan Stanley), Yoann Potiron (Keio University), Gavin Feng (Co-Chair, City University of Hong Kong), Likai Chen (Washington University in St. Louis)

OTHER ACTIVITIES

External Thesis Examiner for Queensland University of Technology
Thesis Reader for Princeton University

TEACHING EXPERIENCE

University of Chicago Booth School of Business

- 41100 Applied Regression Analysis (MBA)
  Winter 2011-2012, 2012-2013, 2013-2014, 2015-2016, 2016-2017, Fall 2014
- 41902 Statistics Inference (PhD)
  Winter 2015-2016, 2016-2017

SoFiE Financial Econometrics Summer School

- Machine Learning and Finance: The New Empirical Asset Pricing (with Bryan Kelly)
  July 23-27 2008 (Scheduled)

Duke University

- Econ 883.1 Options, Futures, and Other Derivatives (Master/PhD)
  Fall 2015

PRESENTATIONS

2018 Tilburg University (Mar 14), Erasmus University Rotterdam (Mar 15), Tinbergen Institute (Mar 16), Imperial College Business School (Mar 20), Aarhus University (Mar 22), Duke University (Mar 26), Federal Reserve Bank of Dallas (Mar 29), National University of Singapore (Apr 3), Singapore Management University (Apr 4), Indiana University (Apr 17), Rutgers (Apr 20), University of Cambridge (May 2), Financial Econometrics Conference at Toulouse School of Economics (May 4-5), Mind Bytes Symposium at the University of Chicago (May 8), Financial Engineering and Risk Management International Symposium (FERM, Jun 13-14), Western

Finance Association Annual Meetings (WFA, Jun 17-20), ICSA China Conference on Data Science (Jul 2-5), China International Conference in Finance (Jul 10-13), Magnetar Capital Quantitative Research (Mar 8)

2017 Stanford University, Liverpool School of Management, Cass Business School at City, University of London, University College London, Durham Business School, Imperial College London, Nankai University, Fudan University, Renmin University of China, Peking University, Tsinghua University, Nanjing Audit University, Worcester Polytechnic Institute, Fannie Mae, Princeton-QUT-SJTU-SMU Econometrics Conference, Vienna-Copenhagen Conference on Financial Econometrics, HEC-McGill Winter Finance Workshop, Market Microstructure and High Frequency Data Conference, Asian Meeting of the Econometric Society, China Finance Review International Conference, 13th International Symposium on Econometric Theory and Applications, 1st International Conference on Econometrics and Statistics at HKUST, SoFiE Annual Meeting at NYU, INFORMS Applied Probability Society Conference, China International Conference in Finance, Joint Statistical Meetings (IMS Invited Session), University of Oregon Finance Conference, European Finance Association 44st Annual Meetings (EFA), Conference on Financial Predictability and Data Science, Annual INFORMS Meeting in Houston, New Developments in Econometrics and Time Series, Tsinghua Workshop on Big Data and Internet Economics

2016 University of Wisconsin-Madison (Statistics), Hong Kong University of Science and Technology, Xiamen University, University of Wisconsin-Madison (Economics), 2016 SIAM Conference on Financial Mathematics & Engineering, CEME Young Econometricians Workshop at Duke University, 5th Workshop on Algorithms for Modern Massive Data Sets at Berkeley, Carey/AQR Conference on Derivatives, The 2nd Conference on Financial Econometrics and Risk Management at the University of Western Ontario, Princeton-QUT-SJTU-SMU econometrics conference

2015 Toulouse School of Economics, Duke University, CEMFI Spain, Two Sigma, Annual INFORMS Meeting in Philadelphia, NBER/NSF Time Series Conference at Vienna University, Econometrics of High-Dimensional Risk Networks Conference in Chicago, Econometric Society World Congress 2015 in Montreal, CEME Young Econometricians Workshop at Cornell University, 8th Annual SoFiE Conference at Aarhus University, IMS China in Kunming, Financial Econometrics Conference in Toulouse, Market Microstructure and High Frequency Data Conference in Chicago, MFA Annual Meeting in Chicago, AMS Spring Meeting on High-Frequency Problems at Michigan State University, North American Winter Meetings of the Econometric Society in Boston (AEA)

2014 Harvard/MIT Joint Econometrics Seminar, Princeton University, Purdue University, Boston University, University of Illinois at Chicago, Stevanovich Center at the University of Chicago, McGill Risk Management Conference, SoFiE Annual Meeting in Toronto, Financial Engineering and Risk Management International Symposium (FERM), 8th World Congress of the Bachelier Finance Society, Western Finance Association Annual Meetings (WFA), 10th International Symposium on Econometric Theory and Applications (SETA), 2014 China International Conference in Finance (CICF), European Finance Association 41st Annual Meetings (EFA), SIAM Conference on Financial Mathematics & Engineering (FM14)

2013 Northwestern University, Duke University, Brown University, Indiana University, University of Illinois at Chicago, Joint Statistical Meetings (JBES Invited Lecture), Financial Econometrics Conference at Toulouse School of Economics, High Frequency Data and High Frequency

Trading Conference at University of Chicago, SoFiE Annual Meeting in Singapore, ES Asia Meeting at Singapore, 5th Annual Modeling High Frequency Data in Finance Conference

2012 University of Chicago, University of Montreal, CEMFI Spain, Liverpool School of Management, SoFiE Annual Meeting at Oxford, Financial Econometrics Conference at Toulouse School of Economics, Financial Engineering and Risk Management International Symposium (FERM), 2012 China International Conference in Finance (CICF)

2011 Northwestern University, Princeton University, Duke University, University of Chicago, Cornell, Imperial College London, Federal Reserve Bank of New York, University of Hong Kong, University of Southern California, Rutgers, UBS, Barclays Capital, Cornerstone Research, Frontiers in Financial Econometrics Workshop at Queensland University of Technology, 17th International Conference on Computing in Economics and Finance at Federal Bank of San Francisco

2010 Princeton University, Econometrics Society World Congress, IMS Annual Meeting, Joint Statistical Meetings (Invited Session), Workshop on Financial Econometrics at Fields Institute

2009 University of Chicago, The 2nd Princeton-Humboldt Finance Workshop, Joint Statistical Meetings, 1st Annual Modeling High Frequency Data in Finance Conference

DISCUSSIONS

2018 "Estimating Latent Asset-Pricing Factors" at Financial Econometrics Conference at Toulouse School of Economics

2017 "Nonparametric Option-Implied Volatility" at FMA Conference on Derivatives and Volatility
"Correlated High-Frequency Trading" at AFA North American Meetings
"Unified Inference for Nonlinear Factor Models from Panels with Fixed and Large Time Span" at MFA Annual Meeting in Chicago

2016 "Limit Theorems for Integrated Local Empirical Characteristic Exponents from Noisy High-Frequency Data with Application to Volatility and Jump Activity Estimation" at New Developments in Measuring & Forecasting Financial Volatility Conference at Duke/UNC
"How Crashes Develop: Intradaily Volatility and Crash Evolution" at FMA Conference on Derivatives and Volatility

2015 "Jump Regressions" at Financial Econometrics Conference at Toulouse School of Economics

2014 "A Spanning Series Approach to Options" at McGill Risk Management Conference
"Positional Portfolio Management" at European Finance Association 41st Annual Meetings
"Free (Almost) Variance Insurance" at China International Conference in Finance

2013 "Simple Approximation Maximum Likelihood Estimation of Multivariate Jump-Diffusion Models" at Financial Econometrics Conference at Toulouse School of Economics

2012 "Jump Robust Two-Time Scale Covariance Estimation and Realized Volatility Budgets" at AFA North American Meetings

2011 "Asymptotic Theory of Maximum Likelihood Estimator for Diffusion Model", "Density Approximations for Multivariate Affine Jump-Diffusion Processes", and "An Investigation of Self-Exciting Market Processes using Option Prices" at 58th ISI World Statistics Congress

2010 "Quadratic Variation by Markov Chains" at ES North American Meetings