

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

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

“Knowing Factors or Factor Loadings, or Neither? Evaluating Estimators of Large Covariance Matrices with Noisy and Asynchronous Data,” with Chaoxing Dai and Kun Lu, *Journal of Econometrics* 208 (2019), 43-79.

“Efficient Estimation of Integrated Volatility Functionals via Multiscale Jackknife,” with Jia Li and Yunxiao Liu, *Annals of Statistics*, Vol. 47, No. 1 (2019), 156-176.

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

“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 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

“Asset Pricing with Omitted Factors,” with Stefano Giglio. Revision requested, *Journal of Political Economy*.

- *Best Conference Paper Prize* at the 44th EFA

“Taming the Factor Zoo: A Test of New Factors,” with Gavin Feng and Stefano Giglio. Revision requested, *Journal of Finance*.

- 2018 AQR Insight Award First Prize

“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. Revision requested, *Review of Financial Studies*.

- 2018 Swiss Finance Institute Outstanding Paper Award
- BlackRock Research Award at the 31th Australasian Finance and Banking Conference
- 2018 Q-group Roger F. Murray First Prize
- 2018 Chicago Quantitative Alliance Annual Academic Competition Second Prize
- 2018 IQ-KAP Research Award 3. Prize

“High-Frequency Factor Models and Regressions,” with Yacine Aït-Sahalia and Ilze Kalnina.

“Thousands of Alpha Tests,” with Stefano Giglio and Yuan Liao.

“Predicting Returns with Text Data,” with Tracy Ke and Bryan Kelly.

“Autoencoder Asset Pricing Models,” 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, *Journal of Financial Econometrics*, 16(4), 2018, 570-582.

“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 & AWARDS

Swiss Finance Institute Outstanding Paper Award, 2018

AQR Insight Award First Prize, 2018

BlackRock Research Award at the 31th Australasian Finance and Banking Conference, 2018

Charles E. Merrill Faculty Scholar, Chicago Booth, 2017-2018

Fellow of the 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, 2016-2017

IBM Corporation Faculty Scholar, Chicago Booth, 2015-2016, 2016-2017

FMC Faculty Scholar, Chicago Booth, 2012-2013

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
Journal of Business & Economic Statistics, January 2019 - December 2021
Statistica Sinica, August 2017 - July 2020
Journal of Empirical Finance, February 2019 - present

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, Review of Finance, Management Science, Journal of Financial and Quantitative Analysis, Review of Asset Pricing Studies, 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, Biometrika, Scandinavian Journal of Statistics, Statistical Sinica, Computational Statistics & Data Analysis, Journal of Forecasting, Journal of Time Series Analysis

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, Journal of Economic Dynamics and Control, US National Science Foundation, Swiss National Science Foundation, Netherlands Organization for Scientific Research Grant, Independent Research Fund Denmark

CONFERENCE PROGRAM COMMITTEE

Annual Conference of the International Association of Applied Econometrics (IAAE) (2019), China International Conference in Finance (CICF) (2018, 2019), Financial Engineering and Risk Management International Symposium (2018), FMA Conference on Derivatives and Volatility (2016, 2017, 2018), Annual Meeting of the European Finance Association (2015, 2016, 2017, 2018, 2019), Annual Meeting of the Society of Financial Econometrics (2016, 2019), 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/Reader for Queensland University of Technology, Toulouse School of Economics, Princeton University

TEACHING EXPERIENCE

University of Chicago Booth School of Business

- 41100 Applied Regression Analysis (MBA)
Winter 2011-2013, 2015-2018, Fall 2014
- 41902 Statistics Inference (PhD)
Winter 2015-2018

SoFiE Financial Econometrics Summer School

- Machine Learning and Finance: the New Empirical Asset Pricing (with Bryan Kelly)
July 23-27 2018

Duke University

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

PRESENTATIONS

- 2019 Northwestern University (Kellogg, Feb 28), University of Zurich (Mar 15), Hong Kong University of Science and Technology (Mar 22), AQR (Mar 28), Ohio State University (Apr 8), New York University (Stern, Apr 22), University of Pennsylvania (Sep 16), AFA North American Meetings (Jan 4-6), GSU/RFS FinTech Conference (Feb 8-9), NBER Conference on Big Data: Long-Term Implications for Financial Markets and Firms (Mar 8), Risk Management and Financial Innovation Conference (Mar 8-10), Conference on Panel Data Forecasting (Apr 19-20), Conference on Financial Econometrics and New Finance (Jun 10), SoFiE Annual Meeting in Shanghai (Invited, Jun 11-14), Econometric Society Asian Meeting (Jun 14-16), JHU Carey Finance Conference (Jun 28), Big Data & Machine Learning in Economics, Finance, and Statistics (Oct 3-5), 11th ICSA International Conference (Dec 20-22)
- 2018 Tilburg University, Erasmus University Rotterdam, Tinbergen Institute, Imperial College Business School, Aarhus University, Duke University, Federal Reserve Bank of Dallas, National University of Singapore, Singapore Management University, Indiana University, Rutgers, University of Cambridge, Tsinghua PBC School of Finance, City University of Hong Kong, University of International Business and Economics, Nanjing University, U.S. Securities and Exchange Commission, Financial Econometrics Conference at Toulouse School of Economics, Mind Bytes Symposium at the University of Chicago, New Aspects of Statistics, Financial Econometrics, and Data Science, Economics and Financial Econometrics in the Era of Big Data, Financial Engineering and Risk Management International Symposium (FERM), Conference on Financial Predictability and Data Science, Western Finance Association Annual Meetings (WFA), ICSA China Conference on Data Science, China International Conference in Finance (CICF), Interdisciplinary Conference on Big Data and China at Shenzhen Finance Institute, European Finance Association 45st Annual Meetings (EFA), New Methods for the Cross Section of Returns Conference, Big Data, Machine Learning and AI in Economics, Magnetar Capital Quantitative Research, Chicago Quantitative Alliance Fall 2018 Conference,

- 2nd Annual Global Quantitative and Macro Investing Conference in NYC, INQUIRE UK Conference in London
- 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 “The Cross-Section of Risk and Return” at EFA 45th Annual Meetings
 “Assessing the Role of Long-run and Valuation Risks in Explaining Nominal Bond Yields” at China International Conference in Finance
 “Shale Revolution and Shifting Crude Dynamics” at China International Forum on Finance and Policy
- 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 EFA 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