DACHENG XIU

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APPOINTMENTS

University of Chicago, Booth School of Business

- Professor of Econometrics and Statistics, July 2019 –
- Associate Professor of Econometrics and Statistics, 2015 – 2019
- Assistant Professor of Econometrics and Statistics, 2011 – 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, Empirical Asset Pricing, Machine Learning in Finance, High-Dimensional Statistics, Quantitative Finance

PUBLICATIONS

"Taming the Factor Zoo: A Test of New Factors," with Gavin Feng and Stefano Giglio, forthcoming in the *Journal of Finance*.
- *2018 AQR Insight Award First Prize*

"A Hausman Test for the Presence of Market Microstructure Noise in High Frequency Data," with Yacine Aït-Sahalia, *Journal of Econometrics 211 (2019), 176-205.*

"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, *Journal of the American Statistical Association Vol. 114, No. 525, (2019), 287-303.*

"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

"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. Revision requested, *Journal of Econometrics*.

"Autoencoder Asset Pricing Models," with Shihao Gu and Bryan Kelly. Revision requested, *Journal of Econometrics*.

"Thousands of Alpha Tests," with Stefano Giglio and Yuan Liao. Revision requested, *Review of Financial Studies*.

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

- *2019 CICF Best Paper Award*

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

Fellow of the Society for Financial Econometrics, 2019
Best Paper Award, China International Conference in Finance, 2019
Swiss Finance Institute Outstanding Paper Award, 2018
AQR Insight Award First Prize, 2018
BlackRock Research Award, the 31st 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, the 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

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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

CO-EDITOR

Journal of Financial Econometrics, July 2019 - June 2023

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

OTHER VISITING POSITIONS

Tsinghua University, PBC School of Finance, Special Term Professor, June 2019 - May 2022
Shanghai Jiao Tong University, SAIF, Special Term Professor, July 2019 - June 2021
Duke University, Department of Economics, Visiting Faculty, Fall 2015

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)

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)

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), University of Zurich, Hong Kong University of Science and Technology, AQR, Ohio State University, New York University (Stern), T. Rowe Price (Jun 27), University of Pennsylvania (Sep 16), Cheung Kong Graduate School of Business (Dec 17), AFA North American Meetings, GSU/RFS FinTech Conference, NBER Conference on Big Data: Long-Term Implications for Financial Markets and Firms, Risk Management and Financial Innovation Conference, 8th Annual Econometrics Workshop on Applied Econometrics and Data Science, Goldman Sachs Alternative Risk Premia Roundtables Forum, USC Conference on Panel Data Forecasting, Market Microstructure and High Frequency Data Conference, SFI Research Days (Keynote), SIAM Conference on Financial Mathematics & Engineering, Conference on Financial Econometrics and New Finance in Hangzhou (Keynote), SAIF International Conference on FinTech (Keynote), SoFiE Annual Meeting in Shanghai (Invited), Econometric Society Asian Meeting, JHU Carey Finance Conference (Jun 28), FinTech Symposium in Guanghua School of Management (Jul 8-9), China International Conference in Finance (CICF, Jul 9-12), NBER-NSF Time Series Conference at CUHK (Aug 14-15), European Finance Association 46st Annual Meetings (EFA, Aug 23), 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

2019	"Macroeconomic Risk, Expected Market Return, and the Cross-Section of Stock Returns: A Data-mining Perspective" at the China International Conference in Finance
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

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"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

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