Agostino Capponi

CONTACT
INFORMATION

Professor
Department of Industrial Engineering and Operations Research
Columbia University *Voice:* +1(212) 854-4334
535G. S. W. Mudd Building *Email:* ac3827@columbia.edu
New York NY 10027, USA http://www.columbia.edu/~ac3827

AREAS OF
SPECIALIZATION

My research interests are in Financial Engineering, with a focus on systemic risk and economic networks, financial technology, market microstructure, decentralized finance, machine learning, data science, and portfolio choice.

EDUCATION

California Institute of Technology, Department of Computing & Mathematical Sciences, Pasadena, California, USA

Ph.D. in Computer Science, June 2009

Title: *Credit Risk and Non-linear Filtering: Computational Aspects and Empirical Evidence*

Ph.D. Advisor: Professor Jakša Cvitanić

Minor in Applied & Computational Mathematics, GPA 4.0/4.0, March 2007

M.S. in Computer Science, GPA 4.0/4.0, June 2006

University of Rome "La Sapienza"

Bachelor Degree in Computer Science, Department of Computer Science, University of Rome "La Sapienza", Rome, Italy, *Magna cum Laude*, December 2001

PROFESSIONAL
EXPERIENCE

Director Nov. 2022 – Present
Center for Digital Finance and Technologies,
School of Engineering and Applied Sciences
Columbia University, New York, NY.

Visiting Scholar Sep. 2022 – Dec. 2022
Research & Statistics Group
Federal Reserve Bank of New York, New York, NY.

Visiting Research Professor Aug. 2022 – Dec. 2022
Leonard N. Stern School of Business, Department of Finance
New York University, New York, NY.

Full Professor Jan. 2024 – present
Industrial Engineering and Operations Research Department
Columbia University, New York, NY.

Associate Professor (with tenure) Jan. 2019 – December 2023
Industrial Engineering and Operations Research Department
Columbia University, New York, NY.

Consultant Feb. 2016 – Dec. 2021
Office of the Chief Economist
U.S. Commodity Futures Trading Commission, Washington D.C.

Tenure-Track Assistant Professor Aug. 2014 – Dec. 2018
Industrial Engineering and Operations Research Department
Columbia University, New York, NY.

Tenure-Track Assistant Professor   Aug. 2013 – Aug. 2014
Department of Applied Mathematics and Statistics
Johns Hopkins University, Baltimore, MD.

Tenure-Track Assistant Professor   Aug. 2010 – July 2013
Department of Industrial Engineering
Purdue University, West Lafayette, IN.

Visiting Assistant Professor   June 2011 – July 2011
Swiss Institute of Finance
École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland.

Full-Time Associate   Aug. 2009 – Aug. 2010
Derivatives Analysis
Goldman Sachs International, London, U.K.

Instructor   May 2009 – July 2009
Department of Industrial and Systems Engineering
University of Southern California, Los Angeles, California.

Advisory Board Membership

- **Columbia Center for AI and Responsible Financial Innovation Advisory Board**. Member, April 2024-present.

- **GARP's AI and Risk Program Advisory Committee**. Member, July 2023-present.

- **GRI Research Advisory Committee**. Member, April 2023-present.

- **Advisory Committee of Qwafaxnew**. Member, May 2023-present.

Honors and Awards

- **2025 PECASE**. Presidential Early Career Award for Scientists and Engineers.

- **2024 UBRI** (University Blockchain Research Initiative) Innovator Award.

- **Paradigm Policy**. Inaugural Fellow of the Paradigm Policy Lab, 2023-present

- **Luohan Academy**. Academic Fellow, 2021–present.

- **DLT Science Foundation**. Fellow, 2023-present

- **Fintech Initiative at Cornell**. External Research Fellow, 2021–present.

- **Crypto and Blockchain Economics Research Forum**. Fellow, 2020–present.

- **Inaugural JP Morgan AI Faculty Research Award**. "Robo-Advising as a Symbiotic Human-Machine System". A. Capponi. 2019–2020 ($150,000).

- **NSF CAREER Award**. "Systemic Risk and Strategic Formation in Stochastic Networks", no. 1752326. A. Capponi. 2018–2023 ($500,000).

- **Bar-Ilan Prize**. General Prize for Research in Financial Mathematics, 2016.

- **Honorable Mention, SIFI (Systemic Important Financial Institutions Challenge)**. MIT Center for Finance and Policy and the Harvard Crowd Innovation Laboratory, 2016. ($500).

Research Grants

- **NSF CMMI-2428786**: Sole PI "SupplyChainDCL: Enhancing Resilience, Optimizing Efficiency, and Mitigating Disruption Risks in Supply Chain Network", 2024-2027 ($414,909)

- **Ethereum Foundation.** Academic Research Grant. Sole PI. "Mechanism Design and Empirical Analysis of MEV Prevention Mechanisms", 2022–2023. ($78,269). "Quantifying and Reducing Builder/Searcher/Relay Centralization Risk in the Context of Maximal Extractable Value", 2023-2024. ($100,000).

- **Stellar Development Foundation.** Academic Research Grant. Sole PI. "Towards an Efficient and Privacy Preserving Multi-Token Decentralized Financial System", 2022–2023 ($75,000). "Composability vs Scalability Trade-off in Sharding for the Stellar Ecosystem", 2023-2024 ($80,000).

- **Ripple University Blockchain Research Initiative.** Sole PI. "Decentralized Exchanges and Information Leakage in Blockchain", 2021–2022 ($100,000). "Price Discovery and High Frequency Decentralized Finance", 2022-2023 ($150,000). "Market Design of DeFi protocols", 2023-2025 ($300,000).

- **Global Risk Institute**. Sole PI. "Mortgage Forbearance, Loan Performance, and Implications for Security Markets", 2020 ($20,587).

- **U.S. Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E).** CO-PI (joint with D. Bienstock, Y. Dvorkin, G. Iyengar, and M. Chertkov), "Risk-Aware Power System Control, Dispatch and Market Incentives", 2020–2023. (Grant Amount: Total $2,061,355, Columbia SEAS $1,037, 606, A. Capponi $345,868).

- **Columbia-IBM Center for Blockchain & Data Transparency: Special COVID-19 Research Award**. Sole PI. "Transparent Food Supply Chain Systems: Towards increasing Efficiency and Sustainability under Uncertainty". Jun. 2020–Jun. 2021 ($100,000).

- **Clearpool Group**. Sole PI. "Market Impact Modelling on Active/Aggressive Trading and Passive Limit Order Placement", 2018-2019 ($149,241).

- **NSF DMS-1716145**. Sole PI. "Mathematics and Control of Systemic and High-Frequency Trading Risks", 2017-2020 ($225,189).

- **Defense Advanced Research Projects Agency (DARPA)**. Sole PI. "A Mathematical Framework for Complex Human-Machine Interaction Systems", 2016-2017 ($175,000).

- **Global Risk Institute**. Sole PI. "Centralized Trading: Collateral, Risk Shifting, and Competition", 2016-2018 ($119,934).

- **OCP Group**. CO-PI (joint with G. Iyengar and J. Sethuraman). "Pricing and Sales in Fertilizer Markets", 2015-2017 (Grant Amount: Total/Columbia SEAS $285,269, A. Capponi $95,090). Additional funds for the years 2017-2018 (Grant Amount: Total $285,269, A. Capponi $95,090).

- **Institute for New Economic Thinking**. Sole PI. "Dynamic Contagion Mechanisms in Financial Networks", 2013-2014 ($75,000).

- **The Institute for Financial Markets**. Sole PI. "Dynamics of Systemic Risk", 2012 ($15,000).

- **Marie Curie Fellowship**. European Commission, 2003-2004 (€48,000).

Membership Agreements

- **Fi-Tek** Membership agreement for the Center on Digital Finance and Technologies, 2023–2026 ($150,000).

- **Fidelity Investments.** Membership agreement for the Center on Digital Finance and Technologies, 2023–2026 ($60,000).

- **Lenovo.** Membership agreement for the Center on Digital Finance and Technologies, 2023–2026 ($150,000).

- **Arcane Group.** Membership agreement for the Center on Digital Finance and Technologies, 2022–2023 ($50,000).

- **Global Research Institute.** Membership agreement for the Center on Digital Finance and Technologies, 2022–2025 ($150,000).

Workshop, Conference, and Summer School Grants

- **Uniswap Foundation** Grant awarded to the the Center for Digital Finance and Technologies for the first CBER-CDFT-Uniswap Workshop ($35,000).

- **Ecole Polytechnique.** Grant awarded to the Center for Digital Finance and Technologies for the 2024 Summer School on Blockchain Economics ($30,000).

- **DLT Science Foundation.** Grant awarded to the Center for Digital Finance and Technologies for the 2024 Summer School on Blockchain Economics, 2024 ($60,000).

- **Gene Golub SIAM Summer School.** Lead PI (joint with F. Biagini, S. Jaimungal, and S. Sturm). "Financial Analytics: Networks, Learning, and High Performance Computing", 2022 ($123,760).

- **Banff International Research Station Grant.** CO-PI (joint with C. Frei, R. Sircar, A. Papapantoleon, and T. Zariphopoulou). Workshop: "Modeling, Learning and Understanding: Modern Challenges between Financial Mathematics, Financial Technology and Financial Economics", 2021.

Patents

- **World Patent.** A. Capponi. "Partition process, tracking methods and systems using it". Publication info: WO2005059589-2005-06-30. Publication date: 06/30/2005.

RESEARCH INITIATIVES

Columbia Center for Digital Finance and Technologies (CDFT), Aug. 2022–Aug. 2027:

- Founding Director: A. Capponi

- Affiliated Faculty:
  - IEOR: Garud Iyengar, Jay Sethuraman, Vineet Goyal, Adam Elmachtoub
  - Computer Science: Junfeng Yang, Tim Roughgarden, Ronghui Gu
  - Business School: Gur Huberman, Larry Glosten, Ciamac Moallemi, and Harry Mamaysky
  - Law School: Merritt Fox, Kathryn Judge
  - Economics: Yeon-Koo Che

- Financial Commitments ($560,000):
  - Established: Global Risk Institute ($200,000), Lenovo ($150,000), Arcane Group ($50,000), Fi-Tek ($150,000), Fidelity ($60,000)

- Activities:
  - Summer School: Inaugural CBER-CDFT-DSF Summer School (June 20-21, 2024)
  - Conferences: Crafting the Cryptoeconomy Conference (October 25th and 26th, 2024); CBER Seminar Series (beginning Fall 2024); 1st International Conference on Finance and Technology (September 3th-5th, 2022, joint with Fintech at Cornell); CBER 2023 (May 5th, 2023, joint with Columbia Business School Digital Finance Initiative); Tokenomics 2023 (October 27th and 28th, 2023, joint with Columbia Business School Digital Finance Initiative)

- Summits: 2023 Annual Summit (December 1, 2023); Ribbon-Cutting Event (November 4, 2022)
- Seminars: Digital Finance Seminar Series (jointly organized with the Digital Finance Initiative at the Columbia Business School); Fintech Innovation Seminar Series (jointly with the Blockchain at Columbia Student Group)
- Center Research Awards: Awarded five Research Grants for the academic year 2023-2024, and four Research Grants for the academic year 2024-2025.

PUBLICATIONS

"The Adoption of Blockchain-based Decentralized Exchanges". A. Capponi and R. Jia. **Winner of the 2021 INFORMS Finance Services Student Best Paper Competition**. Accepted at the *Review of Financial Studies*, 2025.

"Stress Testing Spillover Risk in Mutual Funds". A. Capponi, P. Glasserman and M. Weber. *Management Science*. Forthcoming. Online publication available at https://pubsonline.informs.org/doi/epdf/10.1287/mnsc.2022.03443

"Large Orders in Small Markets: Execution with Endogenous Liquidity Supply". A. Capponi, A. Menkveld and H. Zhang. *Review of Finance*, 29(1), 201–239, 2025.

"A Continuous Time Framework for Sequential Goal-Based Wealth Management". A. Capponi and Y. Zhang. *Management Science*, Forthcoming. Online publication available at https://pubsonline.informs.org/doi/full/10.1287/mnsc.2022.02047

"Systemic Portfolio Diversification". A. Capponi and M. Weber. *Operations Research*, 72(1), 110–131, 2024.

"Advances in Blockchain and Crypto Economics". B. Biais, A. Capponi, L.W. Cong, V. Gaur, and K. Giesecke. **Featured Article**, *Management Science*, 69(11), 6417–6426, 2023.

"Decentralized Finance: Protocols, Risks, and Governance". A. Capponi, G. Iyengar, and J. Sethuraman. Invited Paper. *Foundations and Trends in Privacy and Security*, 5(3), 144-188, 2023.

"Proof of Work Cryptocurrencies: Does Mining Technology Undermine Decentralization?". H. Alsabah, A. Capponi and S. Olafsson. *Management Science*, 69(11), 6417–7150, 2023. **Winner of the best Doctoral Paper Awards at the Second Toronto Fintech Conference. Winner of the 2019 INFORMS Finance Services Student Best Paper Competition**. *Management Science*.

"Disruption and Rerouting in Supply Chain Networks". J. Birge, A. Capponi and P.C. Chen. **Third Place at the Best Paper Award Competition of the 2021 Post-Pandemic Supply Chain and Healthcare Management Conference**. *Operations Research*, 71(2), 750–767, 2023.

"Power Forward Performance in Semimartingale Markets with Stochastic Integrated Factors". L. Bo, A. Capponi and C. Zhou. *Mathematics of Operations Research*, 48(1), 288–312, 2023.

"Swing Pricing: Theory and Evidence". A. Capponi, P. Glasserman and M. Weber. *Annual Reviews of Financial Economics*. Vol. 15, 617–640, 2023.

"Blockchain Private Pools and Price Discovery". A. Capponi, R. Jia, and Y. Wang. *American Economic Association: Papers and Proceedings*, 113, 253-256, May 2023.

"Bail-ins and Bail-outs: Incentives, Connectivity, and Systemic Stability". B. Bernard, A. Capponi and J. Stiglitz. *Journal of Political Economy*, 130(7), 1805—1859, 2022. **Media Coverage: VoX**.

"Large Sample Mean-Field Stochastic Optimization". L. Bo, A. Capponi and H. Liao. **Finalist at the 2021 SIAM FM Conference Paper Prize**. *SIAM Journal on Control and Optimization*, 60(4), 2538–2573, 2022.

"Market Efficient Portfolios in a Systemic Economy". K. Awiszus, A. Capponi and S. Weber. *Operations Research*, 70(2), 715—728, 2022.

"The Collateral Rule: Evidence from the Credit Default Swap Market". A. Capponi, W.A. Cheng, S. Giglio and R. Haynes. *Journal of Monetary Economics*, 126, 58–86, 2022.

"Personalized Robo-Advising: Enhancing Investment through Client Interactions". A. Capponi, S. Olafsson and T. Zariphopoulou. *Management Science* 68(4), 2485—2512, 2022.

"Optimal Bailouts and the Doom Loop with a Financial Network". A. Capponi, F. Corell and J. Stiglitz. *Journal of Monetary Economics* 128, 35–50, 2022.

"Systemic Risk Driven Portfolio Selection". A. Capponi and A. Rubtsov. *Operations Research*, 70(3), 1598—1612, 2022.

"A Theory of Collateral Requirements for Central Counterparties". A. Capponi, J. Wang and H. Zhang. *Management Science* 68(9), 6993—7017, 2022. **Media Coverage: Oxford Business Law Blog**.

"Counterparty Risk in Over-the-Counter Markets". C. Frei, A. Capponi and C. Brunetti. *Journal of Financial and Quantitative Analysis* 57(3), 1058–1082, 2022. Earlier version appeared in Finance and Economics Discussion Series, Board of Governors of the Federal Reserve System.

"Robo-advising: Learning Investors' Risk Preferences via Portfolio Choices". H. Alsabah, A. Capponi, O.R. Lacedelli, and M. Stern. Invited Paper. *Journal of Financial Econometrics* 19(2), 369—392, 2021.

"Multiregional Oligopoly with Capacity Constraints". H. Alsabah, B. Bernard, A. Capponi, G. Iyengar, and J. Sethuraman. **Runner-up, 2019 INFORMS Doing Good with Good OR Best Paper Competition.** *Management Science* 67(8), 4643–5300, 2021.

"Intraday Market Making with Overnight Inventory Costs". T. Adrian, A. Capponi, M. Fleming, E. Vogt and H. Zhang. **Lead Article**: *Journal of Financial Markets* 50, 100564, 2020.

"Swing Pricing for Mutual Funds: Breaking the Feedback Loop Between Fire Sales and Fund Runs". A. Capponi, P. Glasserman and M. Weber. *Management Science* 66(8), 3581-–3602, 2020.

"Robust XVA". M. Bichuch, A. Capponi and S. Sturm. *Mathematical Finance* 30 (3),738–781, 2020.

"Firm Capital Dynamics in Centrally Cleared Markets". A. Capponi, W.A. Cheng and S. Rajan. *Mathematical Finance* 30(2), 664–701, 2020. **Media Coverage: Bloomberg, Thomson Reuter, American Banker**.

"A Dynamic Network Model of Interbank Lending: Systemic Risk and Liquidity Provisioning". A. Capponi, D.D. Yao and X. Sun. **Finalist of the 2017 INFORMS Finance Services Student Best Paper Competition**. *Mathematics of Operations Research* 45(3), 1127—1152, 2020.

"Credit Portfolio with Decaying Contagion Intensities". L. Bo, A. Capponi and P.C. Chen. *Mathematical Finance* 29(1), 137–173, 2019.

"Portfolio Choice with Market-Credit Risk Dependencies". L. Bo and A. Capponi. *SIAM Journal on Control and Optimization* 56(4), 3050–3091, 2018.

"Clearinghouse Collateral Requirements". A. Capponi and W.A. Cheng. *Operations Research* 66(6), 1542–1558, 2018.

"Risk Sensitive Asset Management and Cascading Defaults". J. Birge, L. Bo and A. Capponi. Media Coverage: Chicago Booth Review. **Featured Article**: *Mathematics of Operations Research* 43(1), 1–28, 2018.

"Arbitrage-Free XVA". M. Bichuch, A. Capponi and S. Sturm. *Mathematical Finance* 28(2), pp. 582–620, 2018.

"Dynamic Investment and Counterparty Risk". L. Bo and A. Capponi. *Applied Mathematics and Optimization* 77(1), 1–45, 2018.

"Optimal Investment under Information Driven Contagious Distress". L. Bo and A. Capponi. *SIAM Journal on Control and Optimization* 55(2), pp. 1020-1068, 2017.

"Optimal Credit Investment with Borrowing Costs". L. Bo and A. Capponi. *Mathematics of Operations Research* 42(2), 546–575, 2017.

"Systemic Influences on Optimal Equity-Credit Investment". A. Capponi and C. Frei. *Management Science* 63(8), 2756–2771, 2017.

"Robust Optimization of Credit Portfolios". L. Bo and A. Capponi. *Mathematics of Operations Research* 42(1), 30–56, 2017.

"Liability Concentration and Losses in Financial Networks". A. Capponi, P.C. Chen and D.D. Yao. *Operations Research* 64(5), 1121–1134, 2016.

"Optimal Investment in Credit Derivatives Portfolio under Contagion Risk". L. Bo and A. Capponi. *Mathematical Finance* 26(4), 785–834, 2016.

"Price Contagion through Balance Sheet Linkages". A. Capponi and M. Larsson. *Review of Asset Pricing Studies* 5(2), 227–253, 2015.

"Systemic Risk Mitigation in Financial Networks". A. Capponi and P.C. Chen. *Journal of Economic Dynamics and Control* 58(15), 152–166, 2015.

"Dynamic Contracting: Accidents Lead to Nonlinear Contracts". A. Capponi and C. Frei. *SIAM Journal of Financial Mathematics* 6(1), 959–983, 2015.

"Systemic Risk in Interbanking Networks". L. Bo and A. Capponi. **Winner of the 2016 Bar Ilan General Prize for Papers in Financial Mathematics**. **Featured Article**: *SIAM Journal of Financial Mathematics* , 6(1), 386–424, 2015.

"Counterparty Risk for CDS: Default Clustering Effects". L. Bo and A. Capponi. *Journal of Banking and Finance* 52, 29–42, 2015.

"Dynamic Credit Investment in Partially Observed Markets. A. Capponi, J.E. Figueroa-López and A. Pascucci. *Finance and Stochastics* 19(4), 891–939, 2015.

"Pricing Vulnerable Claims in a Lèvy Driven Model". A. Capponi, S. Pagliarani and T. Vargiolu. *Finance and Stochastics* 18(4), 775–789, 2015.

"Default and Systemic Risk in Equilibrium". A. Capponi and M. Larsson. *Mathematical Finance*, 25(1), 51–76, 2015.

"Bilateral Credit Valuation Adjustment for Large Credit Derivatives Portfolios". L. Bo and A. Capponi. *Finance and Stochastics* 18(2), 431–482, 2014.

"Arbitrage-free Bilateral Counterparty Risk Valuation under Collateralization and Application to Credit Default Swaps". D. Brigo, A. Capponi and A. Pallavicini. *Mathematical Finance*, 24(1), 125–146, 2014. Short version appeared in *Risk*, 85–90, 2010.

"Pricing and Semi-Martingale Representations of Vulnerable Contingent Claims in Regime-Switching Markets". A. Capponi, J.E. Figueroa-López and J. Niesen. *Mathematical Finance* 24(2), 250–288, 2014.

"Dynamic Portfolio Optimization with a Defaultable Security and Regime Switching". A. Capponi and J.E. Figueroa-López. *Mathematical Finance*, 24(2), 207–249, 2014.

"Optimal Contracting with Effort and Misvaluation". A. Capponi, J. Cvitanić and T. Yolcu. *Mathematics and Financial Economics* 7 (1), 93–128, 2013.

"A Variational Approach to Contracting under Imperfect Observations". A. Capponi, J. Cvitanić and T. Yolcu. *SIAM Journal on Financial Mathematics* 3 (1), 605–638, 2012.

"Stochastic Filtering for Diffusion Processes with Level Crossings". A. Capponi, I. Fatkullin and L. Shi. *IEEE Transactions on Automatic Control* 56, 2201–2206, 2011.

"A Convex Optimization Approach to Filtering in Jump Systems with State Dependent Transition Probabilities". A. Capponi. *Automatica* 46, 383–389, 2010.

"Resource Optimisation in a Wireless Sensor Network with Guaranteed Estimator Performance". A. Capponi, K. Johansson, R. Murray, and L. Shi. *IET Control Theory and Applications* 4, 710–723, 2010.

"Credit Risk Modeling with Misreporting and Incomplete Information". A. Capponi and J. Cvitanić. **Winner of the IEEE International Conference on Computational Intelligence for Financial Engineering (CIFEr'09) Best Student Paper Award.** *International Journal of Theoretical and Applied Finance* 12, 81–112, 2009.

"A New Algorithm for On-line Coloring Bipartite Graphs". H. Broersma, A. Capponi and D. Paulusma. *SIAM Journal of Discrete Mathematics* 22, 72–91, 2008.

"A Mean Track Approach Applied to the Multidimensional Assignment Problem". A. Capponi and H. De Waard. *IEEE Transactions on Aerospace and Electronic Systems* 43, 450–471, 2007.

"Accuracy of Fused Track for Radar Systems". A. Capponi, A. Di Lallo, A. Farina, and T. Volpi. *Signal Processing* 85, 1189–1210, 2005.

"A Polynomial Time Algorithm for Data Association Problem in Multitarget Tracking". A. Capponi. *IEEE Transactions on Aerospace and Electronic Systems* 40, 1398–1410, 2004.

Revise and Resubmit Journal Papers

"Maximal Extractable Value and Allocative Inefficiencies in Public Blockchains". A. Capponi, R. Jia, and Y. Wang. **Winner of the Best Paper Award at the 2nd Annual CBER Conference**. **Media Coverage: Cointelegraph**. Revise and Resubmit at the *Journal of Financial Economics*, Preprint, 2023.

"Price Discovery on Decentralized Exchanges". A. Capponi, R. Jia and S. Yu. Media Coverage: Bloomberg. Revise and Resubmit at the *Review of Financial Studies*, 2023.

Conference Publications

"Do Private Transaction Pools Mitigate Frontrunning Risk?". Proceedings of *WINE 2023, The 19th Conference On Web And Internet Economics*.

"Causal Inference – closed form expressions for worst case typical phase transitions". A. Capponi and M. Stojnic. Proceedings of the *2023 IEEE International Symposium on Information Theory*, 501–506.

'Phase Transitions: Explicit relations for sparse vector and low rank recovery". A. Capponi and M. Stojnic. Proceedings of the *2023 IEEE International Symposium on Information Theory*, 507–512.

Submitted and Working Papers

"Virtual Trading in a Multi-Settlement Electricity Market". A. Capponi, G. Iyengar, B. Yang, and D. Bienstock. Preprint available at `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4641966`, 2024.

"Graph Machine Learning for Asset Pricing: Traversing the Supply Chain and Factor Zoo". A. Capponi, J. Antonio Sidaoui, and J. Zou. Preprint available at `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5031617`, 2024.

"Sustainable Investment Strategies with Real Asset Trades". A. Capponi, J. Sethuraman, and F. Verastegui. Preprint available at `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4993551`, 2024.

"Are supply networks efficiently resilient?". A. Capponi, C. Du, and J. Stiglitz. NBER Working Paper Series, No. 32221.

"Proposer-Builder Separation, Exclusive Order Flow, and Centralization in Blockchain". A. Capponi, R. Jia, and S. Olafsson. Preprint available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4723674, 2024.

"The Effect of Mortgage Forbearance on Refinancing: Evidence from the COVID-19 Period". CEPR Covid Economics, No. 68, 10 February 2021. A. Capponi, R. Jia and D.A. Rios. Preprint, 2022.

"Clearinghouse Default Waterfall: Risk Sharing, Incentives, and Systemic Risk". A. Capponi, W.A. Cheng, and J. Sethuraman. **Winner of the 2017 INFORMS Finance Services Student Best Paper Competition**. Preprint, 2019.

Market Making with Stochastic Liquidity Demand: Simultaneous Order Arrival and Price Change Forecasts A. Capponi, J. Figueroa-Lopez and C. Yu. Preprint, 2022.

Book Chapters, Practitioner and Policy Papers

"Derivative Clearinghouses: Collateral Management and Policy Implications". A. Capponi. *Ten Years after the Crash: Financial Crises and Regulatory Responses*, edited by Sharyn O'Halloran and Thomas Groll, Columbia University Press, Chapter 23, 371–383, Oct. 2019.

"Capital and Resolution Policies: the US Interbank Market". A. Capponi, J. Dooley, M. Oet, and S. Ong *Journal of Financial Stability*, 30, 229–239, 2017.

"Systemic Risk, Policy, and Data Needs". A. Capponi. *INFORMS Tutorials in Operations Research*, 185–206, 2016

"Measuring Counterparty Risk of Large Portfolios". A. Capponi. *CreditFlux* Magazine, Apr. 2014.

"Pricing and Mitigation of Counterparty Credit Exposures". A. Capponi. *Handbook of Systemic Risk*, Edited by J.-P. Fouque and J.Langsam, Cambridge University Press, 1–21, 2012.

"Bilateral Credit Valuation Adjustment with Application to Credit Default Swaps". D. Brigo and A. Capponi. *Managing and Measuring Capital*, edited by M. Ong, .Risk Books London, 47–67, 2012.

"Systemic Risk: Clustering and Contagion Mechanisms". A. Capponi and P.C. Chen. *Review of Futures Markets* 21 Special Edition, 57–70, 2011

"Liquidity Modeling for Credit Default Swaps: an Overview". D. Brigo, A. Capponi and M. Pedrescu. *Credit Risk Frontiers. The suprime crisis, Pricing and Hedging, CVA, MBS, Ratings and Liquidity.* Bloomberg Press, 1–36, 2011.

"Bilateral Counterparty Risk with Application to CDSs". D. Brigo and A. Capponi. *Risk Magazine*, 85–90, 2010.

Edited Books and Special Issues

"Machine Learning And Data Sciences For Financial Markets: A Guide To Contemporary Practices'. Book edited by A. Capponi and C.A. Lehalle. *Cambridge University Press*, April 14, 2023.

"Blockchains and Crypto Economics". Special Issue edited by B. Biais, A. Capponi, W Cong, K. Giesecke, and V Gupta. *Management Science*, 2022.

"Systemic Risk and Financial Networks". Special Issue edited by A. Capponi and R. Jarrow. *Mathematics and Financial Economics*, 2021. Preface available at https://link.springer.com/article/10.1007/s11579-020-00286-7

"Optimization Challenges in Complex, Networked and Risky Systems". Tutorial co-edited by A. Capponi and A. Gupta. *INFORMS TutORials in Operations Research*, 2016.

EDITORIAL BOARD

Advisory Editor

International Journal of Finance and Economics. August 2024–present.

Co-Editor

Mathematics and Financial Economics. Jan. 2021–present.

Area Editor

Management Science. **Finance Area Editor**. Feb. 2019–present.

Operations Research. **Financial Engineering Area Editor**. Jan. 2024-present.

Operations Research Letters. **Financial Engineering Area Editor**, Jan. 2020–Dec. 2023.

IISE Transactions. **Financial Engineering Area Editor**, Nov. 2015–Dec. 2021.

Associate Editor

Digital Finance. **Associate Editor**, September 2023–December 2024.

Frontiers of Mathematical Finance. **Associate Editor**, Jan. 2021–present.

Finance and Stochastics. **Associate Editor**, Jan. 2020–present.

Stochastic Models. **Associate Editor**, March 2019–December 2022.

Journal of Dynamics & Games (American Institute of Mathematical Sciences). **Associate Editor**, Jan. 2019–February 21, 2024.

Mathematics and Financial Economics. **Associate Editor**, Jan. 2019–Dec. 2020.

SIAM Journal on Financial Mathematics. **Associate Editor**, Jan. 2019–present.

Stochastic Systems. **Associate Editor**, Oct. 2018–March 2024.

Management Science. **Associate Editor**, June 2018–Jan. 2019.

Operations Research. **Associate Editor**, Apr. 2018–Dec. 2023.

Mathematical Finance. **Associate Editor**, Jan. 2017–Dec. 2019.

Applied Mathematical Finance. **Associate Editor**, Feb. 2017–present.

Operations Research Letters. **Associate Editor**, Nov. 2012–Dec. 2019.

SIAM News. **Liaison** for the Financial Engineering SIAM Activity Group Jan. 2020–Dec. 2021.

PROFESSIONAL ACTIVITIES

Leadership Roles

SIAM Activity Group on Financial Mathematics and Engineering. **Member** of the Nominating Committee for the 2024-2025 Executive Board Election.

SIAM Activity Group on Financial Mathematics and Engineering. **Chair** of the Selection Committee for the 2023 SIAG/FME Early Career Prize.

Bachelier Finance Society. **Council Officer**, Jan. 2022–present.

5th International Conference on Blockchain Economics, Security, and Protocols - Tokenomics. **Co-Chair** (joint with C. Moallemi), 2023.

3nd Annual CBER Conference. **Co-Chair** (joint with C. Moallemi), 2023.

1st International Conference on Finance & Technology. **Co-Chair** (joint with W. Cong), 2022.

SIAM Activity Group on Financial Mathematics and Engineering. **Chair**, Jan. 2020–Dec. 2021, **Program Director**, Jan. 2017–Dec. 2019.

Mathematics and Computation of Financial Engineering Workshop. **Co-Organizer** (joint with P. Guasoni), Sept. 2021.

Biennial SIAM-FME Meeting. **Co-Chair** (joint with I. Cialenco), June 2021, **Co-Chair** (joint with S. Jaimungal), June 2019.

INFORMS Society. **Chair** of the INFORMS Finance Section, Jan. 2019–Dec. 2021. **Board Member** of INFORMS Applied Probability Society, Dec. 2015–Jan. 2019. **Tutorials Co-chair** (joint with A. Gupta) at the 2016 INFORMS Annual Meeting.

Central Clearing Interdependencies. **Member** of the Roundtable on Central Clearing Interdependencies, Dec. 2015, and Sept. 2017.

Columbia & NYU Courant Math Finance Alumni Networking Event on Quantitative Portfolio Management. **Co-Organizer** (joint with P. Kolm, K. Letang, and J. Cerniglia), 2018.

New Ideas and Cutting-Edge Developments in FinTech Conference. **Co-Chair** (joint with P. Carr, P. Kolm, and A. Papanicolau), 2018.

Berkeley–Columbia Meeting in Engineering and Statistics. **Co-Organizer** (joint with X. Guo, M. Nutz, and Y. Zhang), 2018.

Financial Networks: Big Risks, Macroeconomic Externalities, and Policy Commitment Devices Conference. **Co-Organizer** (joint with J. Stiglitz), 2018.

Eastern Financial Mathematics Conference. **Co-Chair** (joint with P. Carr, P. Kolm, and A. Papanicolau), 2017, **Co-Chair** (joint with A. Minca, R. Sircar, and S. Sturm), 2016.

Cluster, Minisymposium, Area and Session Chair

American Economic/Finance Association. **Session Chair**, 2023, 2024.

INFORMS Annual Meeting. Financial Services **Cluster Chair**, 2017, 2018, 2019, 2024. Risk Management **Cluster Chair**, 2015. **Session Chair**, 2011-2024.

SIAM Annual Meeting. **Minisymposium Chair**, 2018, 2020, 2022.

SIAM-FM Biennial Meeting. **Minisymposium Chair**, 2014, 2016, 2019, 2021.

First International Conference on Finance & Technology. **Session Chair**, 2022.

INFORMS Applied Probability Conference. **Session Chair**, 2017, 2019.

ACM Conference on Economics and Computation. Blockchain and Cryptocurrencies **Area Chair**, 2022, 2023.

Committee Membership

Advisory Committee for the 5th Annual CBER Conference, **Program Committee Member**, 2025.

The Latest in DeFi Research (TLDR), **Program Committee Member**, 2025.

Oxford-Harvard conference on decentralized finance and market microstructure, **Scientific Committee Member**, 2025.

Workshop on the Role of Education in FinTech and Innovation, 2024, **Program Committee Member**, 2025.

ICML 2024, Agentic Markets Workshop, **Program Committee Member**, 2024.

IEEE Computational Intelligence for Financial Engineering (CIFEr 2024), **Program Committee Member**, 2024.

Financial Management Association (FMA), **Program Committee Member**, 2023.

Georgia State University-Review of Financial Studies (RFS) FinTech Conference, **Program Committee Member**, 2023.

Department of Treasury's OFR Rising Scholars Conference on Future of Financial Stability, **Scientific Committee Member**, 2023, 2024, 2025.

Federal Reserve Board Conference on the Interconnectedness of Financial Systems, **Scientific Committee Member**, 2019, 2021, 2023.

2022 Digital Supply Chain and Supplier Diversity Conference. **Committee Member of the Best Paper Prize Competition**.

INFORMS Finance Student Paper Competition. **Chair of the Committee**, 2017, 2018, 2019, 2020.

3rd ACM International Conference on AI in Finance, **Senior Program Committee Member**, 2022, 2023, 2024.

Tokenomics, **Program Committee Member**, 2021, 2022.

Federal Reserve Bank of Cleveland and Office of Financial Research Financial Stability Conference: Stress, Contagion, and Transmission. **Scientific Committee Member**, 2020.

Crypto and Blockchain Economics Research Forum (CBER). **Steering Committee Member**, 2020–present.

SIAG/FME Virtual Seminar Series. **Committee Member**, 2020–2021.

INFORMS Applied Probability Society Conference. **Program Committee Member**, 2017, 2019.

Eastern Conference in Mathematical Finance, **Steering Committee Member**, 2018–present.

1st IEEE Global Conference on Signal and Information Processing in Finance and Economics. **Program Committee Member**, 2013.

IEEE International Conference on Information Fusion. **Program Committee Member**, 2006–2010.

Ad-hoc Reviewer

Econometrica, Journal of Political Economy, Journal of Financial Economics, Journal of Finance, Review of Financial Studies, Management Science, Operations Research, Journal of the Operations Reseach Society of China, Journal of Money, Credit and Banking, Mathematics of Operations Research, Mathematical Finance, Finance and Stochastics, Annals of Applied Probability, SIAM Journal of Financial Mathematics, SIAM Journal on Control and Optimization, Journal of Banking and Finance, European Journal of Operations Research, Journal of Economic Dynamics and Control, Stochastic Models, Advances in Applied Probability, Applied Mathematics and Optimization, IEEE Transactions on Automatic Control, IEEE Transactions on Signal Processing, IET Control Theory and Applications, Automatica, Quantitative Finance, Mathematical and Financial Economics, Journal of Corporate Finance, International Journal of Theoretical and Applied Finance, Journal of Computational Finance, Journal of Credit Risk, Statistics and Risk Modeling, Journal of Financial Stability, Risk, Springer-Verlag, World Scientific Publishing Co.

Service to the Department

Department of Industrial Engineering and Operations Research, Columbia University. Faculty Search Committee **Chair**, 2021–2022, and 2024-2025.

Department of Industrial Engineering and Operations Research, Columbia University. Member of the Faculty Search Committee, 2023–2024.

Department of Industrial Engineering and Operations Research, Columbia University. Financial Engineering Practitioners Seminars **Co-Organizer** (joint with E. Derman), 2018–2019, 2019–2020.

Department of Industrial Engineering and Operations Research, Columbia University. Faculty Search Committee **Member**, 2015–2016, 2016–2017, 2017–2018, 2019–2020.

Department of Industrial Engineering and Operations Research, Columbia University. Ph.D. Admissions Committee **Member**, 2015–2016, 2016–2017, 2017–2018, 2019–2020, 2020–2021, 2021-2022, 2023-2024, 2024-2025.

Department of Industrial Engineering and Operations Research, Master in Financial Engineering, Columbia University. Admission Committee **Member**, 2015–present.

Department of Applied Mathematics and Statistics, Johns Hopkins University. Communications Committee **Member**, 2013–2014.

Department of Industrial Engineering, Purdue University. Undergraduate Curriculum Committee **Member**, Graduate Admission Committee **Member**, 2010–2011, 2011-2012.

Service to Columbia University

SEAS Promotion Review Committee. Ad-Hoc Reviewer, 2023, 2024.

PilotPlus program of Columbia's Learning Health Systems, Project: Piloting a Pediatric Equity and Quality Dashboard and Implementation Roadmap in the Morgan Stanley Children's Hospital Emergency Department. Columbia Grant Proposal **Advisor**, 2022.

Collaborative research proposals from Columbia University faculty, in response to call: Technology Innovations for Urban Living in the Face of COVID-19. **Reviewer**, 2020.

Data Science Institute Seed Funds Research Proposals Program, Columbia University. **Reviewer**, 2018, 2023.

External Grant Proposal Reviewer

ETH Zurich Research Commission.

National Science Foundation CMMI Operations Engineering, 2018, 2023.

National Science Foundation Economics, ad hoc reviewer, 2012.

National Science Foundation Applied Mathematics, ad hoc reviewer, 2013.

STUDENTS
MENTORING

Current Graduate Students

- Jose A. Sidaoui Gali, IEOR Department, Columbia University. Second-Year Ph.D. Student. Current Project: Dimension Reduction Techniques for Stress Testing.

- Millend Roy, IEOR Department, Columbia University. Second-Year Ph.D. Student. Current Project: Blackout Risk in Power Networks.

- Boxuan Li, IEOR Department, Columbia University. Second-Year Ph.D. Student. Current Project: Oligopoly Networks with Capacity Constraints.

- Xinkai Wu, IEOR Department, Columbia University. Second-Year Ph.D student. Current Project: Financial Networks and Technology.

- Felipe Verastegui-Grunewald, IEOR Department, Columbia University. Ph.D. Sustainable Finance and Energy Networks. Third-Year Ph.D student (jointly advised with Jay Sethuraman).

- Brian Zi Qi Zhu, IEOR Department, Columbia University. Ph.D. Topic: Decentralized Platform Design. Third-Year Ph.D Student.

Former Graduate Students

- Ruizhe Jia, IEOR Department, Columbia University. Ph.D. Thesis: The Microstructure of Decentralized Exchanges. Graduation date: April 5, 2024. First Position: Assistant Professor, Management Science and Engineering, Stanford University.

- Felix Corell, Department of Economics, European Economic Institute. Visiting Ph.D. during period Sep. 2018–Dec. 2018. Job Market Paper: Optimal Bailouts and the Doom Loop with a Financial Network. First Position: Assistant Professor of Finance, Vrije Universiteit Amsterdam.

- Humoud Alsabah, IEOR Department, Columbia University. Ph.D. Dissertation Title: Essays in Networked Markets and Financial Technology. Graduation date: Apr. 6, 2020. First Position: Assistant Professor, Kuwait University, Department of Industrial Engineering

- Allen Cheng, IEOR Department, Columbia University. Ph.D. Dissertation Title: Clearinghouse Default Resources: Theory and Empirical Analysis. Graduation date: Sep., 20, 2017. First position: AQR Capital Management.

- Peng-Chu Chen, Department of Industrial Engineering, Purdue University. Ph.D. Topic: Systemic risk in financial networks. Graduation date: July 2016. First job: Assistant Professor, The University of Hong Kong, Department of Industrial and Manufacturing Systems Engineering.

Current Postdocs/Associate Research Scientists

- Zhaonan Qu, IEOR Department and Data Science Institute, Columbia University. Topics: Bias-Variance Tradeoff, Heteroscedasticity and Measurement Noise Post-doc. July 2024-July 2026. First job: Assistant Professor, New Jersey Institute of Technology's School of Management (beginning in Fall 2026).

Former Postdocs/Associate Research Scientists

- Shihao Yu, IEOR Department, Columbia University. Topics: Decentralized Ledgers and Machine Learning in Finance. Post-doc. June 2022-June 2024. First job: Assistant Professor, Singapore Management University, Lee Kong Chian School of Business;

- Jiacheng Zou, IEOR Department, Columbia University. Topics: Supply Chain Asset Pricing. Post-doc. August 2024-January 2025.

- Bo Yang, IEOR Department, Columbia University. Topics: Incentives and Optimization in Power Grids. Post-doc. July 2022–June 2024. (joint with D. Bienstock and G. Iyengar). First job: Department of Industrial Engineering & Decision Analytics, The Hong Kong University of Science and Technology.

- Khalil Esmkhani, IEOR Department, Columbia University. Topics: Blockchain Economics, and Information Networks. Post-doc. February 1, 2023-July 1, 2023. First position: Assistant Professor, Simon Fraser University, School of Business.

- Mihailo Stojnic, IEOR Department, Columbia University. Topics: Causal Inference and High-Dimensional Data Analysis. Research Associate. August 2022-December 2022.

- Michael Rath, IEOR Department, Columbia University. Topics: Risk Management in Power Grids. Post-doc. Jan. 2021–Dec. 2021 (joint with D. Bienstock and G. Iyengar). First Position: Solution Associate in Electric Power and Natural Gas, Power Solutions, McKinsey & Company.

- Sveinn Olafsson, IEOR Department, Columbia University. Topics: FinTech and Robo-Advising. Post-doc. Sep. 2018–June 2021. First Position: Assistant Professor, Stevens Institute of Technology, School of Business.

- Zhaoyu Zhang, IEOR Department, Columbia University. Topics: FinTech and Machine Learning in Finance. Post-doc. Aug. 2019–July 2020. First Position: Assistant Professor, University of Southern California, Department of Mathematics.

- Marko Weber, IEOR Department, Columbia University. Topics: Balance Sheet Optimization, XVA, and Automated Trading. Post-doc. Mar. 2017–Mar. 2019. First Position: Assistant Professor, National University of Singapore, Department of Mathematics.

- Hongzhong Zhang, IEOR Department, Columbia University. Topics: High Frequency Trading and Clearinghouses. Associate Research Scientist. May 2016–July 2019. First job: Quantitative Researcher, Enlightenment Research, LLC.

- Benjamin Bernard, IEOR Department, Columbia University. Topics: Game theoretical models for commodity and financial networks. Post-doc. February 2016-June 2017 and Mar. 2019–July 2019. First position: Assistant Professor, Department of Economics, National Taiwan University. Current Position: Assistant Professor, Department of Economics, University of Wisconsin-Madison.

- Matthew Stern, IEOR Department, Columbia University. Topics: Human Machine Interaction Games. Post-doc. Feb. 2017–Mar. 2018. First job. Senior Data Scientist, Wayfair.

Research Undergraduate Student (REU)

- Thu Hai Pham, IEOR Department, Columbia University. Topics: Games of Strategic Banks' Liquidation. June 2018–Sep. 2018.

- Sarina Liu, IEOR Department, Columbia University. Topics: Systemic Risk and Crowdfunding. June 2019–Aug. 2019.

E.N.G. SEAS's Outreach research program for high school students

- Justin Peralta, IEOR Department, Columbia University. Topics: Numerical Implementation of Banks' Liquidation Strategies. July 2018–Aug. 2018.

- Eleazar Neri, IEOR Department, Columbia University. Topics: Numerical Implementation of Banks' Liquidation Strategies. July 2018–Aug. 2018.

Dissertation Defense Committee Member

Utkarsh Kravis (Graduate School of Business, Columbia University, August 2024); Mike Li (Graduate School of Business, Columbia University, August 2024); Reed Palmer (Statistics, Columbia University, May 2023); Luc Le Flem (IEOR, Columbia University, January 2023); Shihao Yu (Vrije Universiteit Amsterdam, January 2023); Joffrey Derchu (Ecole Polytechnique, December 2022); Tugce Karatas (IEOR, Columbia University, September 2022); Weilong Fu (IEOR, Columbia University, June 2022); Agathe Soret (IEOR, Columbia University, May 2022); Wenjun Wang (IEOR, Columbia University, December 2021); Yu, Chuyi (Mathematics and Statistics, Washington University in Saint Louis, July 2021); Edward Kim (Applied

Mathematics, University of Sydney, May 2021); Tangirala Gowtham (Graduate School of Business, Columbia University, April 2021); Aref Bolandnazar (Graduate School of Business, Columbia University, April 2021); Yiwen Shen (Graduate School of Business, Columbia University, April 2021); Yaarit Even (Graduate School of Business, Columbia University, December 2020); Kerstin Awiszus (University of Hannover, Mathematische Stochastik, July 2020); Lin Chen (IEOR, Columbia University, March 2020); Siyuan Chen (Mechanical Engineering, Columbia University, June 2019); Weijie Pang (Mathematics, Worcester Polytechnique Institute, April 2019); Xu Sun (IEOR, Columbia University, March 2019); Octavio Ruiz Lacedelli (IEOR, Columbia University, February 2019); Marco Francischello (Mathematics, Imperial College London, February 2019); Desmond Ng (Applied Mathematics, The University of Sydney, August 2018); Di Xiao (IEOR, Columbia University, August 2017); Yannick Armenti (Mathematics Department, Evry University, July 2017); Brian Ward (IEOR, Columbia University, June 2017); Yuan Kai (Graduate School of Business, Columbia University, April 2017); Jing Guo (IEOR, Columbia University, March 2017); Richard Neuberg (Statistics, Columbia University, October 2016); Zheng Wang (IEOR, Columbia University, October 2016); Juan Li (IEOR, Columbia University, May 2015); Marco Santoli (IEOR, Columbia University, April 2015); Jeff Nisen (Statistics, Purdue University, June 2013); Stefano Pagliarani (Mathematics, University of Padua, October 2013);

Invited Talks

2026.

Keynotes: 10th Year Anniversary Commodity and Energy Markets Association (CEMA) Conference; NUS Quantitative Finance Conference; Workshop on credit risk, climate risk and financial contagion;

2025.

Keynotes: 34th European Conference on Operational Research (EURO 2025); 2nd International Conference on AI and Blockchain in Finance; 15th China International Conference on Insurance and Risk Management (CICIRM 2025); 7th Sydney Market Microstructure and Digital Finance Conference;

Plenary: SIAM FM 23 Biennial meeting; 12th general AMaMeF conference; 12th Western Conference on Mathematical Finance (WCMF); 25th Brazilian Finance Meeting,

Invited Seminar Talks at Universities. University of Calgary's Haskayne School of Business; Cornell University, Johnson Graduate School of Management; UNC Kenan-Flagler Business School; McComb School of Business, University of Texas at Austin; Duke's Fuqua School of Business; IIT Applied Mathematics Colloquium; Baruch Zicklin School of Business;

Invited Lectures and Talks at Conferences, Workshops, and Webinars. Oxford-Harvard conference on decentralized finance and market microstructure; Columbia-NYU Financial Engineering Colloquium; IAQF-Thalesians seminar; Columbia University IPD& CPE Research Workshop; NYU-Princeton Workshop on Future Electricity Grids and Energy Markets with Decarbonization; Luohan Academy Webinar; New York QWAFAFEW seminar;

2024.

Keynotes: S&P Global Quantitative Investment Management Forum; IEEE Computational Intelligence for Financial Engineering (CIFEr); Annual Gilmore DeFi Conference; Digital Assets Connection; 37th Australasian Finance and Banking Conference; Tokenomics 2024; Certik, New Frontiers: How AI Matters for Crypto Mass Adoption; Financial Street Forum;

Plenary: 2024 Bachelier World Congress; Brazilian Meeting of Finance; First INFORMS Conference on Financial Engineering and FinTech; RISC Forum: Systemic Risk;

Invited Seminar Talks at Universities. University of Toronto's Rotman School of Management, Finance Seminar; Florida International University, Environmental Finance and Risk

Management Seminar; Stanford University, Advanced Financial Technologies Laboratory; Johns Hopkins University; University of Aberdeen Business School, Finance Seminar Series;

Invited Lectures and Talks at Conferences, Workshops, and Webinars. American Finance Association Meeting; American Economic Association Meeting; New York QWAFAFEW seminar; Microstructure conference at University of Chicago; One World Machine Learning Seminar; SaMMF Virtual Seminar; CBER Symposium: Uniswap X and JIT Liquidity; Third Conference on the Interconnectedness of Financial Systems; Byrne Workshop on Stochastic Analysis in Finance and Insurance; INFORMS Annual Meeting; 4th Annual CBER Conference; CBER-CDFT-DSF Summer School; TLDR Conference; a16z Summer Infra Mechanism Design Workshop; Columbia-ETH-NUS Conference; Zero Point Forum Workshop; UAE GARP Chapter; Third Workshop on Recent Trends in Machine Learning and Risk Management; Vega Institute Global seminar;

Invited Talks at Private Companies. UBS's AI Guild Speaker Series; Bank of America Quant Speaker Series; Banca Intesa's Quant Day; Global Finance Tour 2024;

Invited Talks at Governmental Agencies and Policy Making Institutions. Federal Reserve Board Conference on the Interconnectedness of Financial Systems; U.S. Department of Commerce;

2023.

Keynotes. 67th meeting of the Euro Working Group for Commodities and Financial Modeling; 6th Market Microstructure and Digital Finance Conference; 36th Australasian Finance and Banking Conference; 4th Waterloo Student Conference in Statistics, Actuarial Science and Finance

Plenary. Sixteenth NUS RMI Risk Management Conference;

Distinguished Lectures. CUHK Distinguished Lecture in Quantitative Finance.

Invited Seminar Talks at Universities. Statistics and Machine Learning in Finance seminar, Oxford University; Oxford–Man Institute DeFi Seminar; University of Illinois; Hong Kong University of Science and Technology; FISC Fintech Center of Research Excellence, University of Memphis; London Business School; UBS & CFEM AI, Data and Analytics, Cornell Tech; ECOMFIN Webinar at ESSEC Business School;

Invited Lectures and Talks at Conferences, Workshops, Webinars. American Economic Association Meeting; SIAM-FM 23 Biennial Meeting; INFORMS Annual Meeting; New York QWAFAFEW seminar; Columbia Engineering Alumni webinar; Columbia Data Science Day; Santa Clara University crypto conference; Workshop on New challenges for competition and regulation in the banking sector; Institut Louis Bachelier FaiR program and ACPR Panel on CryptoMarkets; Fields-CFI Workshop on Quantitative Methods in Wealth Management; Princeton Workshop on Stochastic Control and Financial Engineering; Paris School of Economics Workshop on Central Clearing and Market Infrastructures; 2023 China International Conference in Finance; North America Summer Meeting of Econometric Society; 9th Annual Bloomberg-Columbia Machine Learning in Finance Workshop; NBER Summer Institute; Recent Trends in Quantitative Finance Workshop at Stony Brook University; Cambridge-NUS workshop on Markovian Decision Process and Reinforcement Learning; Fourth New York Fed Conference on FinTech;

Invited Talks at Private Companies. Chaincode research seminar; UBRI Ripple Lunch and Learn Seminar;

Invited Talks at Governmental Agencies and Policy Making Institutions. Financial Stability Board Outreach Event;

2022.

Keynotes. Annual Conference of Chinese SIAM Activity Group of Financial Technology and Algorithm.

Distinguished Lectures. CUHK Distinguished Lecture in Quantitative Finance.

Invited Seminar Talks at Universities. ETH Zurich Financial and Insurance Mathematics

Seminar; University of California Berkeley, IEOR Seminar Series; Imperial College Control-Optimization seminar series; University of California Berkeley, Consortium for Data Analytics in Risk Seminar; University of Houston, Bauer College of Business, Finance Research Seminar; University of St. Gallen, School of Finance Seminar; Virtual National University of Singapore Quantitative Finance Seminar; Hong Kong Baptist University, The Center for Business Analytics and the Digital Economy Seminar Series; Peking University HSBC Business School.

Invited Lectures and Talks at Conferences, Workshops, and Webinars NSF Institute for Mathematical and Statistical Innovation, University of Chicago, Workshop on Systemic Risk and Stress Testing; NSF Institute for Mathematical and Statistical Innovation, University of Chicago, Workshop on Advances in Optimal Decision Making under Uncertainty; 2022 SIAM Annual Meeting; Workshop at Bielefied "Many player games an applications"; GSU-RFS FinTech Conference; Crypto and Blockchain Economics Research Webinar; **Featured Talk** at the Columbia SEAS Graduate Alumni Day; Columbia Engineering Board of Visitors meeting; Roundtable at Cornell Convenes: A Program on Digital Assets and CBDC in light of the President's Executive Order; 2nd Annual CBER Conference; FMA Asia Pacific conference; Algorand Bocconi Fintech Lab Conference; Shanghai Financial Forefront Symposium; Luohan Academy's Webinar; Alternative Data in Crypto Markets Panel Workshop; SIAG/FME Webinar; Tokenomics 2022.

Invited Talks at Private Companies. Goldman Sachs London Mathematical Finance Seminar; D. E. Shaw & Co Seminar; Moody's KMV Innovation Speaker Series.

Invited Talks at Governmental Agencies and Policy Making Institutions. Bank for International Settlements Monetary and Economic Department seminar; Bank of England Banking, Finance and Regulations seminar; Bank of England Roundtable on DeFi; Office of the Comptroller of the Currency seminar; Department of Treasury's Office of Financial Research seminar.

2021.

Keynotes. 9th Annual Big Data Finance Conference.

Invited Seminar Talks at Universities. Cornell Finance Seminar Series; Boston University Questrom School of Business Finance; Warwick Business School; Naveen Jindal School of Management, University of Texas at Dallas; Finance and Accounting department, University of Cyprus; Stevens Institute of Technology Business School; Lally School of Management at Rensselaer Polytechnique Institute Dean's Research Seminar; Bielefeld University; Princeton Financial Math Seminar; Laboratory for Mathematical Economics and Quantitative Finance at Peking University; Scuola Normale Superiore of Pisa.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. 2021 American Finance Association Meeting; 2021 American Economic Association Meeting; 2021 Eastern Finance Association Meeting; SIAM 2021 Annual Meeting; SIAM-FM 21 Biennial Meeting; Society for Economic Dynamics meeting; NSF Institute for Mathematical and Statistical Innovation, University of Chicago, Tutorial on Human-Machine Interaction Systems; Institute of Louis Bachelier, Financial Risk International Forum, roundtable on robo advisors and automated financial advice; 2021 Australasian Meeting of the Econometric Society; 2021 China Meeting of the Econometric Society; 2021 INFORMS Annual Meeting; IEEE World Congress on Services (International Symposium on Future of Financial Services); CIRM Workshop on "Advances in Stochastic Analysis for Handling Risks in Finance and Insurance"; 5th SAFE Market Microstructure Conference; FinTech@Cornell Roundtable; IAQF & Thalesians Seminar Series; Tokenomics 2021.

Invited Talks at Private Companies. Citigroup MQA Quant Seminar; Morgan Stanley ML Seminar.

Invited Talks at Governmental Agencies and Policy Making Institutions. Division of Economic and Risk Analysis (DERA), U.S. Securities and Exchange Commission.

2020.

Keynotes. Program of the Institute Louis Bachelier: Robo-Advisor Workshop.

Invited Seminar Talks at Universities. Fields Quantitative Finance Seminar; University of Southern California Math Finance Colloquium; Virtual National University of Singapore Quantitative Finance Seminar Series; University of Memphis (Department of Finance, Insurance, and Real Estate); NYU Tandon School of Engineering Finance & Risk Engineering Lecture Series; Stony Brook University Quantitative finance webinar; University of Science & Technology Beijing webinar; Florida State University.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. 2020 American Finance Association Meeting; 2020 American Economic Association Meeting; 2020 Utah Winter Finance Conference; 50th Anniversary Financial Management Association Conference; 12th Annual Hedge Fund Research Conference; Second New York Fed Research Conference on FinTech; 2020 INFORMS Annual Meeting; Georgetown Global Virtual FinTech Seminar Series (robo-advising workshop); Chaire Stress Test virtual workshop (joint program between Ecole Polytechnique, BNP Paribas, and Fondation de l'Ecole Polytechnique).

Invited Talks at Governmental Agencies and Policy Making Institutions. Banque de France ACPR Research Seminar; Austrian Central Bank.

2019.

Invited Seminar Talks at Universities. University of Illinois at Urbana Champaign, Industrial & Enterprise Systems Engineering Seminar Series; UC Louvain, Finance Seminar Series; Georgia State University, Robinson College of Business Seminar Series; Washington University in Saint Louis; Columbia University Mathematical Finance Seminar;

Invited Lectures and Talks at Conferences, Workshops, and Webinars. SIAM Conference on Financial Mathematics and Engineering 2019; The First Waterloo Conference in Statistics, Actuarial Science and Finance; Fields Institute Workshop; Workshop on equilibrium theory (Rutgers University); Conference on Fintech and Machine Learning at National University of Singapore; 2019 INFORMS Annual Meeting; CEBRA 2019 Annual Meeting, Session on Digital Currency Economics and Policy (School of International and Public Affairs (SIPA), Columbia University); Chapman conference on Liquidity; CEPR-Imperial-Plato Market Innovator conference; Workshop: New Ideas in Quantitative Finance (Stony Brook University); The Regulation and Operation of Modern Financial Markets at University of Iceland; 2019 INFORMS Applied Probability Meeting; International Conference on Industrial and Applied Mathematics 2019; INET Taskforce "Macroeconomic Efficiency and Stability" 2019 Annual Meeting.

Invited Talks at Governmental Agencies and Policy Making Institutions. Bank of Canada.

2018.

Plenary. Center for Financial Studies Workshop 2018 "Artificial Intelligence & Machine Learning in Financial Services"; A Symposium on Optimal Stopping in memory of Larry Shepp.

Invited Seminar Talks at Universities. Humboldt University; University of California Berkeley, IEOR Seminar Series; Carnegie Mellon University Probability/Math Finance Seminar; University of Pittsburgh; Florida State University; Purdue University; University of Connecticut; University of California Santa Barbara; Faculty Lunch Seminar, NYU Tandon School of Engineering; Columbia Financial Engineering Practitioners seminar.

Invited Lectures and Talks at Conferences, Workshops, and Webinar. SIAM Annual Meeting; Financial Engineering and Risk Management International Symposium 2018; GRI-Fields Institute Seminar; INFORMS Annual Meeting; Financial Intermediation Research Society conference; Fourth Annual Conference on Network Science and Economics; XVA Training Course (Risk Magazine); 2018 Market Microstructure Confronting Many Viewpoints Conference; 3rd Eastern Conference in Mathematical Finance; Bank of England Conference on Non-bank Financial Institutions and Financial Stability; INET Taskforce "Macroeconomic Efficiency and Stability" 2018 Annual Meeting.

Invited Talks at Governmental Agencies and Policy Making Institutions. Board

of Governors of the Federal Reserve System Finance Seminar; US Securities and Exchange Commission; Department of Treasury's Office of Financial Research.

2017.

Invited Seminar Talks at Universities. Oxford University INET Seminar Series; Oxford University Mathematical and Computational Finance Seminar Series; Massachusetts Institute of Technology, LIDS Center; Cambridge University Judge Business School Seminar; London School of Economics Risk and Stochastics and Financial Mathematics Seminar Series; Stanford University Advanced Financial Technologies Laboratory Seminar Series; Brown-Bag Seminar at Decisions Risk and Operations, Columbia University; The Hong Kong Polytechnique University; The Chinese University of Hong Kong; Indiana University, Economics Department.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. Eighteenth World Congress of Economics (plenary session); Minisymposium on limit order book and high frequency trading at University of Pittsburgh; Centre de recherches mathematiques (CRM) of Montreal, Risk Measurement and Regulatory Issues in Business workshop; Centre de Recherches Mathematiques in Montreal, Workshop on Measurement and Control of Systemic Risk; The Campbell-Lo-MacKinlay conference on the Econometrics of Financial Markets; INFORMS Applied Probability Meeting (Kellog School of Management); University of Chicago, Stevanovich Center for Financial Mathematics Market Microstructure and High-Frequency Data annual conference; INFORMS Annual Meeting; Third Annual conference on Network Science and Economics; IMS-FIPS Workshop; 17th Federal Deposit Insurance Corporation-JFSR Fall Bank Research Conference; Ten Years After the Financial Crisis Conference at Columbia University.

2016.

Invited Seminar Talks at Universities. Financial Engineering Practitioners Seminar Columbia University; Ecole Polytechnique Paris, Center of Applied Mathematics Seminar Series; University of Illinois at Urbana Champaign, Mathematical Finance, Risk and Uncertainty Seminar; ETH Zurich Insurance Mathematics and Stochastic Finance; University of Michigan Financial/Actuarial Mathematics; Fields Institute's Quantitative Finance Seminar Series 2016.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. Frontiers in Stochastic Modeling for Finance; Second International Congress on Actuarial Science and Quantitative Finance, Cartagena (Colombia); Berkeley-Columbia Meeting in Engineering and Statistics (UC Berkeley); Risk measures, Capital allocation and Central counterparties workshop Standard Chartered offices in Singapore; Canadian Operational Research Society Annual Conference (Banff); Vienna Congress on Mathematical Finance; INFORMS Annual Meeting (**invited tutorial** and session speaker); IMS-FIPS Workshop; GRI-Fields Conference and Workshop on the Stability of Financial Systems: Modelling, Regulation and Stress Testing; Second Bar-Ilan Conference on Financial Mathematics (Tel Aviv); 9-th World Congress of the Bachelier Finance Society; Quant Summit USA 2016; SIAM Conference on Financial Mathematics and Engineering 2016; American Mathematical Society 2016: Fall Eastern Sectional Meeting in Brunswick, ME; Global Risk Institute Summit 2016: Risk and Reward.

Invited Talks at Private Companies. IBM T.J. Watson Research Center Mathematical Sciences Seminar.

2015.

Invited Seminar Talks at Universities. VU University Amsterdam; CUNY Probability Seminar; University of Maryland; Cornell University; Stevens Institute of Technology; Carnegie Mellon University Probability/Math Finance Seminar; Carnegie Mellon University Tepper School of Business Seminar; Columbia University Math Finance Seminar; California Institute of Technology SISL Seminar; Stanford University; Princeton University Math Finance Seminar.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. Systemic Risk in Financial Markets Workshop at University of Hannover; 2015 Financial Stability Conference: Policy Analysis and Data Needs; The Consortium for Systemic Risk Analytics at

Massachussets Institute of Technology; Global Risk Institute; Data, Algorithms and Problems on Graphs Workshop (Columbia University); INFORMS Annual meeting; IAQF & Thalesians Seminar Series; 7th General AMaMeF and Swissquote Conference; IMS-FIPS Workshop; April 16th INET Seminar at Columbia University; IPAM Institute.

Invited Talks at Private Companies. IBM T.J. Watson Research Center (Electrical Engineering); Morgan Stanley.

Invited Talks at Governmental Agencies and Policy Making Institutions. US Commodity Futures Trading Commission Office of the Chief Economists Seminar; Office of the Comptroller of Currency.

2014.

Invited Seminar Talks at Universities. TU Berlin and Humboldt University; Columbia University IEOR Seminar; Worcester Polytechnic Institute; Imperial College London Stochastic Analysis Seminar; Imperial College London Finance and Stochastic Seminars; London School of Economics.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. 2014 Financial Stability Conference; SIAM Conference on Financial Mathematics & Engineering; INFORMS Annual meeting; Isaac Newton Institute for Mathematical Sciences; Conference on Credit and Systemic Risk at Boston University; Workshop on New Directions in Financial Mathematics and Mathematical Economics (Banff International Research Station); Joint Mathematics Meetings.

2013.

Invited Seminar Talks at Universities. Dublin City University; Purdue University Computational Finance Seminar; University of Wisconsin-Milwaukee; Illinois Institute of Technology; Johns Hopkins University.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. Conference on Mathematical Finance and Partial Differential Equations (Rutgers University); Texas Quantitative Finance Festival; AMS 2013 Fall Eastern Sectional Meeting; INFORMS Annual meeting; Frontiers in Financial Mathematics Conference; 2013 Financial Stability Analysis Conference: Using the Tools, Finding the Data.

Invited Talks at Governmental Agencies and Policy Making Institutions. Federal Bank of Cleveland.

2012.

Invited Seminar Talks at Universities. Carnegie Mellon University; Columbia University Math Finance Seminar.

Invited Lectures and Talks at Conferences, Workshops, and Webinars. INFORMS Annual meeting; Quant Congress USA; SIAM-FME Biennial Meeting; IMS on Finance: Probability and Statistics at University of California, Berkeley; Marcus Evans CVA Funding and Valuation for Derivatives Conference.

2011.

Invited Seminar Talks at Universities. Illinois Institute of Technology; École Polytechnique Fédérale de Lausanne, Swiss Institute of Finance Seminar Series; Purdue University Computational Finance Seminar; Cornell University.

Invited Lectures and Talks at Conferences, Workshops, and Webinars: INFORMS Annual meeting; 7th International Congress on Industrial and Applied Mathematics (ICIAM 2011); AMS 2011 Central Section Meeting.

2010.

Invited Lectures and Talks at Conferences, Workshops, Webinars, and Practitioners Events: INFORMS Annual meeting; SIAM Biennial Meeting Financial Mathematics and

Engineering, San Francisco; Derivatives, Volatility & Correlation (Warwick Business School, discussant); Fields Institute for Research in Mathematical Science.

2009.

Invited Seminar Talks at Universities. Purdue University; Lehigh University.

Invited Lectures and Talks at Conferences, Workshops, and Webinars: INFORMS Annual meeting; Auctions, Market Mechanisms and Their Applications (First International ICST Conference); IEEE International Conference on Computational Intelligence for Financial Engineering (invited tutorial, video available at http://ewh.ieee.org/cmte/cis/mtsc/ieeecis/video_tutorials.htm).

<h2 style="text-align:center">Invited discussions</h2>

2024. Stern/Salomon Center Microstructure Conference, Discussion of paper: Fragmentation and optimal liquidity supply on decentralized exchanges, Authors: A. Lehar, C. Parlour, and M. Zoican.

2023. American Economic Association, Discussion of paper: Battle of the Bots: Flash loans, Miner Extractable Value and Efficient Settlement, Authors: A. Lehar and C. Parlour.

2022. China International Conference in Finance, Discussion of paper: Trust in DeFi: An Empirical Study of the Decentralized Exchange, Authors: J. Han, S. Huang, and Z. Zhong; Third New York Fed Conference on FinTech, Discussion of paper: Inclusion and Democratization Through Web3 and DeFi? Initial Evidence from the Ethereum Ecosystem, Authors: Lin William Cong, Ke Tang, Yanxin Wang, and Xi Zhao; OCC Symposium on the Implications of Financial Technology for Banking, Discussion of paper: An anatomy of crypto-enabled cybercrimes, Authors: Lin William Cong, Campbell R. Harvey, Daniel Rabetti, and Zong-Yu Wu.

2021. NBER Big Data and Securities Markets, Discussion of paper: AlphaPortfolio: Direct Construction Through Deep Reinforcement Learning and Interpretable AI, Authors: Lin William Cong, Ke Tang, Jingyuan Wang, and Yang Zhang; CEBRA 2021 Annual Meeting, Discussion of paper: Decentralized Exchanges, Authors: Alfred Lehar and Christine A. Parlour; European Finance Association, Discussion of paper: Optimal Tax-Timing with Transaction Costs, Authors: M. Dai, Y. Lei, and H. Liu.

2020. Second New York Fed Research Conference on FinTech, Discussion of paper: The Effect of Secondary Market Existence on Primary Market Liquidity: Theory and Evidence from a Natural Experiment in Peer-to-Peer Lending, Authors: C. Holden, M. Lin, K. Lu, Z. Wei, and J. Yang.

2019. Federal Reserve Board Conference on the Interconnectedness of Financial Systems, Discussion of paper: Collateralized Debt Networks with Lender Default, Author: J.W. Chang.

2017. 2nd Eastern Conference in Mathematical Finance, Discussion of the Paper "Expected Stock Returns and the Correlation Risk Premium", Author: L. Shoenleber.

2016. Workshop on Systemic Risk in Insurance, Columbia University, New York, Discussion leader (jointly with P. Glasserman), Panel "The Future of Systemic Risk Measurement and Regulation".

2015. Institute of New Economic Thinking at Columbia University, Discussion of the paper: The price of Complexity in Financial Networks, Authors: S. Battiston, G. Caldarelli, R. May, T. Roukni, and J. Stiglitz.

<h2 style="text-align:center">Media</h2>

- Blockchain News: https://blockchain.news/news/celestia-hosts-modular-events-bangkok-devcon, October 26, 2024.

- Uniswap podcast: Just-in-Time Liquidity, January 31, 2024.

- INET video series: The Impact of Public Blockchains and Private Pools, January 24, 2024.

- Apple News: The Opportunities And Risks Of Decentralized Finance. Blog, January 19, 2024.

- Forbes: The Opportunities And Risks Of Decentralized Finance. Blog, January 19, 2014.

- Blockchain Scholars Podcast: The Adoption of Blockchain-Based Decentralized Exchanges

- CBER-Ava Labs Podcast: Just-in-Time liquidity at decentralized exchanges

- Milano Finanza: Wall Street: il riscatto delle mega cap, Interview at TV Show: The Floor, March 30, 2023, Journalist: Stefania Spatti.

- SIAM News: 2022 Gene Golub SIAM Summer School Explores Financial Analytics, January 23, 2023. Students and Education. (joint with F. Biagini, S. Jaimungal and S. Sturm).

- Milano Finanza: FTX peggio di Enron La saga e' solo all' inizio, Interview at TV Show: The Floor, November 18, 2022, Journalist: Stefania Spatti.

- Bloomberg: DeFi's Highest Bidders at Center of Market-Moving Crypto Trades, October 25, 2022. Journalist: Eva Szalay.

- Financial Times: Physical crypto investments surge despite market rout, August 17, 2022. Journalist: Jiyeong Go and Alex Irwin-Hunt.

- Politico: The case for a crypto-only agency, August 17, 2022. Journalist: Derek Robertson.

- Politico: Crypto mogul launches new super PAC, August 10, 2022. Journalist: Derek Robertson,

- Cointelegraph: The trouble with automated market makers: Front running, bots, slippage, oracle pricing errors: AMMs are great, but there are problems. June 10, 2022. Reporter: Christos Makridis.

- IEEE Spectrum: Risk Dashboard Could Help the Power Grid Manage Renewables. July 9, 2020. Reporter: Jeremy Hsu

- Oxford Law. How to Set Collateral Requirements for Central Counterparties?. May 7, 2020.

- Financial Times: Do we need deposit insurance? October 19, 2017. Reporter: Martin Sandbu.

- VoX: Bail-ins and bailouts: Incentives, Connectivity, and Systemic Stability. October 18, 2017.

- Chicago Booth Review: Why Investors should buy more of that risky stock. November 30, 2016. Reporter: Erik Kobayashi-Solomon.

- Bloomberg Government: Systemic-Risk Fee urged for Clearinghouses by U.S. Researchers. May 7, 2015, 11:00am. Reporter: Silla Brush at sbrush@bloomberg.net.

- Bloomberg: Financial Regulation Brief, May 15, 2015.

- Reuters: Clearing houses are big risk, top U.S. federal research says, May 15, 2015, 3:39pm

- American Banker: [Central Clearing is Riskier than You May Think, OFR Papers say](), May 7, 2015. Reporter: John Heltman

- American Banker: [FSOC Details the Threats It Sees to the System](). May 19, 2015. Reporter: John Heltman

- Politico Pro: Charge big Banks to curb risks at clearinghouses, researchers propose. May, 7, 2015, 11:09am. Reporter: Zachary Warmbrodt at zwarmbrodt@politico.com

Outreach Efforts

- Lab Demo: ENG Summer Program, July 3, 2017 (Number of Students: 15, Grade: 9th-10th)

- Lab Demo: Intrepid Museum's GOALS for Girls, July 18, 2017 (Number of Students: 25, Grade: 8th-9th)

- Columbia University Visit: Inside Engineering, May 30, 2018 (Number of Students: 8, Bronx School for Science and Mathematics, Grade: 8th-9th)

TEACHING

IEOR E8100: Networks: Games, Contagion and Control, Graduate level course developed, IEOR Department, Columbia University. Spring 2017, Spring 2018, Spring 2019. *Spring 2017, Course Score: 4.64/5.0, Instructor Score: 4.64/5.0, Number of enrolled students: 20. Spring 2018, Course Score: 5.0/5.0, Instructor Score: 5.0/5.0, Number of enrolled students: 10. Spring 2019, Course Score: 4.83/5.0, Instructor Score: 4.83/5.0, Number of enrolled students: 13. Spring 2021, Course Score: 4.25/5.0, Instructor Score: 4.75/5.0, Number of enrolled students: 10.*

IEOR E4709: Statistical Analysis and Time Series, Graduate level course, IEOR Department, Columbia University. Spring 2017, Spring 2018, Spring 2019, Spring 2020, Fall 2021, Spring 2022, Spring 2024. *Spring 2017, Course Score: 4.11/5.0, Instructor Score: 4.11/5.0, Number of enrolled students: 81. Spring 2018, Course Score: 4.47/5.0, Instructor Score: 4.43/5.0, Number of enrolled students: 106. Spring 2019, Course Score: 4.28/5.0, Instructor Score: 4.38/5.0, Number of enrolled students: 119. Spring 2020, No Course Score due to COVID 19, Number of enrolled students: 102. Fall 2020, Compressed in half a semester due to COVID, Course Score: 3.9/5.0, Instructor Score: 4.07/5.0, Number of enrolled students: 38. Fall 2021, Course Score: 4.55/5.0, Instruction Score: 4.55/5.0, Number of enrolled students: 52. Spring 2022, Course Score: 3.87/5.0, Instructor Score: 4.07/5.0, Number of enrolled students: 129. Spring 2024, Course Score: 4.19/5.0, Instructor Score: 4.33/5.0, Number of enrolled students: 100.*

IEOR E4707: Continuous Time Asset Pricing, Graduate level course, IEOR Department, Columbia University, Spring 2015, Spring 2016. *Spring 2015 Course Score: 4.3/5.0, Instructor Score: 4.34/5.0, Number of enrolled students: 91. Spring 2016 Course Score: 4.62/5.0, Instructor Score: 4.53/5.0, Number of enrolled students: 90.*

IEOR E4602: Quantitative Risk Management, Graduate level course, IEOR Department, Columbia University, Spring 2020, Fall 2021. *Spring 2020: No Course Score due to COVID 19: Number of enrolled students: 39. Fall 2021 Course Score: 4.08/5.0, Instructor Score: 4.17/5.0, Number of enrolled students: 28. Fall 2023 Course Score: 4.35/5.0, Instructor Score: 4.47/5.0, Number of enrolled students: 34. Fall 2024 Course Score: 4.00/5.0, Instructor Score: 4.15/5.0, Number of enrolled students: 44.*

IEOR E4731: Credit Risk/Credit Derivative, Graduate level course, IEOR Department, Columbia University, Summer 2015, Summer 2016, Fall 2017, Fall 2018, Fall 2019. *Summer 2015 Course Score: 4.08/5.0, Instructor Score: 4.23/5.0, Number of enrolled students: 15. Summer 2016 Course Score: 4.71/5.0, Instructor Score: 4.71/5.0, Number of enrolled students: 7. Fall 2017 Course Score: 4.68/5.0, Instructor Score: 4.74/5.0, Number of enrolled students: 31. Fall 2018 Course Score: 4.56/5.0, Instructor Score: 4.61/5.0, Number of enrolled students: 33. Fall 2019 Course Score: 4.43/5.0, Instructor Score: 4.62/5.0, Number of*

enrolled students: 26. Fall 2023 Course Score: 4.33/5.0, Instructor Score: 4.67/5.0, Number of enrolled students: 13. Fall 2024 Course Score: 5.00/5.0, Instructor Score: 4.67/5.0, Number of enrolled students: 7.

EN.550.428: Stochastic Processes and Applications to Finance II, Graduate level course, Department of Applied Mathematics and Statistics, Johns Hopkins University. *Spring 2014 Course Score: 4.55/5.0, Instructor Score: 4.52/5.0, Number of enrolled students: 30.*

EN 550.648: Credit and Systemic Risk, Graduate level course, Department of Applied Mathematics and Statistics, Johns Hopkins University. *Fall 2013 Course Score: 4.6/5.0, Instructor Score: 4.57/5.0, Number of enrolled students: 20.*

IE 590: Credit Risk, Graduate level course, Department of Industrial Engineering, Purdue University. *Spring Semester 2013 Course Score: 4.9/5.0, Instructor Score: 4.9/5.0, Number of enrolled students: 15.*

ISE 563: Financial Engineering, Graduate level course, Department of Industrial and Systems Engineering, University of Southern California. *Summer 2009, Number of enrolled students: 23.*

IE 343: Engineering Economics, Undergraduate level course, Department of Industrial Engineering, Purdue University, Fall 2010, Spring 2011, and Fall 2013. *Fall 2010 Course Score: 4.0/5.0, Instructor Score: 4.1/5.0, Number of enrolled students: 270. Spring 2011 Course Score: 4.1/5.0, Instructor Score: 4.1/5.0, Number of enrolled students: 125. Fall 2012 Course Score: 4.0/5.0, Instructor Score: 4.0/5.0, Number of enrolled students: 275.*

PROFESSIONAL MEMBERSHIPS

Econometric Society, INFORMS Society, SIAM Society, Bachelier Society, American Finance Association, American Economic Association, European Finance Association, International Economic Association, International Association for Quantitative Finance.

INDUSTRIAL EXPERIENCE

Signal processing engineer and Marie Curie fellow (Thales Naval Netherlands, Feb. 2003–July 2004), Spring Associate credit trading strategist (JP-Morgan, Mar.–June 2008), Summer Associate (Citigroup, July–Sep. 2008), Summer Associate (Ellington Management Group, July-Sept. 2006 and June–Aug. 2007).