Johannes Muhle-Karbe

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Personal Data

Born on August 6, 1980 in Berlin (Germany), German citizen.

Research Interests

Stochastic Optimization; Applied Probablity; Applications in Finance.

Employment and Education

Head, Mathematical Finance Section, Imperial College London, from June 2020.

Founder and *Co-Director*, Imperial Centre of Excellence for Quantitative Finance (a college-wide interdisciplinary research hub), from January 2025.

Director, CFM-Imperial Institute of Quantitative Finance, from January 2019.

Chair in Mathematical Finance, Imperial College London, from January 2019.

Adjunct Professor, Carnegie Mellon University, from June 2020.

Associate Professor (with tenure), Carnegie Mellon University, September 2017 to May 2020.

Associate Professor (with tenure), University of Michigan, January 2016 to August 2017.

Assistant Professor, ETH Zürich, October 2010 to December 2015.

Member, Swiss Finance Institute, June 2012 to December 2015.

Postdoctoral Reserach Fellow, Universität Wien, October 2009 to September 2010.

Teaching Assistant, TU München, October 2006 to September 2009.

Ph.D. in Mathematics, TU München, April 2009. Advisor: Jan Kallsen. With distinction.

Diploma in Mathematics, TU München, September 2006. With distinction.

Abitur, Martin-Luther-Schule Marburg, May 2000. With distinction.

Grants and Awards

Project *Computational Methods for Counterparty Risk*, 2026-2030, funded by Nomura.

Project *High-Dimensional Models for Systematic Trading*, 2026-2029, funded by Qube RT.

CFM-Imperial Women In Quantitative Finance Studentship, 2025-2029, funded by Capital Fund Management.

Project *Mathematics of OTC Markets*, 2023-2029, funded by Deutsche Bank.

Project *Optimal Trading*, 2023-2026, funded by Qube RT.

Project *Pathwise Hedging*, 2021–2022, funded by EPSRC.

Project *Closing Auctions*, 2021–2025, funded by EPSRC and BNP Paribas.

Project *Robust Out-of-Sample Performance*, 2021–2025, funded by Qube RT.

Project *Machine Learning for Adversarial Optimization*, 2021–2025, funded by Catley Lakeman Securities and the TUM-Imperial Joint Academy of Doctoral Studies.

Project *Shocks in Financial Market*, 2019–2023, funded by Nomura.

Project *Liquidity Add-Ons for Central Clearing*, 2019–2022, funded by Celiade Systems and Imperial's SME Engagement Scheme.

Project *Financial Markets with Small Frictions: From Individual Investors Towards Equilibria*, 2014–2016, funded by the Swiss National Science Foundation.

Nicola Bruti Liberati Visiting Fellowship 2012.

Ph.D. thesis *On Utility-Based Investment, Pricing and Hedging in Incomplete Markets* awarded the Förderpreis of the Fachgruppe Stochastik of the German Mathematical Society in 2010, and the inaugural Nicola Bruti Liberati Prize of the Bachelier Finance Society in 2012.

Diploma thesis *Portfoliooptimierung in Modellen mit stochastischer Volatilität* awarded a main prize at the 2007 student conference of the German Mathematical Society.

Preprints

10. Bayes is all you need: better estimates of true Sharpe ratios (with Joseph Mulligan, Juha Joenväärä and Jack Jacquier), 2026.

9. Trading with uncertainty about signals and price impact (with Sturmius Tuschmann), 2026.

8. A unified theory of order flow, market impact, and volatility (with Youssef Ouazzani Chahdi, Mathieu Rosenbaum and Gregoire Szymanski), 2026.

7. Optimal trading in automated market makers (with Agostino Capponi and Anthony Coache), 2026.

6. Opportunistic trading around the FX Fix (with Roel Oomen and Mateo Rodriguez Polo), 2025.

5. A dynamic equilibrium model of liquidity risk (with Agostino Capponi and Xiaofei Shi), 2025.

4. In-sample and out-of-sample Sharpe ratios for linear predictive models (with Jack Jacquier and Joseph Mulligan), 2025.

3. Concave cross impact (with Natascha Hey and Iacopo Mastromatteo), 2024.

2. Efficient trading with price impact (with Xavier Brokmann, Lukas Gonon, Guangyi He, and David Itkin), 2024.

1. Stochastic liquidity as a proxy for concave multi-asset propagator models (with Connor Tracy), 2024.

Publications

69. Pre-hedging (with Roel Oomen), 2023. *Operations Research*, to appear.

68. Fluid-limits of fragmented limit-order markets (with Eyal Neuman and Yonatan Shadmi), 2024. *Finance and Stochastics*, to appear.

67. Dynamic portfolio choice with intertemporal hedging and transaction costs (with James Sefton and Xiaofei Shi). *Management Science*, to appear.

66. On the (non-)equivalence of dividends and share buybacks (with Jean Herskovits and Alex Tse). *Mathematics and Financial Economics* **19**(4): 807–849, 2025.

65. Hedging of fixing exposure (with Roel Oomen and Benjamin Weber). *Mathematical Finance* **35**(4): 818–840, 2025.

64. Optimal contracts for delegated order execution (with Martin Larsson and Benjamin Weber). *Mathematical Finance* **35**(4): 779–795, 2025.

63. Trading with concave price impact and impact decay - theory and evidence (with Natascha Hey, Iacopo Mastromatteo and Kevin Webster). *Operations Research* **73**(3): 1230-1247, 2025.

62. Optimizing broker performance evaluation through intraday modeling of execution cost (with Zoltan Eisler). *Risk*, July 2025.

61. Tackling nonlinear price impact with linear strategies (with Xavier Brokmann, David Itkin, and Peter Schmidt). *Mathematical Finance* **35**(2): 422–440, 2025.

60. A comparison of FX fixing methodologies (with Roel Oomen). *Risk*, October 2024.

59. Stochastic liquidity as a proxy for nonlinear price impact (with Zexin Wang and Kevin Webster). *Operations Research* **72**(2): 444–458, 2024.

58. The cost of misspecifying price impact (with Jean-Philippe Bouchaud, Natascha Hey, Iacopo Mastromatteo and Kevin Webster). *Risk*, January 2024.

57. Closed-loop Nash competition for liquidity (with Alessandro Micheli and Eyal Neuman). *Mathematical Finance* **33**(4): 1082–1118, 2023.

56. A Leland model for delta hedging in central risk books (with Zexin Wang and Kevin Webster). *Mathematical Finance* **33**(3) 504–547, 2023.

55. Liquidity provision with adverse selection and inventory costs (with Martin Herdegen and Florian Stebegg). *Mathematics of Operation Research* **48**(3): 1286–1315.

54. An equilibrium model for the cross-section of liquidity premia (with Xiaofei Shi and Chen Yang). *Mathematics of Operation Research* **48**(3): 1423–1453.

53. Simple bounds for transaction costs (with Bruno Bouchard). *Stochastic Processes and their Applications* **146**: 98–113, 2022.

52. Liquidity in competitive dealer markets (with Peter Bank and Ibrahim Ekren). *Mathematical Finance* **31**(3): 827–856, 2021.

51. Asset Pricing with general transaction costs: theory and numerics (with Lukas Gonon and Xiaofei Shi). *Mathematical Finance* **31**(2): 595–648, 2021.

50. Equilibrium asset pricing with transaction costs (with Martin Herdegen and Dylan Possamaï). *Finance and Stochastics* **25**(2): 231–275, 2021.

49. Asset Pricing with heterogeneous beliefs and illiquidity (with Marcel Nutz and Xiaowei Tan), 2019. *Mathematical Finance*, **30**(4): 1392–1421, 2020.

48. Lifetime investment and consumption with recursive preferences and small transaction costs (with Yaroslav Melnyk and Frank Seifried). *Mathematical Finance*, **30**(3) 1135–1167, 2020.

47. Inventory management for high-frequency trading with imperfect competition (with Sebastian Herrmann, Dapeng Shang, and Chen Yang). *SIAM Journal on Financial Mathematics*, **11**(1): 1–26, 2020.

46. Liquidation in target zone models (with Christoph Belak and Kevin Ou). *Market Microstructure and Liquidity*, **4**(3): 1950010, 2020.

45. Trading with small nonlinear price impact (with Thomas Cayé and Martin Herdegen). *The Annals of Applied Probability*, **30**(2): 706-746, 2020.

44. Scaling limits of processes with fast nonlinear mean reversion (with Thomas Cayé and Martin Herdegen). *Stochastic Processes and their Applications*, 130(4): 1994–2031, 2020.

43. Portfolio choice with small temporary and transient price impact (with Ibrahim Ekren). *Mathematical Finance*, **29**(4): 1066-1115, 2019.

42. Sensitivity of optimal consumption streams (with Martin Herdegen). *Stochastic Processes and their Applications*, **129**(6): 1964–1992, 2019.

41. Who should sell stocks? (with Paolo Guasoni and Ren Liu). *Mathematical Finance*, **29**(2): 448–482, 2019.

40. Switching cost models as hypothesis tests (with Samuel N. Cohen, Timo Henckel, Gordon D. Menzies, and Daniel J. Zizzo). *Economics Letters*, **175**(2): 32–35, 2019.

39. Equilibrium returns with transaction costs (with Bruno Bouchard, Masaaki Fukasawa, and Martin Herdegen). *Finance and Stochastics*, **22**(3): 569–601, 2018.

38. Information and inventories in high-frequency trading (with Kevin Webster). *Market Microstructure and Liquidity*, **3**(2): 1750010 (21 pages), 2018.

37. A risk-neutral equilibrium leading to uncertain volatility pricing (with Marcel Nutz). *Finance and Stochastics*, **22**(2): 281–295, 2018.

36. Stability of Radner equilibria with respect to small frictions (with Martin Herdegen). *Finance and Stochastics*, **22**(2): 443–502, 2018.

35. Optimal rebalancing frequencies for multidimensional portfolios (with Ibrahim Ekren and Ren Liu). *Mathematics and Financial Economics*, **12**(2): 165–191, 2018.

34. Rebalancing with linear and quadratic costs (with Ren Liu and Marko Weber). *SIAM Journal on Control and Optimization*, **55**(6): 3533–3563, 2017.

33. A primer on portfolio choice with small transaction costs (with Max Reppen and H. Mete Soner). *Annual Review of Financial Economics*, **9**: 301–331, 2017.

32. Model uncertainty, recalibration, and the emergence of delta-vega hedging (with Sebastian Herrmann). *Finance and Stochastics*, **21**(4): 873–930, 2017.

31. The general structure of optimal investment and consumption with small transaction costs (with Jan Kallsen). *Mathematical Finance*, **27**(3): 659–703, 2017.

30. Trading with small price impact (with Ludovic Moreau and H. Mete Soner). *Mathematical Finance*, **27**(2): 350–400, 2017.

29. Hedging with small uncertainty aversion (with Sebastian Herrmann and Frank Seifried). *Finance and Stochastics*, **21**(1): 1–64, 2017.

28. Robust portfolios and weak incentives in long-run investments (with Paolo Guasoni and Hao Xing). *Mathematical Finance*, **27**(1): 3–37, 2017.

27. Liquidation with self-exciting price impact (with Thomas Cayé). *Mathematics and Financial Economics*, **10**(1): 15–28, 2016.

26. Long horizons, high risk aversion, and endogenous spreads (with Paolo Guasoni). *Mathematical Finance*, **25**(4): 724–753, 2015.

25. Option pricing and hedging with small transaction costs (with Jan Kallsen). *Mathematical Finance*, **25**(4): 702–723, 2015.

24. Optimal liquidity provision (with Christoph Kühn). *Stochastic Processes and their Applications* **125**(7): 2493–2515, 2015.

23. Asymptotics for fixed transaction costs (with Albert Altarovici and H. Mete Soner). *Finance and Stochastics*, **19**(2): 363–414, 2015.

22. Transaction costs, shadow prices, and duality in discrete time (with Christoph Czichowsky and Walter Schachermayer). *SIAM Journal on Financial Mathematics* **5**(1): 258–277, 2014.

21. Transaction costs, trading volume, and the liquidity premium (with Stefan Gerhold, Paolo Guasoni, and Walter Schachermayer). *Finance and Stochastics* **18**(1): 1–37, 2014.

20. Asymptotic power utility-based pricing and hedging (with Jan Kallsen and Richard Vierthauer). *Mathematics and Financial Economics* **8**(1): 1–28, 2014.

19. On the existence of shadow prices (with Giuseppe Benedetti, Luciano Campi, and Jan Kallsen). *Finance and Stochastics* **17**(4): 801–818, 2013.

18. Portfolio choice with transaction costs: a user's guide (with Paolo Guasoni). In V. Henderson and R. Sircar, editors, *Paris-Princeton Lecture Notes in Mathematical Finance 2013*, Springer, 2013.

17. On the performance of delta-strategies in exponential Lévy models (with Stephan Denkl, Martina Goy, Jan Kallsen, and Arnd Pauwels). *Quantitative Finance* **13**(8): 1173–1184, 2013.

16. Portfolio selection with small transaction costs and binding portfolio constraints (with Ren Liu). *SIAM Journal on Financial Mathematics* **4**(1): 203–227, 2013.

15. The dual optimizer for the growth-optimal portfolio under transaction costs (with Stefan Gerhold and Walter Schachermayer). *Finance and Stochastics* **17**(2): 325–354, 2013.

14. Asymptotic and exact pricing of options on variance (with Martin Keller-Ressel). *Finance and Stochastics* **17**(1): 107–133, 2013.

13. Asymptotics and duality for the Davis and Norman problem (with Stefan Gerhold and Walter Schachermayer). *Stochastics (Special Issue for Mark Davis' Festschrift)* **84**(5-6): 625–641, 2012.

12. Utility maximization, risk aversion, and stochastic dominance (with Mathias Beiglböck and Johannes Temme). *Mathematics and Financial Economics* **6**(1): 1–13, 2012.

11. Option pricing in multivariate stochastic volatility models of OU-type (with Oliver Pfaffel and Robert Stelzer). *SIAM Journal on Financial Mathematics* **3**(1): 66–94, 2012.

10. Small-time asymptotics of option prices and first absolute moments (with Marcel Nutz). *Journal of Applied Probability* **48**(4): 1003–1020, 2011.

9. Pricing options on variance in affine stochastic volatility models (with Jan Kallsen and Moritz Voß). *Mathematical Finance* **21**(3): 627–641, 2011.

8. Method of moment estimation in time-changed Lévy models (with Jan Kallsen). *Statistics and Decisions* **28**(2): 169–194, 2011.

7. Existence of shadow prices in finite probability spaces (with Jan Kallsen). *Mathematical Methods of Operations Research* **73**(2): 251–262, 2011.

6. A characterization of the martingale property of exponentially affine processes (with Eberhard Mayerhofer and Alexander Smirnov). *Stochastic Processes and their Applications* **121**(3): 568–582, 2011.

5. Utility maximization in models with conditionally independent increments (with Jan Kallsen). *The Annals of Applied Probability* **20**(6): 2162–2177, 2010.

4. Discrete-time variance-optimal hedging in affine stochastic volatility models (with Jan Kallsen, Natalia Shenkman, and Richard Vierthauer). In R. Kiesel, M. Scherer, and R. Zagst, editors, *Alternative Investments and Strategies*. World Scientific, Singapore, 2010, 375–394.

3. On using shadow prices in portfolio optimization with transaction costs (with Jan Kallsen). *The Annals of Applied Probability* **20**(4): 1341–1358, 2010.

2. Utility maximization in affine stochastic volatility models (with Jan Kallsen). *International Journal of Theoretical and Applied Finance* **13**(3): 459–477, 2010.

1. Exponentially affine martingales, affine measure changes and exponential moments of affine processes (with Jan Kallsen). *Stochastic Processes and their Applications* **120**(2): 163–181, 2010.

Selected Plenary Lectures

Stochastic Models anf Control Workshop; Munich, 2026.

CUHK Distinguished Lecture in Quantitative Finance; Hong Kong, 2026.

9th Asian Quantitative Finance Conference; Shenzhen, 2025.

Byrne Conference on Stochastic Analysis in Finance and Insurance; Ann Arbor, 2024.

12th Bachelier Congress of the Bachelier Finance Society; Rio de Janeiro, 2024.

Young Researchers in Optimal Control; Berlin, 2023.

Recent Advances in Quantitative Finance; Hong Kong, 2023.

SIAM Conference on Financial Mathematics and Engineering; Online, 2021.

6th Berlin Workshop for Young Researchers on Mathematical Finance; Online, 2021.

9th General AMaMeF Conference; Paris, 2019.

Risk and Stochastics Conference; London, 2019.

METE - Mathematics and Economics: Trends and Explorations; Zurich, 2018.

CFM-Imperial Workshop on Market Microstructure; London, 2017.

Jim Gatheral's 60th Birthday Conference; Courant Institute, New York, 2017.

Thera Stochastics – A Mathematics Conference in Honor of Ioannis Karatzas; Santorini, 2017.

Market Microstructure: Confronting Many Viewpoints; Paris, 2016.

Conference on Stochastic Portfolio Theory and Related Topics; New York, 2015.

Conference on Frontiers in Financial Mathematics; Dublin, 2013.

Advising

Postdoctoral Fellows

8. Yifan Jiang, Chapman Fellow at Imperial College London, from October 2025.
7. Anthony Coache, Research Associate, Imperial College London, from August 2024.
6. David Itkin, Chapman Fellow, Imperial College London, October 2022 to July 2024. First job: tenure-track assistant professor at the London School of Economics.
5. Henry Chiu, Research Associate, Imperial College London, October 2021 to August 2023. First job: tenure-track assistant professor at the University of Birmingham.
4. Emma Hubert, CFM Fellow, Imperial College London, October 2020 to August 2021. First job: tenure-track assistant professor at Princeton University. Now Associate Professor at Paris Dauphine University.
3. Andreas Sojmark, Chapman Fellow at Imperial College London, September 2019 to September 2021. First job: tenure-track assistant professor at the London School of Economics.
2. Sebastian Herrmann, Byrne Research Assistant Professor at the University of Michigan, September 2016 to August 2019. FIrst job: tenure-track assistant professor at University of Manchester. Now quantitative analyst at Susquehanna International Group (SIG).
1. Martin Herdegen, SNF Postdoc at ETH Zürich, September 2014 to August 2016. First job: tenure-track assistant professor at University of Warwick. Now full professor at the University of Stuttgart.

Ph.D. Students

12. Chiara Agostini (with Jean-Philippe Bouchaud), from October 2025.
11. Sturmius Tuschmann (with Eyal Neuman), since October 2023.
10. Mateo Rodriguez Polo (with Dylan Possamaï), since October 2023.
9. Joseph Mulligan (with Antoine Jacquier), *Bias-Corrected Sharpe Ratios: Closing The Gap Between In-Sample & Out-of-Sample*, October 2021-March 2026. Now quantitative researcher at Cubist Systematic.
8. Owen Futter (with Blanka Horvath), *Path-Dependent Trading Strategies: Applications of Rough Path Theory & Machine Learning*, October 2021-September 2025. Now quantitative researcher at Jump Trading.

7. Jean Herskovits (with Alex Tse), *Book Value Optimisation, Risk and Redistribution*, October 2020-September 2024. Now quantitative researcher at Cubist Systematic.

6. Ben Weber (with Martin Larsson), *Principal-Agent Problems for Market Making*, October 2019-November 2023.

5. Zexin Wang, *Optimal Trading with Frictions*, October 2019-April 2023. Now quantitative analyst at Squarepoint Capital.

4. Xiaofei Shi, *Equilibrium Asset Pricing with Transaction Cost*, April 2018 – May 2021. Now tenure-track assistant professor at the University of Toronto.

3. Thomas Cayé, *Trading with Small Nonlinear Price Impact: Optimal Execution and Rebalancing of Active Investments*, June 2013 – May 2017. Now quantitative research analyst at Susquehanna International Group.

2. Ren Liu, *Portfolio Selection with Frictions*, June 2012 – December 2015. Now Quantitative Analyst at Credit Suisse.

1. Blanka Horvath (with Josef Teichmann), *Robust Methods for the SABR Model and Related Processes: Analysis, Asymptotics and Numerics*, February 2011 – October 2015. Now Associate Professor at the University of Oxford.

Teaching

Systematic Trading, Imperial Summer School on Machine Learning, Applied Statistics and Quantitative Finance, Summer 2024, Summer 2025, Summer 2026.

MATH70127 - Algorithmic and High-Frequency Trading (joint with Kevin Webster), Imperial College London, Spring 2023, Spring 2024, Spring 2025, Spring 2026.

Lecture Series on *Market Microstructure*, Korteweg de Vries Institute of the University of Amsterdam, Spring 2024.

MATH97235 - Portfolio Management, Imperial College London, Spring 2020, Spring 2021, Spring 2022, Spring 2023.

MATH97230 - Market Microstructure, Imperial College London, Spring 2020.

21-882 - Market Microstructure, Carnegie Mellon University, Spring 2019.

46-915 Advanced Derivative Models, Carnegie Mellon University, Fall 2018.

21-882 - Stochastic Control and Applications in Finance, Carnegie Mellon University, Spring 2018.

21-370 - Discrete Time Finance, Carnegie Mellon University, Fall 2017.

Equilibrium Models with Transaction Costs, 10th European Summer School on Mathematical Finance, TU Dresden, Summer 2017.

MATH 623 - Computational Finance, University of Michigan, Fall 2016, Winter 2017.

MATH 574 - Financial Mathematics II, University of Michigan, Winter 2016.

Summer School on *Mathematical Finance* and Winter Research Day on *Consistent Hedging*, Life Insurance Division of Munich Re, 2015.

New Trends in Stochastic Portfolio Theory (joint with Martin Larsson), ETH Zürich, Fall 2015.

Asymptotics in Finance, ETH Zürich, Spring 2015.

Interest Rate Theory, ETH Zürich, Fall 2012, Fall 2014.

Seminar on *Equilibria in Financial Markets with Frictions*, ETH Zürich, Spring 2014.

Equilibrium Models in Financial Economics, ETH Zürich, Fall 2013.

Portfolio Choice, Princeton University, RTG Summer School 2013.

Seminar on *Illiquid Markets* (joint with Ludovic Moreau), ETH Zürich, Spring 2013.

Optimal Portfolio Choice in Markets with Frictions, ETH Zürich, Spring 2012.

Probability and Statistics, ETH Zürich, Fall 2011.

New Trends in Stochastic Portfolio Theory (joint with Josef Teichmann), ETH Zürich, Spring 2011.

Seminar on *Pricing and Hedging with Jump Processes*, ETH Zürich, Fall 2010.

Mathematical Finance 2 (joint with Walter Schachermayer), Universität Wien, Summer 2010.

Service

Co-Organizer (with Almut Veraart), Imperial Summer School on Machine Learning, Applied Probability and Quantitative Finance, from 2024.

Head of the Mathematical Finance Section, Imperial College London, from 2020.

Director of Enterprise, Department of Mathematics, Imperial College London, 2019 to 2024.

Member of the committees for promotions and for impact case studies, Department of Mathematics, Imperial College London, from 2019.

Member of the steering committee, *Center for Computational Finance*, Carnegie Mellon University, September 2017 to December 2018.

Associate Editor for *Applied Mathematical Finance*, *Finance and Stochastics*, *Frontiers in Mathematical Finance*, *International Journal for Theoretical and Applied Finance*, *Mathematics and Financial Economics*, *Quantitative Finance*.

Organizer (with Jean-Philippe Bouchaud, Roel Oomen), *CFM-Imperial Workshop on Quantitative Finance*, London, November 2026.

Organizer (with Jean-Philippe Bouchaud, Sebastian Hohmann, Eyal Neumann, Giuseppe Nuti, Mathieu Rosenbaum), *CFM-Imperial Workshop on Market Microstructure*, London, December 2025.

Organizer (with Hanna Assayag, Alexander Barzykhin, Jean-Philippe Bouchaud and Eyal Neumann), *CFM-Imperial Workshop on Market Microstructure*, London, December 2023.

Organizer (with Henry Chiu), Workshop on *Model Free Finance*, London, May 2023.

Organizer (with Lukas Gonon), Workshop on *New Trends in Machine Learning for Finance*, London, March 2023.

Organizer (with Christoph Czichowsky and Roxana Dumitrescu), LMS Conference on *New Trends in Stochastic Control*, London, July 2022.

Organizer (with Panos Parpas), QSRI Workshop on *Machine Learning for Optimal Control*, London, July 2022.

Organizer (with Jean-Philippe Bouchaud, Charles-Albert Lehalle, and Eyal Neumann), *CFM-Imperial Workshop on Market Microstructure*, London, December 2019.

Organizer (with Erhan Bayraktar, Romuald Elie, and Sergey Nadtochiy), *Young Researcher Workshop on Mathematical Finance*, Ann Arbor, April 2017.

Organizer (with Erhan Bayraktar and Sergey Nadtochiy), *Byrne Workshop on Stochastic Analysis for Finance and Insurance*, Ann Arbor, June 2016.

Member of the dissertation committees for Albert Altarovici (ETH Zürich), Claudio Bellani (Imperial College London), Jiatu Cai (Paris VII and Paris VI), Christa Cuchiero (ETH Zürich), Nathan de Carvalho (Ecole Polytechnique), Mark-Roman Feodoria (CAU Kiel), Roman Gayduk (University of Michigan), Puru Gupta (Warwick University), Yadh Hafsi (Paris Saclay), Sebastian Herrmann (ETH Zürich), Kaitong Hu (Ecole Polytechnique), Chloe Lacombe (Imperial College London), Jiaqi Li (University of Michigan), Aitor Muguruza (Imperial College London), Alexandre Pannier (Imperial College London), Max Reppen (ETH Zürich), Tanawit Sae-Su (Carnegie Mellon University), Leandro Sanchez-Betancourt (Oxford), Emmanouil Sfendourakis (Ecole Polytechnique), Henry Stone (Imperial College London), Maximilian Stroh (Goethe-Universität Frankfurt), Bezirgen Veliyev (Universität Wien), Douglas Vieira (Imperial College London), Michele Vodret (Ecole Polytechnique), Mirjana Vukelja (ETH Zürich), and Yutian Zhou (Chinese University of Hong Kong).