Ariel Neufeld

Contact Information

E-mail: ariel.neufeld@ntu.edu.sg
Webpage: https://personal.ntu.edu.sg/ariel.neufeld/

Personal information

Born: December 4^{th}, 1987.
Citizenship: Swiss
Languages: Swiss German, German, French, English, Hebrew

Employment

Since 09.2024: Tenured Associate Professor in Mathematics at NTU Singapore

01.2019-08.2024: Nanyang Assistant Professor in Mathematics at NTU Singapore

06.2015-12.2018: Postdoc in Financial and Insurance Mathematics at ETH Zurich
(in the group of P. Cheridito, A. Jentzen, and M. Soner)

02.2012-05.2015: Teaching Assistant at the Department of Mathematics at ETH Zurich

Research Interests

- Numerical methods for high-dimensional nonlinear PDEs
- Artificial intelligence theory
- Financial & insurance mathematics under model uncertainty
- Stochastic analysis & stochastic optimal control
- Stochastic optimization & applied probability theory

Education

02.2012-05.2015: PhD in Mathematics, ETH Zurich
Supervisors: M. Nutz (Columbia University) & M. Schweizer (ETH Zurich)
Thesis title: *Knightian Uncertainty in Mathematical Finance*
- Spent half of the PhD at Columbia University in New York

03.2011-10.2011: MSc in Mathematics with distinction, ETH Zurich

10.2006-03.2011: BSc in Mathematics, ETH Zurich
- Semester exchange to UC Berkeley (2010)
- Student Summer Research Fellowship at the Weizmann Institute (2010)

Awards & Honors since 2019

2026:
- MOE AcRF Tier 2 Grant of 576'600 S$ (period: 10.2026–09.2029)
- MOE AcRF Tier 1 Grant *RG109/25* of 119'500 S$ (period: 03.2026–02.2029)

2025: Bruti-Liberati Visiting Fellowship Award

2024: Editors' Choice – Automatica, October 2024
paper: *Robust Q-learning Algorithm for Markov Decision Processes under Wasserstein Uncertainty* (jointly with J. Sester)

2023:
- MOE AcRF Tier 2 Grant *MOE-T2EP20222-0013* of 468'990 S$ (period: 08.2023–01.2027)
- Nanyang Education Award (School)
(awarded by NTU Singapore for excellence in teaching)
- SPMS Outstanding Mentor Award AY2022/23
(awarded by the School of Physical and Mathematical Sciences (SPMS), NTU Singapore)

2022:
- MOE AcRF Tier 1 Grant *RG74/21* of 99'500 S$ (period: 03.2022–02.2026)
- Grant *NRF2021-QEP2-02-P06* of 1'372'272 S$ as Co-I, (period: 04.2022–03.2025)
(jointly with M. Gu (PI), and R. Balan, P. Griffin, L. C. Kwek (Co-Is))

2021: SIAM Activity Group on Financial Mathematics and Engineering Early Career Prize
(SIAG/FME Early Career Prize)

2020: SPMS Young Researcher Award 2020

2019:
- *NAP Grant* of 1'000'000 S$ (period: 01.2019–12.2024)
- Travel Grant of 6000 CHF for visits in 2019 at the Risk Center, ETH Zurich

Awards & Honors before 2019

2018: 1^{st} prize at the 10^{th} Conference in Actuarial Science & Finance in Samos
(paper: *Robust Utility Maximization with Lévy Processes*)

2015: IMU Itô Travel Award to the symposium "Stochastic Analysis" at Kyoto University

2014: Young Researcher Prize of the Financial Mathematics Program at Bar-Ilan University for Outstanding Papers in Financial Mathematics and Risk Management
(paper: *Superreplication under volatility uncertainty for measurable claims*)

2012:
- Swiss National Science Foundation Grant PDFMP2-137147/1 (for PhD)
- Willi Studer Award for the best ETH Zurich MSc in mathematics of the year 2011/12 (grade: 6.0 out of 6.0)

Publications and Preprints

67. M. Nendel, A. Neufeld, K. Park, A. Sgarabottolo
Scaling limits of multi-period distributionally robust optimization problems
Preprint (submitted). arXiv:2511.20126, 2025

66. A. Neufeld, P. Schmocker, V. K. Tran
Approximation rates of quantum neural networks for periodic functions via Jackson's inequality
Preprint (submitted). arXiv:2511.16149, 2025

65. M. Laurière, A. Neufeld, K. Park
Robust mean-field control under common noise uncertainty
Preprint (submitted). arXiv:2511.04515, 2025

64. A. Kratsios, A. Neufeld, P. Schmocker
Generative neural operators of log-complexity can simultaneously solve infinitely many convex programs
Preprint (submitted). arXiv:2508.14995, 2025

63. Z. Chen, A. Neufeld, Q. Xiang
Provably convergent stochastic fixed-point algorithm for free-support Wasserstein barycenter of continuous non-parametric measures
Preprint (submitted). arXiv:2505.24384, 2025

62. A. Neufeld, T. A. Nguyen, P. Schmocker
Multilevel Picard approximations for McKean–Vlasov stochastic differential equations with nonconstant diffusion
Preprint (submitted). arXiv:2502.03205, 2025

61. A. Neufeld, P. Schmocker
Solving stochastic partial differential equations using neural networks in the Wiener chaos expansion
Preprint (submitted). arXiv:2411.03384, 2024

60. J. Langner, A. Neufeld, K. Park
Markov-Nash equilibria in mean-field games under model uncertainty
Preprint (submitted). arXiv:2410.11652, 2024

59. L. Liang, A. Neufeld, Y. Zhang
Non-asymptotic convergence analysis of the stochastic gradient Hamiltonian Monte Carlo algorithm with discontinuous stochastic gradient with applications to training of ReLU neural networks
Preprint (submitted). arXiv:2409.17107, 2024

58. A. Neufeld, M. Ng, Y. Zhang
Robust SGLD algorithm for solving non-convex distributionally robust optimisation problems
Preprint (submitted). arXiv:2403.09532, 2024

57. A. Neufeld, P. Schmocker
Universal approximation property of Banach space-valued random feature models including random neural networks
Preprint (submitted). arXiv:2312.08410, 2023

56. A. Neufeld, Q. Xiang
Feasible approximation of matching equilibria for large-scale matching for teams problems
Preprint (submitted). arXiv:2308.03550, 2023

55. A. Neufeld, Q. Xiang
Numerical method for approximately optimal solutions of two-stage distributionally robust optimization with marginal constraints
Preprint (submitted). arXiv:2205.05315, 2022

54. C. Beck, S. Becker, P. Cheridito, A. Jentzen, A. Neufeld
Deep learning based numerical approximation algorithms for stochastic partial differential equations
Preprint (submitted). arXiv:2012.01194, 2020

53. A. Neufeld, Q. Xiang
Numerical method for feasible and approximately optimal solutions of multi-marginal optimal transport beyond discrete measures
Foundations of Computational Mathematics, accepted for publication, 2026
arXiv:2203.01633

52. J. Chen, Y. Li, A. Neufeld
Quantum Monte Carlo algorithm for option pricing and its complexity analysis
Mathematical Finance, accepted for publication, 2026
arXiv:2301.09241

51. A. Neufeld, P. Schmocker
Chaotic Hedging with Iterated Integrals and Neural Networks
Finance and Stochastics, accepted for publication, 2026
arXiv:2209.10166

50. D. Bartl, A. Neufeld, K. Park
Sensitivity of robust optimization problems under drift and volatility uncertainty
Finance and Stochastics, accepted for publication, 2025
arXiv:2311.11248

49. A. Neufeld, T. A. Nguyen
Multilevel Picard approximations and deep neural networks with ReLU, leaky ReLU, and softplus activation overcome the curse of dimensionality when approximating semilinear parabolic partial differential equations in L^p-sense
Journal of Computational and Applied Mathematics, Vol. 487, 117736, 2026

48. A. Neufeld, J. Sester
Nonconcave stochastic optimal control in finite discrete time under model uncertainty
Mathematical Finance, Vol. 36, No. 2, pp. 271-308, 2026

47. D. Bartl, A. Neufeld, K. Park
Numerical method for nonlinear Kolmogorov PDEs via sensitivity analysis
Applied Mathematics and Optimization, Vol. 93, 75, 2026

46. H. H. S. Chittoor, P. R. Griffin, A. Neufeld, J. Thompson, M. Gu
QuLTSF: Long-Term Time Series Forecasting with Quantum Machine Learning
Proceedings of the 17^{th} International Conference on Agents and Artificial Intelligence (ICAART 2025), Vol. 1, pp. 824-829, 2025

45. A. Neufeld, P. Schmocker
Universal approximation results for neural networks with non-polynomial activation function over non-compact domains
Analysis and Applications, 2025

44. A. Neufeld, Y. Zhang
Non-asymptotic estimates for accelerated high order Langevin Monte Carlo algorithms
Analysis and Applications, 2025

43. A. Neufeld, P. Schmocker, S. Wu
Full error analysis of the random deep splitting method for nonlinear parabolic PDEs and PIDEs
Communications in Nonlinear Science and Numerical Simulation, Vol. 143, 108556, 2025

42. A. Neufeld, T. A. Nguyen
Rectified deep neural networks overcome the curse of dimensionality in the numerical approximation of gradient-dependent semilinear heat equations
Communications in Mathematical Sciences, Vol. 23, No. 4, pp. 883-912, 2025

41. A. Neufeld, T. A. Nguyen
Rectified deep neural networks overcome the curse of dimensionality when approximating solutions of McKean–Vlasov stochastic differential equations
Journal of Mathematical Analysis and Applications, Vol. 541, No. 1, 128661, 2025

40. A. Neufeld, T. A. Nguyen, S. Wu
Multilevel Picard approximations overcome the curse of dimensionality in the numerical approximation of general semilinear PDEs with gradient-dependent nonlinearities
Journal of Complexity, Vol. 90, 101946, 2025

39. A. Neufeld, T. A. Nguyen, S. Wu
Deep ReLU neural networks overcome the curse of dimensionality when approximating semilinear partial integro-differential equations
Analysis and Applications, Vol. 23, No. 07, pp. 1227-1278, 2025

38. A. Neufeld, S. Wu
Multilevel Picard algorithm for general semilinear parabolic PDEs with gradient-dependent nonlinearities
Journal of Numerical Mathematics, 2025

37. A. Neufeld, J. Sester
Bounding the Difference between the Values of Robust and Non-Robust Markov Decision Problems
Journal of Applied Probability, Vol. 62, No. 2, pp. 558-571, 2025

36. D.-Y. Lim, A. Neufeld, S. Sabanis, Y. Zhang
Langevin dynamics based algorithm e-THεO POULA for stochastic optimization problems with discontinuous stochastic gradient
Mathematics of Operations Research, Vol. 50, No. 3, pp. 2333–2374, 2025

35. A. Neufeld, M. Ng, Y. Zhang
Non-asymptotic convergence bounds for modified tamed unadjusted Langevin algorithm in non-convex setting
Journal of Mathematical Analysis and Applications, Vol. 543, No. 1, 128892, 2025

34. A. Neufeld, S. Wu
Multilevel Picard approximation algorithm for semilinear partial integro-differential equations and its complexity analysis
Stochastics and Partial Differential Equations: Analysis and Computations, Vol. 13, pp. 1220–1278, 2025

33. A. Neufeld, J. Sester
Neural networks can detect model-free static arbitrage strategies
Applied Mathematics and Optimization, Vol. 90, 41, 2024

32. A. Neufeld, J. Sester
Robust Q-learning Algorithm for Markov Decision Processes under Wasserstein Uncertainty
Automatica, Vol. 168, 111825, 2024

31. S. Sheng, Q. Xiang, I. Nevat, A. Neufeld
Binary Spatial Random Field Reconstruction from Non-Gaussian Inhomogeneous Time-series Observations
Journal of the Franklin Institute, Vol. 361, No. 2, pp. 612-636, 2024

30. J. Ansari, E. Lütkebohmert, A. Neufeld, J. Sester
Improved Robust Price Bounds for Multi-Asset Derivatives under Market-Implied Dependence Information
Finance and Stochastics, Vol. 28, No. 4, pp. 911-964, 2024

29. A. Neufeld, J. Sester, D. Yin
Detecting data-driven robust statistical arbitrage strategies with deep neural networks
SIAM Journal on Financial Mathematics (SIFIN), Vol. 15, No. 2, pp. 436-472, 2024

28. D.-Y. Lim, A. Neufeld, S. Sabanis, Y. Zhang
Non-asymptotic estimates for TUSLA algorithm for non-convex learning with applications to neural networks with ReLU activation function
IMA Journal of Numerical Analysis, Vol. 44, No. 3, pp. 1464-1559, 2024

27. Q. Xiang, A. Neufeld, G. W. Peters, I. Nevat, A. Datta
A Bonus-Malus Framework for Cyber Risk Insurance and Optimal Cybersecurity Provisioning
European Actuarial Journal, Vol. 14, pp. 581-621, 2024

26. C. Beck, S. Becker, P. Cheridito, A. Jentzen, A. Neufeld
An efficient Monte Carlo scheme for Zakai equations
Communications in Nonlinear Science and Numerical Simulation, Vol. 126, 107438, 2023

25. A. Neufeld, J. Sester, M. Šikić
Markov Decision Processes under Model Uncertainty
Mathematical Finance, Vol. 33, No. 3, pp. 618-665, 2023

24. A. Neufeld, J. Sester
A deep learning approach to data-driven model-free pricing and to martingale optimal transport
IEEE Transactions on Information Theory, Vol. 69, No. 5, pp. 3172-3189, 2023

23. A. Neufeld, A. Papapantoleon, Q. Xiang
Model-free bounds for multi-asset options using option-implied information and their exact computation
Management Science, Vol. 69, No. 4, pp. 2051-2068, 2023

22. M. Baes, C. Herrera, A. Neufeld, P. Ruyssen
Low-Rank plus Sparse Decomposition of Covariance Matrices using Neural Network Parametrization
IEEE Transactions on Neural Networks and Learning Systems, Vol. 34, No. 1, pp. 171-185, 2023

21. P. Ghosh, A. Neufeld, J. K. Sahoo
Forecasting directional movements of stock prices for intraday trading using LSTM and random forests
Finance Research Letters, Vol. 46, Part A, 102280, 2022

20. A. Neufeld, J. Sester
On the stability of the martingale optimal transport problem: A set-valued map approach
Statistics & Probability Letters, Vol. 176, pp. 109131-1-7, 2021

19. A. Neufeld, J. Sester
Model-free price bounds under dynamic option trading
SIAM Journal on Financial Mathematics (SIFIN), Vol. 12, No. 4, pp. 1307-1339, 2021

18. D. Bartl, M. Kupper, A. Neufeld
Duality Theory for Robust Utility Maximisation
Finance and Stochastics, Vol. 25, No. 3, pp. 469-503, 2021

17. P. J. Graber, V. Ignazio, A. Neufeld
Nonlocal Bertrand and Cournot Mean Field Games with General Nonlinear Demand Schedule
Journal de Mathématiques Pures et Appliquées (JMPA), Vol. 148, pp. 150-198, 2021

16. P. Harms, C. Liu, A. Neufeld
Supermartingale Deflators in the Absence of a Numéraire
Mathematics and Financial Economics, Vol. 15, pp. 885-915, 2021

15. C. Beck, S. Becker, P. Cheridito, A. Jentzen, A. Neufeld
Deep splitting method for parabolic PDEs
SIAM Journal on Scientific Computing (SISC), Vol. 43, No. 5, pp. A3135-A3154, 2021

14. A. Jentzen, B. Kuckuck, A. Neufeld, P. von Wurstemberger
Strong error analysis for stochastic gradient descent optimization algorithms
IMA Journal of Numerical Analysis, Vol. 41, No. 1, pp. 455-492, 2021

13. D. Bartl, M. Kupper, A. Neufeld
Pathwise superhedging on prediction sets
Finance and Stochastics, Vol. 24, No. 1, pp. 215-248, 2020

12. T. Fadina, A. Neufeld, T. Schmidt
Affine processes under parameter uncertainty
Probability, Uncertainty and Quantitative Risk, Vol. 4, No. 1, pp. 1-35, 2019

11. D. Bartl, M. Kupper, A. Neufeld
Stochastic integration and differential equations for typical paths
Electronic Journal of Probability, Vol. 24, No. 97, pp. 1-21, 2019

10. A. Neufeld, M. Šikić
Nonconcave Robust Optimization with Discrete Strategies under Knightian Uncertainty
Mathematical Methods of Operations Research, Vol. 90, No. 2, pp. 229-253, 2019

9. C. Liu, A. Neufeld
Compactness Criterion for Semimartingale Laws and Semimartingale Optimal Transport
Transactions of the American Mathematical Society, Vol. 372, No. 1, pp. 187-231, 2019

8. A. Neufeld
Buy-and-Hold Property for Fully Incomplete Markets when Super-replicating Markovian Claims
International Journal of Theoretical and Applied Finance, Vol. 21, No. 8, 1850051, 2018

7. A. Neufeld, M. Šikić
Robust Utility Maximization in Discrete-Time Markets with Friction
SIAM Journal on Control and Optimization (SICON), Vol. 56, No. 3, pp. 1912-1937, 2018

6. Y. Dolinsky, A. Neufeld
Super-replication in Fully Incomplete Markets
Mathematical Finance, Vol. 28, No. 2, pp. 483-515, 2018

5. A. Neufeld, M. Nutz
Robust Utility Maximization with Lévy Processes
Mathematical Finance, Vol. 28, No. 1, pp. 82-105, 2018

4. A. Neufeld, M. Nutz
Nonlinear Lévy Processes and their Characteristics
Transactions of the American Mathematical Society, Vol. 369, No. 1, pp. 69-95, 2017

3. A. Neufeld, M. Nutz
Measurability of Semimartingale Characteristics with Respect to the Probability Law
Stochastic Processes and their Applications, Vol. 124, No. 11, pp. 3819-3845, 2014

2. A. Neufeld, M. Nutz
Superreplication under volatility uncertainty for measurable claims
Electronic Journal of Probability, Vol. 18, No. 48, pp. 1–14, 2013

1. K. Du, A. Neufeld
A note on asymptotic exponential arbitrage with exponentially decaying failure probability
Journal of Applied Probability, Vol. 50, No. 3, pp. 801–809, 2013

*All authors of all the publications and preprints, except of N^o 27., 31., 46., are listed in alphabetic order

Members of the Research Group

- Jonas Gebele (PhD Student with a Nanyang President's Graduate Scholarship, since 08.2025)
- Tran Thuan Nguyen (Postdoctoral Fellow, SASEA Fellowship, since 04.2026)
- Kyunghyun Park (Gopalakrishnan - Presidential Postdoctoral Fellow, since 12.2022)
- Thanh Phong Pham (Undergraduate Research Student, since 07.2025)
- Xuanye Song (Postdoctoral Fellow, since 07.2025)
- Duy Hoang Thai (Postdoctoral Fellow, SASEA Fellowship, since 12.2025)
- Viet Khoa Tran (Undergraduate Research Student, since 08.2024)
- Dawen Wu (NTU AI4X Postdoctoral Fellow, since 04.2026)
- Qikun Xiang (Postdoctoral Fellow, since 01.2024)

Graduated PhD students

- Philipp Schmocker (defended 11.2025)
- Qikun Xiang (defended 12.2023)

Former Members of the Research Group

- Géraldine Bouveret (Gopalakrishnan - Presidential Postdoctoral Fellow, 10.2019–01.2022)
- Zeyi Chen (Undergraduate Research Student, 08.2022–07.2024)
- Pushpendu Ghosh (Research Internship, 08.2019–12.2019)
- Johannes Langner (Visiting PhD student, 10.2023–05.2024)
- Yongming Li (Project Officer, 05.2020–12.2020)
- Matthew Ng Cheng En (Project Officer, 08.2021–07.2023)
- Thi Van Hang Nguyen (Postdoctoral Fellow, SASEA Fellowship, 10.2022–09.2024)
- Tuan Anh Nguyen (Postdoctoral Fellow, 01.2023–03.2024)
- Philipp Schmocker (PhD Student, 08.2021–11.2025)
- Julian Sester (Postdoctoral Fellow, 04.2020–06.2022)
- Alessandro Sgarabottolo (Visiting PhD student, 02.2024–09.2024)
- Shunan Sheng (Undergraduate Research Student, 06.2020–07.2022)
- Sizhou Wu (Postdoctoral Fellow, 08.2021–08.2024)
- Daiying Yin (Undergraduate Research Student, 06.2020-08.2021)
- Ying Zhang (Postdoctoral Fellow, 11.2020–06.2023)

Teaching experience

2026: Lecturer of the graduate course *Mathematical Statistics MH 7004*

2025: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MH 7020*

Lecturer of the graduate course *Mathematical Statistics MH 7004*

2024: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MH 7020*

Lecturer of the graduate course *Mathematical Statistics MH 7004*

2023: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MH 7020*

Lecturer of the graduate course *Mathematical Statistics MH 7004*

2022: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MH 7020*

Lecturer of the graduate course *Mathematical Statistics MH 7004*

2021: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MAS 796*

Lecturer of the graduate course *Mathematical Statistics MAS 713*

2020: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MAS 796*

Lecturer of the graduate course *Mathematical Statistics MAS 713*

2019: Lecturer of the undergraduate course *Stochastic Processes MH 3512*

Lecturer of the graduate seminar course *Statistics MAS 796*

Lecturer of the graduate course *Mathematical Statistics MAS 713*

2018: Lecturer (part-time) at ETH Zurich of the undergraduate course *Probability and Statistics*

2016: Lecturer at ETH Zurich of the seminar course for master students *Robustness in Mathematical Finance*

2015: Teaching Assistant at ETH Zurich of the graduate course *Applied Stochastic Processes*

2014: Teaching Assistant and Coordinator at ETH Zurich of the graduate course *Mathematical Finance*

Teaching Assistant and Coordinator at ETH Zurich of the graduate course *Brownian Motion and Stochastic Calculus*

2013: Teaching Assistant and Coordinator at ETH Zurich of the graduate course *Brownian Motion and Stochastic Calculus*

2012: Teaching Assistant at ETH Zurich of the graduate course *Brownian Motion and Stochastic Calculus*

Talks at International Conferences and Seminars

KAIST, Kyung Hee University, Kongju National University, Hankuk University of Foreign Studies, Kyungpook National University, Sungshin Women's University, UNIST; Jeju Conference on Mathematical Finance and Related Topics, 2026

Shanghai Jiao Tong University;
International Conference on New Trends in Quantitative Finance: Theory and Practice, 2026

ESSEC Business School (Singapore Campus); Risk Seminar, 2026

Nanyang Technological University;
Wallenberg AI, Autonomous Systems and Software Program (WASP) Study Visit Seminar, 2026

Indian Institute of Science Bangalore;
Recent Trends in Quantitative Finance, 2026

BITS Pilani, K K Birla, Goa Campus;
International Conference on Advanced Scientific Computing & Machine Learning, 2026

Bruti-Liberati Memorial Lecture;
Quantitative Methods in Finance (QMF), 2025

University of Technology Sydney;
Frontier Computational Methods in Finance workshop, 2025

University of Technology Sydney & Commonwealth Bank;
Sydney Financial Mathematics Workshop (SFMW) Seminar talk, 2025

The 6^{th} ACM International Conference on AI in Finance (ICAIF);
Industry day: Cutting-edge Research on AI in Finance (Panel discussion), 2025

ETH Zurich; 2^{nd} Workshop on Machine Learning in Infinite Dimensions, 2025

University of Konstanz; Seminar talk in Mathematics and Computer Science, 2025

Miami; SIAM Conference on Financial Mathematics, 2025

Hebrew University of Jerusalem;
Statistics Seminar Talk (online), 2025

The Hong Kong University of Science and Technology (Guangzhou);
Seminar Talk at the FinTech Thrust, 2025

Shanghai Jiao Tong University;
Shanghai-Singapore Joint Forum on Mathematical Sciences with Artificial Intelligence, 2025

International Conference on Learning Representations (ICLR) 2025;
Advances in Financial AI Workshop, 2025

University of Technology Sydney; Quantitative Methods in Finance (QMF), 2024

Hong Kong Polytechnic University; INFORMS Conference on Financial Engineering and Fin Tech, 2024

National University of Singapore; 17^{th} Annual Risk Management Conference, 2024

University of Konstanz; Seminar on Connection Logic, Dynamical Systems and Optimization, 2024

FGV EMAp - Escola de Matemática Aplicada, Rio de Janeiro; The Bachelier World Congress, 2024

Stockholm University: European Conference on Stochastic Optimization and Computational Management Science (ECSO-CMS 2024), 2024

Kyung Hee University, Hankuk University of Foreign Studies, Kyungpook National University;
Workshop on Mathematical Finance at Jeju, 2024

Seoul National University (SNU);
Seminar talk at the Department of Mathematical Sciences, 2024

Sungkyunkwan University (SKKU);
Mini-Workshop on Mathematical Finance, 2024

Shanghai Jiao Tong University, NYU Shanghai, and ShanghaiTech University;
Recent Advances in Stochastic Control, Machine Learning and Quantitative Finance, 2024

National University of Singapore;
3^{rd} Quantum Computing Workshop: AI Optimization and Forecasting across Industries, 2024

Institute for Mathematical Sciences (IMS), Singapore;
The Mathematics of Data program, 2024

Institut des Hautes Études Scientifiques (IHES) and Qube Research & Technologies (QRT);
Keynote speaker of the dinner event at the Fullerton Hotel Singapore, 2024

Chennai Mathematical Institute; 8^{th} Conference on Statistical Methods in Finance, 2023

HKUST-Guangzhou; Seminar Talk with Fintech (online), 2023

Singapore University of Technology and Design (SUTD);
Engineering Systems & Design Research Seminar series, 2023

University of Liverpool; Seminar talk at the Institute for Financial and Actuarial Mathematics (IFAM) (online), 2023

University of Zurich; Seminar in Data Science and Mathematical Modelling, 2023

Waseda University; 10^{th} International Congress on Industrial and Applied Mathematics (ICIAM), 2023

University of Cape Town; 7^{th} International Conference Mathematics in Finance, 2023

University of Konstanz; Seminar in Financial Mathematics, 2023

Université de Lorraine; 21^{st} INFORMS Applied Probability Society Conference, 2023

ETH Zurich; Talks in Financial and Insurance Mathematics, 2023

Leibniz University Hannover & Bielefeld University;
Risk measures and uncertainty in insurance, 2023

Imperial College London; 2^{nd} Workshop on Machine Learning for PDEs, 2023

National University of Singapore; Accelerating Industrial Innovation with Quantum Computing and Data Science, 2023

ShanghaiTech University; Applied Mathematics Seminar (online), 2022

University of Venice; European Conference on Stochastic Optimization and Computational Management Science (ECSO-CMS 2022), 2022

World Online Seminars; on Machine Learning in Finance (online), 2022

Columbia University, New York; Mathematical Finance Seminar Series (online), 2022

The University of Economics Ho Chi Minh City; Recent Advances in Financial Mathematics Conference (online), 2021

Humboldt University and Technical University of Berlin; seminar series (online): *Stochastic Analysis and Mathematical Finance*, 2021

Institute of Advanced Studies @ NTU; *Discovery Science Seminar* (online), 2021

Centre for Data Science and Machine Learning (CDSML); seminar series (online), 2021

Bar-Ilan University, Tel Aviv; seminar in Financial Mathematics (online), 2020

University of Technology Sydney; Quantitative Methods in Finance Conference, 2019

Shandong University; International Workshop on Probability, Uncertainty and Quantitative Risk, 2019

Vietnam Institute for Advanced Study in Mathematics; 7^{th} Asian Quantitative Finance Conference, 2019

University of Toronto; SIAM Conference on Financial Mathematics, 2019

National University of Singapore; Seminar in Financial Mathematics, 2019

National Technical University Athens; Seminar in Financial Mathematics, 2018

Shanghai Jiao Tong University; Seminar in Financial Mathematics, 2018

National Technical University Athens; Stochastic Methods in Finance and Physics, 2018

Universitat de València & Universitat Politècnica de València;
29th European Conference on Operations Research, 2018

University of Aegean; 10th Conference in Actuarial Science & Finance on Samos, 2018

Freiburg Institute for Advanced Studies; Robust Finance Workshop, 2018

Cornell University; ORIE Colloquium, 2018

Nanyang Technological University; Seminar at the Division of Mathematical Sciences, 2018

University of Padova; Seminar in Financial Mathematics, 2017

Shanghai Jiao Tong University; Seminar in Financial Mathematics, 2017

University of Konstanz; Seminar in Financial Mathematics, 2017

University of Amsterdam; 8th Advanced Mathematical Methods in Finance Conference, 2017

Humboldt - Universität zu Berlin; Seminar in Applied Financial Mathematics, 2017

Imperial College London; Imperial - ETH Workshop, 2017

National University of Singapore; 5th NUS Workshop on Risk & Regulation, 2017

University of Technology Sydney; Quantitative Methods in Finance Conference, 2016

New York; 9th World Congress of the Bachelier Finance Society, 2016

Fields Institute, Toronto; World Congress in Probability and Statistics, 2016

Bar-Ilan University, Tel Aviv; 2nd Bar-Ilan Conference on Financial Mathematics, 2016

University of Vienna; Mathematical Finance Seminar, 2016

Albert-Ludwigs-Universität Freiburg; Mathematical Finance Seminar, 2015

Université Pierre et Marie Curie (Paris VI); Mathematical Finance Seminar, 2015

University of Zurich; Symposium about Applied Mathematics, 2015

Fudan University, Shanghai; International Workshop on SPDEs, 2015

University of Mannheim; Workshop on Lévy Processes and their Applications, 2015

Columbia University, New York; Mathematical Finance Seminar, 2015

Imperial College London; Imperial - ETH Workshop, 2015

Bar-Ilan University, Tel Aviv; 2nd Joint International Meeting of the Israel Mathematical Union and the American Mathematical Society, 2014

Extended Visits

12.2025: Bruti-Liberati Fellow, University of Technology Sydney (UTS)

03.2020: ETH Zurich, Risk Center

03. & 07.2019: ETH Zurich, Risk Center

11.2017: Shanghai Jiao Tong University, Shanghai Advanced Institute of Finance (SAIF)

05.2017: Hebrew University, Department of Statistics

06.2015-07.2015: Hebrew University, Department of Statistics

04.2015: Columbia University, Department of Mathematics

09.2013-02.2014: Columbia University, Department of Mathematics

09.2012-02.2013: Columbia University, Department of Mathematics

SERVICES

Associate Editor of *Finance and Stochastics,* since January 2026

Organizer of Conferences:

- Quantum Computing in Finance Conference *Q4Q* (Quantum for Quants), Abu Dhabi, 01.2024 (jointly with ADGM Academy Research Centre, ADIA Lab, and Imperial College)
- Workshop *Young Researchers in Robust Mathematical Finance*, ETH Zurich, 04.2017

Referee for Journals and Conferences: Annals of Applied Probability, Applied Mathematics and Optimization, ASTIN Bulletin, Bernoulli, Electronic Journal of Probability, ESAIM: Control, Optimisation and Calculus of Variations, Finance and Stochastics, Foundations of Computational Mathematics, International Journal of Theoretical and Applied Finance, Journal of Applied Probability, Journal of Mathematical Analysis and Applications, Mathematical and Scientific Machine Learning Conference (MSML), Mathematical Finance, Mathematical Methods of Operations Research, Mathematics and Financial Economics, Mathematics of Operations Research, Operations Research, Probability Uncertainty and Quantitative Risk, SIAM Journal on Control and Optimization, SIAM Journal on Financial Mathematics, SIAM Journal on Scientific Computing, Stochastic Processes and their Applications, Systems & Control Letters, Quantitative Finance

PROGRAMMING SKILLS

- MATLAB, Python
- Coursera Certificate in Machine Learning (authorized by Stanford University)