Steven A. Campbell

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Academic Employment

2023– **Assistant Professor (Limited Term)**, Dept. of Statistics, Columbia University

Education

2019–2023 **Ph.D. Statistics** (4.00/4.00), University of Toronto
Thesis title: *Optimization Problems in Model-Free Stochastic Portfolio Theory and Sequential Testing Games*
Advisors: Profs. Ting-Kam Leonard Wong and Yuchong Zhang

2018–2019 **M.A. Applied Mathematics** (4.00/4.00), York University

2017–2018 **B.A. Applied Mathematics** (9.00/9.00), York University

2013–2017 **B.B.A. Finance** (8.65/9.00), Schulich School of Business, York University

Academic Awards and Honors

2025–2027 **NSERC Postdoctoral Fellowship (Award No. PDF - 599675 - 2025)**, Natural Sciences and Engineering Research Council of Canada (NSERC) [$140,000 CAD]

2025–2026 **CDFT Research Grant**, Center for Digital Finance and Technologies, Columbia University (Co-Investigator with Marcel Nutz) [$25,000 USD]

2025 **Early Career Travel Award**, Society for Applied and Industrial Mathematics (SIAM) [$1260 USD]

2023 **SGS Conference Grant**, University of Toronto [$1240 CAD]

DoSS Conference Travel Award, University of Toronto [$500 CAD]

2022–2023 **Ontario Graduate Scholarship - Doctoral**, Government of Ontario [$15,000 CAD]

2022 **Doctoral Early Research Excellence Award**, University of Toronto [$1,500 CAD]

2019–2022 **Alexander Graham Bell Canada Graduate Scholarship (CGS D)**, Natural Sciences and Engineering Research Council of Canada (NSERC) [$105,000 CAD]

2018–2019 **Alexander Graham Bell Canada Graduate Scholarship (CGS M)**, Natural Sciences and Engineering Research Council of Canada (NSERC) [$17,500 CAD]

2018 **York University Graduate Scholarship**, York University [$4,000 CAD]

Dr. James Wu Prize for Best Honours Thesis, York University [$500 CAD]

2017 **Toronto Dominion Bank Award**, York University [$3,000 CAD]

2016 **The Olympia and Spyros Thomas Scholarship**, York University [$1,200 CAD]

2015 **The Dagonas Family Scholarship**, York University [$1,200 CAD]

2013–2017 **President's Scholarship**, York University [$21,600 CAD]

2013 **Awards of Distinction Merit Scholarship**, York University [$2,000 CAD]

Governor General's Academic Medal (Bronze), Government of Canada

Publications and Preprints

Academic Articles

1 **S. Campbell**, G. Gaitsgori, R. Groenewald, and I. Karatzas, "Parametric continuity in problems of optimal stopping," *In preparation*, 2025+.

2. **S. Campbell** and T.-K. L. Wong, "A mathematical study of the excess growth rate," *In preparation*, 2025+.
3. **S. Campbell**, P. Bergault, J. Milionis, and M. Nutz, "Optimal Fees for Liquidity Provision in Automated Market Makers," *arXiv preprint arXiv:2508.08152, Submitted*, 2025.
4. **S. Campbell**, G. Gaitsgori, and R. Groenewald, "A Sequential Testing Problem with Signal Control," *arXiv preprint arXiv:2509.18209, Submitted*, 2025.
5. **S. Campbell**, G. Gaitsgori, R. Groenewald, and I. Karatzas, "Grab it before it's gone: Testing Uncertain Rewards under a Stochastic Deadline," *arXiv preprint arXiv:2503.06856, Submitted*, 2025.
6. **S. Campbell** and M. Nutz, "Randomization in Optimal Execution Games," *arXiv preprint arXiv:2503.08833, Submitted*, 2025.
7. **S. Campbell** and M. Nutz, "Optimal Execution among N Traders with Transient Price Impact," *arXiv preprint arXiv:2501.09638, Submitted*, 2025.
8. **S. Campbell**, Q. Song, and T.-K. L. Wong, "Macroscopic properties of equity markets: stylized facts and portfolio performance," *Quantitative Finance*, pp. 1–23, 2025. DOI: 10.1080/14697688.2025.2541859.
9. **S. Campbell** and T.-K. L. Wong, "Efficient convex PCA with applications to Wasserstein GPCA and ranked data," *Journal of Computational and Graphical Statistics*, vol. 34, no. 2, pp. 540–551, 2025.
10. **S. Campbell** and Y. Zhang, "A Bayesian sequential soft classification problem for a Brownian motion's drift ," *arXiv preprint arXiv:2501.11314, Submitted*, 2025.
11. **S. Campbell** and Y. Zhang, "A Mean Field Game of Sequential Testing," *arXiv preprint arXiv:2403.18297, Submitted*, 2024.
12. **S. Campbell** and T.-K. L. Wong, "Functional portfolio optimization in stochastic portfolio theory," *SIAM Journal on Financial Mathematics*, vol. 13, no. 2, pp. 576–618, 2022.
13. **S. Campbell** and E. J. Janse van Rensburg, "Lattice star and acyclic branched polymer vertex exponents in 3d," *Journal of Physics A: Mathematical and Theoretical*, vol. 55, no. 1, p. 015 002, 2021.
14. **S. Campbell** and E. J. Janse van Rensburg, "Numerical estimates of square lattice star vertex exponents," *Phys. Rev. E*, vol. 103, p. 052 137, 5 May 2021. DOI: 10.1103/PhysRevE.103.052137.
15. **S. Campbell**, Y. Chen, A. Shrivats, and S. Jaimungal, "Deep Learning for Principal-Agent Mean Field Games," *arXiv preprint arXiv:2110.01127*, 2021.
16. **S. Campbell** and E. J. Janse van Rensburg, "Parallel PERM," *Journal of Physics A: Mathematical and Theoretical*, vol. 53, no. 26, p. 265 005, 2020.

Other Publications

1. **S. Campbell**, "Optimization Problems in Model-Free Stochastic Portfolio Theory and Sequential Testing Games," Ph.D. dissertation, University of Toronto, 2023.
2. **S. Campbell** and K. Whitehead, *Toys 'R' Us Canada: Is Playtime Over?* Ivey Publishing, 2018.
3. K. Whitehead and **S. Campbell**, *Hudson's Bay Company: Restructuring in a Retail Decline*, Ivey Publishing, 2018.

Academic Presentations

* Contributed presentations

2025
- London Mathematical Finance Seminar, London Mathematical Finance Group, London, UK.
- Finance and Stochastics Seminar, Imperial College London, London, UK.
- Financial Mathematics Seminar, Florida State University, Tallahassee, FL.

- Berkeley–Columbia Meeting in Engineering and Statistics, UC Berkeley, Berkeley, CA.
- SIAM Conference on Financial Mathematics and Engineering, Miami, FL.
- 12th General AMaMeF Conference, University of Verona, Verona, Italy.*
- Statistics Seminar, Collegio Carlo Alberto, Torino, Italy.
- Stevanovich Center Conference on Market Microstructure, Quantitative Trading, High Frequency, and Large Data, University of Chicago, Chicago, IL.
- AMS Spring Eastern Sectional Meeting, Hartford, CT.
- Optimal Stopping Seminar, Columbia University, New York, NY.
- Statistics Student Seminar, Columbia University, New York, NY.

2024
- INFORMS Annual Meeting, Seattle, WA.
- 8th Eastern Conference on Mathematical Finance, Fields Institute, Toronto, ON.
- 12th World Congress, Bachelier Finance Society, Rio de Janeiro, Brazil.*
- Finance and Stochastics Seminar, Imperial College London, London, UK.
- Optimal Stopping Seminar, Columbia University, New York, NY.

2023
- Mathematical Finance Seminar, Columbia University, New York, NY.
- 64th World Statistics Congress, International Statistical Institute, Ottawa, ON.*
- SIAM Conference on Financial Mathematics and Engineering, Philadelphia, PA.
- Probability and Mathematical Finance Seminar, Carnegie Mellon University, Pittsburgh, PA.
- Financial and Actuarial Mathematics Seminar, University of Michigan, Ann Arbor, MI.

2022
- 6th Eastern Conference on Mathematical Finance, New Brunswick, NJ.* *(Poster)*
- SIAM Annual Meeting, Pittsburgh, PA.
- Statistics Graduate Student Research Day, University of Toronto, Toronto, ON.

2021
- CMS 75th+1 Anniversary Summer Meeting, Canadian Mathematical Society, Virtual.
- Statistics Graduate Student Research Day, Fields Institute, Toronto, ON.
- ACTSCI/MAFI Research Meeting, University of Toronto, Toronto, ON.

Teaching

2024–2025
- Stochastic Processes and Applications (GU4264/GR5264), *Columbia University*.
- Stochastic Methods in Finance (GU4265/GR5265), *Columbia University*

2025
- Research Project in Applied Mathematics (APAM E6650), *Columbia University*.

2024
- Undergraduate Mentored Research (STAT UN3107), *Columbia University*.

2023
- Linear Regression Models (GU4205), *Columbia University*.

2021–2023
- MFI Annual Statistics Bootcamp, *University of Toronto*.

2021
- Fixed Income Fundamentals (FINE 3810), *York University*.

Other Academic Experience

Journal Referee

- Mathematical Finance
- SIAM Journal on Financial Mathematics
- Finance and Stochastics
- Quantitative Finance

- Annals of Operations Research
- Asian Journal of Control

Student Supervision

2025
- Yanbo Li (Graduate Summer Research Project), *Columbia University*.
- Yi'an Wang (Graduate Summer Research Project), *Columbia University*.
- Yusang He (Graduate Research Course, APMA E6650), *Columbia University*.
- Luca Terzariol (Undergraduate Research Assistant), *Columbia University*.

2024
- Orange Ao (Undergraduate Summer Research Project), *Columbia University*.
- Luca Terzariol (Undergraduate Research Intern, STAT UN3107), *Columbia University*.
- Ivan Wong (Undergraduate Directed Reading), *Columbia University*.

2022
- Michael Shen (Graduate Research Assistant), *University of Toronto*.
- John Song (Undergraduate Summer Research Project), *University of Toronto*.

Co-organizer

2025–
- Optimal Stopping Seminar, Columbia University.

2023–
- Mathematical Finance Seminar, Columbia University.

University Service

2025–
- Mathematics of Finance (MAFN) Academic Committee, Columbia University.

2025
- Doctoral Dissertation Committee for Abishek Tilva, Columbia University.

2023–
- MA Admission Committee, Columbia University.

Research Visits

2025
- Collegio Carlo Alberto and the University of Turin (joint visit) with Tiziano De Angelis

2024
- University of Toronto with Ting-Kam Leonard Wong
- Imperial College London with David Itkin

Code Packages and Repositories

- Functional Portfolio Optimization:
  `https://github.com/stevenacampbell/FunctionalPortfolioOptimization`
- Convex PCA and Wasserstein Geodesic PCA:
  `https://github.com/stevenacampbell/ConvexPCA`
- Macroscopic Properties of Equity Markets and a Portfolio Backtesting Engine:
  `https://github.com/stevenacampbell/Macroscopic-Properties-of-Equity-Markets`
- Optimal Fees for Liquidity Provision in Automated Market Makers:
  `https://github.com/JasonSome/cpmm-trading/tree/master`

Skills

Languages
- English (native), Greek (limited working proficiency), French (elementary proficiency).

Coding
- Python, R, C/C++, MATLAB, Maple, LaTeX, VBA.

Last Updated

October 4, 2025