Gordon Ritter

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EDUCATION

Harvard University, Cambridge, MA   **2000–2007**

PhD, Physics (Graduation: June 2007)
- Thesis Topic: Mathematics of Quantum Field Theory on Curved Spacetimes
- Advisor: Prof. Arthur M. Jaffe (Harvard)

MA, Physics (Graduation: June 2002)

University of Chicago, Chicago, IL   **1995–1999**

Honors BA, Mathematics (Graduation: June 1999)
- General Honors from the College and Honors in Mathematics. Elite invitation-only "Honors Analysis" sequence and graduate geometry, topology, and algebra while still an undergraduate.

PROFESSIONAL
EXPERIENCE

Courant Institute, NYU, New York, NY

Adjunct Professor   **2013–present**
- Conducted research with Petter Kolm (Director of the Mathematical Finance MS program) leading to publications in *Risk*, *European J. Operations Research*, and others in the review process.
- Designed new graduate course on advanced econometric modeling, and taught the course from 2013–present with 50+ students per year.
- Directed 10+ masters thesis projects and served on two students' PhD thesis committees.

Baruch College, CUNY, New York, NY

Adjunct Professor   **2015–present**
- Recruited by Jim Gatheral and Andrew Lesniewski to teach graduate course on portfolio management and algorithmic trading in MFE program ranked #1 nationally (QuantNet 2017 ranking).

Rutgers University, New Brunswick, NJ

Lecturer   **2015–present**
- Taught algorithmic trading, portfolio management and continuous-time finance for the Financial Statistics and Risk Management program.

GSA Capital Partners, London and New York

Senior Portfolio Manager   **2015–present**
- Leader and founding member of a team with a broad mandate to pursue a wide range of high Sharpe ratio absolute return strategies across asset classes, holding periods, and geographies. Directed all research in New York office of GSA, a multiple-award-winning absolute return investment manager. Realized Sharpe ratio above 3 in shorter-term models.

Highbridge Capital Management, New York, NY

Vice President, Statistical Arbitrage Group   **2008–2014**
- Core member of one of the most successful and largest AUM quantitative trading groups in the world, with full access to all models. Worked on many aspects of the strategy including: alpha forecast research (horizons ranging from minutes to weeks; data sources including technical, fundamental, event, news, etc.) from idea generation all the way through to trading. Other quantitative research including improvements to the optimizer, risk model, simulation, development of novel statistical models and estimation methodologies, etc.

Harvard University, Cambridge, MA

Teaching Fellow   **2001–2007**

- Assisted in teaching of seven courses including graduate-level quantum mechanics, quantum field theory, electrodynamics, particle physics and cosmology, and undergraduate quantum mechanics.
- Received 4.7 out of 5 in student evaluations (top 5-10% of TFs).
- Awarded Harvard University Certificate of Distinction in Teaching (2005).

PUBLICATIONS

1. "Optimal Microstructure Trading With a Long-Term Utility Function," with Jerome Benveniste submitted September 2017. ssrn.com/abstract=3057570

2. "Machine Learning for Trading,"
   Risk, October 2017. ssrn.com/abstract=3015609 (2100+ downloads)

3. "Stable Linear-Time Optimization in Arbitrage Pricing Theory Models,"
   Risk, September 2016. ssrn.com/abstract=2821360

4. "On the Bayesian Interpretation of Black–Litterman",
   European Journal of Operations Research, 258 (2), 564–572.

5. "Multiperiod Portfolio Selection and Bayesian Dynamic Models," with Petter Kolm.
   Risk, March 2015. ssrn.com/abstract=2472768 (1300+ downloads)

6. "Reflection Positivity and Monotonicity," with Arthur Jaffe,
   Journal of Mathematical Physics **49**, Issue 5 (2008)

7. "Abstract simplicity of complete Kac-Moody groups over finite fields," with Lisa Carbone and Mikhail Ershov,
   Journal of Pure and Applied Algebra **212** (2008), 2147–2162.

8. "A Hardy-Ramanujan Formula for Lie Algebras,"
   Experimental Mathematics **16**, Issue 3, 375-384 (2007).

9. "Quantum Field Theory on Curved Backgrounds, I. The Euclidean Functional Integral," with Arthur Jaffe,
   Communications in Mathematical Physics **270** No. 2, 545-572 (2007)

10. "Quantum Field Theory on Curved Backgrounds, II. Spacetime Symmetries," with Arthur Jaffe, in preparation, [arXiv:0704.0052]

11. "Number of Representations Providing Noiseless Subsystems,"
    Physical Review A **72**, 062328 (2005)

12. "Lie algebras and suppression of decoherence in open quantum systems,"
    Physical Review A **72**, 012305 (2005)

13. "Quantum channels and representation theory,"
    Journal of Mathematical Physics **46**, 082103 (2005)

14. "Vacuum Geometry of the $N = 2$ Wess-Zumino Model,"
    Communications in Mathematical Physics **251** No. 1, 133–156 (2004)

PROFESSIONAL
ACTIVITIES

Current referee for journals including: Risk, Journal of Investment Strategy. Past referee for Journal of Mathematical Physics, Communications in Mathematical Physics.

Invited speaker at numerous conferences including:

1. The Eastern Conference on Mathematical Finance, November 3-5, 2017, Columbia and NYU

2. Risk USA, September 2017, New York.

3. Quant Summit 2016, July 2016, New York, NY. Leader of day-long workshop in portfolio optimization.

4. Princeton Quantitative Trading Conference, April 2016, Princeton, NJ

5. RiskHedge USA, July 8, 2015, New York.

6. Risk Quant Congress USA, July 14–15, 2015, New York.

7. Global Derivatives, Trading & Risk Management 2015, 18th May 2015, Amsterdam.

8. Global Derivatives USA 2014, November 17–21, Chicago.

9. Quant Congress USA, July 2013.

10. 5th Annual Modeling High Frequency Data in Finance Conference, October 24–26, 2013.

11. Mathematical Finance and Partial Differential Equations, Rutgers, November 1, 2013

INTERESTS   Outdoor sports including full-distance ironman triathlon, sailing, skydiving, and motorcycling.