1. Personal Information

Name: Timothy Falcon Crack

E-mail: <u>timcrack@alum.mit.edu</u> (preferred), tcrack@otago.ac.nz

Tel: 64(0) 3.556.5133 (messages only)

2. Qualifications

Qualification name:	Institution:	Date of Graduation:
IMC*	UKSIP	2001
PhD (Financial Economics)	MIT	1996
MCom (Finance)	Otago	1993
PGDipCom (Accounting)	Otago	1990
COP** (Accounting)	Otago	1988–1989
BSc (HONS, 1st) (Math)	Otago	1986

^{*}I passed the UK Society of Investment Professionals' (UKSIP) Investment Management Certificate (IMC) in November of 2001, and I was an IMRO-Registered (Investment Management Regulatory Organization) and FSA-Approved (Financial Services Authority) Person at Barclays Global Investors London January 2001-October 2003. For details on the IMC exam, see https://www.cfauk.org/study/imc

**COP is Certificate of Proficiency. There is no actual certificate; you are *certified* as being able to continue to higher-level study in that discipline.

As of August 2022, with over 37,000 downloads, I appear to be the highest ranked researcher in the social sciences in New Zealand based on ranking of all time total number of downloads of my papers on the Social Sciences Research Network (SSRN):

https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=32962

4. Languages

• English (native)

5. Employment History

- (a) Present Position
 - Professor Emeritus (Finance), Department of Accountancy and Finance, Otago University, Dunedin, NZ. April 5, 2022—current.
 Maintaining an office at the University and mentoring junior faculty and students.
- (b) Employment History
 - Otago University, Dunedin, NZ, Department of Accountancy and Finance, Professor (chair in finance), April 1, 2004–April 5, 2022.

Note department name changed from Finance and Quantitative Analysis after a merger Jan 1, 2011. Sabbatical 2013. Phased Retirement: Moved from 100% to 70% FTE from September 1, 2014. Moved from 70% to 40% FTE from July 1, 2016. Moved from 40% to 20% from March 1, 2021. Retired April 5, 2021.

- Otago University, Dunedin, NZ. Department of Finance and Quantitative Analysis, Visiting Scholar. November 2002 to March 31, 2004.
- Barclays Global Investors Limited (BGI), London, England. October 2002 to October 2003. Leave. 1
- Barclays Global Investors Limited (BGI), London, England. June 2001 to October 2002. Principal. Head of Active Equity Research (UK/Europe).
- Barclays Global Investors Limited (BGI), London, England. January 2001 to May 2001. Principal. Active Equity Researcher.
- Indiana University, Bloomington IN, USA. August 1996 to December 2000. Assistant Professor of Finance.
- Massachusetts Institute of Technology, Cambridge MA, USA. August 1992-June 1996. PhD Student and Teaching Assistant in Finance.
- Massachusetts Institute of Technology, Cambridge MA, USA. August 1991-July 1992. PhD Student.
- Otago University, Dunedin, NZ. Department of Accounting and Finance, MCom Student and Assistant Lecturer (Finance). 1990-August 1991.
- Otago University, Dunedin, NZ. Department of Accounting and Finance, PGDipCom Student and Teaching Fellow (Accounting and Finance). 1987-1990.
- Otago University, Dunedin, NZ. Department of Mathematics and Statistics, Honours Student and Teaching Assistant (Math and Stats). 1985-1986.
- Otago University, Dunedin, NZ. Department of Mathematics and Statistics, BSc (HONS) Student, 1983-1986.

6. Other Relevant Experience

- (a) Experience Working in an Overseas Country:
 - Many business trips to the US office of Barclays Global Investors when employed in London during 2001 and 2002.
 - Lived/worked in the US from 1991–2000 inclusive.
 - Lived/worked in the UK from 2001–2002 inclusive.
 - Lived/worked in NZ from 1985–1991, 2004–present.
- (b) National/International Collaboration:
 - Helen Roberts (NZ), Lynn McAlevey (NZ), Anindya Sen (NZ), Harry Peyhani (NZ), Peter Whigham (NZ), Grant Dick (NZ),

¹ Leave spent writing Black-Scholes book and performing academic research in London England, Exeter England, Edinburgh Scotland, Ayr Scotland, and Dunedin New Zealand, including supervising one masters student at Otago.

Malcolm Crack (NZ), Olivier Ledoit (CH, US), Tom Arnold (US), Adam Schwartz (US), Sanjay Nawalkha (US), Alex Butler (US), David Duval (CA), Robin Grieves (US), Reza Tajaddini (AU), Rasika Withanawasam (SL), Mark Osborne (UK), Mike Osborne (UK).

7. Research Activities

- (a) Research Expertise:
 - Empirical Capital Markets, Derivatives, Trading Strategies, Econometrics, Market Microstructure, Fixed Income Theory (limited), Pedagogy in Finance, Mathematics and Statistics, Job Seeking Strategies in Practitioner and Academic Finance.
- (b) Experience in Applied R & D, contract research, consultancies, patents
 - Twice supplied *pro bono* consultation to Commerce Commission (NZ) in 2011. Advanced finance, derivatives, and high-level statistics.
 - Frequent *pro bono* consultation service to US investment bankers and traders with whom I have personal connections 1994–2021.
 - Finance practitioner conducting applied research for Barclays Global Investors (UK) 2000–2001.
 - Independent consultant to New York Stock Exchange (NYSE) during Summer (US) 1994.
- (c) Supervision of Postgraduate Students (list all supervisors and members of supervisory panels, with the name of the primary supervisor in **bold**):
 - 2015–2019: PhD co-supervisor of Harry Peyhani (primary was Peter Whigham; secondary Grant Dick). Student completed in October 2019, and has worked for the Financial Market Authority and ANZ Bank in Auckland, NZ.
 - 2015–2016: PhD co-supervisor of Fang (Livvy) Zhen (primary was **Jin Zhang**; secondary Eric Tan). Completed **2016.** Student now works as a finance academic in China.
 - 2010–2013: PhD primary supervisor of Reza Tajaddini (80%). Helen Roberts was also supervising (20%). Student now works as a finance academic at Swinburne University of Technology, Australia.
 - 2010–2013: PhD thesis co-supervisor for PhD student Rasika Withanawasam at Otago University (40%). Thesis topic: detection of manipulation of stock prices. Primary supervisor was **Peter Whigham** (60%). Student has worked for a financial markets IT firm in Sri Lanka.
 - 2013: Co-supervised MBus student Daniel Bode with Helen Roberts (and Hai Lin).
 - 2013: Master's thesis **sole advisor** for MCom student Worik Turei Stanton. Topic technical analysis and data snooping.
 - 2011: Co-Supervised MBus student Kerry Newnham with Helen Roberts. Topic: Liquidity premium in NZ stock returns.

- Master's thesis **sole advisor** for MBus student Sam Trethewey, Late 2008-early 2009. Thesis topic: Price Momentum Strategies in New Zealand Equity Markets 1992–2006.
- Master's thesis sole advisor for MBus student Chris Croft, Late 2007—March 2008. Thesis topic: Feasibility of Domestic and Cross-Border Portable Alpha Strategies in NZ.
- Master's thesis **sole advisor** for MBus student Kelvin McKeown at Otago University. Thesis topic: Dividend Policy in NZ and the US. Late 2006–March 31, 2007.
- Master's thesis sole advisor for MBus student Satneet Sabharwal at Otago University. Thesis topic: Value and Growth strategies in India. Late 2004–Jan 31, 2005.
- Master's thesis **sole advisor** for MBus student Lifan Zhang at Otago University. Thesis topic: Pacific Rim FX exposure of US MNCs. September 2003–May, 2004.
- Sponsor and thesis advisor for Individualized Major Program (IMP) undergraduate student Devesh Shah in his "Financial Mathematics" degree, spring 1997. Thesis title: Overview of Specialness in the US Government Bond Repurchase Market. There were two co-advisors (one in math, one in finance). I was the **sole finance advisor**.
- Sponsor and thesis advisor for IMP undergraduate student Reed Schwandt in his "Financial Mathematics" degree, fall 1997, Spring 1998. Thesis title: Program Trading and Derivative Strategies in the Equity Markets. There were two co-advisors (one in math and one in finance). I was the **sole finance advisor**.
- Senior thesis **sole advisor** for undergraduate finance major Joshua Leavitt. Thesis topic: Initial Public Offerings: A Brief Study of Performance—fall 1997/Spring 1998.
- Senior thesis sole advisor for undergraduate finance major Matthew Tuchband. Thesis topic: The Effects of the Transition to the EURO on International Organizations and their Foreign Currency Risk Management Strategies—fall 1997/Spring 1998.
- Supervising PhD Finance Student Miikka Tauren. Thesis Title: The Pricing of Credit Risk: Theory and Evidence. 1999. There were four committee members. I was a **committee member only**.
- Supervising PhD Finance Student Craig Wisen. Thesis Title: The Bias Associated with New Mutual Fund Returns, spring 2002. There were four committee members. **I was co-chair**, until I resigned my job, but I continued to advise him heavily after I left Indiana. I was removed from the official committee because I was not an academic.
- Supervising PhD Economics Student Jeff Gerlach. Thesis: Derivatives and Emerging Market Debt/Information, Institutions and Asset Returns, October 2001. There were four committee members. I was a **committee member only**.
- Constituent Member, Andrew Waisburd's PhD committee, March 2000. Essays in Financial Market Automation. There were four committee members. I was a **committee member only**.

8. Distinctions

• Mentioned 12 times (very positively) in 2020 Graduate Opinion Survey (and in several subsequent surveys). Comments from 2020 included:

"Professor Crack, I cannot begin to describe the impact he has had on my passion to pursue finance. He is an excellent teacher in a field which is very complex and dry content wise. He breaks extremely difficult concepts down into the most digestible pieces. He is the heart of the finance course."

"Timothy Falcon Crack made the lectures and course interesting and applicable to real life, he was clearly enthusiastic and wanted to teach which inspired me to learn."

- Nominated for Otago University Teaching Award, October 2018.
- Nominated for Otago University Teaching Award, August 2017.
- Nominated for Otago University Teaching Award, September 2015.
- Prize for Best Paper in Financial Literacy (Credit Cards, Excess Debt, and the Time Value of Money), Sponsored by the Financial Education and Research Centre at Massey University. New Zealand Finance Colloquium, February 2013.
- Awarded certificate as one of the "Top 20 Teachers at Otago University for 2007." Nomination by students; overseen by Otago University Students Association (OUSA). October 2007. OUSA also identified me as one of the top 10 teachers in the Business School.
- Presented: BGI-sponsored best paper awards at European Finance Association (EFA) Conference, Barcelona, August 2001.
- Awarded: Southwestern Finance Association, New Orleans, Feb/March 2001 Distinguished Paper Award (Noise Reduction: The Case of Short Selling Against the Box, now titled "The Information Content of Short Interest: A Natural Experiment" and published at Journal of Business).
- Awarded: Doctoral Student Association PhD Teaching Award, April 2000 (Indiana).
- Nominated: Sauvain Undergraduate Teaching Award, 1999–2000 (Indiana).
- Nominated: University-wide Distinguished Teaching award, Fall 1999 (Indiana).
- Nominated: Sauvain Undergraduate Teaching Award, 1998–1999 (Indiana).
- Awarded: Indiana University Teaching Excellence Recognition Award (TERA), 1998–1999.
- Awarded: Indiana University Alpha Kappa Psi Professional Business Fraternity Undergraduate Teaching Excellence Award (Class of 1997). October 1998.
- Nominated: Sauvain Undergraduate Teaching Award 1997–1998 (Indiana).
- Awarded: Indiana University Teaching Excellence Recognition Award (TERA), 1997–1998 (with highest teaching ratings in 25-member Indiana University Finance Department).

- Awarded: Indiana University Teaching Excellence Recognition Award (TERA), fall 1996.
- Awarded: Full MIT Doctoral Fellowship with Stipend, 1992–1995.
- Awarded: Trust Bank Otago Travelling Scholarship in Commerce, New Zealand, 1991.
- Nominated: Commerce Division Outstanding Teaching Award, Otago University, 1991.
- Offered: Fulbright Travel Grant (I refused because of visa implications), 1991.
- Awarded: Forsyth Barr Ltd Prize in Business Finance, Otago University, 1989.
- Awarded: Beverly Senior Scholarship in Mathematics, Otago University, 1985.
- Awarded: Gopi Jain Memorial Prize in Statistics, Otago University, 1985.
- Awarded: R.J.T. Bell Prize in Mathematics, Otago University, 1984.
- BNZ Senior Math. Competition (Canterbury Math. Assoc.), 6th placing in New Zealand, 1982.
- Awarded: Australian Mathematics Competition, Senior Division, Certificate of Distinction, 1982.
- Awarded: Dux/Valedictorian, King High School (550 students), Dunedin New Zealand, 1982.

9. Teaching Activities

- (a) Range and level of teaching (Last three years only):
 - Taught BSNS101 Intro Finance (two weeks S2 2007 456 students; two weeks S2 2008 436 students; two weeks S2 2009 454 students);
 BSNS108 Intro Finance (S2 2010 619 students; S2 2011 559 students; S2 2012 476 students);
 - BUSI522 MBA Finance (one class only Sept 8, 2010: option pricing; 24 students):
 - FINC2XX Second Year honours Finance Seminar (S2 2004 7 students; S2 2005 7 students; S2 2006 8 students; S2 2007 3 students and class met only once);
 - FINC305 International Financial Management, (S2 2004 121 students);
 - FINC321 Applied Investments, (S1+S2, 20 weeks of 26-week year 1991 91 students)
 - FINC302 Applied Investments, (S1 2005 147 students; S1 2006 165 students; S1 2007 121 students; S1 2008 119 students; S1 2009 107 students; S1 2010 112 students; S1 2011 115 students; S1 2012 130 students; S1 2014 116 students; S1 2015 144 students; S1 2016 118 students; S1 2017 96 students; S1 2018 108 students; S1 2019 110 students; S1 2020 128 students). FINC460 Real Options (3 Weeks, S1 2007 10 students).

11. Publications

(a) Selected Books (all sole-authored; latest editions only listed)

- 1. Foundations for Scientific Investing: Capital Markets Intuition and Critical Thinking Skills, (paperback, 752pp). Revised 14th Edition, February 2025, ISBN: 978-1067058302 (see www.amazon.com).
- 2. Heard on the Street: Quantitative Questions from Wall Street Job Interviews (MBA guide book sold in 25+ countries). Revised 25th Edition, August 2024 ISBN: 978-1991155481 (paperback, 398pp) (see www.amazon.com).
- 3. Basic Black-Scholes: Option Pricing and Trading, (paperback, 308pp) (see www.amazon.com). Revised 7th Edition November 2024 ISBN: 978-1991155498.
- 4. Interviews with Top University Teachers: How to Build Quality Teaching, Inspire Your Students, and Create More Time for Research, (paperback, 434pp) (see www.amazon.com). September 2021 ISBN: 978-1991155405.
- 5. 24 Essential Tips for Selling Print Replica eBooks on Amazon: How to Capture New Readers by Turning your Physical Book into an eBook. (eBook, 50pp) (see www.amazon.com). Revised 2nd Edition, September 2021, ASIN: B09GXQ1KRX.
- Foundations for Scientific Investing: Multiple-Choice, Short-Answer, and Long-Answer Test Questions, (paperback, 305pp) (see www.amazon.com). Revised 7th Edition, January 2021, ISBN: 978-0-9951173-5-8.
- 7. How to Ace Your Business Finance Class, (paperback, 268pp) (see www.amazon.com). 3rd Edition, March 2018, ISBN: 978-0-9941386-5-1 (paperback).
- 8. Pocket Heard on The Street: Quantitative Questions from Finance Job Interviews, (paperback, 196pp) (see www.amazon.com), January 2014 ISBN: 978-0-9941038-1-9.
- 9. Pocket Heard on The Street: Brain Teasers, Thinking Questions, and Non-Quantitative Questions from Finance Job Interviews, (paperback, 102pp) (see www.amazon.com), January 2014 ISBN: 978-0-9941038-2-6.

(b) Book Chapters

10. Arnold, Tom, Timothy Falcon Crack, and Adam Schwartz, 2011 "Inferring Risk-Averse Probability Distributions from Options Prices Using Implied Binomial Trees." Chapter 2 (pp35-52) in: G.N. Gregoriou and R. Pascalau (Eds.), Financial Econometrics Modeling. Chapman-Hall-CRC/Taylor and Francis: London, UK.

- 11. One of my published papers appears in the book "Fixed Income Valuation and Risk Analysis with CD-ROM," co-authored by Sanjay K. Nawalkha, Gloria M. Soto, Natalia K. Beliaeva. ISBN: 0471427241. April 2005.
- 12. I contributed more than 10% of the questions and answers in the book "Logic Problems for Money Minds." First published December 2003 by Harriman House in the UK. ISBN: 1897597231. Second edition published 2006. ISBN: 1897597967.
- 13. "Robust Structure without Predictability: The 'Compass Rose' Pattern of the Stock Market," (co-authored with Olivier Ledoit) reprinted in Forecasting Financial Markets (The International Library of Critical Writings in Economics, #146). Edited by Terence C. Mills, June 2002, Edward Elgar, UK. A collection of 52 seminal papers in forecasting financial markets from 1934 to 2000. 1,248 pages, ISBN 1840644974. We appear as Chapter 26 of Volume 2.

(c) Refereed Journal Articles (plus ABDC Journal Ranking)

- 14. [N/A] Crack, T. F., 2023, "Don't put much stock in Herst's ticker-tape covers." *American Philatelist*, Vol. 137 No. 8, pp696–697. [Letter to the Editor].
- 15. [N/A] Arnold, T., Crack, T. F., Marshall, C. D., & Schwartz, A., 2023, "Introducing a real option framework for EVA/MVA analysis." Engineering Economist, Vol. 68 No. 4, pp190–210. http://dx.doi.org/10.1080/0013791X.2023.2245828
- 16. [A] Butler, A.W., & Crack, T.F., 2022, "A rookie's guide to the academic job market in finance: The labor market for lemons." The Financial Review. Vol. 57 No. 4 (November), pp775–791. https://onlinelibrary.wiley.com/doi/10.1111/fire.12317
- 17. [B] Arnold, T., Crack, T. F., & Schwartz, A., 2022, "Embedding a net present value analysis into a binomial tree with a real option analysis," Managerial & Decision Economics. Advance online publication. <u>https://doi.org/10.1002/mde.3572</u>
- 18. [B] Chaput, J. S., Crack, T. F., & Onishchenko, O., 2021, "What quantity appears on the vertical axis of a normal distribution? A student survey," *Journal of Statistics & Data Science Education*. Advance online publication. https://doi.org/10.1080/26939169.2021.1933658
- 19. [A] "Price and Earnings Momentum, Transaction Costs, and an Innovative Practitioner Technique," 2015, International Review of Finance, Vol. 15 No. 4, (December), pp555–597 (with Reza Tajaddini and Helen Roberts). Lead and corresponding author.

- 20. [B] "Credit Cards, Excess Debt, and the Time Value of Money," 2015, Journal of Financial Education, Vol. 41 No. 1/2 (Spring/Summer), pp117–137 (with Helen Roberts). Lead and corresponding author.
- 21. [B] "Credit Card Balances and Repayment under Competing Minimum Payment Regimes," 2015, *Review of Quantitative Finance and Accounting*, Vol. 45 No. 4 (November), pp785-801 (with Helen Roberts). Lead and corresponding author.
- 22. [A when submitted; now N/A] "Characterizing Limit Order Prices,"
 2013, Physica A: Statistical Mechanics and its Applications, Vol. 392
 No. 21, pp5346–5355 (with Rasika M. Withanawasam and Peter A. Whigham). http://dx.doi.org/10.1016/j.physa.2013.06.060
- 23. [N/A] "Characterising Trader Manipulation in a Limit-Order Driven Market," 2013, *Mathematics and Computers in Simulation*, Vol. 93 (July), pp43–52 (with Rasika M. Withanawasam and Peter A. Whigham). Available online October 8, 2012 http://dx.doi.org/10.1016/j.matcom.2012.09.012
- 24. [A] "Do Momentum-Based Trading Strategies Work in Emerging Currency Markets?" 2012, *Journal of International Financial Markets, Institutions and Money*, Vol 22 No 3, pp521–537 (with Reza Tajaddini). Lead and corresponding author.
- 25. [C] "Growth Beats Value on the Bombay Stock Exchange" 2012, *Finance India* June (Vol XXVI, No 2) (with Satneet Sabharwal). Lead and corresponding author.
- 26. [A] "Price Momentum in the New Zealand Stock Market: A Proper Accounting for Transactions Costs and Risk," 2010, Accounting and Finance, Vol. 50 no. 4 (December), pp941–965 (with Sam Trethewey). Lead and corresponding author.
- 27. [B] "Using Central Limit Theorems for Dependent Data," 2010, *Journal of Financial Education*, vol. 36 no. 1/2 Spring/Summer, pp38–60 (with Olivier Ledoit). Lead and corresponding author.
- 28. [A] "Valuing Real Options using Implied Binomial Trees and Commodity Futures Options," 2007, *Journal of Futures Markets*, March vol. 27 no. 3, pp203–226, (co-authored with Tom Arnold and Adam Schwartz; I am lead author). Lead and corresponding author.
- **29.** [B] "Implied Binomial Trees in Excel without VBA," **2006**, *The Journal of Financial Education*, Fall vol. 32 pp37–54 (co-authored with Tom Arnold and Adam Schwartz; no lead author). Lead and corresponding author.

- 30. [N/A] "The Academic Job Market in Finance: A Rookie's Guide," 2005, *Invited Paper* for Special Edition of *Financial Decisions*, September (co-authored with Alex W. Butler; no lead author).
- 31. [A*] "The Information Content of Short Interest: A Natural Experiment," 2005, Journal of Business July, vol. 78, no. 4, pp1307–1305 (co-authored with Alex W. Butler, Tom Arnold, and Yan Zhang; no lead author).
- **32.** [A] "Using the WACC to Value Real Options," **2004,** *Financial Analysts Journal*. Nov/DecVol.60, No. 6; pp78–82 (co-authored with Tom Arnold; no lead author). Lead and corresponding author.
- 33. [A*] "Impact: What Influences Finance Research?," 2003, *Journal of Business*, Vol. 76 No. 2, (April), pp343-361 (co-authored with Alex Butler, Tom Arnold, and Ayca Altintig; no lead author).
- **34.** [C] "Common Misunderstandings Concerning Duration and Convexity," **2001**, *Journal of Applied Finance*, Vol. 1, (October), pp82–92 (co-authored with Sanjay K. Nawalkha; no lead author).
- 35. [A] "Sensitivity of Bond Risk Measures to Changes in Term Structure Shape Parameters," 2000, *The Financial Analysts Journal*, Vol. 56 No. 1, (Jan/Feb), pp34–43 (co-authored with Sanjay K. Nawalkha; no lead author).
- 36. [B] "A Classic Case of Data Snooping for Classroom Discussion,"1999, The Journal of Financial Education, Vol. 25 (Fall), pp92–97.Lead and corresponding author.
- 37. [A*] Robust Structure without Predictability: The "Compass Rose" Pattern of the Stock Market, **1996**, *The Journal of Finance*, Vol. 51 No. 2, (June), pp751–762 (co-authored with Olivier Ledoit; no lead author). Corresponding author.

See also last page of this document for pointer to an additional 50 unpublished working papers at SSRN.com.

- (g) Refereed Conference Proceedings
 - Quantitative active techniques to execute price and earnings momentum strategies (with Reza Tajaddini and Helen Roberts), and Credit card debt and the time value of money, with Helen Roberts. Both presented at New Zealand Finance Colloquium, February 2013 (former by co-author, latter by me). First also presented at Australian Banking and Finance Conference, Sydney, Dec 2012, by co-author.
 - "Valuing Real Options Using Implied Binomial Trees and Commodity Futures Options," appearing in referred conference proceedings of 10th Annual New Zealand Finance Colloquium, Dunedin, New Zealand, January 26–27, 2006. ISSN: 1175-8074.

- (h) Other Significant Conference Involvement
 - "Credit Cards, Excess Debt, and the Time Value of Money," New Zealand Finance Colloquium, February 2013. Best paper in financial literacy prize.
 - I was co-author on a paper with former PhD student Rasika Withanawasam and my colleague Peter Whigham. Rasika presented the paper "Simulating Trader Manipulation in a Limit-Order Driven Market" at the MODSIM 2011 Conference in Perth in December 2011. The paper was nominated for a Best Student Paper Presentation and Paper Award in Socioeconomic Systems at the conference.
 - Evolving Trading Strategies for a Limit-order Book Generator, by Peter Whigham, Rasika Withanawasam, Timothy Crack. 2010 IEEE World Conference on Computational Intelligence, Barcelona, Spain, July 18-23. Whigham is lead author and only author to attend.
 - Refereed/Filtered papers for Indiana University's sixth biennial symposium (Crisis Events in Financial Intermediation and Securities Markets). February 2000.
 - Constructed multiple sessions and chose chair and discussants for these sessions for October 1998 Financial Management Association (FMA) meetings in Chicago IL, USA.
 - Refereed/Filtered papers for Indiana University's fifth biennial symposium (Implications of Market Microstructure for Investors, Firms, and Markets). August 1997.

(j) Computer Software

- I wrote Black-Scholes option pricing code for HP17B and HP19B handheld financial calculators. It has been reproduced in a British computing journal: Hutchins, Tony, 2003, "Black-Scholes takes over the HP12C," Handheld and Portable Computer Club DataFile, Vol. 22 No. 3 (June/July), pp13–21.
- (k) Technical Drawing/Architectural and Industrial Design/Working Model
 - I supplied a graphic artist illustration for "Investments: A Global Perspective," co-authored by Jack Clark Francis and Roger Ibbotson, Prentice-Hall, 2002, ISBN 0138907404 (see page 459 for acknowledgement to my contribution).

(m) Other Creative Works

• Put your Best Foot Forward: A Pre-Submission Checklist for Journal Articles 2011 (with Robin Grieves and Marianne Lown). Service paper: Appeared for many years as an unpublished resource on the home page of Journal of Financial Economics (now available at SSRN.com; see last page of this document).

- One of my option pricing formulae appears in "The Complete Guide to Option Pricing Formulas," by Espen Gaarder Haug, 2nd Edition 2007 (see page 119).
- Both "The Academic Job Market in Finance: A Rookie's Guide" and "The Academic Job Market in Finance: A Rookie's Guide 2007 Supplement" (coauthored with Alex Butler) were archived at the Financial Management Association's FMA Online web page: in October 2007
 - http://www.fma.org/FMAOnline/Archive/JobMarketGuide.pdf and http://www.fma.org/FMAOnline/Archive/JobMarketGuide2.pdf, respectively).
- The Academic Job Market in Finance: An Updated Rookie's Guide (2012 version) was the only recruitment-related paper posted on the FMA Job Market web page for the October 2013 FMA meetings in Chicago:

http://www.fma.org/Placement/2013/OpeningPage2013.htm

12. University Service (not listed elsewhere)

- (a) Positions held within Department/School/Division (list last 5 years)
 - Chair of Departmental Research Committee. January 1, 2015–June 30, 2016.
 - Member of Divisional Research Committee. January 1, 2015—June 30, 2016.
 - Convenor of Otago PhD in 2016.
 - Internal examiner for PhD theses: 2020 (1), others prior.
 - Internal examiner for MCom theses: 2015(1).
 - Internal examiner for MBus theses: 2014(2), 2012(1), 2011(3).
 - External Examiner: for one PhD thesis from Lincoln University in New Zealand (2013).
 - Director of Student Research, Otago Univ. Dept Finance and Quant. Analysis, July 1, 2005–2016. (Focus on MBus FINC program).

13. **Professional Activities**

- (b) Service to External Academic and Professional Activities
 - (i) Service to, or leadership in, academic discipline or professional associations
 - Referee in one NZ promotion and tenure (P&T) case, 2018.
 - Referee in one UK and one Australian P&T case, 2017.
 - Interviewed Deutsche Bank Financial Markets Scholarship candidates alongside Deutsche Bank Investment Banking representatives each year 2004–2016.
 - Worked with FMA and University to bring FMA Honours/Master's Research Prize into existence. Approved by Senate July 29, 2015.

- Served as an external referee on a tenure/promotion case (to associate professor) at another NZ University, July 2014.
- External examiner for PhD at Lincoln University (NZ), 2013.
- Served as an external referee on a tenure/promotion case (assistant to associate professor) at good US School. September 2007.
- Ad-hoc referee: The Journal of Finance.
- Ad-hoc referee: The Journal of Business (now defunct).
- Ad-hoc referee: Journal of Futures Markets.
- Ad-hoc referee: Pacific-Basin Finance Journal.
- Ad-hoc referee: International Journal of Theoretical and Applied Finance.
- Ad-hoc referee: Quantitative Finance.
- Ad-hoc referee: Studies in Nonlinear Dynamics & Econometrics.
- ...and others.

END OF FORMAL CV.

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- Bloomberg Environmental Social Governance (ESG): Certification for Students
 - Bloomberg Market Concepts (BMC): Certification for Students
- \bullet Bloomberg Equity Screening (EQS) Exercise: Benjamin Graham Value Investing
 - Bloomberg Equity Screening (EQS) Exercise: ESG Investing

OPTION PRICING:

- Trinomial Option Pricing: A Primer
- Implied Binomial Trees in Excel Without VBA
 - Real Option Valuation Using NPV

FIXED INCOME:

- Everything You Need to Know About Accrued Interest, Dirty and Clean Prices
 - Common Misunderstandings Concerning Duration and Convexity

STATISTICS/PROBABILITY:

- What Quantity Appears on the Vertical Axis of a Normal Distribution?
 - Kurtosis as Peakedness: The Phoenix from the Ashes
 - 10 Results: Normal Distributions, Correlation, and Independence
- How to Win the Lottery, Guaranteed: Guaranteed-Win Minimal Lottery Design
 - Central Limit Theorems When Data Are Dependent: Pedagogical Gaps

ACADEMIC FINANCE:

- A Rookie's Guide to the Academic Job Market in Finance
- Put Your Best Foot Forward: A Pre-Submission Checklist for Journal Articles
- Single-Period Kyle Model Notes (Summary of the Kyle 1985 Econometrica Paper)
- 150 Risks in Finance: An Alphabetical List of Definitions and Examples, Accompanied by 75 Exercises for University Instructors to Assign to their Students

https://ssrn.com/author=32962 timcrack@alum.mit.edu