

Dr Richard D Bateson

1. I am Director of Bateson Asset Management Limited ('BAM') an independent Alternative Investment Fund Management (AIFM) company regulated by the UK FCA. BAM was established late in 2016 to specialise in discretionary, AI and Machine Learning strategies exploiting alternative data sources. The company invests in equity, currency, crypto and bond markets using cash and derivatives and acts as a consultant and advisor to funds and managed accounts for professional and institutional investors.
2. In addition to my activities at BAM, I am an industry expert in AI and alternative data in financial markets. I host panels and I am frequently an invited speaker at major conferences in London and Europe on such matters.¹ In October 2022 World Scientific Publishing (WSP) published my latest book "Quantitative Hedge Funds"² which describes "the inner workings of hedge funds, investment techniques and the technologies they use to source investment alpha".
3. Since 2017 I have been engaged as an expert witness on legal cases in the UK and US involving AI /systematic trading, hedge funds, private credit and financial markets³. Notable cases include (i) Bridgewater Associates v. Tekmerion (Minicone

¹ E.g. "Separating the AI hype from reality - What are the latest successful applications and how can you implement them on your trading desk? and Practical uses of AI and Machine Learning in FX trading", TradeTech FX Europe 2019 Barcelona

"Leveraging Alternative Data Sets to Generate New Sources of Alpha", Waters Europe 2019

"Machine Learning and Alternative Data in Long/Short Equity Portfolios, Big Data and Machine Learning Revolution", London, Ravenpack, 2018

"Deep learning and Pattern Recognition", Machine Learning Forum 2018, London

"Leveraging Alternative Data Sets to Generate New Sources of Alpha", Moderator for panel with Goldman Sachs, JP Morgan and State Street, Buy-Side Technology European Summit 2018.

² Quantitative Hedge Funds (WSP 2022) <https://www.worldscientific.com/worldscibooks/10.1142/q0358>

<https://www.amazon.co.uk/Quantitative-Hedge-Funds-Discretionary-Quantamental/dp/1800612370>

³ Major legal cases where I have been appointed as an expert consultant and/or expert witness include:

Bridgewater Associates v. Tekmerion (Minicone and Squire) (Hedge fund technologies and IP)

XXX v. YYY (AI hedge fund strategies. Billionaire investor v. AI based hedge fund.)

AlphaSharp Limited v. ADG Capital Management LLP (Hedge fund IP. Hedge fund founder v. joint venture partners.)

XXX v. YYY LLC (Hedge fund strategies in private credit and US IP. Hedge fund partner v. hedge fund he founded.)

XXX Bank Investors v. YYY Bank (High Frequency Trading in dark pools. Investors in major UK bank v. the bank.)

and Squire)⁴ for alleged misappropriation and misuse of proprietary investment technologies and (ii) the UK's first major case involving AI which featured as one of The Lawyer's top 20 cases of 2020⁵ (iii) AlphaSharp Limited v. ADG Capital Management LLP a High Court hedge fund IP/contracts case and (iv) CG v. DL which established new UK treatment of hedge funds in Family Court⁶.

4. From 2021-2024, I was Visiting Fellow in Astrophysics at the Cavendish Laboratory, Cambridge University where I collaborated with Prof. Didier Queloz (Nobel Prize in Physics 2019) on the origins of life in the universe and characterisation of exoplanets. The research involved big data analysis using both ground and space-based facilities.
5. Also, from 2019 to 2023 I was also director and co-founder of TR Financial Planning Limited, a wealth advisor and associate partner practice of St. James's Place, the UK's leading financial advisor and FTSE 100 company.
6. Prior to establishing BAM from 2014 to 2016, I was a director of Altera Partners Management Limited an FCA investment manager established in 2003 specialising in quantitative wealth management with particular emphasis on Switzerland and Asia based investors.
7. In 2013, I retired from Man Group plc, one of the world's largest hedge funds with over \$135bn in assets. Over a period of 10 years, from 2003, I worked either directly

XXX Sovereign Wealth Fund v. XXX (African sovereign wealth fund v. Swiss fund manager.)

XXX v. ZZZ (Cryptocurrency trading algorithms and IP. Leading crypto exchange v. crypto software company.)

CG v. DL (Family court. Valuation of award-winning hedge fund for divorce settlement.)

YYY v. Nasdaq Company (Share sale valuation and hedging of shares.)

XXX v. ZZZ (Valuation of worst loss exotic options portfolios.)

XXX v. ZZZ (Asian bank v. private investor, Exotic equity options portfolio losses.)

XX v. YY (Family court. Valuation of spread-betting trading and crypto assets for divorce settlement.)

XXX v. ZZZ (BVI crypto fund manager v. early stage investors.)

XXX v. YYY (Leading quantitative hedge fund v. ex-employee joining competitor. NLP/AI trading algorithm IP).

⁴ <https://dealbreaker.com/2020/07/bridgewater-arbitration-ruling>

⁵ The AI based case is described in a Bloomberg Article "Who to Sue When a Robot Loses Your Fortune".
<https://www.bloomberg.com/news/articles/2019-05-06/who-to-sue-when-a-robot-loses-your-fortune>

⁶ <https://caselaw.nationalarchives.gov.uk/ewfc/2023/82>

- for Man Group in senior roles or in close partnership. Man Group's leading professional practices and technological leadership have been a major influence in my investment career.
8. My final role at Man Group was as Senior Quantitative Research Strategist at GLG partners, one of London's oldest discretionary hedge funds that was acquired by Man Group in 2010 and manages around \$32bn. At GLG I was the head quantitative strategist and researcher for all discretionary macro, fixed income and emerging market funds encompassing over 10 funds and \$2bn AUM.
 9. Before transferring to GLG I worked for Man AHL, one of the oldest and largest systematic CTAs, from 2011. AHL has a leading track record for over 30 years and manages over \$30bn. There I was head of AHL's second flagship fund, AHL Dimension a \$5bn multi-strategy CTA which included the award winning AHL Evolution Fund. AHL Dimension included over 40 systematic strategies trading over 150 global markets from exchange traded futures to OTC credit default swaps. I introduced over 20 new strategies ranging from cross-sectional carry in commodities to shorter term equity reversion to reduce dependence on trend following.
 10. Whilst at Man Group I was a Research Committee member of the Oxford-Man Institute (the 'OMI') at Oxford University. In 2007 Man Group founded and became sole sponsor of the quantitative finance department at Oxford University. I was offered the position by AHL to re-orientate the OMI away from abstract mathematics into a more applied environment that would be more relevant to modern financial markets. To this effect I established an inter-disciplinary post-doc program including 'Big Data', high frequency execution/order book and Machine Learning projects with members of different university departments from computer science to engineering. This provided a privileged vantage point for reviewing leading academic research and the applications to investment strategies. Also, I became involved in academic/industry collaboration and lectured on hedge funds and derivatives.
 11. Prior to re-joining Man Group in 2010 I took a sabbatical year at the London Centre of Nanotechnology (LCN), University College London (UCL). I held the position of Honorary Senior Research Fellow and conducted research into nanotechnology and fundamentals of quantum mechanics. During this year I published a theoretical

physics paper on a possible derivation of relativistic quantum mechanics⁷ and gave an invited talk at a leading quantum physics conference⁸. At the LCN I also used my personal experience as an ‘angel’ investor by advising UCL spin-out companies particularly in the bio-nano sector.

12. Also, during my sabbatical year, I wrote and published a textbook called “Financial Derivative Investments” with Imperial College Press⁹. The book encompassed my knowledge of sell-side structuring and trading of derivatives across diverse asset classes and was a Imperial College Press/WSP best-selling publication.
13. From 2003 to 2009 I founded MGIM in partnership with Man Group. MGIM was an FCA regulated quantitative corporate event-driven, capital structure arbitrage and relative value hedge fund. The fund exploited arbitrage opportunities such as credit curve and basis trades and company special situations such as mergers and re-financings. Through strong performance the fund grew from \$12m to over \$2bn of assets, trading equities, high yield and investment grade bonds, credit default swaps and loans in the US and Europe. MGIM was one of the pioneers in hedge fund leveraged loan investing in Europe and was active in private credit, secondary and primary loan markets maintaining close relationships with underwriters, private equity (PE) sponsors and issuers with an active investment management process that resulted in 0% portfolio default rate.
14. As the CEO and CIO of MGIM from inception I gathered a wealth of experience in portfolio management and many practical aspects required for a successful hedge fund such as investor relations, technology, compliance, financing, middle and back-office processes.
15. Prior to my career in hedge fund management I worked for several leading investment banks in derivatives trading and structuring roles. During this time, I was deeply involved with the early development and innovation of the derivatives industry,

⁷ A Causal Net Approach to Relativistic Quantum Mechanics, RD Bateson, J. Phys.: Conf. 361, (2012).

⁸ EmerQuM 11: Emergent Quantum Mechanics 2011 (Heinz von Foerster Congress) which was held at the University of Vienna, 11–13 November 2011

⁹ Financial Derivative Investments, RD Bateson, Imperial College Press (2011)

- starting from the early interest rate derivatives, equity derivatives and the creation of the credit derivatives industry.
16. From 2000 to 2003 I worked at the Royal Bank of Canada ('RBC') as Managing Director in structured credit trading including principal finance/asset backed trading. This involved creating, structuring and hedging complex credit default swaps ('CDS') and collateralised debt obligations ('CDO') and managing a large correlation book containing hundreds of corporate credits. The principal finance book I managed was arguably the largest in London with over \$10bn of diversified asset back securities (ABS) including cash CLO's comprised of leveraged and mid-market loans, real-estate (RMBS and CMBS) and private/PE deals. Managing the portfolio required active trading and hedging, due-diligence of the underlying collateral managers and review of their internal investment and underwriting processes.
 17. Before working at RBC, I was employed 1999-2000 as Global Head of Product Development by Credit Lyonnais Securities, a leading equity derivatives house. I was responsible for structuring and quantitative research teams in Europe (London, Paris, and Zurich), US and Asia (HK, Tokyo). In developing and structuring successful new products for different global markets I worked closely with senior management in marketing, trading, risk and credit management functions across the bank.
 18. From 1997 to 1999 I was employed by General Re Financial Products ('GRFP') which due to its 'AAA' credit rating was one of the world's three leading swap counterparties (along with JP Morgan and AIG FP). I was employed as a Vice President in a structuring and trading role to lead development of the then new credit default swap market.
 19. My first position in finance was 1994-1997 as Associate Director at Mizuho/IBJ. At Mizuho I worked in many interesting roles starting in technology and moving into trading and structuring roles. I worked as a swaps trader and structurer and built among the first exotic 'arbitrage-free', interest rate derivatives models using closed form and various lattice implementations.
 20. Prior to my financial career I worked from 1989 to 1994 as a physicist working at various well-known European research institutions. During this period, I published

over 25 physics papers in top journals including Phys. Rev. Letters on neutron scattering, synchrotron radiation, magnetism and solid-state physics.

21. From 1992-1994 I worked as a postdoctoral fellow at the European Synchrotron Radiation Facility ('ESRF') in Grenoble, France. The ESRF was a newly founded 3rd generation light source and I constructed the High Energy Beamline which used gamma rays for materials science. From 1989-1992 I had a doctoral studentship at the Institut Laue Langevin ('ILL'), Grenoble. The ILL is Europe's major neutron source and based on a nuclear fission reactor. On the basis of my research I submitted my thesis to Cambridge University and was awarded a Doctorate in Physics in 1992. In 1989 I worked at the CERN particle physics laboratory in Geneva. I was a researcher on the OPAL detector for the new LEP accelerator (the predecessor to the LHC) and my role was integrating and converting the suite of detector code to a CRAY supercomputer.
22. From 1986 to 1989 I was an undergraduate at St. Catharine's College, Cambridge University. I graduated in 1989 with a double first-class degree in Natural Sciences specialising in theoretical physics.

Appendix 1

CV – Dr. Richard D. Bateson

DR. RICHARD D. BATESON

CAREER SUMMARY

2017-: Expert Witness, London & US

- Expert witness engaged on legal cases involving AI/systematic trading, hedge funds and financial markets. Notable successful cases include:
 - Bridgewater Associates vs Tekmerion (Minicone and Squire) for alleged misappropriation and misuse of proprietary investment technologies.
 - The UK's first major case involving AI/machine learning which featured as one of The Lawyer's top 20 cases of 2020. AI hedge fund strategies. Billionaire investor v. AI based hedge fund.)
 - AlphaSharp Limited v. ADG Capital Management LLP (Hedge fund IP. Hedge fund founder v. joint venture partners.)
 - XXX v. YYY LLC (Hedge fund strategies and US IP. Hedge fund partner v. hedge fund he founded.)
 - XXX v. ZZZ (Cryptocurrency trading algorithms and IP. Leading crypto exchange v. crypto software company.)
 - CG v. DL (Family court. Valuation of award-winning hedge fund for divorce settlement.)
 - YYY v. Nasdaq Company (Share sale valuation and hedging of shares.)

2016-: CEO, Director, Bateson Asset Management, London

- FCA Regulated AIFM specialised in discretionary and AI strategies exploiting alternative data sources. The company invests in equity, currency, crypto and bond markets using cash and derivatives and acts as an advisor to funds and managed accounts for professional and institutional investors.

2021-2024: Visiting Fellow, Cavendish Laboratory, Cambridge University

- Visiting Fellow in Astrophysics at the Cavendish Laboratory where I collaborate with Prof. Didier Queloz (Nobel Prize in Physics 2019) on the origins of life in the universe and characterisation of exoplanets.

2019-2023: Director, TR Financial Planning, London

- A wealth advisor and associate partner practice of St. James's Place, the UK's leading financial advisor and FTSE 100 company.

2014-2016: Director, Altera Partners Management, London

- Quantitative wealth management combining computer-driven and discretionary CTA, equity, currency and fixed income strategies. Researched and developed multi-strategy CTA and L/S equity investment systems.

2013: Senior Quantitative Research Strategist, GLG Partners, Man Group

- Head quantitative strategist and researcher in team managing all discretionary macro, fixed income and emerging market funds (>\$2bn, >10 funds).

2011-2013: Head of AHL Dimension Fund, Man Group

- CIO of multi-strategy systematic AHL Dimension CTA fund (~\$5bn) including award winning Evolution fund.
- Lead group of quant researchers re-engineering, developing and integrating over 20 exchange traded and OTC strategies across 150 markets to reduce correlation to below 50% of AHL Diversified trend fund.

2011-2013: Research Committee Member, Oxford-Man Institute at Oxford University (OMI)

- Responsible for academic/industry collaboration. Lectured on hedge funds and derivatives.
- Established inter-disciplinary post-doc program including 'Big Data' and Machine Learning projects.

2010: Sabbatical, London Centre of Nanotechnology (LCN), University College London (UCL)

- Research into nanotechnology and quantum mechanics
- Advised technology spin-out companies

2003–2009: CEO, Director, Man Galileo Investment Management (MGIM)

- Founded quantitative corporate event-driven, cap structure and relative value hedge fund manager with \$2bn of assets trading equities, high yield and investment grade bonds/CDS/loans.
- Pioneer of hedge fund leveraged loan investing in Europe and was active in secondary and primary loan markets maintaining close relationships with underwriters, sponsors and issuers with an active investment management process that resulted in 0% portfolio default rate.

2000-2003: Managing Director, Royal Bank of Canada (RBC)

- Structured Credit Trading and Principal Finance including structured credit – bonds, CDS, synthetic CDOs and asset back securities (ABS). Over 500 corporate credits and around \$20bn managed.
- The Principal Finance book was one of the largest in London with over \$10bn of diversified asset back securities including cash CLO's comprised of leveraged and mid-market loans.
- Developed pricing and risk management models including first 'single tranche' CDO models in market.

1999-2000: Global Head of Product Development, Credit Lyonnais Securities (CLS)

- Equity derivative trading and global product development for international retail and institutional clients
- Responsible for structuring and quant teams in Europe (London, Paris, Zurich), US and Asia (HK, Tokyo).

1997-1999: Vice President, General Re Financial Products (GRFP)

- Established new global credit trading desk.
- Credit and equity derivative structuring. Designing credit derivative pricing models.

1994-1997: Associate Director, Mizuho Bank (Industrial Bank of Japan IBJ)

- Exotic interest rate derivative trading and structuring. Building and using quantitative pricing models.
- Designed company VAR and AAA DPC risk systems.

1992-1994: Postdoctoral Fellow, European Synchrotron Radiation Facility (ESRF), Grenoble

1989-1992: Doctoral Studentship, Institut Laue Langevin (ILL), Grenoble

1989: Researcher, OPAL/LEP experiment, CERN, Geneva

EDUCATION

1989-1992: Doctorate in Physics, Cambridge University

1986-1989: Double First MA (Hons.) Natural Sciences (Theoretical Physics), Cambridge University

RECENT PUBLICATIONS

Books:

Quantitative Hedge Funds, RD Bateson, World Scientific Press (October 2022).

Financial Derivative Investments, RD Bateson, Imperial College Press/WSP (2011) - a WSP “best selling” textbook.

Papers:

A Causal Net Approach to Relativistic Quantum Mechanics, RD Bateson, J. Phys.: Conf. 361, (2012).

Over 25 physics papers published in top journals (including Phys. Rev. Letters) during period 1990 - 1996 with over 300 citations. (See ResearchGate.net/profile/Richard-Bateson).

Software: *CTA-APP* on Bloomberg App Portal. Investment management software. Written in C#/WPF (2014).

RECENT PRESENTATIONS

Separating the AI hype from reality - What are the latest successful applications and how can you implement them on your trading desk? and Practical uses of AI and Machine Learning in FX trading, TradeTech FX Europe 2019 Barcelona

Leveraging Alternative Data Sets to Generate New Sources of Alpha, Waters Europe 2019

Machine Learning and Alternative Data in Long/Short Equity Portfolios, Big Data and Machine Learning Revolution, London, Ravenpack, 2018

Deep learning and Pattern Recognition, Machine Learning Forum 2018, London

Leveraging Alternative Data Sets to Generate New Sources of Alpha. Moderator for panel with Goldman Sachs, JP Morgan and State Street, Buy-Side Technology European Summit 2018