

# Tom J. Espel

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PROFILE Quantitative trader specializing in **frontier assets** (fragmented liquidity, sparse data, and nascent infrastructure). Track record building pricing systems for emerging market FX, NDFs, and metals as they electrify. Expertise in signal extraction and market microstructure. Published digital asset research since 2017.

## EMPLOYMENT

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- 2025 - Present**      **Quantitative Trader, Vice President, *BNP Paribas***  
CISI 253637. IEEE Associate 93851893. MAS reg. ETJ300850210.
- **Quantitative Trading** Direct P&L responsibility for 4 Asian currencies. Monitoring and risk management across all G10, select EM pairs, gold and silver. Automated client reporting infrastructure serving 20+ institutional accounts.
  - **Quantitative Research** Asian eFX pricing with machine learning models for medium-term alphas (5min-2hr horizons).
  - **Large Language Model Deployment** Built custom multi-agent system for quantitative research automation: autonomous strategy generation, codebase analysis, and research report processing.
- 2018 - 2024**      **Quantitative Strategist, Associate Director (VP), *HSBC***
- **Quantitative Research** Authored 4 production strategies end-to-end. Built complete NDF pricing and risk management infrastructure for 5 currencies from ground up. Systems operating 24/5 with sub-5ms latency targets. Focus on tick-to-subsecond alphas across G10 and EM pairs. Processing multi-TB daily datasets in fragmented liquidity markets.
  - **Quantitative Trading** Monitored live eFX execution and risk systems for spot FX, eNDF and metals; built Python/Dash tools and performance metrics. Team won *Best Bank for eTrading*, Asia FX Awards 2024.
  - Founded and led a quantitative finance graduate programme, hiring 40+ analysts over 4 years as HSBC's global talent pipeline.
- Summer 2017**      **Blockchain Analyst Internship, *French Central Bank***  
Co-developed blockchain architectures for RTGS with zero-knowledge algorithms (IACR 2017/1093).

## EDUCATION

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- 2017-2018**      **MSc in Mathematics and Finance, *Imperial College London*** - London, UK  
Mathematics, Quantitative Finance
- Advanced courses in Quantitative Finance, Stochastic Processes, Applied Machine Learning.
  - MSc Thesis: *Electronic Market Making of FX Futures* with Dr Mikko Pakkanen.
- 2015-2018**      **MEng in CS & EEE, *CentraleSupélec (Paris-Saclay University)*** - Paris, France  
Mathematics, Computer Science, Electronics (Supélec Degree)
- Top French university, advanced courses in Electrical and Electronic Engineering.
  - Courses at *HEC Paris* (France's top business school)
- 2016-2017**      **BSc in Economics, *Dauphine (PSL University)*** - Paris, France  
Economics, Econometrics - Licence 'Grande École' - Dual Degree

## RESEARCH & PUBLICATIONS

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- Book**      • **Financial Mathematics for Cryptocurrencies**, Tom J. Espel (2025). *Wiley Finance*. Wiley. 288 pages. ISBN 978-1-394-37007-8.
- Peer-Reviewed**      • Sentiment Analysis with Large Language Models Applied to the Federal Reserve Beige Book (2025). *Intellisys Conference 2025 Proceedings, Volume 4*. Springer.
- Impact of US Bitcoin ETF Introduction on BTC and ETH Intraday Regime Seasonality (2024). *Proceedings of the Future Technologies Conference (FTC) 2024, Volume 2*. Springer.
- Working Papers**      • Cross-Chain Publication NFTs for Academic Publishing (2025). *SSRN*.
- The Validator Account: A New Numéraire for Assets on Blockchains (2025). *SSRN*.
  - Espel, Katz, Robin (2017). Proposal for Protocol on Quorum Blockchain with Zero Knowledge. *French Central Bank, IACR 2017/1093*.

## ACHIEVEMENTS

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- Guest Lectures**      • **Singapore:** NUS (2026), NTU (2026)
- **Hong Kong:** University of Hong Kong (2024), HKUST (2023), CUHK (2023)
  - **UK:** Imperial College London (2021)
- Certificates**      CAIA Charter Member 1322369, CAIA Association (2025).  
1st year of Capacity in Law, Université Panthéon Assas (2015).