

# JOSÉ LOPE ALBA

Madrid, 7th October 1990, c/ Batanes 1, 7º 4 (Alcalá de Henares), 685229082, e-mail: [jose.lope.alba@gmail.com](mailto:jose.lope.alba@gmail.com)

## Academic Qualifications

- Sep.19-Sep.24 **PhD** on Nonlinear Analysis and Integrability at the **Universidad Politécnica de Madrid & Universidad Complutense de Madrid** (IMEIO Program).
- Apr.15-Jun.16 **Masters in Stock Exchanges and Financial Markets** at **IEB** (Instituto de Estudios Bursátiles). (Valuation of Financial Instruments). Score: 73
- Sep.08–Sep.15 **Ingeniero de Caminos, Canales y Puertos** (M Eng. Civil Engineering – 6 year programme) at the **Universidad Politécnica de Madrid**. Specialization in Structures and Foundations. Score: 60

## International Certifications and Licenses

- Nov.18-Nov.19 **FRM(Financial Risk Manager)**. GARP.
- Jun.16-Jun.17 **CQF(Quantitative Finance Certificate)** Fitch Learning, Paul Wilmott Scholarship. Score: 91.6
- May.18-Current **EEX**: Trade Registration. European Energy Exchange AG.

## Professional Experience

- Ago.19-Current **Head of Quantitative Analysis at W2M, S.A:**  
**Quant:**
- Development of Risk Management libraries in R.
  - Pricing Libraries
- Trading:**
- Systematic Trading Strategies
- May.18-Ago.19 **Quant-Trader at Energya-VM (Villar Mir Group):**  
Hedging and Pricing derivatives:
- Delivery Volatility modelling and forecasting.
- Trading:
- Power:**
- DA Modelling with no linear analysis.
  - Modelling the thermal gap of the Spanish energy system, to predict the offer and demand curves, in the supply and generation markets.
  - Risk premia studies between delivery and future prices.
  - Developing Spread Strategies in both long and short term, using statistic techniques such as cointegration. *With R and VBA.*
  - Systematic Trading with both Machine and Deep Learning applications. *With R & Python (TensorFlow and other Google Features)*
  - Cointegration Engine which studies all possible combinations within a user selected pool of assets. *With R.*
  - Delivery Volatility modelling and forecasting.
- CO2 Emissions:**
- Harmonic Patterns recognition. Inference movement over different power tenors. Focused on Germany derivatives. *With R and C++.*
- Brent:**
- Time series prediction with no linear analysis, and fractal patterns recognition. *With R.*

- Feb.17-May.18 **Quant-Supervisor at PwC(Quantitative Division):**  
Leading methodology, development and design.  
**Banking:**
  - Derivatives pricing. Exotics and Vanilla OTCs
  - Modeling and stress testing of IRRBB: NMD's, IPF's and Mortgage. Matlab, R y VBA.
  - FRTB on IFRS9 implications.
  - Speaker at Tier 1 banks and financial institutions such as CNMV.
  - Development of a tool for analysis of liquidity, credit and capital for banks in Kazakhstan (ILAAP, ICAAP) and finally obtain a rating in accordance with their situation.**Insurance:**
  - Development of methodology and implementation of PRIIPs applied tool. Calculation of premiums, disaggregated costs and risk category of savings and life products.

- Ago.16-Feb.17 **Quant-Sr.Consultant at PwC(Quantitative Division):**  
Leading methodology, development and creation.  
**Banking:**
  - Derivatives pricing. Exotics And Vanilla OTCs
  - Tool development of FRTB Standard Model Approach. Using VBA and further development on web application. And Risk Measures: Expected ShortFall and VaR.
  - Modelling of Stochastic CVA, DVA and FFVA model for audit works. R and Matlab.
  - Pricing of Exotics and non vanilla derivatives. R and Matlab.
  - Tool development of Asset Allocation, subject to non standard constraints.
  - Big data methodology for preclassified and preapproval credits, with clients and non clients. R and Python.
  - Preamortization Modeling. R and VBA
  - FRTB on IFRS9 implications.**Assurance:**
  - Tool development of Asset Allocation subject to capital requirements. VBA and R implementation Tool Development of Invesment portfolio to Assurance. Both further developments on web application.**Energy market:**
  - Development of time series forecasting tool. Prices prediction using the Chaos theory and implementing on R and C++.
  - Risk measures: VaR calculations.

- Sep.15-Jul.16 **Quant-Consultant at Indra Business Consulting:**  
Development of *Big Data* methodology for credit pre-classification and pre-approval.  
**Market Risk:**  
Fundamental Review of Trading Book .(FRTB). Implementation and creation of an own developed VBA calculator, to obtain the Delta, Vega and Curvature requirements from the Standard Model Approach.  
**Energy Market:**
  - Pricing power derivatives.
  - Design and optimization of a calendar for hedging the excess of demand, indicating the type of contract and timeframes, searching for neutral delta and gamma.

## Teaching Experience

- Apr.18-Current    **Course Coordinator at IEB & Lecturer.** Quantitative Finance and Derivatives pricing: <https://www.ieb.es/estudios/executive-education,programas-especializacion/finanzas-cuantitativas-valoracion-derivados/>.
- Sep.19-Current    **Lecturer at OMIE.** Statistical modelling in R. 80h per year.
- Jan.20-May.20    **Master Thesis Supervisor at AFI.** Machine learning strategy on EURUSD.
- Jan.19-Jan.20    **Master Thesis Supervisor at UNED.** Algorithmic trading: <https://www.mastermemfi.com/>

## Languages

- **Spanish: Native.**
- **English C1:** Advanced level. **Trinity Grade 10** at English Connection 2012.

## Programming skills

- **R:** Advanced level.
- **Matlab:** Intermediate level.
- **Python:** Advanced level.
- **VBA:** Advanced level.
- **C++:** User level.
- **Java:** User level.
- **DDBB: SQL:** User Level.
- **Latex:** Advanced Level.

## Data Providers

- Bloomberg
- Reuters