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FINANCIAL

PRESENTS

Claudio Albanese on
ADVANCED EQUITY DERIVATIVES AND STRUCTURED PRODUCTS MODELLING

19 & 20 November 2008
London

Main topics covered during this training

- In depth analysis of structuring principles and trading strategies
- Overview of market products from volatility derivatives to long-dated equity structures and basket trades
- Insight into standard market models: local volatility, Heston, jump models and regime switching models
- Numerical methods and calibration methodologies: lattice models, Monte Carlo methods, optimization techniques
- Deployment design patterns on CPUs and GPU clusters
- Practical PC-based workshops and worked examples (source code samples in ANSI C will be provided to delegates)

Course level: Intermediate to Advanced

Your expert trainer
Claudio Albanese, Independent Consultant

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COURSE DESCRIPTION

An intensive two-day course exploring current industry best practice and emerging trends in equity derivatives and structured products. Pricing, trading and structuring principles are illustrated with many practical examples. The course emphasizes Model Agnostic Financial Engineering whereby traders and analysts can define the model freely and semi-parametrically as a general regime switching dynamics without affecting performance. A main focus of the course is to review the engineering principles behind the design of pricing and calibration engines and emphasizes GPU based architectures. Source code snapshots are handed out and discussed in class.

This is an intermediate to advanced level course aimed at:

- Traders wanting to build realistic pricing models embedding their views and as much useful information as they deem fit
- Analysts and developers building trading systems
- Structurers wanting powerful analytics to understand and design effective payoff structures

COURSE DIRECTOR

Prof. Claudio Albanese

Claudio Albanese currently works as an independent consultant and is a Visiting Professor of Mathematical Finance at King's College London. His academic background includes a PhD in Physics from ETH Zurich and a number of academic positions up to the rank of full professor at several universities including NYU, Princeton, University of Toronto and Imperial College London. Claudio worked as a consultant and trained at several investment banks and hedge funds including Mitsubishi Securities, Merrill Lynch, Bloomberg, CDC-Naxis, Carador, Shinsei, ABN AMRO, BBVA, ZKB and others.

Claudio's main focus is in building engineering frameworks for derivative pricing which are flexible enough to accommodate regime switching models. These engines are very efficient and accurate, especially if implemented by leveraging on GPU technology.

WHAT YOU WILL ACHIEVE BY THE END OF THIS COURSE

- Examine design strategies for realistic and economically meaningful derivatives models
- Understand calibration strategies and pricing techniques for efficient valuation
- Review strategies for system design and data processing
- Understand the structuring and arbitrage implications of economic modelling
- Develop working knowledge of computational platforms

TEACHING METHOD

This is a highly practical course with many PC-based exercises that will help you to immediately apply theory into practice.

WHO SHOULD ATTEND

From Financial Institutions, Investment Banks, Hedge Funds , Consultancy Groups and Solution Providers, Heads, Managers, Advisors and Market Players in:

- Trading: Structured Products and Exotic Derivatives
- Trading and Markets: Equity, Fixed Income and Currencies
- Portfolio Management and Strategy
- Quantitative Analysis and Research
- Derivatives Research
- Structuring
- Risk Management, Risk Analysis and Control
- Data Monitoring and Data Processing

Contact our training advisor if you want to arrange this course **in-house**

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AGENDA

DAY 1

Structuring principles
- Real world versus risk neutral measures
- Optimal positioning in derivatives
- Volatility trading
- Correlation trading
- Vega convexity

Numerical methods and model design
- Analytic solvability: CEV, Heston and VG
- Model agnostic engineering: regime switching models
- BLAS Level 2 methods: implicit differentiation schemes
- BLAS Level 3 methods: explicit methods and fast exponentiation
- GPU computing vs. cluster computing
- Smoothness and sensitivities
- Monte Carlo methods

Calibration methods
- Econometric estimates and derivative calibration
- Global methods: differential evolution
- Local methods: gradient methods
- Hybrid optimization strategies
- Parallelizing calibration
- Calibrating to the implied volatility surface
- Calibrating to American options and dividends
- Calibrating to CDS spreads

Path dependent options
- American and barrier options
- Credit and equity default swaps
- Methods for Abelian path-dependent options
- Moment methods
- Variance and volatility swaps
- (Conditional) corridor variance swaps
- Variance knockout options
- Capped and floored cliquets
- Methods for non-Abelian path dependents
- Soft calls

DAY 2

Practical session and discussion of sample code
- European options
- Forward starting options
- Volatility derivatives with moment methods
- Monte Carlo methods

Baskets
- Correlation and basket skews
- European baskets
- American and barrier baskets
- Dynamic copula models
- Gaussian and student-t copulas
- Binomial copulas and dynamic conditioning
- Using pre-processing
- Monte Carlo methods

Exotic basket options
- Trigger redeemable notes
- Vanilla arithmetic and product cliquets
- Swing cliquets
- Napoleonic features
- Incorporating lock-ins
- Intermediate floors and caps
- Melting baskets
- Dispersion trades
- Correlation trades
- Atlas
- Everest
- Himalayan

Equity Hybrids
- Designing regime-switching models for FX options
- Quanto options
- Correlation equity and FX rates
- Equity-interest rate hybrids
- Stochastic monetary policy models
- Correlating equity and interest rates
- Long dated equity derivatives and interest rate impact
- Equity linked swaptions
- Dynamic conditioning vs. Monte Carlo methods

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REGISTRATION DETAILS

4 easy ways to register:
1. Fill this form and fax it back to +44 208 711 2552
2. Visit our web site and register on line
3. Send an e-mail to enquiry@eurekafinancial.com
4. Phone our registration centre on + 44 207 193 5035

Price: £1995 + 17.5 VAT = £2344.13 **Early Bird Discount till 26 September 2008, save £200!** £1795 + 17.5% VAT = £2109.13 This is a price per person and includes course, course materials, lunch and refreshments during course. The course fee does not include transport and accommodation.	**Group discounts:** • If you register 3 delegates, you will receive the discount of 10% from the total price • If you bring 4-5 colleagues, you will receive 20% discount * This applies to professionals working for the same organisation and signing up on the same course at the same time. This discount cannot be added to the early bird discount

Registration details

Name	**Surname**
Job Title	**Department**
Company	
Address	
Post code	**Country**
Tel.	**Fax**
E-mail	
Signature	**Date**

I have read and understood the booking terms and conditions

Payment details:

□ **Bank transfer** toEureka Financial Ltd.
HSBC Business Banking
Sort code 400226
Account number 32240939

□ **Send a cheque paid to Eureka Financial Ltd.**

□ **Credit card**
Please debit my card: □ Visa □ Maestro □ Mastercard
Card Number: □□□□ □□□□ □□□□ □□□□
Expiry date: □□/□□
Card holder name_____
Account Address_____
Signature_____Date_____

□ **Invoice me.** Purchase order number:_____
Company VAT number_____

Please note that your place is not guaranteed until the payment until your payment has been received

Cancellation Policy

If you are unable to attend the course, you can either send a replacement at no extra charge or transfer your booking to another course within next 6 months for an additional administration fee of 15% of the course value.

Alternatively, for the cancellations requests received 4 weeks before the course date we will make refund less an administration fee of 10% of the course price.
Cancellations must be made in writing (letter or fax) and reach this office four weeks prior to the course date. We regret that no refunds can be given after this period.

Disclaimer
Your place at the course in not guaranteed until we receive the payment and all payments must be made before the course date.

Eureka Financial Ltd. reserves right to programme/speakers/venue changes due to unforeseen circumstances.

Eureka Financial Ltd. accepts no responsibility for any loss or damage to property belonging, nor any personal injury incurred to attendees during the course, within the venue or otherwise.

Data Protection

Your details will be used for administrative purposes and for continuous delivery of the information you have requested.
We would like to contact you from time to time with information about other courses. If you do not wish to receive any messages by one of the following mediums, please tick the relevant box:
By mail: □ By phone: □ By e-mail: □