



# Foreign Exchange Exotic Options by Professor Uwe Wystup

London: 7th & 8th July 2008

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This workshop provides TWO booking options

Register to ANY ONE day or TWO days of the workshop

Register to TWO days of the workshop and receive £200 discount

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# Foreign Exchange Exotic Options by Professor Uwe Wystup

**This practical two-day course covers the pricing, hedging and application of FX exotics for use in trading, risk management, financial engineering and structured products.**

**FX exotics are becoming increasingly commonplace in today's capital markets. The objective of this workshop is to develop a solid understanding of the current exotic currency derivatives used in international treasury management. This will give participants the mathematical and practical background necessary to deal with all the products on the market.**

## **Presenter:**

**Professor Uwe Wystup is an extremely experienced practitioner in the field of foreign exchange options, a senior academic and a highly engaging teacher. He has eight years of front office experience as financial engineer, trader and structurer at UBS, Sal.Oppenheim and Commerzbank and is also Professor of quantitative finance at Frankfurt School of Finance & Management. Uwe is well known for his many publications on FX exotics and related topics, and his 2002 book on Foreign Exchange Risk has become a market standard. His new book on FX Options and Structured Products appeared in November of 2006 as part of the Wiley Finance series.**

## **Guest Speaker:**

**FX Hybrids Modelling: Claudio Albanese, Independent Consultant**

## **Prior Knowledge:**

**Calculus, probability theory, linear algebra, basics of stochastic processes, basic concepts of financial products, programming skills.**

## **Who Should Attend?:**

**Quantitative analysts, traders, risk-managers, financial engineers, structurers, researchers and others who create or deal with foreign exchange.**

## **Important Note:**

**Delegates are required to bring their own laptops with internet (Wi-Fi) access to work on case studies and live exercises using SuperDerivatives.**

## Topics:

### Day 1: Review of the Fundamentals of FX Options

- **Fundamentals**
- **Vanilla Options**
- **Volatility**
- **First Generation Exotics: Products, Pricing and Hedging**
- **Structured Products**
- **The Traders' Rules of Thumb**

### Day 2: Second Generation Exotics Pricing and Hedging issues & FX Hybrids

- **Single Currency Exotics**
- **Multi Currency Exotics**
- **FX Hybrids modelling**
- **History of FX model for long dated structures**
- **Quantitative Issues**

All delegates will receive a complimentary copy of the Wiley 2006 publication: FX Options and Structured Products by Uwe Wystup



**FX Options and Structured Products**

**by Uwe Wystup**

# Day 1: Review of the Fundamentals of FX Options

## Fundamentals

- Components of foreign exchange risk: forwards, swaps and vanilla options
- FX options market: who does what and why
- Software, in particular Reuters Dealing and SuperDerivatives

## Vanilla Options

- Put-call parity, put-call symmetry, foreign domestic symmetry
- Quotation conventions in FX
- Dates: trade day, premium payment day, exercise/expiration time, settlement day
- Settlement, spreads, deal processing, counterparty risk
- Exotic features: deferred payment, contingent payment, deferred delivery, cash-settlement, American and Bermudan exercise rights, cut-offs and fixings
- Exercises

## Volatility

- Implied vs. historic
- Quotation in terms of deltas
- Volatility cones
- Volatility smile: term-structure, skew, risk reversals and butterflies
- Volatility sources
- Interpolation and extrapolation across the volatility smile surface
- Forward volatility
- Workshop: Greeks in terms of deltas, hedging volatility risk, deriving the strike from the delta with smile

## First Generation Exotics: Products, Pricing and Hedging

- Digital options: European and American style, single and double barrier
- Barrier options: single and double, knock-in and knock-out
- Compound and instalment
- Asian options: options on the geometric, arithmetic and harmonic mean
- Power, lookback

## Structured Products

- Dual currency and other FX-linked deposits
- Case study: unwinding a DCD
- Structured forwards: shark forward, bonus forward, range-reset forward, etc.
- FX-linked cross currency swaps
- Exotic spot and forward trades
- Workshop: structuring exercises

## The Traders' Rules of Thumb

- How higher order derivatives influence the price
- Vanna-volga pricing approach
- Case study: one-touch
- Discussion of model risk and alternatives: stochastic volatility
- Workshop: pricing of barriers with smile

Day schedule:	09:00 - 17:30
Break:	10:30 - 10:45
Lunch:	12:30 - 13:30
Break:	15:15 - 15:30

## Day 2: Second Generation Exotics Pricing and Hedging issues & FX Hybrids

### Single Currency Exotics

- Exotic features in (vanilla) options: deferred payment, contingent payment, deferred delivery, cash-settlement, American and Bermudan exercise rights, cut-offs and fixings
- Exotic barrier and touch options
- Faders, corridors, accumulative forwards
- Forward start options, step-ups
- Time options
- Variance and Volatility Swaps
- Workshop: structuring and pricing of accumulative forwards

### Multi Currency Exotics

- Product overview with applications: quanto options, baskets, spreads, best-ofs, outside barriers
- Correlation: implied correlations, correlation risk and hedging
- Pricing in Black-Scholes model: analytic, binomial trees and Monte Carlo
- Workshop: Pricing and correlation hedging a two-currency best-of

### Quantitative Issues

- Efficient computation of Greeks using Homogeneity and other Tricks
- Efficient computation of Greeks for American Options using Leisen-Reimer Trees
- Workshop: Time Options with Leisen-Reimer Trees
- Local Volatility model and pricing with the smile using PDEs, application to barrier options
- Heston's Stochastic Volatility model, pricing, implementation techniques for analytic and Monte Carlo, applications to exotic options
- Pricing with the smile: e.g. weighted Monte Carlo

## FX Hybrids Modelling: Claudio Albanese

- Examples of typical products
- Power Reverse Dual Currency knock outs and cancellables
- FX inverse floaters
- FX TARNs
- Quantoed structures
- History of FX model for long dated structures
- Cross-Currency Libor Market Models
- Semi-parametric Models and Operator Methods
- Trends in System Engineering: clusters and GPU computing
- Stochastic monetary policy models
- Modelling the long-dated FX smile
- Modeling correlations by dynamic conditioning

Day schedule:	09:00 - 17:30
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Lunch:	12:30 - 13:30
Break:	15:15 - 15:30

**Workshop Fees:**

Any One day: £999 + UK VAT

Two days: £1798 + UK VAT  
(Including £200 Discount)

30% discount Academic delegates

To register please fax the completed booking form to:

**Fax: +44 (0) 1273 201360**

**Flight details:**

All delegates flying into London on the morning of the event are reminded that they should arrive 30 minutes before the workshop starts for registration. The hotels West End location is approximately 1 hour from all 3 main London airports, Heathrow, Gatwick and City. Returning flights should equally allow for the events finishing time.

**Complimentary inbound transfer service:**

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By completing of this form the client hereby enters into a agreement stating that if a cancellation is made by fax or writing within two weeks of the event date no refund shall be given. However in certain circumstances a credit note maybe issued for future events.

Prior to the two week deadline, cancellations are subject to a fee of 25% of the overall course cost.

**Discount Structure:**

The discount is available on any day permutation, and can be combined across delegates within the same company (only at the time of booking and not retrospectively).

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Fax: +44 (0) 1273 201360

**Contact:**

<http://www.wbstraining.com>

[sales@wbstraining.com](mailto:sales@wbstraining.com)