



## Quants Hub Workshop Days

The Radisson Blu Portman Hotel London  
10th, 11th & 12th February 2014

### Hear From Leading Industry Experts:

Alexander Antonov (Numerix)  
Jan De Spiegeleer (Jabre Capital Partners)  
Luis Manuel García Muñoz (BBVA)  
Roger Lord (Cardano)  
Wim Schoutens (Catholic University of Leuven, Belgium)

### This Workshop Provides THREE Booking Options:

Register to ANY ONE day of the workshop  
Register to ANY TWO days of the workshop and receive a £200 discount  
Register to ALL THREE workshop days and receive a £300 discount

### Complimentary Quants Hub video

Register to any two or more workshop days and receive a choice of any free workshop video when the Quants Hub website goes live (offer ends in December)!

## WHAT IS THE QUANTS HUB?

The Quants Hub offers workshop days in London, Frankfurt and New York where the presenter will be filmed (not the audience) for the forthcoming website. The events will be “quiet” workshops with the focus being on the presenter and all questions reserved for a Q&A session included at the end of each presentation. The Quants Hub members website will be live from January 2014 when you will have access to the video of the workshop and the corresponding forum!

## QUANTS HUB DELEGATES RECEIVE EXTRA BENEFITS WHEN THEY ATTEND QUANTS HUB WORKSHOP DAYS:

- Free life membership to the Quants Hub website
- The workshop presentation video you attend
- The specific workshop presentation slides
- Access to the corresponding Quants Hub closed forum for follow up questions moderated by the presenter
- Any additional software available as part of the learning experience

For those not attending the workshop days, Quants Hub also serves as a portal for distance learning of quantitative research techniques, where you will be able to purchase our online training video products and learn at your leisure.

Quants Hub includes interactive closed individual forums for each specific workshop to include your distance learning questions going forward. Quants Hub delegates who purchase distance learning products shall automatically become a lifelong member of the Quants Hub benefiting from future webinar offers and other special events.

**All this for only £799.00 + UK VAT.**

**This is a new training concept in our fast moving world, give it a go!**

## DAY 1: MONDAY 10TH FEBRUARY / WORKSHOP 1

### Theory and Practice for the FVA: General Instruments and General Models by Alexander Antonov: Senior Vice President, Quantitative Research, Numerix

1. General multi-currency setup
2. FVA theory framework
  - Pricing PDE and its solution by replication
  - Probability measure and numeraire
  - Generalization
2. Collateral in different currencies
  - Replication procedure
  - Efficient discount factor for the currency choice option
  - Analytical methods for the efficient discount factor calculation (two currency case)
  - Numerical experiments
3. Approximation for general instruments (including arbitrary callable instruments)
  - Main idea
  - Theoretical and Numerical Issues
  - Numerical experiments for a Bermudan option: comparison of the exact FVA with its different approximations

**Day schedule:** 09:00 – 16:30  
**Break:** 10:30 – 10:45  
**Lunch:** 12:30 – 13:30  
**Break:** 15:15 – 15:30

## DAY 1: MONDAY 10TH FEBRUARY / WORKSHOP 2

### Simulation of Stochastic Volatility Models & Pricing Options via Fourier Inversion by Roger Lord: Head of Quantitative Analytics, Cardano

Within this workshop we will explore two topics that are important to the modern day pricing of derivatives - the Monte Carlo simulation of stochastic volatility models, as well as how to price options by using Fourier inversion techniques.

The first part of the workshop will focus on techniques to efficiently simulate stochastic volatility models such as Heston, Schöbel-Zhu and SABR. Pitfalls of using too simple methods are shown, and lessons are learned from more sophisticated methods that are applicable in a wide variety of stochastic volatility models.

The second part will be focussed on the usage of Fourier inversion techniques to price options. Since the characteristic function of many, typically affine, models can be expressed in closed-form, one can price vanilla options by means of Fourier inversion. We will show how to derive the characteristic function of such models, and focus on how to compute these efficiently by means of choosing an optimal contour, or via control variates.

- An overview of stochastic volatility models (e.g. Heston, Schöbel-Zhu, SABR)
- Pitfalls using Euler or higher-order schemes
- Leaking correlation
- Moment-matching schemes
- Derivation of characteristic function in affine models
- Option pricing using Fourier inversion
- Caveats using complex logarithms
- Choosing the optimal dampening coefficient
- Usage of control variates

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

## Contingent Capital Explained (Part 1)

by Wim Schoutens: Research Professor, Financial Engineering, Catholic University of Leuven, Belgium

### **About the Course:**

The course takes a very pragmatic and practical approach and employs a lot of numerical examples. The financial landscape went since 2010 through one of the biggest regulatory overhauls ever: Basel III, the Swiss-finish, CRD4 and the ICB-Vickers report all have made statements about the concept of contingent capital. The course covers and describes the construction of CoCos (Contingent Convertibles) in the light of these latest reforms. Furthermore, the course goes extensively into the price setting question of CoCos and the related dynamics.

We provide insight in rule of thumbs pricing and elaborate on more advanced methods. The pricing theory is applied and illustrated with the Lloyds and Credit Suisse CoCos. Practical examples and market data is used throughout the course. Furthermore, the delegates will be guided through a hands-on explanation with numerical examples of the dynamics of CoCos. Potential effects of the death-spiral are discussed. The course is a must for all financial professionals and sheds a light on the intricacies of contingent capital from the structuring, pricing, hedging and regulatory point of view.

### **What are CoCos?**

- Basic intro to the concept of contingent capital
- History and key events
- The life of a CoCo
- Bail-in
- Pro's and Cons of CoCos

### **CoCo Triggers**

- Accounting, regulatory and market based triggers
- Write-down/write-up CoCos
- CoCos Analogies

### **Regulatory Aspects**

- Changes in the regulatory landscape
- CoCos as new capital instruments
- CoCos in the light of Basel III, CRD4 and other regulatory proposals
- CoCo Bonuses

### **The CoCos Market**

- Examples of recent issues
- CoCo performance
- CoCo investors

### **Quantitative Aspects of CoCos**

- Rule of Thumb pricing; the CoCo triangle
- Case Study: Rule of Thumb pricing of the Lloyds, CS, UBS and Barclays CoCos
- Equity derivative based methods
- Case Study: Equity Derivative pricing of the Lloyds, CS, UBS and Barclays, KBC, CoCos
- Advanced models
- Case Study: Determining the coupon of a new coco issue.

**Day schedule:** 09:00 – 17:30  
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**Break:** 15:15 – 15:30

## DAY 2: TUESDAY 11TH FEBRUARY / WORKSHOP 2

Presenter to be confirmed

- Title & Bullets to be confirmed

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

## DAY 3: WEDNESDAY 12TH FEBRUARY / WORKSHOP 1

### Contingent Capital Explained (Part 2)

by Jan De Spiegeleer: Head of Risk Management, Jabre Capital Partners

#### **About the Course:**

The course takes a very pragmatic and practical approach and employs a lot of numerical examples. The financial landscape went since 2010 through one of the biggest regulatory overhauls ever: Basel III, the Swiss-finish, CRD4 and the ICB-Vickers report all have made statements about the concept of contingent capital. The course covers and describes the construction of CoCos (Contingent Convertibles) in the light of these latest reforms. Furthermore, the course goes extensively into the price setting question of CoCos and the related dynamics.

We provide insight in rule of thumbs pricing and elaborate on more advanced methods. The pricing theory is applied and illustrated with the Lloyds and Credit Suisse CoCos. Practical examples and market data is used throughout the course. Furthermore, the delegates will be guided through a hands-on explanation with numerical examples of the dynamics of CoCos. Potential effects of the death-spiral are discussed. The course is a must for all financial professionals and sheds a light on the intricacies of contingent capital from the structuring, pricing, hedging and regulatory point of view.

#### **Bail-In Capital**

- Definition
- Examples
- Case study :
- Denmark
- Lehman Brothers
- Bail-In mechanisms in Europe

#### **CoCo Dynamics**

- Comparison with Convertible Bonds
- Factor Analysis
- Sensitivity Analysis
- Vega Profile

#### **CoCos with upside potential**

- CoCoCo bond
- Case Study

#### **Death Spiral**

- Example of Reset convertibles
- Case study

#### **Quantitative Aspects of CoCos**

- Pricing CoCos in Jump-Diffusion
- Introducing CEV
- Multi-Factor Pricing

Day schedule: 09:00 – 17:30

Break: 10:30 – 10:45

Lunch: 12:30 – 13:30

Break: 15:15 – 15:30

## DAY 3: WEDNESDAY 12TH FEBRUARY / WORKSHOP 2

### Derivatives Pricing in the New Environment: OIS discounting, CVA and Funding. by Luis Manuel García Muñoz: Head of Interest Rates, Credit and CVA Quant Teams, BBVA

We will analyze the valuation of OTC derivatives exploring the effect of collateral, funding and counterparty credit risks.

The first part of the presentation will be devoted to the valuation of collateralized derivatives. We will analyze the effect of different collateralization schemes and reformulate the fundamental theorem of asset pricing under this multiple discounting curves environment associated to different collateralization schemes.

The second part will be focussed on CVA, DVA and FVA. CVA and FVA will be deduced using hedging arguments. We will analyze the problem of DVA hedging and explore CVA hedging under incomplete markets.

- OIS discounting.
- Effect of collateral different from cash denominated in the deals currency.
- Interest rate modeling in a multiple discounting curves frameworks.
- CVA and FVA as hedgeable risks.
- The problem of DVA hedging.
- CVA hedging under incomplete markets.

Day schedule:           09:00 – 17:30

Break:                   10:30 – 10:45

Lunch:                   12:30 – 13:30

Break:                   15:15 – 15:30

**Workshop Fee Structure:**

- Any One Day: £799.00 + UK VAT
- Any Two Days (£200 Discount): £1398.00 + UK VAT
- All Three Days (£300 Discount): £2097.00 + UK VAT

**Workshop selection:**

- Day 1 Workshop 1 (Alexander Antonov)
- Day 1 Workshop 2 (Roger Lord)
- Day 2 Workshop 1 (Wim Schoutens – Part 1)
- Day 2 Workshop 2 (To be confirmed)
- Day 3 Workshop 1 (Jan De Spiegeleer – Part 2)
- Day 3 Workshop 2 (Luis Manuel García Muñoz)

**Delegate details:**

Company:
Name:
Job title/Position:
Name:
Job title/Position:
Name:
Job title/Position:
Department:
Address:
Country:
Telephone:
E-mail:
Date:
Signature:

To register, please fax the completed booking form to:

**+44 (0)1273 201 360**

**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.

**Sponsorship:**

World Business Strategies Ltd, offer sponsorship opportunities for all events, E-mail headers and the web site. Contact sponsorship via telephone on : +44 (0)1273 201 352

**Disclaimer:**

World Business Strategies command the rights to cancel or alter any part of this programme.

**Cancellation:**

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).

**Registration:**

Tel: +44 (0)1273 201 352  
Fax: +44 (0)1273 201 360

**Contact:**

<http://www.wbstraining.com>  
[sales@wbstraining.com](mailto:sales@wbstraining.com)