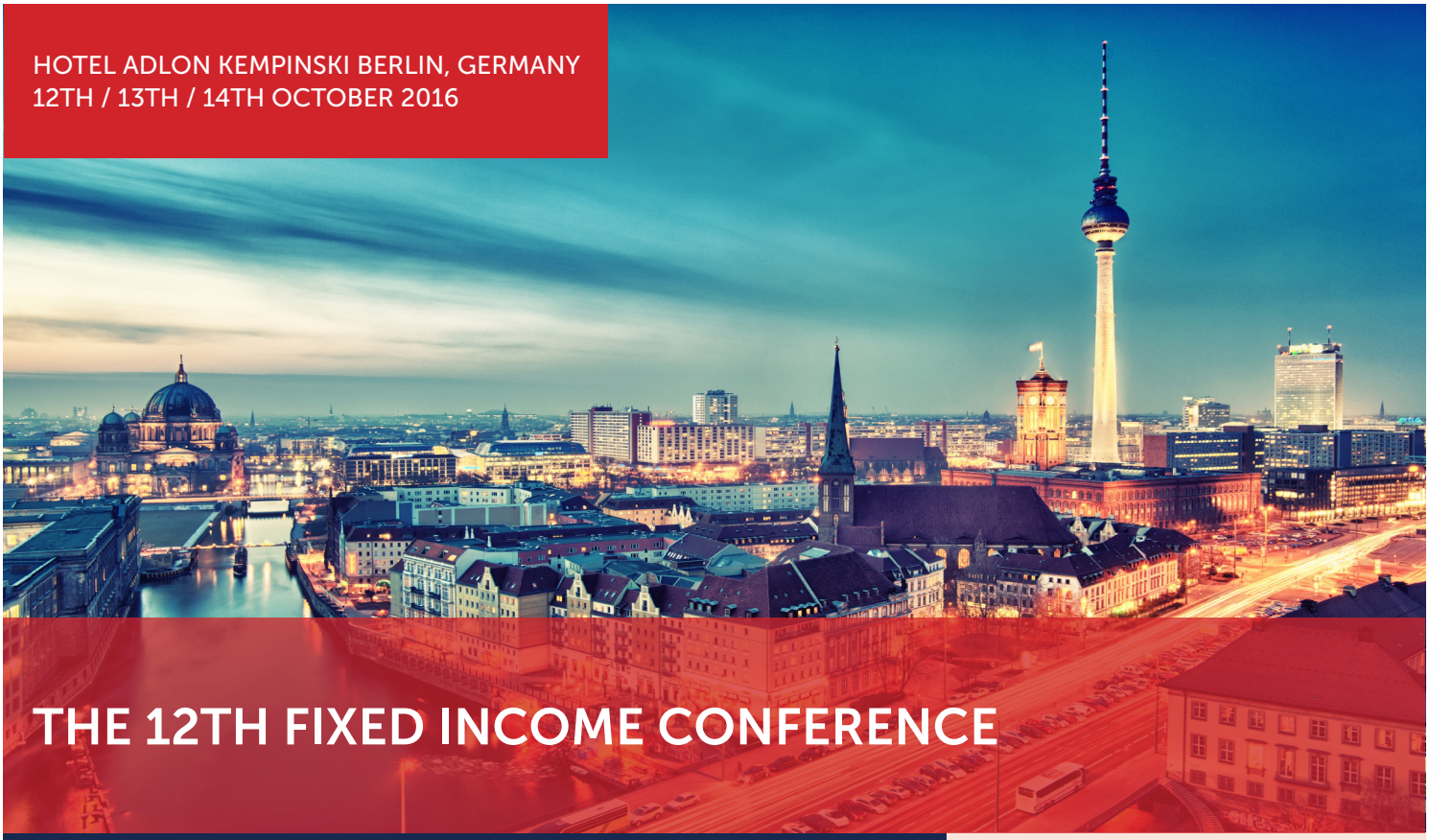
HOTEL ADLON KEMPINSKI BERLIN, GERMANY
12TH / 13TH / 14TH OCTOBER 2016



THE 12TH FIXED INCOME CONFERENCE

THIS YEAR'S LEADING INDUSTRY EXPERTS INCLUDE:

- **Oldřich Alfons Vašíček**
- **Oliver Frankel:** Former MD, **Goldman Sachs**
- **Jesper Andreasen:** Global Head Of Quantitative Research, **Danske Bank**
- **Michael Pykhtin:** Manager, Quantitative Risk, **Federal Reserve Board**
- **Christoph Burgard:** Head of Risk Analytics, For Global Markets, **Bank of America Merrill Lynch**
- **Alexander Sokol:** CEO and Head of Quant Research, **CompatibL**
- **Philipp Schönbucher:** Managing Director, **Financialytic GmbH**
- **Rohan Douglas:** CEO, **Quantifi**
- **Massimo Morini:** Head of Interest Rates, Credit and Inflation Models, **Gruppo Intesa Sanpaolo**
- **Claudio Albanese:** Head of Analytics, **IMEX Initial Margin Exchange**
- **Peter Jaeckel:** Deputy Head Of Quantitative Research, **VTB Capital**
- **Jon Gregory:** Partner, **Solum Financial Partner**
- **Dong Qu:** Global Head Of Quantitative Product Group, **UniCredit**
- **Jörg Kienitz:** Director, Financial Risk Solutions, FSI Assurance, **Deloitte & Touche GmbH**
- **Nozha Karmous:** Vice President, EMEA Lead for Rates Model Review, **HSBC**
- **Alexander Antonov:** Senior Vice President, Quantitative Research, **Numerix**
- **Patrick Büchel:** Department Head, Group Market Risk Management Counterparty ABS Risk & Exposure Management, **Commerzbank**
- **Vladimir Chorniy:** Head of Risk Modelling Strategy, Group Risk Management, **BNP Paribas**
- **Fabrizio Anfuso:** Head of IB CCR Collateralised Exposure Modelling, **Credit Suisse**
- **Patrick Hagan:** Managing Director, Research, **Gorilla Science**

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OVERVIEW

The Fixed Income Conference is now in its 12th year and in 2016 we are heading back to Germany and the wonderful, exciting and dynamic city of Berlin. The pre-conference workshop day now boasts four options, and as usual on Thursday evening all delegates will be invited to our traditional gala dinner.

Our three streamed main conference format remains a firm favourite as the longer sessions allow presenters to develop their quants ideas and present detailed analysis. Delegates can enjoy longer breaks in our informal environment, which is ideal for networking opportunities.

Neil Fowler,
Managing Director, WBS Training

IMPORTANT NOTES

Main Conference presentation files on USB memory sticks will be provided on arrival. The Main Conference files will also be made available for download via a password protected website before the event.
Please print out each presentation if you wish to have hard copies before the conference and bring them with you.

Also, Wi-Fi access will be available at the hotel venue to view presentations on laptops and mobile devices.

CONFERENCE BOOKINGS: DISCOUNT STRUCTURE

When 2 colleagues attend the 3rd goes free!
Early Bird Discount: 20% until 1st July
Early Bird Discount: 10% until 2nd September
Main Conference + Workshop (£150 Discount)
Receive an extra 5% discount when booking 3 or more delegates
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CPD CERTIFICATION

You will be able to receive up to **19.25 CPD points (19 hours and 15 minutes of structured CPD)** for attending this event.

The CPD Certification Service was established in 1996 as the independent CPD accreditation institution operating across industry sectors to complement the CPD policies of professional and academic bodies. The CPD Certification Service provides recognised independent CPD accreditation compatible with global CPD principles.

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PRE-CONFERENCE WORKSHOP DAY WEDNESDAY 12TH OCTOBER:

1. Initial Margin for Cleared and Non-cleared Derivatives
   by Fabrizio Anfuso, Head of IB CCR collateralised exposure modelling, Credit Suisse

2. Introduction to Exposure Modelling
   by Jörg Kienitz, Director, Financial Risk Solutions, FSI Assurance, Deloitte & Touche GmbH

3. XVA Metrics and Initial Margin
   by Claudio Albanese, Head of Analytics, IMEX Initial Margin Exchange

4. From Blockchain Hype to a Real Business Case for Financial Markets
   by Massimo Morini, Head of Interest Rates, Credit and Inflation Models, Gruppo Intesa Sanpaolo

MAIN CONFERENCE STREAMS

THURSDAY 13TH OCTOBER - DAY ONE:
- Initial Margin Requirements
- Interest Rate & Volatility Modelling
- XVA, KVA & FRTB

FRIDAY 14TH OCTOBER - DAY TWO:
- Initial Margin Requirements
- Innovations in Modelling & Numerical Methods
- XVA, KVA & FRTB

As always, delegates are not restricted to attend single streams on the main conference. You have the opportunity to hop around the different streams and attend the presentations that benefit you the most.

Stream presentation times will run concurrently with each other.

GALA DINNER - THURSDAY 13TH OCTOBER, 20:00

More details to follow.

PRE-CONFERENCE WORKSHOP DAY – WEDNESDAY 12TH OCTOBER

INITIAL MARGIN FOR CLEARED AND NON-CLEARED DERIVATIVES
BY FABRIZIO ANFUSO,
HEAD OF IB CCR COLLATERALISED EXPOSURE MODELLING, CREDIT SUISSE

DAY SCHEDULE: 09:00 – 17:30 / BREAK: 10:30 – 10:45 / LUNCH: 12:30 – 13:30 / BREAK: 15:15 – 15:30

Course Highlights

The course presents the initial margin methodologies and the related business model for the topical cases of:

1. Derivatives trades (both cOTCs and ETDs) cleared with the major CCPs (LCH, CME, EUREX, ICE...,Initial Margin calculated either using hVaR / PAIRS / PRISMA or SPAN methodologies)
2. Bilateral OTCs under the new BCBS-IOSCO regulations (Initial Margin calculated using the ISDA SIMM methodology)

The topics will be presented in a self-consistent way, tackling holistically the Risk, Capital and Funding implications in the two contexts.

High-Level Agenda:

1. Cleared derivatives and CCP Risk framework

- Business model: novation, Loss waterfall, default funds and margining
- Initial margin for cleared OTCs: comparative analysis across main CCPs for Credit and IR products
- Initial margin for cleared ETDs: SPAN methodology

2. Bilateral OTCs and mandatory margining

- Introduction to the new BCBS-IOSCO regulation for bilateral OTCs: roll-out plan, VM, IM and main differences across regional regulators
- Initial margin for bilateral OTCs: the ISDA SIMM methodology

3. Initial margin from a capital / funding perspective

- IM and CCR capital: one in place of the other?
- Funding costs and benefits
- IMM vs. SACCR

Learning Outcomes:

- Understand the CCP business model and Risk framework
- Understand the different CCP Initial Margin methodologies for cleared and listed derivatives
- Understand the new BCBS-IOSCO regulation on mandatory margining for bilateral OTCs
- Understand the proposed ISDA SIMM methodology for BCBS-IOSCO IM
- Understand the consequences of Initial Margin from Risk, Capital and funding perspectives

Dr Fabrizio Anfuso, Head of IB CCR collateralised exposure modelling, Credit Suisse

Fabrizio is heading the collateralised exposure modelling team in the Investment Banking Division of Credit Suisse. His areas of expertise are counterparty credit risk, market and credit risk modelling, derivative pricing and regulatory capital. The main focus of his activity is the development of stochastic MC models for exposure calculation of cleared OTC and exchange traded derivatives, as well as other regulatory driven methodologies. Fabrizio is co-chairing the master's courses on Counterparty Credit Risk of the quantitative finance programs of the ETH in Zurich and of the University L. Bocconi in Milan. Fabrizio holds a Ph.D. in Theoretical Physics and has authored numerous research articles in peer-reviewed journals in the fields of Quantitative Finance and Condensed Matter Physics.

PRE-CONFERENCE WORKSHOP DAY – WEDNESDAY 12TH OCTOBER

INTRODUCTION TO EXPOSURE MODELLING
BY JÖRG KIENITZ
DIRECTOR, FINANCIAL RISK SOLUTIONS, FSI ASSURANCE, DELOITTE & TOUCHE GMBH

DAY SCHEDULE: 09:00 – 17:30 / BREAK: 10:30 – 10:45 / LUNCH: 12:30 – 13:30 / BREAK: 15:15 – 15:30

The course gives an overview of exposure modelling and its applications. We consider the definition of exposure and exposure measures and explain where they are used. One prominent topic is the calculation of value adjustment such as CVA. While focussing on the modelling part we nevertheless touch regulatory issues and explain the interplay and the tension.

1. **Exposures and CCR**
- Definition - Counterparty Credit Risk (CCR) and Exposures
- Exposure Measures
- Examples (IR, FX, EQ, ...)

2. **Expected Exposure and Value Adjustments (example: CVA)**
- What is EE? What is CVA?
- Single Trade CVA (with examples from all asset classes)
- Hybrids - Generating Cross Asset Scenarios (standard and advanced models)
- Risk Neutral and Real World Scenarios

3. **XVA**
- FVA/KVA/...
- Netting and Collateral

4. **Modelling in Regulated Markets**
- Regulatory Issues
- CVA Hedging
- CCR for collateralized and centrally cleared trades

Jörg Kienitz: Director, Financial Risk Solutions, FSI Assurance, Deloitte & Touche GmbH

Jörg Kienitz: Director, Financial Risk Solutions, FSI Assurance, Deloitte & Touche GmbH. Previously: Head of Quantitative Analytics, Dt. Postbank AG, Senior System Architect, Postbank Systems AG Financial Consultant, Reuters Academic: PhD Math, Diploma Math Books (Wiley): (A) Monte Carlo Frameworks in C++ (B) Financial Modelling - Theory, Implementation and Practice with Matlab Code

PRE-CONFERENCE WORKSHOP DAY – WEDNESDAY 12TH OCTOBER

XVA METRICS AND INITIAL MARGIN
BY CLAUDIO ALBANESE
HEAD OF ANALYTICS, IMEX INITIAL MARGIN EXCHANGE

DAY SCHEDULE: 09:00 – 17:30 / BREAK: 10:30 – 10:45 / LUNCH: 12:30 – 13:30 / BREAK: 15:15 – 15:30

1. Credit Valuation Adjustments (CVA/DVA)

- Unsecured derivatives
- CSA agreements and close-out protocols
- Definition of CVA
- The Debt Valuation Adjustment (DVA)
- Fair valuation of CVA/DVA
- Core Equity Tier I (CET1) capital
- Capital treatment of CVA/DVA
- Transfer pricing policies

2. Funding Valuation Adjustments (FVA/FDA)

- Funding sets and netting sets
- Funding strategies
- Definition of FVA neglecting equity liabilities
- The Funding Debt Adjustment (FDA)
- Fair valuation of FVA
- Capital treatment of FVA/DVA
- FVA as a result of market incompleteness
- Transfer pricing policies

3. Approximate treatments of FVA (FCA/FBA)

- Netting set aggregation
- The FBA/DVA overlap paradox
- The replication paradox
- Overstated capital deductions under FCA/FBA
- Will there be a FCA VAR charge in the FRTB? How large would it be?
- Examples

4. The Capital Valuation Adjustment KVA

- Risk measures and Economic Capital models
- KVA as a (IFRS 4 Phase 2) risk adjustment
- Definition of KVA
- The KVA impacts neither fair valuation nor CET1
- The KVA as a tool for reported earnings
- Risk Adjusted CET1 (RACET1) and the market value of equity liabilities
- Transfer pricing policies
- Sustainable policies for dividend distribution and capital allocation
- KVA as a consequence of market incompleteness
- From fair valuation trading to utility exchanges
- Dependence of entry prices on portfolio holdings

5. Aligning Pillar I and Pillar II capital requirements

- The overlap problem between regulatory capital charges
- Internal models for Economic Capital
- CVA and CVA VAR
- FVA and FVA VAR
- Default risk and granularity adjustments
- Funding risk

6. Regression sensitivities for XVA hedging

- A gamma-negative challenge with uncertain parameters
- Analytical versus regression sensitivities
- A Black-Litterman approach to XVA hedging
- Bayesian KVA
- A Pillar II approach to the AVA for model risk
- Economic Capital with model risk adjustment

PRE-CONFERENCE WORKSHOP DAY – WEDNESDAY 12TH OCTOBER

XVA METRICS AND INITIAL MARGIN (CONTINUED)
BY CLAUDIO ALBANESE
HEAD OF ANALYTICS, IMEX INITIAL MARGIN EXCHANGE

DAY SCHEDULE: 09:00 – 17:30 / BREAK: 10:30 – 10:45 / LUNCH: 12:30 – 13:30 / BREAK: 15:15 – 15:30

7. Regression sensitivities for SIMM and FRTB

- Estimating and optimising P&L explain
- Analytical versus regression sensitivities
- Regression models
- Cross-gammas and drift adjustments
- Tail optimisation
- Model risk
- Case studies

8. Credit limits

- Credit limits
- Potential Future Exposure (PFE)
- Shortcomings of the PFE: no wrong way risk and no portfolio dependencies
- Incremental KVA as a measure for capital consumption
- Comparison between PFE and incremental KVA

9. Stress testing

- CCAR stress testing and reverse stress testing
- Scenario decrementals for the KVA as a tool for stress testing
- Reverse stress testing as a tool to assess model risk
- The capital impact of negative rates of Gaussian interest rate models

10. Analytics and technology considerations

- Distributed grids versus large-memory accelerated appliances
- Avoiding dependencies on analytically solvable models
- Portfolio level aggregation (capital advantages and risk sensitivity)
- Running joint credit-market simulations (wrong-way risk)
- Nested simulations with billions of scenarios
- CET1 and regulatory capital simulations
- Exotic derivatives
- Nested simulations versus American Montecarlo
- In-memory appliances and incremental XVA metrics

Claudio Albanese: Head of Analytics, IMEX Initial Margin Exchange

Claudio Albanese's academic background includes PhD at ETH Zurich, faculty positions at New York University and Princeton of Toronto and Imperial College London. After founding Global Valuation, he has been focusing on the holistic simulation of large OTC portfolios, including capital simulations. Claudio introduced a mathematical framework for finance designed to make optimal use of large memory servers with acceleration. By leveraging on above average computational capabilities, Claudio proposed and accounting framework for funding with rigorous modelling of rehypothecation and a number of second generation XVA metrics for capital and collateral.

PRE-CONFERENCE WORKSHOP DAY – WEDNESDAY 12TH OCTOBER

FROM BLOCKCHAIN HYPE TO A REAL BUSINESS CASE FOR FINANCIAL MARKETS
BY MASSIMO MORINI
HEAD OF INTEREST RATES, CREDIT AND INFLATION MODELS, GRUPPO INTESA SANPAOLO

DAY SCHEDULE: 09:00 – 17:30 / BREAK: 10:30 – 10:45 / LUNCH: 12:30 – 13:30 / BREAK: 15:15 – 15:30

More information soon!

Massimo Morini: Head of Interest Rates, Credit and Inflation Models, Gruppo Intesa Sanpaolo

Massimo Morini is Head of Interest Rate and Credit Models at IMI Bank of Intesa San Paolo, where he also coordinates modelling research. He has been a consultant to the World Bank and other supranational institutions. Massimo is Professor at Bocconi University and MSc Director at Milan Polytechnic, and he was Research Fellow at Cass Business School, London. He delivers advanced training worldwide and is regularly an invited speaker at main derivatives conferences. He has published papers in journals including Risk Magazine, Mathematical Finance, and the Journal of Derivatives, and is the author of "Understanding and Managing Model Risk: A Practical Guide for Quants, Traders and Validators" and other books on credit, funding and interest rate modelling. Massimo holds a PhD in Mathematics and an MSc in Economics.

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A INITIAL MARGIN REQUIREMENTS	STREAM B INTEREST RATE & VOLATILITY MODELLING	STREAM C XVA, KVA & FRTB

08:00 – 09:00 REGISTRATION AND MORNING WELCOME COFFEE

09:00 – 09:45 "LEGENDS IN QUANT FINANCE"
WITH OLDŘICH ALFONS VAŠÍČEK INTRODUCED BY JESPER ANDREASEN

Jesper Andreasen will introduce one of his "Legends in Quant Finance" Oldřich Alfons Vašíček. The influence the ground breaking 1977 paper had on him and legacy of The Vasicek Model in quantitative finance.

Keynote Speech by Oldřich Alfons Vašíček

"Finance and Economics: Interest Rate Behavior"

- What is the mechanism by which interest rates are determined?
- Which economic quantities influence interest rates?
- How do changes in economic opportunities and investors' preferences affect interest rates?

09:45 – 10:45 PANEL: REVIEW THE LATEST XVA, KVA & INTEREST RATE CHALLENGES

Moderator:

- **Philipp Schönbucher:** Managing Director, **Financialytic GmbH**

Panelists:

- **Jesper Andreasen:** Global Head Of Quantitative Research, **Danske Bank**
- **Dong Qu:** Global Head Of Quantitative Product Group, **UniCredit**
- **Nozha Karmous:** Vice President, EMEA Lead for Rates Model Review, **HSBC**
- **Alexander Antonov:** Senior Vice President, Quantitative Research, **Numerix**
- **Andrew Green:** Author of **'XVA: Credit, Funding and Capital Valuation Adjustments'**

Topics:

- **To be confirmed**

10:45 – 11:15 MORNING BREAK AND NETWORKING OPPORTUNITIES

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

11:15 – 12:30 INITIAL MARGIN REQUIREMENTS, IMPACTS AND WEALTH TRANSFER EFFECTS
by Jon Gregory: Partner, Solum Financial Partner

- Initial margin requirements and MVA
- Impact of initial margin on other creditors
- Wealth transfer effects
- Analysis in a structural model
- Loss given default and credit spreads
- Conclusions

STREAM B
INTEREST RATE & VOLATILITY MODELLING

11:15 – 12:30 VOLATILITY INTER- AND EXTRAPOLATION IN A NORMAL (NEGATIVE) INTEREST RATE WORLD
by Peter Jaeckel: Deputy Head of Quantitative Research, VTB Capital

- No-arbitrage conditions for interpolation.
- Extrapolation asymptotics (no-arbitrage and moment preservation).
- Limits for parametric extrapolation choices.
- Linear factor extrapolation and its asymptotics (aka large deviations theory).
- Log-linear factor extrapolation on the upside. More asymptotic results.
- The numerical aspect: implied Bachelier volatility

STREAM C
XVA, KVA & FRTB

11:15 – 12:30 XVA IMPACTS IN CREDIT TRANSACTIONS
by Philipp Schoenbucher: Managing Director, Financialytic GmbH

- Benefits from recognizing the importance of correlations
- Wrong-way counterparty risk - measurement and management
- Right-way funding exposure: Recognizing hidden optionality

Integrating it all in a consistent framework

12:30 – 13:30 LUNCH

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

13:30 – 14:15 PRACTICAL CONSIDERATIONS OF IMPLEMENTING SIMM FOR NON CLEARED INITIAL MARGIN RULES
by Gordon Lee: Executive Director, Portfolio Quantitative Analytics,UBS

- Background to SIMM
- SIMM Methodology Recap
- Lessons learnt from ISDA Backtesting Exercise
- Implementation issues that will need to be addressed

STREAM B
INTEREST RATE & VOLATILITY MODELLING

13:30 – 14:15 MIXING THE SABR FOR NEGATIVE RATES: ANALYTICAL ARBITRAGE-FREE SOLUTION
by Alexander Antonov: Senior Vice President of Quantitative Research, Numerix

- Negative rates for the SABR model: beyond the simple shift
- Free Boundary SABR (exact analytical solution for zero correlation; accurate approximation for the general correlation)
- Normal Free SABR (exact analytical solution for general correlation)
- New Mixture SABR (mixing zero correlation Free SABR with the normal Free one; arbitrage free analytical solution via 1D integral)
- Numerical results and conclusion (joint calibration to swaptions and CMS's; comparison of the Shifted, Free and Mixture SABR: the clear winner is the mixture SABR)

STREAM C
XVA, KVA & FRTB

13:30 – 14:15 MIFID, FRTB, EMIR: THE ROLE OF QUANTS TO DELIVER COMPLIANCE
by Manlio Trovato: Head of Quantitative Research, Lloyds Banking Group

- Key changes required in analytics and architecture to deliver compliance
- Voice vs electronic trading: a fading distinction
- Pricing model governance and algos governance
- Price composition & price decomposition
- Full integration of pricing, risk management and commercial policies
- Testing models: regulatory restrictions and computational demands
- The role of Quants within approach to compliance delivery working groups

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

14:15 – 15:00 FAST SIMM MVA AND FRTB SA-TB KVA USING VECTOR AAD
by Alexander Sokol: CEO and Head of Quant Research, CompatibL

- Background to SIMM
- Algorithmic differentiation (AD/AAD) is most effective when there is a small number of either inputs or outputs, but not both
- The calculation of MVA under SIMM, or KVA under FRTB SA-TB, involves large numbers of both inputs and outputs
- Nevertheless, the use of Vector AAD makes it possible to compute MVA/KVA more effectively than with traditional techniques

* Code samples used in the presentation are based on TapeScript, an open source library for Vector AAD available from github.com/compatibl

STREAM B
INTEREST RATE & VOLATILITY MODELLING

14:15 – 15:00 EXAMINING A NEW TYPE OF LIBOR SMILE MODEL
by Dong Qu: Global Head of Quantitative Product Group, UniCredit

- Interest rate smile is difficult to model and implement due to its inherent complexity
- Formulation of a simpler Libor smile model using spot process and numeraire change technique
- Efficient Dupirestyle local volatility stripping from market interest rate (smile) quotes
- Derivation of local volatility backward PDE for pricing path- dependent interest rate derivatives with smile
- Incorporation of interest rate smile in interest rate or hybrid scenarios

STREAM C
XVA, KVA & FRTB

14:15 – 15:00 'IMPACT OF THE NEW CVA RISK CAPITAL CHARGE'
by Rohan Douglas: CEO, Quantifi

- The new regulatory landscape with SA-CCR, FRTB and new CVA risk capital charge
- The different CVA risk methodologies
- Sample calculations for the BA-CVA and SA-CVA approach
- Implementation challenges of the new CVA risk capital charge
- Impact on operational processes and derivatives business

15:00 – 15:30 AFTERNOON BREAK AND NETWORKING OPPORTUNITIES

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

15:30 – 16:15 A COMPLETE FORECASTING FRAMEWORK FOR INITIAL MARGIN OF CLEARED AND BILATERAL DERIVATIVES: MODELING AND BACKTESTING

by Fabrizio Anfuso: Head of IB CCR Collateralised Exposure Modelling, Credit Suisse

- Forward looking Initial Margin: what is it and why is needed? Capital, CVA, MVA, LCR...
- How to calculate it with AMC style LS regression and analytical fitting
- How to backtest the model performance for the different applications
- CCP vs. BCBS-IOSCO: analogies and differences from a forward-looking modelling perspective

STREAM B
INTEREST RATE & VOLATILITY MODELLING

15:30 – 16:15 TIME SERIES ESTIMATION OF STOCHASTIC MODELS

by Jesper Andreasen: Global Head of Quantitative Research, Danske Bank

- Moment, likelihood, and regression based estimators of local volatility models
- Estimating the volatility skew
- Some empirical results: Realised and implied volatilty skew
- Parameter uncertainty, smoothing, estimation windows, and tridiagonal matrices

STREAM C
XVA, KVA & FRTB

15:30 – 16:15 FRTB, FRTB-CVA AND IMPLICATIONS FOR CAPITAL VALUATION ADJUSTMENT (KVA)

by Andrew Green: Author of 'XVA: Credit, Funding and Capital Valuation Adjustments'

- Introducing BCBS-325/FRTB-CVA
- Results of QIS
- How the proposal changes the calculation of CVA Capital from Basel III
- Implications for CVA Trading Desks and CVA Management
- Risk Management XVA Vs. Accounting CVA/FVA Vs. Regulatory CVA
- Modelling and Computational Consequences
- Implications from a KVA and Capital Management Perspective

MAIN CONFERENCE DAY ONE – THURSDAY 13TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

16:15 – 17:00 DOES INITIAL MARGIN ELIMINATE COUNTERPARTY RISK?
by Michael Pykhtin: Manager, Quantitative Risk, U.S. Federal Reserve Board

- BCBS-IOSCO requirements on initial margin (IM)
- Modeling credit exposure in the presence of dynamic IM
- The impact of IM on exposure
  - Strong suppression of the smooth "diffusion" part of exposure profile
- Limited suppression of exposure spikes resulting from trade payments
- The impact of IM on CVA
  - In the presence of IM, CVA is mostly determined by exposure spikes
  - IM reduces CVA by a much smaller factor than the reduction of the smooth part of exposure profile implies

17:00 – 17:45 INNOVATING XVAS
by Massimo Morini: Head of Interest Rates, Credit and Inflation Models, Gruppo Intesa Sanpaolo

- Initial Margin FVA in one single measure (Q). No Approximation but Inequalities to speed-up computations
- KVA in one single measure (P). Cost of Capital as a risk adjustment, and Regulatory vs Economic KVA
- Perfecting Imperfect Hedging: a framework to minimize P&L Volatility of CVA

STREAM B
INTEREST RATE & VOLATILITY MODELLING

16:15 – 17:45 UNIVERSAL SMILES
by Patrick Hagan: Managing Director, Research, Gorilla Science (to be confirmed)

Stochastic volatility models, like the SABR model, have at least two variables, the asset price F(t) and the local volatility, or variance, A(t). In the arbitrage free SABR model, asymptotic methods are used to reduce the forward Kolmogorov equation to a one dimensional effective forward equation, greatly simplifying the valuation of European options.

Recently, similar asymptotic analyses have shown that the forward Kolmogorov equations for all commonly used stochastic volatility models, reduce to the same 1-d effective forward equation. The only differences are in the formulas for the forward equations coefficients in terms of each model's fundamental parameters. These stochastic volatility models include the Heston and generalized Heston models, the mean reverting SABR (λ-SABR) and dynamic SABR models, the exponential volatility models, ZABR like models, cross FX SABR models, and the SABR models for baskets and spreads.

Here we analyze the above "universal" effective forward equation, thus obtaining explicit asymptotic formulas for the implied volatilities of European options for all the above models. These new formulas reduce to the original SABR implied vol formulas under moderate conditions, but are muchmore accurate in extreme situtations.

STREAM C
XVA, KVA & FRTB

16:15 – 17:45 PRACTICAL IMPLEMENTATION OF AAD AND EFFICIENT IMPLEMENTATION OF XVA/RWA/KVA
by Antoine Savine: Quant, Brian Huge: Quant & Hans Jorgen Terp Flyger: Quant, Danske Bank

- Introduction: The Power of AAD with Live Demo
- AAD 101: A 15 Minutes Recap
- Efficient AAD: Memory Management and Check-Pointing
- Practical Implementation of AAD through FDM, Monte-Carlo and Calibration
- "CVA on an iPad mini": Our Award Winning Implementation, with Live Demo
- "KVA on an iPad mini": Leverage on Branching and Check-Pointing for the case of collateralized transactions, RWA and KVA

20:00 GALA DINNER - LOCATION TO BE CONFIRMED!

MAIN CONFERENCE DAY TWO – FRIDAY 14TH OCTOBER

STREAM A INITIAL MARGIN REQUIREMENTS	STREAM B INNOVATIONS IN MODELLING & NUMERICAL METHODS	STREAM C XVA, KVA & FRTB

08:30 – 09:00 MORNING WELCOME COFFEE

09:00 – 09:45 KEYNOTE: BILATERAL RISK MANAGEMENT UNDER SIMM
OLIVER FRANKEL: FORMER MD, GOLDMAN SACHS

Abstract:

While using SIMM to calculate initial margin requirements reduces but doesn't eliminate reconciliation issues, it does facilitate bilateral risk management. In this talk, we shall cover how SIMM enables simple counterparty risk management, and thereby incentivizes strong reconciliation.

09:45 – 10:45 PANEL: INITIAL MARGIN & REGULATORY REQUIREMENTS

Moderator:

- **Oliver Frankel:** Former MD, **Goldman Sachs**

Panelists:

- **Gordon Lee:** Executive Director, Portfolio Quantitative Analytics, **UBS**
- **Vladimir Chorniy:** Head of Risk Modelling Strategy, Group Risk Management, **BNP Paribas**
- **Claudio Albanese:** Head of Analytics, **IMEX Initial Margin Exchange**
- **Ignacio Ruiz:** Founder & CEO, **MoCaX Intelligence**
- **Rohan Douglas:** CEO, **Quantifi**

Topics:

- **To be confirmed**

10:45 – 11:15 MORNING BREAK AND NETWORKING OPPORTUNITIES

MAIN CONFERENCE DAY TWO – FRIDAY 14TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

11:15 – 12:00 SENSITIVITIES FOR XVA METRICS, SIMM AND FRTB
by Claudio Albanese: Head of Analytics, IMEX Initial Margin Exchange

- Estimating and optimising P&L explain
- Analytical versus regression sensitivities
- Regression models
- Cross-gammas and drift adjustments
- XVA hedging
- SIMM and FRTB-SBA
- KVA incremental sensitivities and credit limits
- KVA scenario sensitivities and stress testing

12:00 – 12:45 SIMM AND ASSOCIATED BILATERAL MVA
by Ignacio Ruiz: Founder & CEO, MoCaX Intelligence

- The new economics of trading under IM
- MVA vs. CVA, DVA, FVA, KVA
- Dynamic SIMM simulation: how to do it fast and accurately
- Example calculations

STREAM B
INNOVATIONS IN MODELLING & NUMERICAL METHODS

11:15 – 12:00 THE SECOND QUANTIZATION OF BANKS
by Christoph Burgard: Head of Risk Analytics, For Global Markets, Bank of America Merrill Lynch

- From derivatives pricing to portfolio modelling
- From the risk neutral world to the real world
- From efficient markets to inefficient markets
- From bilateral to multilateral risks and network effects
- Big data need big quants
- Process automation and optimisation

12:00 – 12:45 A NEW APPROACH TO EXPOSURE, XVA AND RISK ANALYTICS: A FREE COMMUNITY OPEN SOURCE PLATFORM - OPEN RISK ENGINE
by Roland Lichters: Partner, Quaternion Risk Management

- Raison d'etre, project scope, roadmap, contributions
- Exposure measures, XVAs and their allocation
- Standard Initial Margin and its fast attribution
- Fast Dynamic Initial Margin

STREAM C
XVA, KVA & FRTB

11:15 – 12:00 CVA-KVA RELATIONSHIP: IMPLICATIONS OF IMPERFECT CCR HEDGING
by Javier Madrid: Head of Equity/FX & XVA Quantitative Research, BBVA

- KVA formulation for M counterparties. Effect of conditional joint-default
- Review of CCR hedging instruments for CVA and Capital (KCVA & KCCR)
- CVA consistent formulation with imperfect CCR hedging
- CVA and KVA relationship for different hedging strategies

12:00 – 12:45 "THE IMPORTANCE OF ACCURATE AND STABLE XVA GREEKS"
by Martin Engblom: Business Development Manager, TriOptima

- Bullet points to follow

12:45 – 13:45 LUNCH

MAIN CONFERENCE DAY TWO – FRIDAY 14TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

13:45 – 14:30 RELATIONSHIPS BETWEEN THE FRTB AND ISDA'S STANDARD INITIAL MARGIN MODEL (SIMM)
by Lucia Cipolina Kun: Regulatory and Risk Analytics, HSBC

Managed appropriately, implementation of SIMM risk aggregation and bucketing functionality can form the basis for further development of the FRTB schedule based approach. Drivers behind both methodologies can contribute to strong alignment incentives, reducing implementation costs. This session will identify which common features can be shared:

- Identifying areas of overlap between the FRTB and SIMM based approach
- How SIMM will change pricing framework and trading strategies
- Leveraging synergies between the FRTB and SIMM to reduce implementation costs

STREAM B
INNOVATIONS IN MODELLING & NUMERICAL METHODS

13:45 – 14:30 ADVANCES IN FINITE-DIFFERENCE METHODS FOR EXPOSURE CALCULATIONS
by Drona Kandhai: Head of Quantitative Analytics Group, ING Bank

- To be confirmed

STREAM C
XVA, KVA & FRTB

13:45 – 14:30 FAST XVA SENSITIVITIES AND FRTB SA-CVA USING VECTOR AAD
by Alexander Sokol: CEO and Head of Quant Research, CompatibL

Part I – Introduction to Vector AAD

- With traditional "scalar" AAD, each tape slot records an operation with a single number
- Scalar AAD is highly inefficient when identical operations are performed with large arrays of numbers, e.g. in Monte Carlo simulation or when working with portfolios of similar trades
- Vector AAD uses an enhanced tape format in which each slot can record an operation with arrays, scalars, or their combination
- With Vector AAD, the tape size is reduced in proportion to the number of Monte Carlo paths or trades of a given type, e.g. from gigabytes to megabytes
- In combination with the standard AAD memory management techniques, this dramatically enhances the performance of AAD for large portfolios

Part II – Applications to XVA Sensitivities and FRTB SA-CVA

- Specific strategies for using Vector AAD to compute XVA sensitivities and FRTB SA-CVA of large portfolios are discussed

* Code samples used in the presentation are based on TapeScript, an open source library for Vector AAD available from github.com/compatibl

MAIN CONFERENCE DAY TWO – FRIDAY 14TH OCTOBER

STREAM A
INITIAL MARGIN REQUIREMENTS

14:30 – 15:15 IMPLEMENTATION FOR BILATERAL MARGINING (TO BE CONFIRMED)
by Patrick Büchel: Department Head, Group Market Risk Management Counterparty ABS Risk & Exposure Management, Commerzbank

- To be confirmed

STREAM B
INNOVATIONS IN MODELLING & NUMERICAL METHODS

14:30 – 15:15 "A BACKWARD MONTE CARLO APPROACH TO EXOTIC OPTION PRICING"
by Andrea Pallavicini: Head of Equity, FX and Commodity Models, Banca IMI

- Designing a stratified simulation algorithm for GPUs
- Markov chain driven Monte Carlo simulations
- The recursive marginal quantization algorithm
- Numerical Investigations on FX Option Pricing

STREAM C
XVA, KVA & FRTB

14:30 – 15:15 NOTES ON VOLATILTIY SMILE RISK
by Christian Fries: Head of Model Development, DZ Bank

- SABR and FRTB (topics to be confirmed)

15:15 – 15:30 AFTERNOON BREAK AND NETWORKING OPPORTUNITIES

15:30 – 16:30 CLOSING PRESENTATION: "QUANTIZATION METHODS IN FINANCE"

Prof. Tom McWalter and Ralph Rudd: University of Cape Town &
Joerg Kienitz: Director, Financial Risk Solutions, FSI Assurance, Deloitte & Touche GmbH

In this talk we consider quantization techniques applied to financial problems. First, we give an introduction to the subject of quantization and the link to financial modelling. Especially, we consider the recursive marginal quantiuation of the Milstein scheme which is applied to eg the CEV process and the pathwise quantization that we apply to the SABR model.

- Quantization and its applications in Finance
- Recursive Marginal Quantization
- Application to the Milstein scheme and Log-Normal, Square-root and CEV
- Pathwise Quantization
- Application to the SABR Model

END OF CONFERENCE

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