Risk conferences

QUANT CONGRESS USA

The #1 US quant event

July 10-12, 2012, New York

Overcoming market challenges with advanced pricing, hedging and risk management techniques in the new financial era

Risk is delighted to host its 10th annual **Quant Congress USA**, taking place on July 10-12th in New York. Year on year, this event is the meeting place for senior risk managers and quantitative researchers to gather, discuss and present their latest research on derivatives developments and quantitative risk management. It will equip you with both theoretical perspectives and practical take-home advice.

Speakers include:

Jesper Fredborg Andreasen, Universal Head of Quantitative Research, DANSKE BANK and Risk Awards 2012: Quant of the Year

Craig Lewis, Chief Economist and Director of the Division of Risk, Strategy and Financial Innovation, U.S. SECURITIES AND EXCHANGE COMMISSION

Dilip B. Madan, Professor of Mathematical Finance, Department of Finance, Robert H. Smith School of Business, UNIVERSITY OF MARYLAND and Risk Awards 2008: Quant of the Year

Robert Almgren, Visiting Scholar and Adjunct professor in Financial Mathematics Courant Institute of Mathematical Sciences, NEW YORK UNIVERSITY and Co-founder, QUANTITATIVE BROKERS

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QUANT CONGRESS USA

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About the conference

The escalating number of regulations, severe market volatility and low volume environment have transformed the way the financial industry operates, as well as its framework and best practice on how to conduct business more efficiently.
Quant Congress USA is an annual gathering for all well accomplished quants, often recognised by Risk magazine for their research and lifetime achievement, giving you the opportunity to learn and network from the best. Painstakingly researched, the conference gives you access to the most relevant and cutting-edge quant research, giving you a toolkit to navigate volatile markets and take the advantage of new developments.

Call for papers

Risk welcomes the submission of technical articles to be presented at **Quant Congress USA 2012**
Acceptance criteria: originality and relevance in quantitative industry. Once received by the technical editor and his team, submissions are logged and checked against these criteria. Subsequently, the Congress advisory board will make its assessment of the submissions and a maximum of two articles will be selected for inclusion in the Congress program.
Submission requirements: At this stage, a working title, subject area, brief description of the proposed content (a full abstract - maximum 200 words per abstract) and at least three bullet points.
The **closing date for papers submission is May 14th 2012.** Please send submissions to Joanna.Rejman@incisivemedia.com
The final decision will be taken by the end of May

Quant Congress USA 2012 advisory board

Risk magazine would like to thank the following board members for their contribution in developing the program for **Quant Congress USA.**

Peter Carr,
Managing Director, Global Head of Market Modeling, MORGAN STANLEY; Executive Director, Masters in Math Finance Program, Courant Institute, NYU

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Director, Center for Financial Engineering COLUMBIA UNIVERSITY

John C. Hull,
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Head of NY Quantitative Research, NATIXIS

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Quant Congress 2012 speakers will include

DERIVATIVES PRICING	 **Sergei Traven** Head of Rates Flow Quantitative Analytics, BARCLAYS CAPITAL	 **Roy DeMeo** Managing Director, MORGAN STANLEY	 **Bruno Dupire** Head of Quantitative Research, BLOOMBERG Risk Awards 2008: Lifetime Achievement
RISK MANAGEMENT	 **Michael D. Lipkin** Adjunct Assistant Professor, COLUMBIA UNIVERSITY	 **Kent Osband** Author of Pandora's Risk and ICEBERG RISK	 **Attilio Meucci** Chief Risk Officer, KEPOS CAPITAL
CREDIT RISK	 **Agostino Capponi** Assistant Professor of Mathematical Finance, School of Industrial Engineering, PURDUE UNIVERSITY	 **Dongsheng Lu** Managing Director, BNY MELLON	 **Matt Dorsten** Senior Vice President, PIMCO
QUANTITATIVE, ALGO AND HFT TRADING	 **Matthew Cushman** Senior Managing Director, CITADEL GROUP	 **Michael Sotiropoulos** Managing Director, BANK OF AMERICA MERRILL LYNCH	 **Marcos Lopez De Prado** Head of Global Quant Research and High Frequency Futures Trading, TUDOR INVESTMENTS

QUANT CONGRESS USA

Pre-conference workshops
Tuesday, July 10, 2012

	WORKSHOP 1: MODELING AND MANAGING LIQUIDITY RISK LED BY: Alexander Shklyarevsky, Senior Vice President, BANK OF AMERICA	WORKSHOP 2: CAPITAL ALLOCATION AND STRESS-TESTING
08.30	**Registration and breakfast**	
09.00	**Understanding liquidity and incorporating it into valuation and risk estimation of derivatives portfolios**	**Economic capital adequacy assessment and the Basel III capital regime** Mike Carhill, Director of the Enterprise Risk Analysis Division, OCC
10.30	Morning break	
11.00	**Quantification of liquidity risk**	**Pre-provision net revenue and loss-forecasting challenges** Mike Carhill, Director of the Enterprise Risk Analysis Division, OCC
12.30	Lunch	
13.30	**Management and supervisory challenges**	**Model risk and validation, how to achieve consistency, and dealing with modeling uncertainty** Mark Pocock, Senior Financial Economist, OCC
15.00	Afternoon break	
15.30	**Optimal Liquidity hedging strategies and risk management**	**Regulatory expectations for governance and other aspect of the process** William Forsell, Large Bank Examiner, OCC
17.00	End of seminar	

Alexander Shklyarevsky, SVP Counterparty Credit Risk Analytics Global Banking and Risk Management, Bank of America

Mr. Alexander Shklyarevsky is a senior vice president, global banking and global markets risk management at Bank of America in New York. He specializes in quantitative pricing and risk models, methodologies and processes for derivative products and their portfolios across asset classes.

Prior to joining Bank of America, Alexander worked at KBC Financial Products, Commerzbank, Merrill Lynch, ING Barings, Deutsche Bank, Bank of Tokyo and Chase Manhattan Bank where he specialized in quantitative pricing, trading and risk models for derivative securities and their portfolios, as well as Risk Management and Risk Analytics.

Mr. Shklyarevsky has been published in financial magazines. He holds a B.S./M.S. Degree in mathematics from Kiev State University and M.S. Degree with all Ph.D. credits in mathematics from New York University.

Mike Carhill is the Director of the Enterprise Risk Analysis Division of the Office of the Comptroller of the Currency (OCC). The Division employs quantitative modeling experts who advise bank examiners, bankers, and policy makers on best and standard practice in risk-management-information and asset-pricing systems.

Dr. Carhill joined the OCC as a Financial Economist in the Department of Economic and Policy Analysis in 1991.

Before joining the OCC, Dr. Carhill was a staff economist with the Federal Home Loan Bank of Atlanta. While at the bank, he researched the role that interest-rate risk plays in thrift profitability and served as a consultant on risk-management issues.

Dr. Carhill received a doctorate in monetary theory from Washington University.

QUANT CONGRESS USA

Main conference, DAY 1
Wednesday, July 11th, 2012

08.00	Registration and breakfast
08.50	Opening remarks: Mauro Cesa, Technical Editor, RISK
09.00	**KEYNOTE ADDRESS: ZABR — expansions for the masses** • Short maturity expansions and Varadhan's lemma for farmers • From zero to ZABR in 10 lines • ZABR extensions: local volatility and skewed volatility process • One-step finite difference implementation to eliminate arbitrages • Exact fit to the market smile, smile extrapolation and smile dynamics Jesper Fredborg Andreasen, Universal Head of Quantitative Research, DANSKE BANK and Risk Awards 2012: Quant of the Year
09.40	**PANEL DISCUSSION: Adapting to the new financial environment** • Under Basel III, the new CVA adjustment will require significantly more capital for banks adhering to the new Basel III requirements. Can this imbalance persist given that many institutions are choosing not to adopt Basel III? • Reviewing market risk frameworks with Basel 2.5 and CVA in Basel III which is to be implemented at the start of 2013 • Drivers for increased capital requirements in CVAs • Misconceptions about capital definitions • What counts as capital if we were to severely reduce it? Terry Benzschawel, Director, Portfolio Analysis and Quantitative Strategy, CITI Danny Rodriguez, Chief Risk Officer, Equities Division, Americas, CREDIT SUISSE Akhtar Siddique, Deputy Director, Enterprise Risk Analysis Division, OCC *Further speakers to be confirmed please visit the website for updates*
10.20	Morning coffee break

	STREAM ONE: DERIVATIVES PRICING	STREAM TWO: CREDIT RISK
11.50	Chairman's opening remarks	Chairman's opening remarks
11.00	**PRESENTATION: A regime switching model for VIX and Volatility Derivatives** • Co-calibration of SPX options with VIX futures and options in a rich regime switching model • VIX futures vs. volatility swaps and VIX options vs. options on variance • Correlated jumps on the SPX and its volatility • Hedging VIX derivatives with SPX futures and options Philippe Henrotte, Co-Founder and Head of Research, ITO 33	**PRESENTATION: Credit and funding value adjustments: Calculations and risk management** • Consistent CVA/FVA Calculations • Implementations and Issues • CVA/FVA in derivatives trading • Risk managing CVA/FVA Dongsheng Lu, Managing Director, BNY MELLON
11.40	**PRESENTATION: Pricing & hedging of swaps and OIS vs Libor Discounting** • OIS vs Libor, collateral terms and discounting • Building arbitrage-free set of curves: bootstrapping vs optimization • Risk management in multi-curve world • Advanced methods of calculating risk: automatic differentiation Sergei Traven, Head of Rates Flow Quantitative Analytics, BARCLAYS CAPITAL	**PRESENTATION: ETF portfolio construction** • Credit analysis is important even for passive bond ETFs • The "smart passive" approach is a safer, more efficient way to track benchmarks • Tracking error can be reduced by accurately matching duration and credit risk measures granularly by buckets • Efficient implementation requires different matching tolerances in different buckets depending on bucket characteristics Matt Dorsten, Senior Vice President, PIMCO
12.20	**PRESENTATION: Modern derivatives' pricing including funding and counterparty risk** • Interest rates after the credit crunch: risky Libor and risk free rates • Credit Support Annex (CSA): main features, practical issues, and the new ISDA Standard CSA • Pricing collateralized derivatives: OIS discounting and classical vs modern formulas • Pricing uncollateralized derivatives: how to include counterparty and funding risk under the forthcoming IFRS13 • Practical issues of moving financial institutions to CSA-discounting Marco Bianchetti, Head of Financial Modelling and Validation. Risk Management, Market Risk, Derivatives Pricing, INTESA SANPAOLO	**PRESENTATION: Gabillon commodity model in hybrid framework** • Gabillon model – classic and extended • Calibration and pricing • Comparison to the Gibson-Schwartz model • Three factor generalization of the Gabillon model Mark Lazman, Director, Quantitative Research, NUMERIX

1.00	Lunch

QUANT CONGRESS USA

Main conference, DAY 1
Wednesday, July 11th, 2012

2.00	**PRESENTATION: Some recent results on computational scheme in finance** • Review of an asymptotic expansion approach to derivatives pricing • A perturbation scheme for an analytical approximation of the solutions to FBSDEs (Forward Backward Stochastic Differential Equations) • A perturbation technique for FBSDEs with interacting particle method • Financial applications Akihiko Takahashi, Professor of Finance, UNIVERSITY OF TOKYO	CALL FOR PAPERS: **Risk welcomes the submission of technical articles to be presented at the Quant Congress USA 2012** The closing date for papers submission is May 14th 2012. Please send submissions to Joanna.Rejman@incisivemedia.com
2.40	**PRESENTATION: Minimally dynamic trading** • Trading only when the running minimum reaches a new level • Positive Azema Yor martingales • Applications to semi-static replication • Applications to portfolio insurance Peter Carr, Global Head of Market Modeling, MORGAN STANLEY	**PRESENTATION: Counterparty credit risk capital under wrong-way risk** • General wrong-way risk (WWR) in Basel II & III • Does stress calibration of exposure in Basel III address general WWR? • Modeling general WWR under asymptotic single risk factor framework • Calculating conditional EAD from unconditional exposure distribution *Speaker to be confirmed*
3.20	**PRESENTATION: Theory and application of bounded martingales** • Why consider bounded martingales? • Well known examples of bounded martingles • Two new tractable bounded martingales • General construction of bounded martingales Roy DeMeo, Managing Director, MORGAN STANLEY	**PRESENTATION: Pricing and Mitigation of CVA: Numerical Aspects and Empirical Evidence** • Counterparty credit risk (CVA) was a major determinant of the current financial crisis • Mitigation strategies, such as CVA collateralization, have been proposed by the Basel Committee to reduce counterparty exposures • Proper valuation frameworks need to account for bilateral exposures, collateral exchanges, default correlation and volatility effects • Impact of collateralization frequency and wrong way risk is illustrated on interest rates and credit default swaps Agostino Capponi, Assistant Professor of Mathematical Finance, School of Industrial Engineering, PURDUE UNIVERSITY
4.00	Afternoon coffee break	
4.20	**CHAMPAGNE ROUNDTABLES:** 1. Roundtable discussion on derivatives pricing Speaker to be confirmed 2. Roundtable discussion on CVA calculation Speaker to be confirmed 3. Roundtable discussion on risk management Speaker to be confirmed 4. Roundtable discussion on HFT trading Led by: Dmitry Rakhlin, Head of Quantitative Trading, ALLIANCE BERNSTEIN	
5.20	Cocktail reception	

QUANT CONGRESS USA

Main conference, DAY 2
Thursday, July 12th, 2012

08.00	Registration and breakfast	
08.30	Opening remarks: Mauro Cesa, Technical Editor, RISK	
09.00	**KEYNOTE ADDRESS: Quantitative risk assessment at the SEC** Craig Lewis, Chief Economist and Director of the Division of Risk, Strategy and Financial Innovation, U.S. SECURITIES AND EXCHANGE COMMISSION	
09.40	**EXECUTIVE ADDRESS: Optimal execution beyond equity markets** • Using optimal execution to reduce slippage • Quantitative aspects of risk-reward modeling • The state of the non-equity markets • Specific features of market microstructure Robert Almgren. Visiting Scholar and Adjunct professor in Financial Mathematics Courant Institute of Mathematical Sciences, NEW YORK UNIVERSITY and Co-founder, QUANTITATIVE BROKERS	
10.20	Morning break	
	STREAM ONE: QUANTITATIVE RISK MANAGEMENT	**STREAM TWO: QUANTITATIVE ALGO AND HFT TRADING**
10.50	Chairman's opening remarks	Chairman's opening remarks
11.00	**PRESENTATION: VarGamma: A unified measure of portfolio risk** • Value at Risk (VaR) a terrible measure, but how to replace it • VarGamma measures risk-adjusted returns using reasonable approximations • Provides superior estimates of tail risk • Embraces mean-variance analysis and stress tests as special cases Kent Osband, Author of Pandora's Risk and ICEBERG RISK	**PRESENTATION: Impact of HFT on market quality** • Analyzing the US equity markets changes over the past several years • The impact of technology and regulation • Historical benefits for long term investors - both retail and institutional • The future prospects and predictions for the market Matthew Cushman, Senior Managing Director, CITADEL GROUP
11.40	**PRESENTATION: The tortuous deaths of bankrupt stocks** • Bankrupt stocks may trade for years before falling to 0 • Occasional spikes to very high values • Well-described by a recent model of hard-to-borrowness • They give insights into the nature and behavior of asset bubbles Michael D. Lipkin, Adjunct Assistant Professor, COLUMBIA UNIVERSITY	**PRESENTATION: FX HFT in Mexico and Brazil** • Market overview • Proliferation of HFT to emerging markets and FX • What's next? Speaker to be confirmed
12.20	**PRESENTATION: Volatility Risks in the Age of VIX** • Using simple frameworks to capture VIX markets phenomena • Managing VIX derivatives & higher order greeks • Understanding objectives and risk factors of investable volatility products using rules-based allocation. • Tail risk hedging Christopher Nolle, Head of NY Quantitative Research, NATIXIS	**PRESENTATION: High frequency signals and adaptive trading** • Objectives and brief history of electronic trading algorithms • Types of trading signals and their underlying intuition • Understanding trading signals using theoretical microstructure models • Signal development: choice of time scales, fine tuning • Reacting to signals during order execution Michael Sotiropoulos, Managing Director, BANK OF AMERICA MERRILL LYNCH
1.00	Lunch	
2.00	**PRESENTATION: Local correlation modeling** • Review of approaches • Historical evidence • Numerical methods • Numerical results Bruno Dupire, Head of Quantitative Research, BLOOMBERG Risk Awards 2008: Lifetime Achievement	CALL FOR PAPERS: ***Risk* welcomes the submission of technical articles to be presented at *Quant Congress USA*.** The closing date for papers submission is **May 14th 2012.** Please send submissions to Joanna.Rejman@incisivemedia.com

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Main conference, DAY 2
Thursday, July 12th, 2012

2.40	**PRESENTATION: Liquidity- and funding-adjusted portfolio risk** • Market risk with Fully Flexible Probabilities • Exogenous liquidity risk and funding risk as horizon-driven market impact • Total risk as conditional convolution • Liquidity score in monetary terms Attilio Meucci, Chief Risk Officer, KEPOS CAPITAL	**PRESENTATION: Examining high frequency trading strategies: Implementation, profitability and risk** • What are some common HFT themes and strategies? • How do we research and develop HFT strategies? Can they be backtested? • How do we minimize the impact of transaction costs? • What is their performance? How are different strategies correlated? Petter Kolm, Director of the Mathematics in Finance, Courant Institute, NEW YORK UNIVERSITY & THE HEIMDALL GROUP Jun Wu, Researcher, Courant Institute, NEW YORK UNIVERSITY & THE HEIMDALL GROUP
3.20	Afternoon break	
3.40	**PLENARY ADDRESS: A survival guide for low frequency traders in a high frequency world** • The HFPIN flow toxicity metric • Forecasting toxicity-induced volatility • Trading footprint and predatory algorithms • Optimal execution horizon Marcos Lopez De Prado, Head of Global Quant Research and High Frequency Futures Trading, TUDOR INVESTMENTS	
4.20	**AFTERNOON KEYNOTE: Financial Equilibrium Theory for Two Price Economies with Risk Management and Capital Allocation Implications** • When and how does the law of one price fail • Modeling RWA in Two Price Economies • Achieving Counter Cyclicality in Capital Requirements • Hunt processes in Financial Risk Modeling Dilip B. Madan, Professor of Mathematical Finance, Department of Finance, Robert H. Smith School of Business, UNIVERSITY OF MARYLAND	
5.00	End of conference	

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❒ 2-day congress + workshop, July 10-12	$3,199	$3,499	$3,599
❒ 2 day congress only, July 11-12	$2,499	$2,699	$2,999
❒ Pre-congress workshop only, July 10th	$1,399	$1,499	$1,799

Please indicate which workshop you wish to attend:

❒ Workshop 1: Modeling and managing liquidity risk
❒ Workshop 2: Capital allocation and stress-testing

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