

Registration & coffee

08:30 - 08:55
Artificial Intelligence & Machine Learning Summit

Chair's opening and welcome

08:55 - 09:00
Artificial Intelligence & Machine Learning Summit

Learning to Trade

09:00 - 09:40
Artificial Intelligence & Machine Learning Summit

We discuss the application of ML and AI methods to automated trading from electronic trading to exotics

Participants

Speaker: Hans Buehler - Global Head of Analytics, Automation, Optimization, JP Morgan

Registration & coffee

09:00 - 09:25
Volatility Workshop

Registration & coffee

09:00 - 09:25
Fundamentals of Machine Learning in Finance Workshop:

Workshop leader's opening remarks

09:25 - 09:30
Volatility Workshop

Participants

Workshop leader: Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Workshop leader's opening remarks

09:25 - 09:30
Fundamentals of Machine Learning in Finance Workshop:

Participants

Workshop leader: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

Volatility fundamentals

09:30 - 10:55
Volatility Workshop

- Historical volatility estimation and implied volatility calculation
- How to construct a good implied volatility surface
- How to compute a fair skew in the absence of options
- Market facts: volatility regimes, handling earnings

Participants

Workshop leader: Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Introduction and fundamentals of ML in finance

09:30 - 10:55
Fundamentals of Machine Learning in Finance Workshop:

- Types of machine learning
- Why ML is suddenly so popular in finance
- Methodology and terminology
- Training, validation and test sets
- Linear regression with many features: ridge, lasso, elastic regression. Case study
- Bayes classification
- Principal components

Participants

Workshop leader: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

Market Generators and Regime detection - title tbc

09:40 - 10:20
Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Blanka Horvath - Lecturer in Financial Mathematics, King's College London

The use of alternative data and artificial intelligence for investing:

10:20 - 11:00
Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Sylvain Forté - CEO & Founder, SESAMm

Morning coffee & networking break

10:55 - 11:25
Volatility Workshop

Morning coffee & networking break

10:55 - 11:25
Fundamentals of Machine Learning in Finance Workshop:

Morning coffee & networking break

11:00 - 11:30
Artificial Intelligence & Machine Learning Summit

Volatility models

11:25 - 12:55
Volatility Workshop

- Review of the most commonly used volatility models: Black-Scholes, Local Volatility model, Heston model, SABR models, stochastic local volatility model. Path dependent models, fractional volatility
- Implementation of the Local Volatility model
- Implementation of Local Stochastic Volatility models
- Machine Learning to create data driven models
- Case studies: Barrier options, AutoCallables and Accumulators

Participants

Workshop leader: Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Supervised Learning

11:25 - 12:55
Fundamentals of Machine Learning in Finance Workshop:

- Logistic regression. Case study
- Support vector machines
- Neural networks
- Decision trees and random forests
- Bagging and boosting; ensemble
- The variance-bias trade-off

Participants

Workshop leader: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

Nowcasting

11:30 - 12:15
Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Marc Chataigner - PhD Candidate, University of Evry

Quantum Forests

12:15 - 13:00

Artificial Intelligence & Machine Learning Summit

Using forest and ensembles for Quantum support vector machines and considering how this improves overall workflow.

Participants

Speaker: Jan Novotny - eFX Quant, Nomura

Lunch & networking break

12:55 - 13:55

Volatility Workshop

Lunch & networking break

12:55 - 13:55

Fundamentals of Machine Learning in Finance Workshop:

Lunch & networking break

13:00 - 14:00

Artificial Intelligence & Machine Learning Summit

Volatility Derivatives

13:55 - 15:25

Volatility Workshop

- Variance swaps, replication, practical issues
- Volatility swaps
- Cross corridor variance swaps
- VIX: Spot, Futures, options and ETFs
- Options on realized variance

Participants

Workshop leader: Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Unsupervised and Reinforcement Learning

13:55 - 15:25

Fundamentals of Machine Learning in Finance Workshop:

- Clustering. Case study
- Reinforcement learning
- Biases and data cleaning
- Image recognition
- Limitations of ML

Participants

Workshop leader: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

The N-LASR Algorithm

14:00 - 14:45

Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Caio Natividade - Head of QIS Research, Deutsche Bank

Automation approaches for effectively moving ML models through validation and into production

14:45 - 15:30

Artificial Intelligence & Machine Learning Summit

Participants

Speaker: David Van Bruwaene - Co-founder & CEO, Fairly AI

Afternoon tea & networking break

15:25 - 15:55

Volatility Workshop

Afternoon tea & networking break

15:25 - 15:55

Fundamentals of Machine Learning in Finance Workshop:

Afternoon tea & networking break

15:30 - 16:00

Artificial Intelligence & Machine Learning Summit

Volatility trading & arbitrage:

15:55 - 17:20

Volatility Workshop

- Volatility as an asset class
- Frequency/phase arbitrage
- Skew trades
- Term structure of VIX arbitrage
- Earning trades: 3 ways to play forward variance

Participants

Workshop leader: Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Other Financial Innovations

15:55 - 17:20

Fundamentals of Machine Learning in Finance Workshop:

- The pattern of innovation
- Blockchain and hashing
- Cryptocurrencies and ICOs
- Roboadvisors, insurtech, and regtech
- Kodak vs. IBM

Participants

Workshop leader: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

Machine Learning and macroeconomic variables

16:00 - 16:40

Artificial Intelligence & Machine Learning Summit

Participants

Speaker: David Mascio - Managing Founder and Principal, Della Parola Capital Management, LLC

Conditional expectations: Model free, data driven, fast (with applications to pricing and hedging)

16:40 - 17:20

Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Jörg Kienitz - Adjunct Associate Professor and Associate Professor, University of Cape Town and University of Wuppertal

Model based Machine Learning for derivatives modelling, with application to local volatility modeling

17:20 - 18:00

Artificial Intelligence & Machine Learning Summit

Participants

Speaker: Matthew Dixon - Assistant Professor of Finance, Department of Applied Mathematics & Stuart School of Business - Illinois Institute of Technology

Speaker: Marc Chataigner - PhD Candidate, University of Évy

Speaker: Stéphane Crépey - Professor of Mathematics, Université de Paris, LPSM

Workshop leader's closing remarks

17:20 - 17:25

Volatility Workshop

Participants

Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

SESSIONS

SUMMIT & WORKSHOPS - 06/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

Workshop leader's closing remarks

17:20 - 17:25

Fundamentals of Machine Learning in Finance

Workshop:

Participants

Workshop leader: John Hull - Maple Financial

Professor of Derivatives & Risk Management, Joseph

L. Rotman School of Management at University Of

Toronto

Networking drinks and working groups

18:00 - 19:00

SCHEDULE

SUMMIT & WORKSHOPS - 06/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	ARTIFICIAL INTELLIGENCE & MACHINE LEARNING SUMMIT	FUNDAMENTALS OF MACHINE LEARNING IN FINANCE WORKSHOP:	VOLATILITY WORKSHOP
08:00	08:30 - Registration & coffee 08:55 - Chair's opening and welcome		
09:00	09:00 - Learning to Trade 09:40 - Market Generators and Regime detection - title tbc	09:00 - Registration & coffee 09:25 - Workshop leader's opening remarks 09:30 - Introduction and fundamentals of ML in finance	09:00 - Registration & coffee 09:25 - Workshop leader's opening remarks 09:30 - Volatility fundamentals
10:00	10:20 - The use of alternative data and artificial intelligence for investing:	10:55 - Morning coffee & networking break	10:55 - Morning coffee & networking break
11:00	11:00 - Morning coffee & networking break 11:30 - Nowcasting	11:25 - Supervised Learning	11:25 - Volatility models
12:00	12:15 - Quantum Forests	12:55 - Lunch & networking break	12:55 - Lunch & networking break
13:00	13:00 - Lunch & networking break	13:55 - Unsupervised and Reinforcement Learning	13:55 - Volatility Derivatives
14:00	14:00 - The N-LASR Algorithm 14:45 - Automation approaches for effectively moving ML models through validation and into production		
15:00	15:30 - Afternoon tea & networking break	15:25 - Afternoon tea & networking break 15:55 - Other Financial Innovations	15:25 - Afternoon tea & networking break 15:55 - Volatility trading & arbitrage:
16:00	16:00 - Machine Learning and macroeconomic variables 16:40 - Conditional expectations: Model free, data driven, fast (with applications to pricing and hedging)		
17:00	17:20 - Model based Machine Learning for derivatives modelling, with application to local volatility modeling	17:20 - Workshop leader's closing remarks	17:20 - Workshop leader's closing remarks
18:00	18:00 - Networking drinks and working groups	18:00 - Networking drinks and working groups	18:00 - Networking drinks and working groups

Registration & coffee

08:15 - 08:55

Chair's opening remarks

08:55 - 09:00

Option Pricing, Trading & Volatility

Participants

Chair: Andrew McClelland - Director, Quantitative Research, Numerix

Chair's opening remarks

08:55 - 09:00

Alpha & Quant Investing

Participants

Chair: Matthew Rooney, Selby Jennings

Chair's opening remarks

08:55 - 09:00

Quant Innovation: Data, Computational & Numerical Efficiency

When the going gets rough – the tough get going

09:00 - 09:40

Option Pricing, Trading & Volatility

- Fractionality and rough volatility – again again.
- Exponential basis, markovian projections, and simulation schemes.
- The s&p and vix option conundrum.
- Local volatility overlay and calibration per Monte-Carlo.

Participants

Speaker: Jesper Andreasen - Kwant Father, Saxo Bank

Beyond Convexity

09:00 - 09:40

Alpha & Quant Investing

Participants

Jessica James - Managing Director, Senior Quantitative Researcher, Commerzbank AG

New frontiers in data science and quant finance: Topological data analysis for stock selection

09:00 - 09:40

Quant Innovation: Data, Computational & Numerical Efficiency

Participants

Speaker: Matthew Dixon - Assistant Professor of Finance, Department of Applied Mathematics & Stuart School of Business - Illinois Institute of Technology

The Beauty and Power of Forward Equations

09:40 - 10:20

Option Pricing, Trading & Volatility

Participants

Bruno Dupire - Head Of Quantitative Research, Bloomberg L.P.

Next generation machine learning techniques for alpha generation

09:40 - 10:20

Alpha & Quant Investing

Participants

Andrea Nardon - Chief Quant Officer, Fund Manager, Black Alpha Capital

Differentiable Scripting and Numerical Stability of Adjoints of Implicit Functions

09:40 - 10:20

Quant Innovation: Data, Computational & Numerical Efficiency

Participants

Speaker: Uwe Naumann - Professor Of Computer Science, RWTH Aachen University

Local volatility under rough volatility

10:20 - 11:00

Option Pricing, Trading & Volatility

This work answers a frequently asked question on the shape of the (Dupire) local volatility surface induced by rough volatility models, a popular class of models for which Gatheral/Rosenbaum were recently awarded the Quant of Year award.

This is a joint work with P. Pigato (Rome) and Florian Bourgey (Ecole Polytechnique and Bloomberg).

Participants

Speaker: Peter Friz - Professor of Mathematics, TU Berlin, Weierstraß-Institut Berlin

Speaker: Stefano De Marco - Assistant Professor in Applied Mathematics, Ecole Polytechnique

A Human-Machine systematic investment framework for wealth management

10:20 - 11:00

Alpha & Quant Investing

Participants

Speaker: Emilio Llorente Cano - Head of Investments, Recognition AMS

Have your cake and eat it: adjoint source transformation via operator overloading

10:20 - 11:00

Quant Innovation: Data, Computational & Numerical Efficiency

The AD world basically splits in two. Source transformation can give incredibly efficient adjoints, but is fundamentally restricted to "simple languages" like subsets of C. On the other hand, operator overloading is successful in handling large, complex, production codes, but only if you can overcome the inherent memory growth. In theory there's nothing stopping us combining these two ideas, although it turns out that developing an industrially relevant tool is not so easy. We will show a preview of such new functionality in NAG's AD portfolio, discussing its strengths and limitations, and showing early results of applying this to a selection of codes.

Participants

Speaker: Jacques Du Toit - Product Manager, Financial Services, NAG

Coffee & networking

11:00 - 11:30

Predicting the VIX from the S&P 500 path: a machine-learning approach to path-dependent volatility

11:30 - 12:10

Option Pricing, Trading & Volatility

Participants

Speaker: Julien Guyon - Senior Quantitative Analyst, Bloomberg L.P.

Tackling ESG challenges to smart beta strategies

11:30 - 12:10

Alpha & Quant Investing

Smart beta is a disrupting financial innovation that we believe will be disrupted by the ESG transition. How should smart beta managers position their products within the large ESG spectrum and how should they align their investment objectives and adapt their frameworks accordingly in order to achieve those outcomes in their portfolios? This paper discusses the main emerging directions in the industry to overcome the ESG challenges. We show why those challenges should be regarded by smart beta managers as opportunities instead of threats.

Participants

Speaker: Hamza Bahaji - Head of Engineering and Solutions, Amundi

The role of alternative and synthetic data in engineering for future

11:30 - 12:10

Quant Innovation: Data, Computational & Numerical Efficiency

Participants

Speaker: Ioana Boier - Head of Quantitative Portfolio Solutions, Alphadyne Asset Management

Modeling volatility index with a conformal process

12:10 - 12:50

Option Pricing, Trading & Volatility

Participants

Speaker: Gregory Pelts - Director, Scotia Bank

Downside Variance Risk Premium

12:10 - 12:50

Alpha & Quant Investing

Participants

Speaker: Nicolo Marini - Proprietary Trader - Macro Risk Management, Intesa Sanpaolo

Speaker: Marco Scaringi - Quantitative Analyst, Intesa Sanpaolo

A PDE-based Quantum Algorithm for Pricing Financial Derivatives

12:10 - 12:50

Quant Innovation: Data, Computational & Numerical Efficiency

Participants

Speaker: Ángel Rodríguez-Rozas - Associate Director – Quantitative Analyst, Model Validation, Banco Santander

Asymmetric Greeks and applications

12:50 - 13:30

Option Pricing, Trading & Volatility

Participants

Speaker: Nadhem Meziou - Head of Fixed Income Quantitative Research, Natixis

ESG Optimal Allocation for insurance companies

12:50 - 13:30

Alpha & Quant Investing

Participants

Speaker: Aymeric Kalife - CEO and Founder, iDigital Partner

Harvesting the FX volatility risk premium with Python

12:50 - 13:30

Quant Innovation: Data, Computational & Numerical Efficiency

Participants

Speaker: Saeed Amen - Founder, Cuemacro

Lunch

13:30 - 14:30

A Malliavin calculus approach to volatility modelling

14:30 - 15:10

Option Pricing, Trading & Volatility

Participants

Speaker: Elisa Alòs Alcalde - Associate Professor, Universitat Pompeu Fabra (UPF)

Speaker: David Garcia Lorite - Quantitative Analyst, Caixabank

Systematic strategies for crypto assets

14:30 - 15:10

Alpha & Quant Investing

- Challenges and opportunities for systematic strategies
- Investable universe of crypto assets
- Time series and cross-sectional factor strategies
- Portfolio construction and diversification

Participants

Speaker: Artur Sepp - Head Systematic Solutions & Portfolio Construction, Sygnum Bank

High Frequency Trading and DeFi: Ideas, strategies, building blocks and other considerations

14:30 - 15:10

Quant Innovation: Data, Computational & Numerical Efficiency

Decentralized finance (DeFi) has opened the door for a new generation of high-frequency trading (HFT) in the crypto space. From basic arbitrages to super sophisticated algorithms, we can see HFT bots all across the DeFi space. How does HFT works in DeFi?

This session will present some of the core ideas behind HFT algorithms in the DeFi space. We will discuss key building blocks of HTF-DeFi infrastructures, risks and show real trades that explain these concepts. Finally, we will also discuss how the advent of Ethereum 2.0 can change the HFT landscape in DeFi.

Participants

Speaker: Jesus Rodriguez - Chief Technology Officer, IntoTheBlock

Pricing and risk analysis in hyperbolic local volatility model with quasi Monte Carlo

15:10 - 15:50

Option Pricing, Trading & Volatility

Participants

Speaker: Julien Hok - Director, Quantitative Analysis, Credit Agricole-CIB

Speaker: Sergei Kucherenko - Senior Research Fellow, Imperial College London

Integrating Time Series and Onchain Data For quantitative investing in the Crypto space

15:10 - 15:50

Alpha & Quant Investing

Participants

Speaker: Gurraj Sangha - Chief Quantitative Investment Officer, Token Metrics Ventures

Smart contract technology: transforming how financial securities and derivatives are modelled

15:10 - 15:50

Quant Innovation: Data, Computational & Numerical Efficiency

- What is a "smart" contract?
- Must smart contracts live on a blockchain? (briefly: no, but merits some discussion)
- Specifying a smart contract
- Analysing a smart contract, automation
- Linking a smart contract to models
- Potential for modelling

Participants

Speaker: Jochen Theis - tbc, Independent

JDOI Variance Reduction and American Option Pricing

15:50 - 16:30

Option Pricing, Trading & Volatility

Participants

Spaeker: Ludovic Mathys - Equity Derivatives Trader, UBS

Investment Management 2.0 and Blockchain in Asset Management: Using AI to unlock personalized alpha strategies and investing based on to Core Values & Ethos for retail clients

15:50 - 16:30

Alpha & Quant Investing

- AI investment decision-making and alpha generation
- Introducing personalized Ethos investing and quantifying Impact for retail investors
- Blockchain & Asset Management: Introducing an event driven, immutable, digital-Asset ready portfolio Management framework

Participants

Speaker: Grigorios Papamanousakis - CEO, Prometheus Technologies

Alternative & Synthetic Data Panel

15:50 - 16:30

Quant Innovation: Data, Computational & Numerical Efficiency

- What is good practices when it working with synthetic data?
- How should we be producing it
- What are the considerations when using it for other purposes e.g. augmenting for other models?
- what are the pitfalls and how do we address them?

Participants

Panellist: Samuel Cohen - Associate Professor, Theme lead for ML in Finance Alan Turing Institute, University of Oxford

Afternoon tea & networking

16:30 - 17:00

Rough Volatility Deep Dive

17:00 - 18:00

Option Pricing, Trading & Volatility

Participants

Speaker: Jim Gatheral - Presidential Professor of Mathematics, Baruch College, CUNY

Speaker: Mathieu Rosenbaum - Resident Professor, Ecole Polytechnique

Market Microstructure

17:00 - 18:00

Alpha & Quant Investing

Presentation: Trading costs of portfolios: insights from cross-impact with Mehdi Tomas, École Polytechnique

Panel: Recent approaches to managing trading costs in complex portfolios

Moderator: Zoltan Eisler, Element Capital

Participants

Speaker: Mehdi Tomas - PhD Student, École Polytechnique

Moderator: Zoltan Eisler - Senior Execution Strategist, Element Capital Management

Alternatives to Deep Neural Networks for Function Approximations in Finance

17:00 - 18:00

Quant Innovation: Algo Trading & ML

Participants

Speaker: Alexander Antonov - Chief Analyst, Danske Bank

Speaker: Vladimir Piterbarg - MD, Head of Quantitative Analytics & Development, NatWest Markets

Networking drinks and roundtables

18:00 - 19:00

Join one of our informal discussion round tables hosted by an industry expert to make new connections and tap into new trends.

Roundtable hosts include:

- Marie-Astrid Renard, Selby Jennings considering how to attract and retain top talent in a highly competitive market

Participants

Roundtable Host: Marie-Astrid Renard - AVP - Quantitative Research & Trading, Selby Jennings

SCHEDULE

MAIN CONFERENCE DAY 1 DRAFT AGENDA - 07/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	ALPHA & QUANT INVESTING	OPTION PRICING, TRADING & VOLATILITY	QUANT INNOVATION: ALGO TRADING & ML	QUANT INNOVATION: DATA, COMPUTATIONAL & NUMERICAL EFFICIENCY
08:00	08:15 - Registration & coffee 08:55 - Chair's opening remarks	08:15 - Registration & coffee 08:55 - Chair's opening remarks	08:15 - Registration & coffee	08:15 - Registration & coffee 08:55 - Chair's opening remarks
09:00	09:00 - Beyond Convexity 09:40 - Next generation machine learning techniques for alpha generation	09:00 - When the going gets rough – the tough get going 09:40 - The Beauty and Power of Forward Equations		09:00 - New frontiers in data science and quant finance: Topological data analysis for stock selection 09:40 - Differentiable Scripting and Numerical Stability of Adjoint of Implicit Functions
10:00	10:20 - A Human-Machine systematic investment framework for wealth management	10:20 - Local volatility under rough volatility		10:20 - Have your cake and eat it: adjoint source transformation via operator overloading
11:00	11:00 - Coffee & networking 11:30 - Tackling ESG challenges to smart beta strategies	11:00 - Coffee & networking 11:30 - Predicting the VIX from the S&P 500 path: a machine-learning approach to path-dependent volatility	11:00 - Coffee & networking	11:00 - Coffee & networking 11:30 - The role of alternative and synthetic data in engineering for future
12:00	12:10 - Downside Variance Risk Premium 12:50 - ESG Optimal Allocation for insurance companies	12:10 - Modeling volatility index with a conformal process 12:50 - Asymmetric Greeks and applications		12:10 - A PDE-based Quantum Algorithm for Pricing Financial Derivatives 12:50 - Harvesting the FX volatility risk premium with Python
13:00	13:30 - Lunch	13:30 - Lunch	13:30 - Lunch	13:30 - Lunch
14:00	14:30 - Systematic strategies for crypto assets	14:30 - A Malliavin calculus approach to volatility modelling		14:30 - High Frequency Trading and DeFi: Ideas, strategies, building blocks and other considerations

SCHEDULE

MAIN CONFERENCE DAY 1 DRAFT AGENDA - 07/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	ALPHA & QUANT INVESTING	OPTION PRICING, TRADING & VOLATILITY	QUANT INNOVATION: ALGO TRADING & ML	QUANT INNOVATION: DATA, COMPUTATIONAL & NUMERICAL EFFICIENCY
15:00	<p>15:10 - Integrating Time Series and Onchain Data For quantitative investing in the Crypto space</p> <p>15:50 - Investment Management 2.0 and Blockchain in Asset Management: Using AI to unlock personalized alpha strategies and investing based on to Core Values & Ethos for retail clients</p>	<p>15:10 - Pricing and risk analysis in hyperbolic local volatility model with quasi Monte Carlo</p> <p>15:50 - JDOI Variance Reduction and American Option Pricing</p>		<p>15:10 - Smart contract technology: transforming how financial securities and derivatives are modelled</p> <p>15:50 - Alternative & Synthetic Data Panel</p>
16:00	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking
17:00	17:00 - Market Microstructure	17:00 - Rough Volatility Deep Dive	17:00 - Alternatives to Deep Neural Networks for Function Approximations in Finance	
18:00	18:00 - Networking drinks and roundtables	18:00 - Networking drinks and roundtables	18:00 - Networking drinks and roundtables	18:00 - Networking drinks and roundtables

Registration & coffee

08:30 - 08:55

Chair's introduction

08:55 - 09:00

Interest Rate Modelling, Trading & IBOR

Chair's introduction

08:55 - 09:00

Risk Management: Model Risk & Liquidity

Participants

Chairman: Marco Bianchetti - Head of Internal Model Market Risk, Intesa Sanpaolo

Chair's introduction

08:55 - 09:00

Quant Innovation: Algo Trading & ML

Participants

Chairman: Richard Turner - Managing Director, Currency Management, Mesirow Financial

Ibor and model risk

09:00 - 09:40

Interest Rate Modelling, Trading & IBOR

- Assessing model risk in the Ibor transition
- An approach for model risk
- Lessons learnt

Participants

Speaker: Maurizio Garro - Senior Lead, IBOR Transition Programme, Lloyds Banking Group

Darwinian model risk and reverse stress testing

09:00 - 09:40

Risk Management: Model Risk & Liquidity

We consider the model risk born of adverse selection, within the available models, of those leading to high purchase prices (as necessary for competitiveness on the market), even if this means alpha-leakage, but with corresponding losses that are more than offset in the short- and medium-term by gains on the hedging side of the position. At least, this happens until a financial crisis reveals the erroneous nature of the model used, forcing the bank to liquidate its position and its hedge at the cost of heavy losses. This "Darwinian" model risk is directional (related to a long-term moment of order one of), likely to stay unnoticed from traditional risk systems, which are focused on shorter-term moments of order two and beyond. One possible approach to detect it consists of long-term, large-scale simulations, revealing the consequences of using various models in extreme scenarios. The erroneous models are then discarded while the admissible models can be combined within a Bayesian robust approach.

Participants

Speaker: Stéphane Crépey - Professor of Mathematics, Université de Paris, LPSM

Complex systems analysis and empirical dynamic modelling for state space reconstruction and time series prediction

09:00 - 09:40

Quant Innovation: Algo Trading & ML

Participants

Speaker: Richard Turner - Managing Director, Currency Management, Mesirow Financial

What short rate model should I use?

09:40 - 10:20

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Colin Turfus - Quantitative Analyst, Deutsche Bank

Modelling Energy Curves for XVA

09:40 - 10:20

Risk Management: Model Risk & Liquidity

Participants

Speaker: Andrew McClelland - Director, Quantitative Research, Numerix

Machine Learning and stress testing

09:40 - 10:20

Quant Innovation: Algo Trading & ML

- Stylized facts about returns
- Generating synthetic data
- VaR and ES with high confidence levels
- Results of tests

Participants

Speaker: John Hull - Maple Financial Professor of Derivatives & Risk Management, Joseph L. Rotman School of Management at University Of Toronto

Incompleteness of New Interest Rate Benchmarks

10:20 - 11:00

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Andrea Macrina - Reader in Mathematics, University College London

Estimation of natural demand and liquidity premium for Hungarian government bonds

10:20 - 11:00

Risk Management: Model Risk & Liquidity

- Funding liquidity considerations in the optimal debt portfolio model
- Predicting natural market demand using threshold-switching dynamic regression
- Measurement of liquidity risk premium and the effect of excess issuances on yields

Participants

Speaker: András Bebes - Head of Department, Strategy and Research Department, Hungarian Debt Management Agency (AKK)

Speaker: András Stark - Quantitative Analyst, Hungarian Debt Management Agency (AKK)

New research on regime detection and classification

10:20 - 11:00

Quant Innovation: Algo Trading & ML

Participants

Speaker: Aitor Muguruza Gonzalez - Head of Quantitative Modelling and Data Analytics, Kaiju Capital Management

Speaker: Zach Issa - Quant, Kaiju Capital Management

Coffee & networking

11:00 - 11:30

Fast and accurate calculation of CVA/DVA/RPA.

11:30 - 12:10

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Viatcheslav Belyaev - Senior Quantitative Analyst, U.S. Bank

Equity-Credit portfolios modelling: market dynamics, key drivers and modelling choices

11:30 - 12:10

Risk Management: Model Risk & Liquidity

- Equity-credit short term link: conundrum of correlation
- Market dynamics and key drivers
- Single name vs. factor models for equity and credit asset classes: different standards
- Single name approach: the best predictor for equity-credit correlation or superfluous information?
- Factor models vs. single name approach: modelling choices, their power, stability, counterparty risk vs. asset management

Participants

Speaker: Vladimir Chorniy - Senior Technical Lead, BNP Paribas

Speaker: Sergii Arkhypov - Risk Specialist, .

Mean Reversion, Diversification, and Taming the Left Tail

11:30 - 12:10

Quant Innovation: Algo Trading & ML

Participants

Speaker: Arta Babae - Senior Advisor, Breaking Point Fund

Risk-free rate options pricing

12:10 - 12:50

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Aurelio Romero-Bermudez - Quantitative Analyst, Deutsche Bank

Challenging Economic Capital

12:10 - 12:50

Risk Management: Model Risk & Liquidity

- Economic Capital based on risk measure at extreme percentile and over long time horizon;
- Testing different approaches: naïve (Gaussian approximation) vs statistical (bootstrap) vs parametric (Cornish Fisher expansion);
- Searching mean reversion patterns in market risk factors: univariate and multivariate analysis

Authors: Marco Bianchetti, Manola Santilli, Marco Scaringi, Davide Stelitano, Roberto Ugoccioni (Intesa Sanpaolo, Risk Management)

Participants

Speaker: Manola Santili - Market Risk Analyst, Intesa Sanpaolo

Speaker: Marco Scaringi - Quantitative Analyst, Intesa Sanpaolo

Crypto market-making for illiquid coins and tokens

12:10 - 12:50

Quant Innovation: Algo Trading & ML

Participants

Speaker: Anton Golub - Co-founder & CEO, Flovtec

Completing the Generalized Forward Market Model: Genesis and Extensions

12:50 - 13:30

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Fabio Mercurio - Head of Quant Analytics, Bloomberg L.P.

Understanding dependencies in financial markets

12:50 - 13:30

Risk Management: Model Risk & Liquidity

Participants

Speaker: Daniel Linders - Assistant Professor in Actuarial Science & Mathematical Finance, University of Amsterdam

Backtesting for High-Frequency Trading and Reinforcement Learning

12:50 - 13:30

Quant Innovation: Algo Trading & ML

- How to structure a backtesting infrastructure
- How to incorporate this into a Reinforcement Learning engine
- Examples of results obtained with this infrastructure

Participants

Speaker: Matteo Rolle - Head of Crossmarket Trading, Banca Sella Holding

Speaker: Daniele Rossano - Trader, Banca Sella Holding

Lunch

13:30 - 14:30

From quantum to quantos: effective path integral approximations for semi-analytical pricing of quanto CDS

14:30 - 15:10

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Luca Capriotti - Head Quantitative Strategies Credit Products and Structured Notes, Credit Suisse

Model Risk Management, Past, Present and Future

14:30 - 15:10

Risk Management: Model Risk & Liquidity

Participants

Speaker: Jon Hill - Professor of Model Risk Management, Dept. of Financial Risk Engineering, NYU-Tandon

Advances in the Quantitative Modelling of the Energy Market

14:30 - 15:10

Quant 2.0: Quantifying Climate Change

Participants

Moderator: Valery Kholodnyi - Principal Quantitative Analyst, Verbund AG

Panellist: Erik Vynckier - Board Member, Foresters Friendly Society and Institute and Faculty of Actuaries

Repo Curve building: a modern derivatives approach

15:10 - 15:50

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Daniel Zimarev - Financial Engineer, UBS Investment Bank

Model risk quantification based on relative entropy

15:10 - 15:50

Risk Management: Model Risk & Liquidity

Participants

speaker: Daniel Arrieta Rodriguez - Senior Model Validation Quant, Santander

A quantitative approach to climate-related credit risk, using Shared Socioeconomic Pathways

15:10 - 15:50

Quant 2.0: Quantifying Climate Change

Participants

Speaker: Emmanuel Gobet - Professor, Ecole Polytechnique

Between Scylla and Charybdis: The Bermudan swaptions pricing odyssey

15:50 - 16:30

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Dariusz Gatarek - Professor, Systems Research Institute, Polish Academy of Sciences

Model enhancements to increase CVA proxy hedging efficiencies

15:50 - 16:30

Risk Management: Model Risk & Liquidity

Participants

Speaker: Shengyao Zhu - Senior Quant, xVA trading desk, Nordea

The economics, pricing and hedging of ESG-linked derivatives

15:50 - 16:30

Quant 2.0: Quantifying Climate Change

Participants

Speaker: Chris Kenyon - Global Head of Quant Innovation, MUFG

Afternoon tea & networking

16:30 - 17:00

Pricing Forward Starting Swaptions

17:00 - 17:40

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Sander Willems - Quantitative Analyst, RBC Capital Markets

Market Melt-Down – The War-Game!

17:00 - 18:20

Risk Management: Model Risk & Liquidity

Test your forecasting & problem-solving skills in this specially designed war game to stress-test financial institutions against various scenarios. Put your models to the test with John Hulsman, U.S. Council on Foreign Relations

Participants

speaker: John Hulsman - Geopolitical Expert & Life Member, U.S. Council On Foreign Relations

Differential Machine Learning Masterclass

17:00 - 18:20

Quant Innovation: Algo Trading & ML

Participants

speaker: Antoine Savine - Chief Quantitative Analyst, Danske Bank

speaker: Brian Huge - Chief Quantitative Analyst, Saxo Bank

Pricing interest rate options

17:40 - 18:20

Interest Rate Modelling, Trading & IBOR

Participants

Speaker: Emiliano Papa - Director - Head of Rates and FX, Deutsche Bank

Networking drinks and working groups

18:20 - 19:50

SCHEDULE

MAIN CONFERENCE DAY 2 DRAFT AGENDA - 08/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	INTEREST RATE MODELLING, TRADING & IBOR	QUANT 2.0: QUANTIFYING CLIMATE CHANGE	QUANT INNOVATION: ALGO TRADING & ML	RISK MANAGEMENT: MODEL RISK & LIQUIDITY
08:00	08:30 - Registration & coffee 08:55 - Chair's introduction	08:30 - Registration & coffee	08:30 - Registration & coffee 08:55 - Chair's introduction	08:30 - Registration & coffee 08:55 - Chair's introduction
09:00	09:00 - Ibor and model risk 09:40 - What short rate model should I use?		09:00 - Complex systems analysis and empirical dynamic modelling for state space reconstruction and time series prediction 09:40 - Machine Learning and stress testing	09:00 - Darwinian model risk and reverse stress testing 09:40 - Modelling Energy Curves for XVA
10:00	10:20 - Incompleteness of New Interest Rate Benchmarks		10:20 - New research on regime detection and classification	10:20 - Estimation of natural demand and liquidity premium for Hungarian government bonds
11:00	11:00 - Coffee & networking 11:30 - Fast and accurate calculation of CVA/DVA/RPA.	11:00 - Coffee & networking	11:00 - Coffee & networking 11:30 - Mean Reversion, Diversification, and Taming the Left Tail	11:00 - Coffee & networking 11:30 - Equity-Credit portfolios modelling: market dynamics, key drivers and modelling choices
12:00	12:10 - Risk-free rate options pricing 12:50 - Completing the Generalized Forward Market Model: Genesis and Extensions		12:10 - Crypto market-making for illiquid coins and tokens 12:50 - Backtesting for High-Frequency Trading and Reinforcement Learning	12:10 - Challenging Economic Capital 12:50 - Understanding dependencies in financial markets
13:00	13:30 - Lunch	13:30 - Lunch	13:30 - Lunch	13:30 - Lunch
14:00	14:30 - From quantum to quantos: effective path integral approximations for semi-analytical pricing of quanto CDS	14:30 - Advances in the Quantitative Modelling of the Energy Market		14:30 - Model Risk Management, Past, Present and Future
15:00	15:10 - Repo Curve building: a modern derivatives approach 15:50 - Between Scylla and Charybdis: The Bermudan swaptions pricing odyssey	15:10 - A quantitative approach to climate-related credit risk, using Shared Socioeconomic Pathways 15:50 - The economics, pricing and hedging of ESG-linked derivatives		15:10 - Model risk quantification based on relative entropy 15:50 - Model enhancements to increase CVA proxy hedging efficiencies

SCHEDULE

MAIN CONFERENCE DAY 2 DRAFT AGENDA - 08/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	INTEREST RATE MODELLING, TRADING & IBOR	QUANT 2.0: QUANTIFYING CLIMATE CHANGE	QUANT INNOVATION: ALGO TRADING & ML	RISK MANAGEMENT: MODEL RISK & LIQUIDITY
16:00	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking	16:30 - Afternoon tea & networking
17:00	17:00 - Pricing Forward Starting Swaptions 17:40 - Pricing interest rate options		17:00 - Differential Machine Learning Master-class	17:00 - Market Melt-Down – The War-Game!
18:00	18:20 - Networking drinks and working groups	18:20 - Networking drinks and working groups	18:20 - Networking drinks and working groups	18:20 - Networking drinks and working groups

Morning coffee

08:00 - 08:25

Chair's introduction

08:25 - 08:30

Option Pricing, Trading & Volatility

Participants

Chair: András Bebes - Head of Department, Strategy and Research Department, Hungarian Debt Management Agency (AKK)

Chair's introduction

08:25 - 08:30

Risk Management: Regulation, CCR & Clearing

Participants

Chair: Andrey Chirikhin - Head of Structured Credit Quantitative Analytics, Barclays Investment Bank

Pricing European commodity spread options in the non-Markovian approach by the method of Eigenclaims

08:30 - 09:10

Option Pricing, Trading & Volatility

Participants

speaker: Valery Kholodnyi - Principal Quantitative Analyst, Verbund AG

Recent advances in quantitative financial regulation

08:30 - 09:10

Risk Management: Regulation, CCR & Clearing

Participants

Speaker: Mathieu Rosenbaum - Resident Professor, Ecole Polytechnique

Market Microstructure - Hawkes Processes and Flash Crashes

09:10 - 09:50

Option Pricing, Trading & Volatility

Participants

Speaker: Marcos Costa Santos Carreira - PhD Candidate, École Polytechnique

Controlling regulatory challenges of algorithmic credit scoring

09:10 - 09:50

Risk Management: Regulation, CCR & Clearing

Participants

speaker: Ligia Catherine Arias-Barrera - Associate Professor, Externado de Colombia University

Arbitrage prediction in bond trading with machine-learning approaches

09:50 - 10:30

Option Pricing, Trading & Volatility

Participants

Speaker: Daniel Mayenberger - CIB Data, Analytics & AI, J.P. Morgan

Current topics in Exposure Calculation and CCR Limit Management

09:50 - 10:30

Risk Management: Regulation, CCR & Clearing

Participants

Moderator: Holger Plank - Partner, d-fine

Panellist: Alexander Sokol - Head of Quant Research, CompatibL

Panellist: Sascha Geier - Head of Counterparty Risk Simulation Engines, Commerzbank

Panellist: Matthias Arnsdorf - Global Head of XVA & Counterparty Credit Risk Modelling, JP Morgan Chase

Coffee & networking

10:30 - 11:00

Stochastic (rough) volatility modelling

11:00 - 11:40

Option Pricing, Trading & Volatility

Participants

Eduardo Abi Jaber - Assistant Professor, Paris 1 Panthéon-Sorbonne University

Projecting Margins

11:00 - 11:40

Risk Management: Regulation, CCR & Clearing

Participants

Speaker: Matthias Arnsdorf - Global Head of XVA & Counterparty Credit Risk Modelling, JP Morgan Chase

Singular exotic perturbation

11:40 - 12:20

Option Pricing, Trading & Volatility

Participants

Speaker: Adil Reghai - Head of Quantitative Research Equity & Commodity Markets, Natixis

Polynomial approximation of discounted moments, with applications to bond pricing and credit migration risk

11:40 - 12:20

Risk Management: Regulation, CCR & Clearing

Participants

speaker: Misha van Beek - Director, Blackrock

Tsar Option

12:20 - 13:00

Option Pricing, Trading & Volatility

Participants

Speaker: Alexander Skabelin - Quantitative finance manager, Bank of America

Quantitative Modelling impacts due to Libor Conversion

12:20 - 13:00

Risk Management: Regulation, CCR & Clearing

Lunch

13:00 - 14:00

SCHEDULE

MAIN CONFERENCE DAY 3 DRAFT AGENDA - 09/12/2021

QuantMinds International

6 - 9 December 2021
Barcelona

TIME	OPTION PRICING, TRADING & VOLATILITY	RISK MANAGEMENT: REGULATION, CCR & CLEARING
08:00	08:00 - Morning coffee 08:25 - Chair's introduction 08:30 - Pricing European commodity spread options in the non-Markovian approach by the method of Eigenclaims	08:00 - Morning coffee 08:25 - Chair's introduction 08:30 - Recent advances in quantitative financial regulation
09:00	09:10 - Market Microstructure - Hawkes Processes and Flash Crashes 09:50 - Arbitrage prediction in bond trading with machine-learning approaches	09:10 - Controlling regulatory challenges of algorithmic credit scoring 09:50 - Current topics in Exposure Calculation and CCR Limit Management
10:00	10:30 - Coffee & networking	10:30 - Coffee & networking
11:00	11:00 - Stochastic (rough) volatility modelling 11:40 - Singular exotic perturbation	11:00 - Projecting Margins 11:40 - Polynomial approximation of discounted moments, with applications to bond pricing and credit migration risk
12:00	12:20 - Tsar Option	12:20 - Quantitative Modelling impacts due to Libor Conversion
13:00	13:00 - Lunch	13:00 - Lunch