

DOWNTOWN CONFERENCE CENTER, NEW YORK



THE 3RD MACHINE LEARNING & AI IN QUANTITATIVE FINANCE CONFERENCE DECEMBER 5-6, 2019

SPEAKERS

Gordon Ritter: Senior Portfolio Manager, **GSA Capital**

Luca Capriotti: Global Head Quantitative Strategies Credit and Financing, **Credit Suisse**

Terry Benzschawel: Founder and Principal, **Benzschawel Scientific, LLC**

Marcelo Labre: **Advanced Institute for Artificial Intelligence (AI2)** &
Executive Director, **Morgan Stanley**

Richard V. Rothenberg: Executive Director, **Global AI Corporation, New York, NY**
and Research Affiliate, **Lawrence Berkeley National Laboratory, Berkeley, CA**

Knarig Arabshian: Senior Associate Knowledge Engineer in Technology Innovation, **Federal Reserve Bank of New York**

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

Steve Yalovitser: Co-Founder, **New York Quantum Computing Meet-up** &
Director, **XVA Quant Core Lead, Wells Fargo**

Cristian Homescu: Director, Portfolio Analytics, **Bank of America Merrill Lynch**

Jos Gheerardyn: Co-Founder and CEO, **Yields.io**

Edvin Hopkins: Technical Consultant, **NAG**

Alexander Fleiss: CEO, **Rebellion Research – The Ai Machine Learning Robo Advisor**

Ivailo Dimov: Quant and Data Science Research, **Bloomberg LP** &
Adjunct Professor, **NYU Courant Institute**

SUPER EARLY BIRD DISCOUNT
25% UNTIL
25TH OCTOBER 2019

SPECIAL OFFER:
WHEN 2 COLLEAGUES
ATTEND THE 3RD GOES FREE!



SPONSORED BY



MoCaX
intelligence



nag®

AIFI
ARTIFICIAL INTELLIGENCE
FINANCE INSTITUTE

QWAFEFW
◆

CONFERENCE OVERVIEW

LOCATION:

Downtown Conference Center
157 William Street
New York, NY 10038
USA

Tel: +1 212 618 6990 | Website: www.downtownmeetings.com

THURSDAY, DECEMBER 5:

MAIN CONFERENCE, DAY ONE

The 3rd Machine Learning & AI in Quantitative Finance Conference

FRIDAY, DECEMBER 6:

MAIN CONFERENCE, DAY TWO

The 3rd Machine Learning & AI in Quantitative Finance Conference

CONFERENCE BOOKINGS: DISCOUNT STRUCTURE:

- **Super Early Bird Discount: 25% until October 25, 2019**
- Early Bird Discount: 10% until November 15, 2019
- SPECIAL OFFER: When 2 colleagues attend the 3rd goes free!
- 70% Academic Discount (FULL-TIME Students Only)

IMPORTANT NOTES:

The presentation files will 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 venue to view presentations on laptops and mobile devices.

MAIN CONFERENCE DAY ONE: THURSDAY, DECEMBER 5

8:00 REGISTRATION AND MORNING WELCOME COFFEE

9:00 – 10:00 KEYNOTE SPEECH

by **Gordon Ritter**: Senior Portfolio Manager, **GSA Capital**

PORTFOLIO MODEL RISK FOR SYSTEMATIC / QUANT TRADING

10:00 – 10:45 DYNAMIC REPLICATION AND HEDGING: A REINFORCEMENT LEARNING APPROACH

Abstract:

We address the problem of how to optimally hedge an options book in a practical setting, where trading decisions are discrete and trading costs can be nonlinear and difficult to model. Based on reinforcement learning, a well-established machine learning technique, our model is shown to be flexible, accurate and very promising for real-world applications.

This is joint work with Gordon Ritter.

Presenter: Petter Kolm: Director of the Mathematics in Finance Master's Program and Clinical Professor, **Courant Institute of Mathematical Sciences, New York University**

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

11:15 – 12:45 ADVANCED NATURAL LANGUAGE PROCESSING (NLP) TECHNIQUES

Presenter: Terry Benzschawel: Founder and Principal, **Benzschawel Scientific, LLC**

12:45 – 2:00 LUNCH

2:00 – 2:45 QUANTIFYING MODEL UNCERTAINTY WITH ARTIFICIAL INTELLIGENCE

- Defining model risk and model uncertainty
- Overview of relevant regulatory frameworks
- Measuring uncertainty with ML
- Model risk of AI

Presenter: Jos Gheerardyn: Co-Founder and CEO, **Yields.io**

2:45 – 3:30 TOPIC AND PRESENTER TO BE CONFIRMED

3:30 – 4:00 AFTERNOON BREAK AND NETWORKING OPPORTUNITIES

4:00 – 4:45 MACHINE LEARNING AND AI IN FINANCE: APPLICATIONS, CASES AND RESEARCH

- Machine learning and deep learning applications in quantitative finance and risk management
- Practitioners' case studies
- Research and development in deep learning

Presenter: Marcelo Labre: **Advanced Institute for Artificial Intelligence (AI2)** & Executive Director, **Morgan Stanley**

MAIN CONFERENCE DAY ONE: THURSDAY, DECEMBER 5

4:45 – 5:45 MACHINE LEARNING & AI IN QUANTITATIVE FINANCE PANEL

PANELLISTS:

- **Terry Benzschawel:** Founder and Principal, **Benzschawel Scientific, LLC.**
- **Gordon Ritter:** Senior Portfolio Manager, **GSA Capital**
- **Knarig Arabshian:** Senior Associate Knowledge Engineer in Technology Innovation, **Federal Reserve Bank of New York**
- **Jos Gheerardyn:** Co-Founder and CEO, **Yields.io**
- **Miquel Noguer Alonso:** Co-Founder and Chief Science Officer, **Artificial Intelligence Finance Institute (AIFI)**

TOPICS:

- What is the current state of utilisation of machine learning in finance?
 - What are the distinct features of machine learning problems in finance compared to other industries?
 - What are the best practices to overcome these difficulties?
 - What's the evolution of a team using machine learning in terms of day to day operations?
 - What is a typical front office 'Quant' skillset going to look like in three to five years time?
 - How do we deal with model risk in machine learning case?
 - How is machine learning expected to be regulated?
 - What applications can you list among its successes?
 - How much value is it adding over and above the "classical" techniques such as linear regression, convex optimisation, etc.?
 - Do you see high-performance computing (HPC) as a major enabler of machine learning?
 - What advances in HPC have caused the most progress?
 - What do you see as the most important machine learning techniques for the future?
 - What are the main pitfalls of using Machine Learning currently in trading strategies?
 - What new insights can Machine Learning offer into the analysis of financial time series?
 - Discuss the potential of Deep Learning in algorithmic trading?
 - Do you think machine learning and HPC will transform finance 5-10 years from now?
 - If so, how do you envisage this transformation?
 - Can you anticipate any pitfalls that we should watch out for.
 - Discuss quantum computing in quant finance:
 - Breakthroughs
 - Applications
 - Future uses
-

MAIN CONFERENCE DAY TWO: FRIDAY, DECEMBER 6

8:30 MORNING WELCOME COFFEE

9:00 – 9:45 KEYNOTE SPEECH

by **Cristian Homescu**: Director, Portfolio Analytics, **Bank of America Merrill Lynch**

APPLYING MACHINE LEARNING TO INVESTMENT AND WEALTH MANAGEMENT: OPPORTUNITIES AND CHALLENGES

9:45 – 10:30 TOPIC TO BE CONFIRMED

Presenter: **Ioana Boier**: Head of Quantitative Portfolio Solutions, **Alphadyne Asset Management**

10:30 – 11:00 MORNING BREAK AND NETWORKING OPPORTUNITIES

11:00 – 11:45 USING BAYESIAN MACHINE LEARNING AS AN INVESTMENT STRATEGY

Presenter: **Alexander Fleiss**: CEO, **Rebellion Research – The Ai Machine Learning Robo Advisor**

11:45 – 12:30 BIG DATA AND MACHINE LEARNING FOR GLOBAL MACRO & FX STRATEGIES

Presenter: **Richard V. Rothenberg**: Executive Director, **Global AI Corporation, New York & Research Affiliate, Lawrence Berkeley National Laboratory, Berkeley, CA**

12:30 – 1:30 LUNCH

1:30 – 2:15 QUANTUM MACHINE LEARNING

- This session will analyse the emerging techniques applicable to quantum computing and its applications

Presenter: **Steve Yalovitszer**: Co-Founder, **New York Quantum Computing Meet-up & Director, XVA Quant Core Lead, Wells Fargo**

2:15 – 3:00 QUANTUM MECHANICS-BASED METHODS FOR OPTION PRICING

Presenter: **Luca Capriotti**: Global Head Quantitative Strategies Credit and Financing, **Credit Suisse**

3:00 – 3:10 AFTERNOON BREAK

MAIN CONFERENCE DAY TWO: FRIDAY, DECEMBER 6

3:10 – 3:55 NON-NEGATIVE MATRIX FACTORIZATION FOR ANALYSING HIGH-DIMENSIONAL DATASETS

Non-negative matrix factorization (NMF) is a widely-used tool for analysing high-dimensional datasets. Its popularity stems from its ability to extract meaningful factors from the data. Applications include image processing, text mining and bioinformatics. In this talk we will give an overview of NMF and demonstrate our implementations of recent NMF algorithms by automatically classifying a series of websites based on their content. We will then briefly discuss applications of NMF in finance.

Presenter: Edvin Hopkins: Technical Consultant, **NAG**

3:55 – 4:40 MINING NEWS TOPICS WITH PICA

Abstract:

A suitably ICA-corrected Latent Semantic Analysis (pICA) is shown to produce linear factors on text data which are maximally parsimonious according to a specific criterion. The model produces stable and mostly interpretable unsupervised factors for Bloomberg Story-Level data for both News and Twitter feeds. A wide variety of applications of the model are discussed, ranging from factor-specific sentiment aggregation to theme discovery and tracking. Connections to neural net methods are clarified.

Presenter: Ivailo Dimov: Quant and Data Science Research, **Bloomberg LP** & Adjunct Professor, **NYU Courant Institute**

END OF CONFERENCE

CONFERENCE SPONSORS



The Artificial Intelligence Finance Institute's (AIFI) mission is to be the world's leading educator in the application of artificial intelligence to investment management, capital markets and risk. We offer one of the industry's most comprehensive and in-depth educational programs, geared towards investment professionals seeking to understand and implement cutting edge AI techniques.

Taught by a diverse staff of world leading academics and practitioners, the AIFI courses teach both the theory and practical implementation of artificial intelligence and machine learning tools in investment management. As part of the program, students will learn the mathematical and statistical theories behind modern quantitative artificial intelligence modeling. Our goal is to train investment professionals in how to use the new wave of computer driven tools and techniques that are rapidly transforming investment management, risk management and capital markets.

www.aifinanceinstitute.com



QWAFEFW is an informal organization of quantitatively oriented professionals in various aspects of financial services, primarily investment management.

The members span the gamut from owners and senior executives of investment related organizations to recent entrants to the industry. Most attendees have some technical training beyond the M.B.A. level, and many have Ph.D.s All share a common interest in quantitative solutions to understanding investment markets.

Please visit www.qwafafew.org for more information.



Yields.io is the first FinTech platform that uses AI for real-time model risk management on an enterprise-wide scale.

Our clients use our solution to speed up model validation tasks, to generate regulatory compliant documentation and to industrialize model monitoring. The platform works with all models that are used within the financial sector such as credit risk models, valuation algorithms, market risk, AML, AI and behavioural models.

Yields.io was founded by Jos Gheerardyn and Sébastien Viguié. The company is expanding quickly and has offices in Brussels and London. Yields.io has an international portfolio of clients with both investment banks as well as regional financial institutions.

yields.io



The Thalesians are a think tank of dedicated professionals with an interest in quantitative finance, economics, mathematics, physics and computer science, not necessarily in that order.

www.thalesians.com/finance/index.php/Main_Page

CONFERENCE SPONSORS



Both through regulation and industry practice, there is an increasing number of risk calculations that need to be done on a regular basis. These calculations require the valuation of portfolios on up to hundredths of thousands of scenarios making them computationally very expensive in time and cost.

MoCaX technology, based on Chebyshev Spectral Decomposition methods, is a methodology and software application which massively reduces the computational burden in a risk calculation. This is achieved by pricing the portfolio on very small number of pre-defined collection of points yielding an object capable of approximating a pricing function and its greeks to a very high degree of accuracy. The object can then be evaluated on thousands of risk scenarios in an ultra-efficient and numerically stable manner.

Several benefits are obtained with this technology. Applications include Market Risk VaR, IMA-FRTB, Dynamic Initial Margin for MVA and IMM, Exposure profiles for CVA and IMM, what-if analysis tools, etc.

mocaxintelligence.com | i.ruiz@iruiiztechnologies.com



The Numerical Algorithms Group (NAG) are experts in numerical algorithms, software engineering and high-performance computing. They have served the finance industry with numerical software and consulting services for over four decades because of their outstanding product quality and technical support. Specifically, relevant to the finance industry, NAG pioneer in the provision of the NAG Library – numerical and statistical components ideal for building Quant Libraries, Risk Applications and the like. NAG also provides best-in-class C++ operator-overloading AD tools for CPU and GPU called dco (derivative computation through overloading) and dco/map (dco meta adjoint programming). The NAG Library and AD tools are used by many of the largest Investment Banks where they are embedded in Quant Libraries and XVA applications. As a not-for-profit company, NAG reinvests surpluses into the research and development of its products, services, staff and its collaborations.

www.nag.com



THE 3RD MACHINE LEARNING & AI IN QUANTITATIVE FINANCE CONFERENCE
DOWNTOWN CONFERENCE CENTER, NEW YORK
DECEMBER 5-6, 2019

CONFERENCE FEE STRUCTURE

Super Early Bird Discount: 25% until October 25
Early Bird Discount: 10% until November 15
Regular Event Fee

Conference Fee: \$1799.25 \$2159.10 \$2399.00

Special Discount Code:

SPECIAL OFFER: When 2 colleagues attend the 3rd goes free!

70% Academic Discount / FULL-TIME Students Only

DELEGATE DETAILS
COMPANY:
NAME:
JOB TITLE/POSITION:
NAME:
JOB TITLE/POSITION:
NAME:
JOB TITLE/POSITION:
DEPARTMENT:
ADDRESS:
COUNTRY:
TELEPHONE:
E-MAIL:
DATE:
SIGNATURE:

TO REGISTER, PLEASE EMAIL THE COMPLETED BOOKING FORM TO:

sales@wbstraining.com

CONFERENCE LOCATION:

Downtown Conference Center
157 William Street
New York, NY 10038
USA

Tel: +1 212 618 6990 | Web: www.downtownmeetings.com

SPONSORSHIP:

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

DISCLAIMER:

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

CANCELLATION:

By completing this form, the client hereby enters into an agreement stating that if a cancellation is made in writing within two weeks of the event date no refund shall be given. However, in certain circumstances a credit note may be issued for future events. Prior to the two-week deadline, cancellations are subject to a fee of 25% of the overall course cost.

DISCOUNT STRUCTURE:

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

By completing and submitting this form, you accept WBS Training's GDPR Policy (www.wbstraining.com/details/gdpr) and agree to communication from time to time with relevant details and information on WBS Training events and services

REGISTRATION:
Tel: +44 (0)1273 201 352

CONTACT:
www.wbstraining.com | sales@wbstraining.com