
Market Microstructure, Liquidity and Automated Trading Workshop

London, 16—17 June, 2014

Against the backdrop of current market scenarios, Algorithmic Trading has attracted considerable attention. The concepts are multi-faceted and are globally applicable across all financial markets: equities, fixed income, currencies.

This workshop sets out to present:

- Market Microstructure: the foundation of trading
- Liquidity: the next important aspect of trading
- Automated trading: covering models as well as technologies

The workshop will benefit the following groups:

- ◆ **New recruits** in Quant/Algo Trading groups in hedge funds and investment banks
- ◆ **Experienced traders** will find it valuable to refresh their knowledge, since substantial changes have occurred in the way trading takes place in different venues (exchanges)
 - ◆ **Manual Traders** who would like to enhance their skill-set
- ◆ **Trading managers** who would like to start algorithmic trading desks/operations.
- ◆ **Students in Masters courses in finance** - the workshop will help them define novel areas of project opportunities

conferences.unicom.co.uk/sentiment-analysis



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16-17 June 2014, Fitch Learning, London

Topics covered: Introduction to Market Microstructure and Liquidity Measures
Optimal Trade Execution Strategies; Automated Trading Strategies; Discussion of
Trading Platforms and Their Features; Pre and Post Trade Analytics

PROGRAMME DAY 1

09.25 – Welcome and introduction to the day

09.30 Foundations of Trading: Market Microstructures and Liquidity (Part I)

Ashok Banerjee, Finance Research/Trading Lab, Indian Institute of Management

Concept and relevance of market microstructure; factors driving trading costs, market microstructure in emerging markets; high frequency finance- its behaviour compared to low frequency data, algorithm for identifying trade directions.

10.30 Coffee Break

11.00 Foundations of Trading: Market Microstructures and Liquidity (Part II)

Ashok Banerjee, Finance Research/Trading Lab, Indian Institute of Management

Various liquidity indicators, behaviour of liquidity indicators in Indian market, role of limit orders in the liquidity provision in a purely order driven market.

12.00 Microstructure, Trading Costs and Optimal Algorithmic Execution

Dan diBartolomeo, Northfield Info Services

There are three sets of participants for whom an understanding financial market microstructure is vital. The first group is the direct participants in the market trading, whether as liquidity providers (i.e. market makers) or as agent brokers providing execution services. The second group is speculative traders who seek to obtain profit by short term (i.e. high frequency) trading of financial assets. The third group are traditional investors who are motivated to transact by long term investment considerations and seek only to minimize the risk-adjusted cost of transactions. This presentation will propose a metric for “effective nature” of a financial market microstructure which is independent of the mechanical aspects of trading. From this we will derive a simple model of expected trading costs and the market impact of large transactions. Finally, we will marry this model of expected market

impact to define optimal procedures for algorithmic execution of large transactions.

12.45 Lunch Break

13.45 Demystifying Algorithmic Trading

Rajib Ranjan Borah, iRage Capital Advisory Pvt. Ltd

Decoding the jargon: Quant Trading, Algorithmic Trading, Automated Trading, High Frequency Trading, Ultra-High Frequency Trading

- Evolution of algorithmic trading globally
- Benefits of Algorithmic Trading
- Challenges and concerns in Algorithmic Trading.
- Global trends - the road ahead
- Barriers to entry

14.30 Algorithmic Trading Landscape Globally

Rajib Ranjan Borah, iRage Capital Advisory Pvt. Ltd

- Rules/ regulations on algorithmic trading globally
- Technological landscape for algorithmic trading in different markets
- Market players and competitive landscape

15.15 – Tea Break

15.45 Gauging the effects of electronic, algorithmic, and high frequency trading

Robert Kissell, President, Kissell Research Group.

In this workshop, we provide an overview of our recent research findings regarding the current market environment and the effects of electronic, algorithmic, and high frequency trading.

In particular, we provide a framework to estimate, manage, and evaluate trading costs throughout all phases of the investment cycle. This includes a working case study to show how managers, trades, and brokers can provide add-value to implementation and provide their clients with best execution. We provide insight into:

- Global Pre-Trade Trading Cost Model
- Trade Schedule Optimization
- Costs Curves & Real-Time Cost Index
- Broker Evaluation Techniques

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PROGRAMME DAY 2

Day 2 - The Tool-Box Set of Algorithmic Trading

Rajib Ranjan Borah, iRage Capital Advisory Pvt. Ltd

09.30 Session 1: Algorithmic trading platform components - impact on trading performance, comparative study of different systems

- Internal components of an algorithmic trading platform (OMS, CEP, RMS, Adaptors, tickStore, eventStore, etc) and their interaction
- External components - adaptor communication with destinations, communication standards and protocols (FIX, etc), TAP servers, multi TAP and invitation management
- Technological setup - network connectivity (scenarios, message rates); different trading environments (mock, test); colocation vs non-colocation; tbt vs snapshot; native api vs FIX connectivity
- Build vs buy decision ('building tools in house' vs 'buying off the shelf products')

11.00 Coffee Break

11.30 Session 2: Technological innovations for algorithmic trading

- Latency, methods of measuring latency, standard latency benchmark figures
- Software innovations - low latency codes
- Hardware innovations - cpu affinity vs scalability, FPGA vs ASIC, strategy on hardware, hardware configurations

12.15 Session 3: Case Study: Developing algorithmic trading strategies

Ilya Gorelik, Deltix, Inc

This presentation shows the entire life-cycle of designing an algorithmic trading strategy and deploying it for live trading. It covers: data collection and aggregation, graphical and code-based strategy design, back-testing and live deployment.

13.00 Lunch

14.00 Session 4: News Articles and the Invariance Hypothesis

Anna Obizhaeva, New Economic School, Moscow

Using a database of news articles from Thomson Reuters for 2003-2008, we investigate how the arrival rate of news articles mentioning an individual stock varies with the level of trading activity in that stock. Defining trading activity W as the product of dollar volume and volatility, we estimate that the arrival rate of news articles is proportional to $W^{0.68}$. Market microstructure invariance predicts that the stock trading process unfolds in "business time" which passes at a rate proportional to $W^{2/3}$. Since the

estimated exponent of 0.68 is close to $2/3$, we conclude that information in news articles flows into the market in the same units of business time that microstructure invariance predicts to govern the trading process for stocks. The arrival of news articles is well approximated by a negative binomial process with the over-dispersion parameter equal to 2.11.

15.00 Tea Break

15.15 Session 5: Practical demonstration: implementing strategies on algorithmic trading platforms

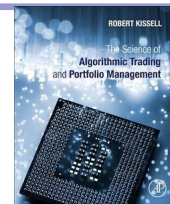
Working with complex event processing on algorithm-trading platforms.

16.15 Session 6: Performance Evaluation and Portfolio Management

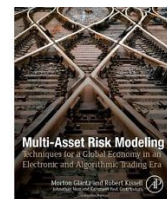
- Determining profitability of individual strategies
- Determining trade sizing
- Determining asset allocation across strategies

17.00 Close of Workshop.

The Overview Presentation by Dr Robert Kissell, Kissell Research Group, is based on his two recently-launched books:-



- [“The Science of Algorithmic Trading and Portfolio Management”](#)
[Robert Kissell, PhD, Elsevier, November 2013](#)



- [“Multi-Asset Risk Modeling”](#)
[Morton Glantz & Robert Kissell, Elsevier, December 2013](#)

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Speaker Profiles



Ashok Banerjee is currently the Dean of New Initiatives and External Relations at the Indian Institute of Management (IIM) Calcutta. Ashok joined the IIM Calcutta as Professor (Finance and Control) in August 2004. Ashok has been instrumental in setting up the state-of-the-art Financial Research and Trading Laboratory (Finance Lab) at IIM Calcutta. The Finance Lab is a repository of high frequency data from Indian financial markets. The lab also houses Bloomberg terminals, Thomson Reuters, Compustat and CRSP databases. Ashok was the main force behind holding the India Finance Conference since 2009. He has published in peer-reviewed journals and has also written teaching cases.



Rajib Ranjan Borah is co-Founder and Director of iRageCapital Advisory Private Limited, and QuantInsti Quantitative Learning Private Limited. At iRage, Rajib designs High Frequency Trading Strategies for South East Asian exchanges; at QuantInsti, he works with exchanges & other institutions to design education programs, as well as managing a 100-hour online educational program on algorithmic trading. Prior to iRage, Rajib worked with leading HFT firm Optiver - contributing significant volumes in all major US & European exchanges. Previously, as a strategy consultant, Rajib assisted a consortium start a national commodity derivatives exchange. He interned with Bloomberg (research) in New York & with Solutia's EMEA strategy HQ in Belgium. A national Olympiad finalist, Rajib has twice represented India at the World Puzzle Championships.



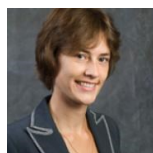
Dan diBartolomeo is President and founder of Northfield Information Services, Inc. Based in Boston since 1986, Northfield develops quantitative models of financial markets. He is also a Visiting Professor at the CARISMA research institute of Brunel University in London. Dan has published more than two dozen books, book chapters and research studies in refereed journals. He regularly lectures at universities such as MIT, Harvard and Northwestern and has been admitted as an expert witness in litigation matters regarding investment management practices and derivatives in both US Federal and state courts.



Ilya Gorelik is CEO & Founder of Deltix, Inc., responsible for setting the strategic direction of the company, as well as overseeing global product development, sales and marketing. Ilya has more than 15 years of experience managing large-scale software projects and teams. Before founding Deltix in 2005, Ilya was Senior VP of Engineering and CTO at PTC, Senior VP of Product Strategy and Development and Chief Scientist for FirePond, Advisory CTO for HighRoads and several other software technology companies. Ilya has a Ph.D. in Computational Mechanics from Moscow Technical University.



Robert Kissell is the president of Kissell Research Group. He has over twenty years of experience specializing in quantitative finance and economics. He advises funds throughout the US and Europe on risk modeling, trading, and portfolio construction. Dr. Kissell has worked with several of the largest investment banks and institutions and is the author of several books and research papers including "Optimal Trading Strategies," "The Science of Algorithmic Trading & Portfolio Management," and "Multi-Asset Risk Modeling".



Anna Obizhaeva studied applied mathematics and computer science at Moscow State University; she has a Ph.D. in finance from MIT. Before joining the New School of Economics, she was a professor at the University of Maryland. Her research focuses on market microstructure, including topics such as market liquidity, transaction costs, information dissemination, price volatility, and optimal execution strategies. She has won the prestigious Roger F. Murray Q-Group Prize (first place) for her work on market microstructure invariance.

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RELATED EVENTS

CONFERENCE

BEHAVIOURAL MODELS AND SENTIMENT ANALYSIS APPLIED TO FINANCE LONDON, 18—19 JUNE 2014

Sentiment Analysis has developed as a technology that applies machine learning and makes a rapid assessment of the sentiments expressed in news releases. News (events) move the market and are measured quantitatively. Analysts and investors digest financial news and their perceptions impact the market and move stock prices. This conference presents the current state of the art in this fast-emerging field, as well as the current state of knowledge in the application of Sentiment Analysis to the respective models of trading, fund management and risk control. Major news (meta) data suppliers such as Bloomberg, Thomson Reuters, Dow Jones, RavenPack and MarketPsych have committed their participation and sponsorship. Case studies by investment banks, proprietary trading houses and financial analytics providers are under discussion; further such contributions are solicited. Leading academics, thought leaders and researchers from Europe, UK and USA have agreed to contribute and participate in the conference and the workshops.

For further details, please see www.conferences.unicom.co.uk/sentiment-analysis

POST CONFERENCE WORKSHOP

SENTIMENT CLASSIFICATION AND OPINION MINING USING NEWS WIRES AND MICRO BLOGS (TWITTER) - FITCH LEARNING, LONDON, 20 JUNE 2014

Topics covered include:

- ◆ Aspect-based Sentiment Analysis
- ◆ Extracting User-Level Sentiments with Approval Relations.

Presenters:

Bing Liu, Professor of Computer Science at the University of Illinois at Chicago.

Enza Messina, Professor in Operations Research at the Department of Informatics Systems and Communications, University of Milano-Bicocca (Italy)

Federico Alberto Pozzi, Ph.D. Candidate in Computer Science at the Department of Informatics Systems and Communications, University of Milano-Bicocca (Italy),

Stephen Pulman, Professor of Computational Linguistics at the Department of Computer Science, Oxford University and co-founder of TheySay Ltd.

Behavioural Models & Sentiment Analysis Applied to Finance

Conference: 18-19 June 2014
Workshops: 16, 17 & 20 June

1st Delegate

Dr/Mr/Ms/Mrs..... First Name.....
Surname.....
Position.....
Email.....
Phone/Mobile.....
Head of Department

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Please tick all days that you wish to attend.

Fee: 2 days **£375 + VAT**

**For group bookings and academics, please contact:
aqela@unicomco.uk**

- 16 - 17 June—Market Microstructure... (pre-conference workshop)
 18 -19 June (Conference) - see website for prices.

WHAT THE REGISTRATON FEE INCLUDES:

The registration fee for the training course or the event covers the following: attendance, copy of the documentation and materials, examinations where applicable and light refreshments. Accommodation is not included unless otherwise specified.

Joining instructions will be sent to you approximately one week before the event (if for any reason these are not received, please contact UNICOM).

PAYMENT TERMS:

Payment is required in advance of the event or at the latest, paid at the event.

All invoices carry a 10% surcharge, which is payable if the fee remains unpaid on the day of the event and 30 days thereafter; should the invoice remain unpaid beyond 30 days and up to 45 days the surcharge increases to 15% and if unpaid after 45 days the surcharge increases to 20%. For credit card payments a 2.5% fee amount is charged or for American Express cards the fee is 3% of the total amount.

CANCELLATION AND SUBSTITUTION TERMS:

What happens if I have to cancel? If you confirm your **CANCELLATION** in writing up to fifteen (15) working days before the event or training start date and if the invoice has already been paid you will receive a refund less a 10% + VAT service charge; if the invoice has not been paid at that point you the a credit note for the existing invoice will be raised and a new invoice raised for the 10% +VAT service charge – the service charge invoice is due for payment by the original event / training start date. Regrettably, no refunds can be made for cancellations received less than 15 working days prior to the event and the invoice will remain due. **SUBSTITUTIONS** are welcome at any time – there is no fee for sending a substitute delegate on any event or training. If it is more than 15 working days but less than 5 working days before the course or training start date, you may **TRANSFER** your registration to a future date within a 6 month period. If it is less than 15 working days to the event /training start date you can still **TRANSFER** your booking to a future event future date within 6 months but an additional transfer fee of £125+VAT per person per event day will be charged (e.g. the transfer fee for a 2 day training is £250+VAT), invoices for transfer fees are due for payment within 7 days of the invoice date invoice.

As we cannot guarantee that exactly the same event or training will be available, the transfer will be open to any other UNICOM event taking place within six months from the date of the original event. **TRANSFERS** are not accepted less than five (5) working days before the event or training unless there are exceptional circumstances and the acceptance of the transfer is at the discretion of UNICOM.

Where a transfer has been made and a future date selected, the standard cancellation terms and conditions apply to the transferred booking just as if it were a new booking. UNICOM reserves the right to amend the event / training content programme if necessary and cannot guarantee repeats of the same event or training. All transfers and cancellations must be made in writing either by email or letter and are only valid when confirmed by email or on writing by UNICOM. Transfers and cancellations are not accepted by telephone.

INDEMNITY:

Should for any reason outside the control of UNICOM Seminars Ltd, the venue or the presenters change, or the event be cancelled due to but not exclusively to industrial action, adverse weather conditions, an act of terrorism, presenter illness or other reasons beyond its control UNICOM Seminars Ltd will make reasonable endeavour to reschedule, but the client hereby indemnifies and holds UNICOM Seminars Ltd harmless from and against any and all costs, damages and expenses, including attorneys fees, which are incurred by the client as a consequence beyond the attendance fee due to UNICOM. The construction validity and performance of this Agreement shall be governed by all aspects by the laws of England to the exclusive jurisdiction of whose