CIFEr 2014 Program

R1: Registration
Thursday, March 27, 8:00AM-9:00AM, Room:

Plenary Talk P1: Opening of CIFEr 2014 by the General Chair, Antoaneta Serguieva, and Inaugural Lectures by Alex Lipton and Xin Yao
Thursday, March 27, 9:00AM-9:45AM, Room: Auditorium, Speaker: Antoaneta Serguieva, Alex Lipton and Xin Yao

Session 1A: Financial Markets 1
Thursday, March 27, 9:50AM-11:05AM, Room 1, Chair: Christian Oesch

9:50AM An Analysis of Price Impact Functions of Individual Trades on the London Stock Exchange [#1079]
Mateusz Wilinski, Wei Cui and Anthony Brabazon
University of Warsaw, Poland; University College Dublin, Ireland

10:15AM Survival Models for the Duration of Bid-Ask Spread Deviations [#1078]
Efstathios Panayi and Gareth Peters
UCL, United Kingdom

10:40AM An Agent-Based Model for Market Impact [#1025]
Christian Oesch
University of Basel, Switzerland

Session 1B: Forecasting 1
Thursday, March 27, 9:50AM-11:05AM, Room 2, Chair: Leandro Maciel

9:50AM Time Series Prediction with a Non-Causal Neural Network [#1072]
Yicun Ouyang and Hujun Yin
School of Electrical and Electronic Engineering, The University of Manchester, United Kingdom

10:15AM A Comparison of Forecasting Approaches for Capital Markets [#1093]
Scott McDonald, Sonya Coleman, Martin McGinnity, Yuhua Li and Ammar Belatreche
Intelligent Systems Research Centre, University of Ulster, United Kingdom

10:40AM Exchange Rate Forecasting Using Echo State Networks for Trading Strategies [#1067]
Leandro Maciel, Fernando Gomide, David Santos and Rosangela Ballini
University of Campinas, Brazil

Session 1C: Text Mining and Sentiment Analysis 1
Thursday, March 27, 9:50AM-11:05AM, Room 3, Chair: Steve Yang

9:50AM From Text to Bank Interrelation Maps [#1031]
Samuel Ronnqvist and Peter Sarlin
Abo Akademi University, Finland; Goethe University Frankfurt, Germany

10:15AM An Empirical Study of the Financial Community Network on Twitter [#1083]
Steve Yang, Sheung Yin Mo and Xiaodi Zhu

Stevens Institute of Technology, United States

10:40AM Twitter Financial Community Modeling using Agent Based Simulation [#1064]
Steve Yang, Anqi Liu and Sheung Yin Mo
Stevens Institute of Technology, United States

Session 2A: Financial Markets 2
Thursday, March 27, 11:30AM-12:45PM, Room 1, Chair: Christian Oesch

11:30AM Do Dark Pools Stabilize Markets and Reduce Market Impacts? -- Investigations using Multi-Agent Simulations -- [#1029]
Takanobu Mizuta, Shintaro Kosugi, Takuya Kusumoto, Wataru Matsumoto and Kiyoshi Izumi
SPARX Asset Management Co. Ltd. and School of Engineering, The University of Tokyo, Japan; Nomura Securities Co., Ltd., Japan; School of Engineering, The University of Tokyo and CREST, JST, Japan

11:55AM Detecting Price Manipulation in the Financial Market [#1073]
Yi Cao, Yuhua Li, Sonya Coleman, Ammar Belatreche and Thomas Martin McGinnity
Mr, United Kingdom; Dr, United Kingdom; Professor, United Kingdom

12:20PM Detecting Wash Trade in the Financial Market [#1074]
Yi Cao, Yuhua Li, Sonya Coleman, Ammar Belatreche and Thomas Martin McGinnity
Mr, United Kingdom; Dr, United Kingdom; Professor, United Kingdom

Session 2B: Portfolios 1
Thursday, March 27, 11:30AM-12:45PM, Room 2, Chair: Manfred Gilli

11:30AM Improving Portfolio Risk Profile with Threshold Accepting [#1026]
Manuel Kleinknecht and Wing Lon Ng
University of Essex, United Kingdom

11:55AM Multi-Period Asset Allocation with Lower Partial Moments Criteria and Affine Policies [#1051]
Giuseppe Calafiore and Fatemeh Kharaman
Politecnico di Torino, Italy; Universita di Trento, Italy

12:20PM Better Portfolios with Options [#1020]
Gerda Cabej, Manfred Gilli and Enrico Schumann
University of Geneva, Switzerland; University of Geneva and Swiss Finance Institute, Switzerland; Aquila Capital Group, Switzerland

Session 2C: Text Mining and Sentiment Analysis 2
Thursday, March 27, 11:30AM-12:45PM, Room 3, Chair: John Yaros

11:30AM Exchange Rate Prediction with Sentiment Indicators - an Empirical Evaluation using Text Mining and Multilayer Perceptrons [#1114]
Sven F. Crone and Christian Koeppel
Lancaster University Management School, United Kingdom

11:55AM Preprocessing Online Financial Text for Sentiment Classification: A Natural Language Processing Approach [#1106]
Fan Sun, Ammar Belatreche, Sonya Coleman, Martin McGinnity and Yuhua Li
the University of Ulster, United Kingdom

12:20PM Diversification Improvements Through News Article Co-occurrences [#1081]
John Yaros and Tomasz Imielinski
Rutgers University, United States

Plenary Talk P2: Plenary Talk by Doyne Farmer
Thursday, March 27, 1:30PM-2:15PM, Room: Auditorium, Speaker: Doyne Farmer

Session 3A: Financial Markets 3
Thursday, March 27, 2:20PM-3:35PM, Room 1, Chair: Takanobu Mizuta

2:20PM Regulations' Effectiveness for Market Turbulence by Large Mistaken Orders using Multi Agent Simulation [#1028]
Takanobu Mizuta, Kiyoshi Izumi, Isao Yagi and Shinobu Yoshimura
SPARX Asset Management Co. Ltd. and School of Engineering, The University of Tokyo, Japan; School of Engineering, The University of Tokyo and CREST, JST, Japan; Faculty of Information Technology, Kanagawa Institute of Technology, Japan; School of Engineering, The University of Tokyo, Japan

2:45PM A mesoscopic approach to modeling and simulation of systemic risks [#1019]
Ide Kiyotaka, Zamami Ryota and Namatame Akira
National Defense Academy of Japan, Japan

3:10PM Impact of credit default swaps on financial contagion [#1011]
Yoshiharu Maeno, Kenji Nishiguchi, Satoshi Morinaga and Matsushima Hirokazu
NEC Corporation, Japan; Japan Research Institute, Japan; Institute for International Socio-economic Studies, Japan

Session 3B: Portfolios 2
Thursday, March 27, 2:20PM-3:35PM, Room 2, Chair: Phil Maguire

2:20PM Portfolio Optimization Using Fundamental Indicators Based on Multi-Objective EA [#1092]
Antonio Silva, Rui Neves and Nuno Horta
Instituto Superior Tecnico, Portugal; Instituto de Telecomunicacoes, Portugal

2:45PM Constructing Smart Portfolios From Data Driven Quantitative Investment Models [#1104]
Chetan. Saran Mehra, Prugle-Bennett Adam, Gerding Enrico and Robu Valentin
University of Southampton, United Kingdom

3:10PM Maximizing positive portfolio diversification [#1012]
Phil Maguire, Philippe Moser, Keiran O' Reilly, Conor McMenamin and Rebecca Maguire
NUI Maynooth, Ireland; National College of Ireland, Ireland

Session 3C: Risk and Forecasting
Thursday, March 27, 2:20PM-3:35PM, Room 3, Chair: Viorel Milea

2:20PM Volatility Homogenisation Decomposition for Forecasting [#1022]
Adam Kowalewski, Owen Jones and Ramamohanarao Kotagiri
The University of Melbourne, Australia

2:45PM A Hidden Markov Reduced-form Risk Model [#1052]
Jia-Wen Gu, Wai-Ki Ching and Harry Zheng

The University of Hong Kong, Hong Kong; Imperial College, United Kingdom

3:10PM A Framework for Web News Items Analysis in Relation to Company Stock Prices [#1018]
Robert Max van Essen, Viorel Milea and Flavius Frasincar
Erasmus University Rotterdam, Netherlands

Plenary Talk P3: Plenary Talk by Charles Goodhart
Thursday, March 27, 4:00PM-4:45PM, Room: Auditorium, Speaker: Charles Goodhart

Panel Session P4: Systemic Risk
Thursday, March 27, 4:45PM-5:45PM, Room: Auditorium, Chair: Kevin James and Antoaneta Serguieva

Plenary Poster Session PS: Poster Session
Thursday, March 27, 5:45PM-6:15PM, Room: Auditorium, Chair: Dietmar Maringer

P101 Modelling the dynamics of the "Smarter Region" [#1005]
Andranik Akopov and Gayane Beklaryan
National Research University Higher School of Economics, Russia; Analytical Centre CEMI-GENKEY, Russia

P102 High Frequency Trading An Analysis Regarding Volatility And Liquidity Starting From A Base Case Of Algorithms And A Dedicated Software Architecture [#1009]
Giulio Carlone
University of Chieti and Pescara, Italy

P103 Mixed Precision Multilevel Monte Carlo on Hybrid Computing Systems [#1021]
Christian Brugger, Christian de Schryver, Norbert Wehn, Steffen Omland and Mario Hefter
Microelectronic Systems Design Research Group, University of Kaiserslautern, Germany, Germany; Computational Stochastics Research Group, University of Kaiserslautern, Germany, Germany

P104 Bibliometric Analysis in Financial Research [#1033]
Jose M. Merigo and Jian-Bo Yang
University of Manchester, United Kingdom

P105 Engineering Financial Engineering [#1039]
Gary Boetticher
University of Houston - Clear Lake, United States

P106 Optimal Negative Weight Moving Average for Stock-Price Series Smoothing [#1044]
Aistis Raudys
Vilnius University Faculty of Mathematics and Informatics, Lithuania

P107 Frequency Effects on Predictability of Stock Returns [#1047]
Pawel Fiedor
Cracow University of Economics, Poland

P108 Quality and Consistency Assurance of Quote Data for Algorithmic Trading Strategies [#1048]
Sven Koschnicke, Vasco Grossmann, Christoph Starke and Manfred Schimmler
Christian-Albrechts-University of Kiel, Germany

P109 Multiagent Pre-trade Analysis Acceleration in FPGA [#1059]
Eduardo Gerlein, T.M. McGinnity, Ammar Belatreche, Sonya Coleman and Li Yuhua

University of Ulster, United Kingdom

P110 Modelling the Relationship Between Developed Equity Markets and Emerging Equity Markets [#1061]

Zvonko Kostanjcar, Zeljan Juretic and Branko Jeren

University of Zagreb, Croatia; Universita Commerciale Luigi Bocconi, Italy

P111 Causal Inference from Financial Factors: Continuous Variable based Local Structure Learning Algorithm [#1070]

Jianjun Yang, Yunhai Tong, Xinhai Liu and Shaohua Tan

Peking University, China; Credit Reference Center, People's Bank of China, China

P112 Predicting Equity Market Impact with Performance Weighted Ensembles of Random Forests [#1080]

Ash Booth, Enrico Gerding and Frank McGroarty

University of Southampton, United Kingdom

P113 Micro-price Trading in an Order-driven Market [#1111]

Andrew Todd, Roy Hayes, Peter Beling and William Scherer

University of Virginia, United States

P114 Role of Price in Industry Dynamics: A Modular Perspective [#1120]

Bin-Tzong Chie and Shu-Heng Chen

Tamkang University, Taiwan; National Chengchi University, Taiwan

Tutorial T1: Algorithmic Trading

Friday, March 28, 8:30AM-9:45AM, Room: Auditorium, Instructor: Aistis Raudys

Session 4A: Volatility Modeling

Friday, March 28, 9:50AM-11:05AM, Room 1, Chair: Felipe A. Tobar

9:50AM On the Calibration of Stochastic Volatility Models: A Comparison Study [#1007]

Jia Zhai and Yi Cao

Dr, United Kingdom; Mr, United Kingdom

10:15AM Nonlinear Filtering of Asymmetric Stochastic Volatility Models and Value-at-Risk Estimation [#1016]

Nikolay Nikolaev, Lilian de Menezes and Evgueni Smirnov

Department of Computing, Goldsmiths College, University of London, London SE14 6NW, United Kingdom; Cass Business School, City University, London, London EC1Y 8TZ,, United Kingdom; Department of Knowledge Engineering, Faculty of Humanities and Science, Maastricht University, Maastricht 6200 MD, Netherlands

10:40AM Estimation of Financial Indices Volatility Using a Model with Time-Varying Parameters [#1071]

Felipe Tobar, Marcos Orchard, Danilo Mandic and Anthony Constantinides

Imperial College London, United Kingdom; Universidad de Chile, Chile

Session 4B: Forecasting and Algorithmic Trading

Friday, March 28, 9:50AM-11:05AM, Room 2, Chair: Jin Zhang

9:50AM Guided Fast Local Search for Speeding Up a Financial Forecasting Algorithm [#1090]

Ming Shao, Dafni Smonou, Michael Kampouridis and Edward Tsang

University of Essex, United Kingdom; University of Kent, United Kingdom

10:15AM Combining Different Meta-heuristics to Improve the Predictability of a Financial Forecasting Algorithm [#1091]

Babatunde Aluko, Dafni Smonou, Michael Kampouridis and Edward Tsang

University of Essex, United Kingdom; University of Kent, United Kingdom

10:40AM Forecasting Stock Price Directional Movements using Technical Indicators: Investigating Window Size Effects on One-step-ahead Forecasting [#1099]

Yauheniya Shynkevich, T. Martin McGinnity, Sonya Coleman, Yuhua Li and Ammar Belatreche

University of Ulster, United Kingdom

Special Session 4C: Agent-Based Computational Economics 1
Friday, March 28, 9:50AM-11:05AM, Room 3, Chair: Shu-Heng Chen

9:50AM How Agent-Based Modeling and Simulation relates to CGE and DSGE Modeling [#1117]

Claudius Graebner

University of Bremen, Institute of Institutional and Innovation Economics, Germany

10:15AM Technological Progress And Effects Of (Supra)Regional Innovation And Production Collaboration. An Agent-Based Model Simulation Study. [#1122]

Ben Vermeulen and Andreas Pyka

Institute of Innovation Economics, University of Hohenheim, Stuttgart, Germany

10:40AM Learning to be risk averse? [#1075]

Robert Marks

University of New South Wales, Australia

Session 5A: Derivative Pricing
Friday, March 28, 11:30AM-12:45PM, Room 1, Chair: Chuan-Ju Wang

11:30AM Pricing Window Barrier Options with a Hybrid Stochastic-Local Volatility Model [#1054]

Yu Tian, Zili Zhu, Geoffrey Lee, Thomas Lo, Fima Klebaner and Kais Hamza

School of Mathematical Sciences, Monash University, Australia; CSIRO Computational Informatics, Australia

11:55AM A Kalman Filtering approach for detection of option mispricing in the Black-Scholes PDE model [#1055]

Gerasimos Rigatos

Industrial Systems Institute / Unit of Industrial Automation, Greece

12:20PM Optimal Search for Parameters in Monte Carlo Simulation for Derivative Pricing [#1010]

Chuan-Ju Wang and Ming-Yang Kao

University of Taipei, Taiwan; Northwestern University, United States

Session 5B: Algorithmic Trading 1
Friday, March 28, 11:30AM-12:45PM, Room 2, Chair: Jin Zhang

11:30AM Risk-averse Reinforcement Learning for Algorithmic Trading [#1077]

Yun Shen, Ruihong Huang, Chang Yan and Klaus Obermayer

Technical University Berlin, Germany; Humboldt University Berlin, Germany

11:55AM Using Equity Analyst Coverage to Determine Stock Similarity [#1068]

John Yaros and Tomasz Imielinski
Rutgers University, United States

12:20PM Transition Variable Selection for Regime Switching Recurrent Reinforcement Learning [#1017]
Dietmar Maringer and Jin Zhang
University of Basel, Switzerland

Special Session 5C: Agent-Based Computational Economics 2
Friday, March 28, 11:30AM-12:45PM, Room 3, Chair: Manuel Waeckerle

11:30AM Simulating Natural Disasters - A Complex Systems Framework [#1121]
Ali Asjad Naqvi and Miriam Rehm
Vienna University of Economics and Business, Austria; Chamber of Labor, Austria

11:55AM Wealth Inequality and Wealth Effect [#1118]
Weihong Huang and Yu Zhang
Nanyang Technological University, Singapore

12:20PM A computational agent-based simulation of an artificial monetary union for dynamic comparative institutional analysis [#1119]
Bernhard Rengs and Manuel Waeckerle
Vienna University of Technology, Austria; Vienna University of Economics and Business, Austria

Plenary Talk P6: Plenary Talk
Friday, March 28, 1:30PM-2:15PM, Room: Auditorium, Speaker: Michael Dempster

Session 6A: Hedging
Friday, March 28, 2:20PM-3:35PM, Room 1, Chair: Easwar Subramanian

2:20PM On Pricing and Hedging Basket Credit Derivatives with Dependent Structure [#1053]
Dong-Mei Zhu, Yue Xie, Wai-Ki Ching and Harry Zheng
The University of Hong Kong, Hong Kong; Imperial College, United Kingdom

2:45PM Dynamic Hedging of Foreign Exchange Risk using Stochastic Model Predictive Control [#1082]
Farzad Noorian and Philip Leong
University of Sydney, Australia

3:10PM Explicit Solutions of Discrete-time Quadratic Optimal Hedging Strategies for European Contingent Claims [#1045]
Easwar Subramanian and Vijaysekhar Chellaboina
Tata Consultancy Services, India

Session 6B: Algorithmic Trading and High Frequency Trading
Friday, March 28, 2:20PM-3:35PM, Room 2, Chair: Patrick Gabrielsson

2:20PM A reinforcement learning extension to the Almgren-Chriss framework for optimal trade execution [#1041]
Dieter Hendricks and Diane Wilcox
University of the Witwatersrand, South Africa

2:45PM Enhancing Intraday Trading Performance of Neural Network using Dynamic Volatility Clustering Fuzzy Filter [#1013]
Vincent Vella and Wing Lon Ng
University of Essex, United Kingdom

3:10PM Co-Evolving Online High-Frequency Trading Strategies Using Grammatical Evolution [#1100]
Patrick Gabrielsson, Ulf Johansson and Rikard Konig
School of Business and IT, University of Boras, Sweden

Session 6C: Forecasting 2

Friday, March 28, 2:20PM-3:35PM, Room 3, Chair: Rui Jorge Almeida

2:20PM Evolving Hybrid Neural Fuzzy Network for Realized Volatility Forecasting with Jumps [#1060]
Raul Rosa, Leandro Maciel, Fernando Gomide and Rosangela Ballini
University of Campinas, Brazil

2:45PM Classification System for Mortgage Arrear Management [#1084]
Zhe Sun, Marco Wiering and Nicolai Petkov
Johan Bernoulli Institute of Mathematics and Computing Science, University of Groningen, Netherlands; Institute of Artificial Intelligence and Cognitive Engineering, University of Groningen, Netherlands

3:10PM Probabilistic Fuzzy Systems for Seasonality Analysis and Multiple Horizon Forecasts [#1115]
Rui Jorge Almeida, Nalan Basturk and Uzay Kaymak
Eindhoven University of Technology, School of Industrial Engineering, Netherlands; Erasmus University Rotterdam, Erasmus School of Economics, Department of Econometrics, Netherlands

Tutorial T2: Functional Elegance with F# for Financial Computing

Friday, March 28, 4:00PM-5:15PM, Room: Auditorium, Instructor: Don Syme

Competition T3: Trading Competition

Friday, March 28, 5:15PM-5:45PM, Room: Auditorium, Chair: Peter Beling

P7: Closing

Friday, March 28, 5:45PM-6:15PM, Room: Auditorium, Chair: Antoaneta Serguieva