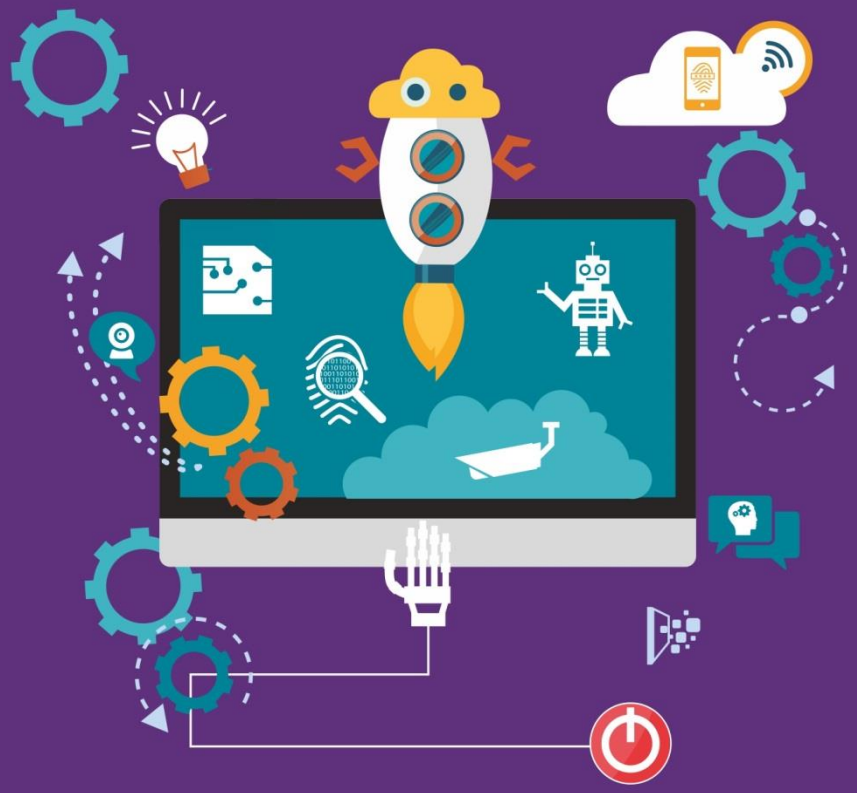
#IntelliSys2015



IntelliSys 2015

Conference Programme

SAI Intelligent Systems Conference 2015

10-11 November 2015 | London, United Kingdom

here

HPCC SYSTEMS®

NVIDIA

SIEMENS

IEEE

IET The Institution of Engineering and Technology

bigml

Stratified Medical

About the IntelliSys 2015 Conference

IntelliSys 2015 conference will focus on areas of intelligent systems and artificial intelligence and how it applies to the real world. It is an opportunity for researchers in this field to meet and discuss solutions, scientific results, and methods in solving important problems in this field.

Conference Topics include, but are not limited to: Artificial Intelligence, Machine Vision, Robotics, Ambient Intelligence, Machine Learning, Internet of Things, Human Computer Interaction to list a few.

The conference programme includes paper presentations, poster sessions and project demonstrations, along with prominent keynote speakers from academia and industry.

The conference is hosted by The Science and Information Organization, sponsored by HERE, HPCC(LexisNexis), Nvidia and supported by SIEMENS, IEEE, BigML, IET, and Stratified Medical.

Conference Venue : CCT Venues Plus-Bank Street
Canary Wharf
Level 32, 40 Bank Street
London E14 5NR
United Kingdom

Speakers

John Daugman - University of Cambridge

John Daugman received his degrees at Harvard University and then taught at Harvard before coming to Cambridge University, where he is Professor of Computer Vision and Pattern Recognition. He has also held the Johann Bernoulli Chair of Mathematics and Informatics at the University of Groningen, and the Toshiba Endowed Chair at the Tokyo Institute of Technology. His areas of research and teaching at Cambridge include computer vision, information theory, neural computing and statistical pattern recognition. Awards for his work in science and technology include the Information Technology Award and Medal of the British Computer Society, the "Time 100" Innovators Award, and the OBE, Order of the British Empire. He has been elected to Fellowships of: the Royal Academy of Engineering; the Institute of Mathematics and its Applications; and the British Computer Society. Recently he was inducted permanently into the US National Inventors Hall of Fame.

Talk Title: Biometrics on a Continental Scale: Automatic Identification of Persons by their Iris Patterns

Abstract: Technologies for reliable automatic identification of persons by their biometric traits have advanced greatly in the past two decades, in modalities, algorithms, architectures, and international standards. Several national-scale biometric deployments have been launched, most notably the Unique Identification Authority of India which now is 75% finished in enrolling the biometric traits (iris patterns and fingerprints) of the entire population of 1.2 billion citizens over three years. Its purposes are to ensure fair access to government services and entitlements, to reduce welfare fraud, and to enhance social inclusion, under the slogan: "To Give the Poor an Identity." This talk will discuss the technologies behind biometric identification on such a continental scale using iris recognition, especially the mathematics underlying high speed matching and the avoidance of collisions (False Matches) when so many opportunities arise since all persons are cross-compared with all others for de-duplication checks. This ambitious program enrolls a million people every day, across 36,000 stations run by 83 agencies, performing 900 trillion (900 million-million) iris cross-comparisons daily. The speaker will explain how his algorithms achieve the tremendous match speed required, and how the critical avoidance of identity collisions (False Matches) is accomplished through the key statistics of encoded pattern entropy.

Hans Georg Zimmermann - Siemens

Hans Georg Zimmermann, Study of Mathematics, Computer Science and Economics at the University of Bonn in Germany (Master in Control Theory, PhD in Game Theory). Since 1987 at Siemens, Corporate Research in Munich. Founding member of the neural network research at Siemens (1987). Today, Senior Principal Research Scientist, scientific head of the neural network research with applications in forecasting, diagnosis and control. Member of GOR, DMV, DPG and several advisory boards. Lectures and talks at universities on all continents.

Talk Title: System Identification and Forecasting with Recurrent Neural Networks

Abstract: Observations and measured data belong to the past – decision support and optimal control are based on an understanding of the future. The intermediate link between past and future is system identification which has to show its correctness in its forecasting power. If we have no apriori knowledge about the linearity of our system of interest we should start the analysis with a class of universal approximation models. For dynamical systems recurrent neural nets offer an adequate structure. They allow the identification of very large systems and allow insights far beyond regression theory. From the neural network view, these nets are extreme examples of deep networks. In addition, the framework allows a new view on the uncertainty of the forecasting. These principles are shown with applications in commodity price forecasting.

Flavio Villanustre - HPCC Systems/LexisNexis

Dr. Flavio Villanustre leads HPCC Systems®, and is also VP, Technology for LexisNexis Risk Solutions®. In this position, he is responsible for Information and Physical Security, overall platform strategy and new product development. Dr. Villanustre is also involved in a number of projects involving Big Data integration, analytics and Business Intelligence. Previously, Dr. Villanustre was Director of Infrastructure for Seisint. Prior to 2001, Flavio served in a variety of roles at different companies including Infrastructure, Information Security and Information Technology. In addition to this, Dr. Villanustre has been involved with the open source community for over 15 years through multiple initiatives. Some of these include founding the first Linux User Group in Buenos Aires (BALUG) in 1994, releasing several pieces of software under different open source licenses, and evangelizing open source to different audiences through conferences, training and education. Prior to his technology career, Dr. Villanustre was a neurosurgeon.

Talk Title: Large-scale security event log analysis and correlation with the open source HPCC Systems Big Data platform

Abstract: The current cyber security landscape has grown significantly more complex over the last decade. Certain attacks known as Advanced Persistent Threats, for example, rely on the orchestration of a combination of vectors and attempt to, at first, exploit weaknesses sometimes not directly connected to the ultimate goal, and progressively escalate until the main objective is reached. Signs of these early attempts may not be obvious, and the attack may remain largely unnoticed until it's too late to prevent the damage. To make things more difficult, some of these attacks may take weeks or months to complete, which can impair the ability to correlate these activities with potentially massive volumes of historical events.

Practitioners and researchers alike have long advocated for comprehensive enterprise-wide event log correlation to mitigate these types of risks, but there are practical limitations to the scalability of current commercial Security Incident Event Management platforms. During this presentation, we will introduce the audience to a solution to this challenge, utilizing the open source HPCC Systems Big Data platform to aggregate massive amounts of security event logs and other data sources and perform threat analysis and event correlation across the time domain on extensive periods of time. More specifically, we will present guidelines on selecting useful data sources for different threats, practical analysis methodologies and the overall open source stack based architecture that we advocate. We will also cover the required steps during the data integration process, the approach to handling near real time event streaming and some of the machine learning algorithms that can be used for event correlation, anomaly detection and real time event classification and alerting.

Dr. Jane Macfarlane - HERE

Dr. Jane Macfarlane is the Head of Research for the HERE, where she leads a team of researchers focused on geospatial mapping and location-based services. Previously, Macfarlane served as the Director of Advanced Technology Planning at OnStar, a division of General Motors. Additionally, she spent over 10 years in the DOE National Laboratories where she led research teams focused on scientific analysis and software architectures. She holds a Ph.D. in Mechanical Engineering from the University of Minnesota.

Talk Title: Location: A Persistent Framework

Abstract: Advances in IoT and Connected Car technologies have highlighted the importance of maps and networks to the future of mobility services. Currently devices are collecting and delivering location data at a scale greater than ever. Concurrently, cloud computing is offering scaled computation with tools that reduce the resources necessary to implement parallel computing solutions that can address the scale of the data. While the scale has been changed by technology, the underlying scientific methods must still remain sound. Transforming the data into knowledge will become increasingly challenging and will require frameworks, such as mapping frameworks, that bound inferences and can provide confidence in the transformations. Beyond the challenges with data analytics, future applications will need to consider the forming ecosystem around these devices and services as well as the computational capabilities of the devices and networks, in addition to the cloud. This discussion will provide examples of location data and some of the analytics that HERE uses to transform this data into a higher level understanding of road network dynamics. In addition, a view of how location will continue to support the very human part of mobility – Context – will be discussed.

David Gerster - BigML

David Gerster is Vice President of Data Science at BigML, where he promotes the idea that data science is easy by speaking at conferences and teaching. Since joining BigML in July 2013, he has spoken at Big Data Spain, Papis.io, DataLead (UC Berkeley), DataBeat (VentureBeat), and more than a dozen other venues. Recently he taught a two-day class at the Polytechnic University of Valencia that covered supervised and unsupervised learning. At Groupon, he built an elite data science team that trained the first machine-learned models for mobile deal relevance. At Yahoo, he led the project to collect billions of URL clickstreams in Hadoop and use them to improve web search ranking, resulting in measurable improvements to Yahoo's main web search algorithm. He holds an MBA from the University of California at Berkeley and a Bachelor's degree from Harvard University.

Talk Title: Minority Report: Using Anomaly Detection to Identify a Minority Class

Abstract: Anomaly detection can provide clues about an outlying minority class in your data: hackers in a set of network events, fraudsters in a set of credit card transactions, or exotic particles in a set of high-energy collisions. In this talk, we analyze a real dataset of breast tissue biopsies, with malignant results forming the minority class.

The Isolation Forest algorithm finds anomalies by deliberately "overfitting" models that memorize each data point. Since outliers have more empty space around them, they take fewer steps to memorize. Intuitively, a house in the country can be identified simply as "that house out by the farm", while a house in the city needs a longer description like "that house in Brooklyn, near Prospect Park, on Union Street, between the firehouse and the library, not far from the French restaurant".

We first use anomaly detection to find outliers in the biopsy data, then apply traditional predictive modeling to discover rules that separate anomalies from normal data. These rules provide surprisingly strong clues about which biopsies are malignant. Interestingly, anomaly detection continues to provide strong clues even when fitted to data with only benign biopsies.

Alison B Lowndes - NVIDIA

Alison is a Deep Learning Solutions Architect & Community Manager (EMEA) at Nvidia. She graduated in Artificial Intelligence (University of Leeds), combining technical and theoretical computer science with a physics background. Completed a very thorough empirical study of deep learning, specifically with GPU technology, covering the entire history and technical aspects of GPGPU with underlying mathematics. 25+ years in international project management and entrepreneurship, Founder Trustee of a global volunteering network (in her spare time) and two decades spent within the internet arena, provide her a universal view of any problem.

Talk Title: Deep Learning – Impact on Modern Life

Abstract: Alison will explain in detail how graphical processing units (GPUs) enable various deep learning techniques. She will include use cases across a wide area of industry plus the latest news on NVIDIAs toolkits and software, including DIGITS, their open-source Deep Learning platform. Convolutional and recurrent neural nets will be covered and the cuDNN library Further information can be found here: https://developer.nvidia.com/

Jeffrey Ng - Stratified Medical

Jeffrey is the CTO and part of the team of founders of Stratified Medical. He is a serial technologist, start-up founder, fund-raiser and deep R&D strategist in Big Data, Natural Language Processing, state-of-the-art Deep Learning and deployment of AI platforms at internet scale for Tier1 Silicon Valley companies. He has a doctorate in Machine Learning and Computer Vision and another 7 years of Post-Doctoral research experience in brain-inspired pattern recognition at Imperial College. He has successfully spun-out a start-up out of Imperial with multi-million VC investment and revenue from a big UK retailer within 10 months. He is now working in big data and advanced machine learning to leverage the totality of human knowledge, teaching machines to understand and reason, with the goal of making a real difference in the world. Author of over 45 articles in scientific journals and conferences, 3 granted patents in US and EU and 4 pending patents.

Talk Title: Application of AI and machine learning to drug discovery

Abstract: The latest advances in Deep Learning and Big Data technologies are creating new opportunities to connect human knowledge, and in this instance to ultimately design better drugs in order to improve people's lives. There is so much that is known about the human body and its internal mechanisms that are unfortunately siloed in millions of scientific articles and a smaller number of specialised databases. The Stratified team is building a big data platform that will mine large volumes of unstructured text as well as biomedical ontologies and structured data. We are using Deep Learning for knowledge extraction, representation and reasoning and will also describe how we are using GPUs to accelerate this exciting research. This big data AI platform will make it easier to connect knowledge that will lead to new insights for better medicines.

Tuesday, November 10, 2015

7:30 am – 8:30 am	**Registered Attendees Check-in**			
8:30 am – 10:45 am	**Opening Keynote - Biometrics on a Continental Scale: Automatic Identification of Persons by their Iris Patterns** John Daugman - University of Cambridge **Keynote - System Identification and Forecasting with Recurrent Neural Networks** Hans Georg Zimmermann - Siemens (Room 6 & 7)			
10:45 am – 11:00 am	**AM Break and Networking** (Sunset Bar)			
11:00 am – 11:30 am	**Keynote - Large-scale security event log analysis and correlation with the open source HPCC Systems Big Data platform** Flavio Villanustre - HPCC Systems/LexisNexis (Room 6 & 7)			
11:30 am – 12:15 pm	**Poster and Demo Presentation Session** (Room 8 & 9)			
12:15 pm – 1:00 pm	**Lunch** (Skyline Restaurant)			
1:00 pm – 3:15 pm	**Session 1: Ambient Intelligence** (Room 5)	**Session 2: Artificial Intelligence** (Room 6)	**Session 3: Machine Learning** (Room 7)	**Session 4: Image Processing** (Room 8)
3:15 pm – 3:30 pm	**PM Break and Networking** (Sunset Bar)			
3:30 pm – 6:00 pm	**Session 5: Ambient Intelligence** (Room 5)	**Session 6: Artificial Intelligence** (Room 6)	**Session 7: Machine Learning** (Room 7)	**Session 8: Intelligent Systems** (Room 8)

November 10, 2015
11:30 am – 12:15 pm

Poster and Demo Presentation Session
Session Chair: Haiming Liu and Yaxin Bi
(Room 8 & 9)

Poster Presentations

6 - Contrast Adjustment Algorithm using Weighting Approximation for Stereo Imaging

183 - Calculation of Velocity in Traffic Accidents: Development of Software for Forensic Physics Research

192 - Transportation Noise Reduction Through Analysis and using Bone-Conduction Device

253 - Moving Sensors Concept for Distributed Diagnostics

321 - A Pilot Study in Jeddah City of Nurses Perceptions of Electronic Medical Records

339 - Anomalies in Link Mining based on Mutual Information

Demo Presentations

191 - Agent based Modeling of Development of Russian Federation Higher Education System

181 - Autonomous Robot Retrieval System

199 - Demonstrating Danger Theory based Threat Detection for Robotic Manufacture Protection

354 - Effect of Influential Users on Recommendation

November 10, 2015 1:00 pm – 3:15 pm			
Session 1: Ambient Intelligence Session Chair: Haiming Liu (Room 5)	**Session 2: Artificial Intelligence Session Chair: Violeta Holmes (Room 6)**	**Session 3: Machine Learning Session Chair: Bogdan Gabrys (Room 7)**	**Session 4: Image Processing Session Chair: Yaxin Bi (Room 8)**
66 - Incentives for Rescheduling Residential Electricity Consumption to Promote Renewable Energy Usage 69 - Experimental Analysis of Some Radio Propagation Models for Smart Wireless Sensor Networks Applications 128 - A Feature Reduction Framework based on Rough Set for Biomedical Data Sets 135 - Enabling Distributed Context Entity Discovery for an Internet-of-Things Platform 155 - Hash Semi Cascade Join for Joining Multi-Way Map Reduce 163 - Water Conservation using Smart Multi-User Centralized Mixing Systems 178 - Discovering Hotspots: A Placement Strategy for Wi-Fi based Trajectory Monitoring within Buildings 187 - Methods of Analysis for Urban Environmental Noise 196 - Camera based Pedestrian Path Prediction by Means of Polynomial Least-Squares Approximation and Multilayer Perceptron Neural Networks	34 - The CREDO Stack: Theory to Practice in Cognitive Systems Engineering 30 - Aircraft Class Recognition based on Dynamic Hierarchical Weighting of Multiple Neural Networks Outputs 31 - Control Quality Assessment of Fuzzy Logic Controller based Static VAR Compensator (SVC) 32 - Non Invasive EEG Signal Processing Framework for Real Time Depression Analysis 36 - Studying the Factors Affecting the Risk of Forest Fire Occurrence and Applying Neural Networks for Prediction 40 - Predication of Premature Neonates Prognosis based on their Electroencephalogram using Artificial Neural Network 42 - A Formal Framework for Web Service Broker to Compose Qos Measures 44 - Towards Experiencing the Pair Programming as a Practice of the Rational Unified Process (RUP) 54 - Speed Control of Elliptec Motor using Adaptive Neural-Fuzzy Controller with on-Line Learning Simulated under MATLAB/SIMULINK	7 - A 3-Layered Self-Reconfigurable Generic Model for Self-Diagnosis of Telecommunication Networks 33 - An Adaptive Neuro-Fuzzy Inference System-based Approach for Oil and Gas Pipeline Defect Depth Estimation 41 - Predicting FTSE 100 Close Price using Hybrid Model 67 - Practical Machine Learning Solution for Increasing Profit in a Car Repair Service 68 - An Optimal Formulation of Feature Weight Allocation for CBR using Machine Learning Techniques 77 - Synthesizing Broad Null in Linear Array by Amplitude-Only Control using Wind Driven Optimization Technique 85 - Fine Tuning the Tree Augmented Naïve Bayes (FTTAN) Learning Algorithm 87 - A Niche Technique to Manage Innovation Projects in ITES 55 - PSO-PD Fuzzy Control of Distillation Column	20 - Automatic Detection of the Pulmonary Nodules from CT Images 46 - A Vision based System for Traffic Lights Recognition 59 - An Improved Reduced Candidate Modes Approach for HEVC Intra Prediction 84 - Research of Neighborhood Searching Fractal Image Coding Algorithm based on Ant Colony Optimization 100 - A Hybrid Generative/Discriminative Model based Object Tracking Primary Exploration 104 - Images Segmentation based on Interval Type-2 Fuzzy C-Means 148 - A Multi-Instance Multi-Label Scene Classification Method based on Multi-Kernel Fusion 173 - Face Recognition using Gabor Wavelet and Non-Negative Matrix Factorization 209 - Regioned Downsample for ANN Image Classification

November 10, 2015 3:30 pm – 6:00 pm			
Session 5: Ambient Intelligence Session Chair: Pedro Martins (Room 5)	**Session 6: Artificial Intelligence Session Chair: John Fox (Room 6)**	**Session 7: Machine Learning Session Chair: Bogdan Gabrys (Room 7)**	**Session 8: Intelligent Systems Session Chair: Violeta Holmes (Room 8)**
204 - Object Recognition in Assembly Assisted by Augmented Reality System 241 - Development and Evaluation of a Virtual Reality-System with Integrated Tracking of Extremities under the Aspect of Acrophobia 290 - Traffisense: A Smart Integrated Visual Sensing System for Traffic Monitoring 296 - Co-Design of Augmented Reality Book for Collaborative Learning Experience in Primary Education 306 - Monitoring Technologies for Buildings Equipped with Ambient Assisted Living 307 - Predicting Occupancy Trends in Barcelona's Bicycle Service Stations using Open Data 308 - Hierarchical Organization with a Cross Layers using Smart Sensors for Intelligent Cities 326 - CogWatch: Intelligent Agent-based System to Assist Stroke Survivors during Tea-Making 327 - Gas Identification with Spike Codes in Wireless Electronic Nose: A Potential Application for Smart Green Buildings 334 - Adaptive Room-level Localization System with Crowd-sourced WiFi Data	79 - A Rule based Expert System for Syncope Prediction 102 - Real Time Astrocyte in Spiking Neural Network 106 - Chameleon Eye Motion Thruster for Missile System with Genetic Ontology Controller and Uncommon Transmission Antenna 114 - A Rapid Detection of Meat Spoilage using FTIR and Neuro-Fuzzy Systems 120 - How to Diagram your Logical Argument 124 - Optimization of an Artificial Neural Network using Firefly Algorithm for Modeling AC Power from a Photovoltaic System 176 - Impact of Refactoring on Code Quality by using Graph Theory: An Empirical Evaluation 182 - Social Network Analysis in the m-Learning Service 203 - Weighted Heuristic Ensemble of Filters 206 - Architecture of English to Sanskrit Machine Translation	92 - Multi-Model Approach for Electrical Load Forecasting 94 - Diagnosic System for Predicting Bladder Cancer Recurrence using Association Rules 122 - Intelligent Approach to Uncertain Networked Control Systems with Random Packet Losses 137 - Concept of a Decision Support System for a Loan Granting based on Continuous Price Function 145 - A Performance Comparison between Classification Techniques with CRM Application 149 - Engine Performance Optimization using Machine Learning Techniques 175 - A Novel Framework for Classification of Syncope Disease using K-Means Clustering Algorithm 177 - Big Data: Mathematical Topology Video Data Analytics using Superimposed Learning 180 - How to Select Web Services Intelligently on the basis of a Brain Inspired Method for Solving Fuzzy Multi-Criteria Decision Making Problems? 188 - Logistic Regression Model for Breast Cancer Automatic Diagnosis	382 - Exploring the Design of a Social Learning Platform for Supporting Users' e-Teaching Skill Development 18 - Modelling and Prediction of Stock Price Dynamics using System Identification Methodology based on a Popularly used Technique Analysis Data 75 - A Novel and Efficient Hybrid Least Mean Square (HLMS) Adaptive Algorithm for System Identification 89 - Relation Mining using Cross Correlation of Multi Domain Social Networks 161 - Enhancing Semantic Interoperability in Digital Library by Applying Intelligent Techniques 169 - WISE Technology: A Scientific Information System for Astronomy and Beyond 289 - Place Recognition using Kernel Visual Keyword Descriptors 293 - Semiotic Impacts of the Supreme Court's Mayo/Biosig/Alice Decisions on Legally Analyzing Emerging Technology Claimed Inventions (ET CIs) 297 - Learning of Parameters of Intuitionistic Statement Networks 298 - Robust Algorithm of Multi-Source Data Analysis for Evaluation of Social Vulnerability in Risk Assessment Tasks

Wednesday, November 11, 2015

9:00 am – 11:00 am	**Keynote - Location: A Persistent Framework** Dr. Jane Macfarlane - HERE **Keynote - Minority Report: Using Anomaly Detection to Identify a Minority Class** David Gerster – BigML **Keynote - Deep Learning – Impact on Modern Life** Alison B Lowndes - Nvidia **Keynote - Application of AI and machine learning to drug discovery** Jeffrey Ng - Stratified Medical (Room 6 & 7)			
11:00 am – 11:15 am	**AM Break and Networking** (Sunset Bar)			
11:15 am – 12:15 pm	**Session 9: Ambient Intelligence** (Room 5)	**Session 10: Artificial Intelligence** (Room 6)	**Session 11: Machine Learning** (Room 7)	**Session 12: Intelligent Systems** (Room 8)
12:15 pm – 1:00 pm	**Lunch** (Skyline Restaurant)			
1:00 pm – 3:00 pm	**Session 13: Artificial Intelligence** (Room 5)	**Session 14: Agents and Multi-Agent Systems** (Room 6)	**Session 15: Machine Learning** (Room 7)	**Session 16: Image Processing** (Room 8)
3:00 pm – 3:15 pm	**PM Break and Networking** (Sunset Bar)			
3:15 pm – 5:30 pm	**Session 17: Security** (Room 5)	**Session 18: Artificial Intelligence** (Room 6)	**Session 19: Robotics** (Room 7)	
5:30 pm – 6:00 pm	**Conference Closing Ceremonies + Award Distribution**			

November 11, 2015 11:15 am – 12:15 pm			
Session 9: Ambient Intelligence Session Chair: Pedro Martins (Room 5)	**Session 10: Robotics Session Chair: Yaxin Bi (Room 6)**	**Session 11: Machine Learning Session Chair: Violeta Holmes (Room 7)**	**Session 12: Intelligent Systems Session Chair: Amanda Peart (Room 8)**
338 - Energy Optimization in Wireless Sensor Networks based on Genetic Algorithms	8 - Utilization of PSoC-5 for Sensor Data Acquisition in a Semi-Autonomous Robotic Platform	193 - Enhanced Content-based Filtering Algorithm using Artificial Bee Colony Optimisation	353 - Context-Dependent Incremental Learning of Good Maximally Redundant Tests
346 - A Linear Programming-Driven MCDM Approach for Multi-Objective Economic Dispatch in Smart Grids	21 - Self-Reconfigurable Robotics Architecture Utilising Fuzzy and Deliberative Reasoning	205 - A Naïve Bayes Approach for EWS Detection by Text Mining of Unstructured Data: A Construction Project Case	361 - American Dialect Identification using Phonotactic and Prosodic Features
360 - Accurate Localization in Dense Urban Area using Google Street View Images	57 - Novel Adhesion Mechanism and Design Parameters for Concrete Wall-Climbing Robot	207 - Evaluation and Comparison of Anomaly Detection Algorithms in Annotated Datasets from the Maritime Domain	376 - A Markov Chain Model for Securing Link Layer in Mobile Ad Hoc Networks
374 - An Intelligent Sensing System for Healthcare Applications using Real-Time EMG and Gaze Fusion	167 - The Application of IWO in LQR Controller Design for the Robogymnast	215 - Encouraging Active Commuting through Monitoring and Analysis of Commuter Travel Method Habits	310 - 4G Wimax Network for Smart-Sidi Bouzid Area Communication

November 11, 2015 1:00 pm – 3:00 pm			
Session 13: Artificial Intelligence Session Chair: Bogdan Gabrys (Room 5)	**Session 14: Agents and Multi-Agent Systems Session Chair: John Fox (Room 6)**	**Session 15: Machine Learning Session Chair: Violeta Holmes (Room 7)**	**Session 16: Image Processing Session Chair: Yaxin Bi (Room 8)**
212 - Investigating Stochastic Diffusion Search in DNA Sequence Assembly Problem 214 - Swarm Intelligence Approach in Detecting Spatially-Independent Symmetries in Cellular Automata 222 - An Intelligent Routing Approach for Wireless Sensor Networks 226 - Grid Power Quality Enhancement using Fuzzy Control-based Shunt Active Filtering 242 - Computer Simulation of Chemotaxis in Caenorhabditis Elegans in Consideration of Whole-Body Movements 252 - Integrated CAD/CAPP/CAM and ANN in Sheet Metal Punching and Nippling Operations 256 - Bat Algorithm for Overlapping Community Detection 257 - A Neural Network Model of Caenorhabditis Elegans and Simulation of Chemotaxis-related Information Processing in the Neural Network	16 - Cognitive Modeling of a General-Purpose Creative System (Creagene Model) 37 - Recursive Decomposition of Numeric Goals, Exemplified with Automated Construction Agents in 3D Minecraft Worlds 194 - Agent based Modeling of Pension System Development Processes 219 - A Distributed Approach for Multi-Agent Plan Monitoring and Diagnosis 309 - WSN Intelligent Communication based on Khalimsky Theory using Multi-Agent Systems 352 - A Component-based C++ Framework for Developing BDI Agents 372 - An Extension of the Use Case Diagram to Model Context-Aware Applications	221 - Bat Inspired Algorithm for Sizing Optimization of Grid-Connected Photovoltaic System 230 - Applying Regression Models to calculate the Q Factor of Multiplexed Video Signal based on Optisystem 231 - A Fuzzy-Bayesian Model based on the Superposition of States Applied to the Clinical Reasoning Support 216 - Investigating Stochastic Diffusion Search in Data Clustering 232 - Language and Dialect Identification: A Survey 234 - A Hybrid Approach for Word Segmentation 258 - Selecting Countries for Developmental Aid Programs using Fuzzy PROMETHEE 273 - Unsupervised Adaptation of ASR Systems: An Application of Dynamic Programming in Machine Learning	224 - Neuromorphic Visual Information Processing for Vulnerable Road User Detection and Driver Monitoring 235 - Performance Evaluation of Different Support Vector Machine Kernels for Face Emotion Recognition 246 - Supporting Video Conference Communication Using a Vision-based Human Facial Synthesis Approach 268 - New Method of Tumor Extraction using a Histogram Study 285 - Pursuit Position Gain, Fixation Duration and Saccadic Gain with Music Intervention in Eye Motion Tracking 300 - An Evaluation of Image Registration Methods for Chest Radiographs 301 - User Identification using Wavelet Features of Hand Geometry Graph 336 - Terminating CU Splitting in HEVC Intra Prediction using the Hadamard Absolute Difference (HAD) Cost

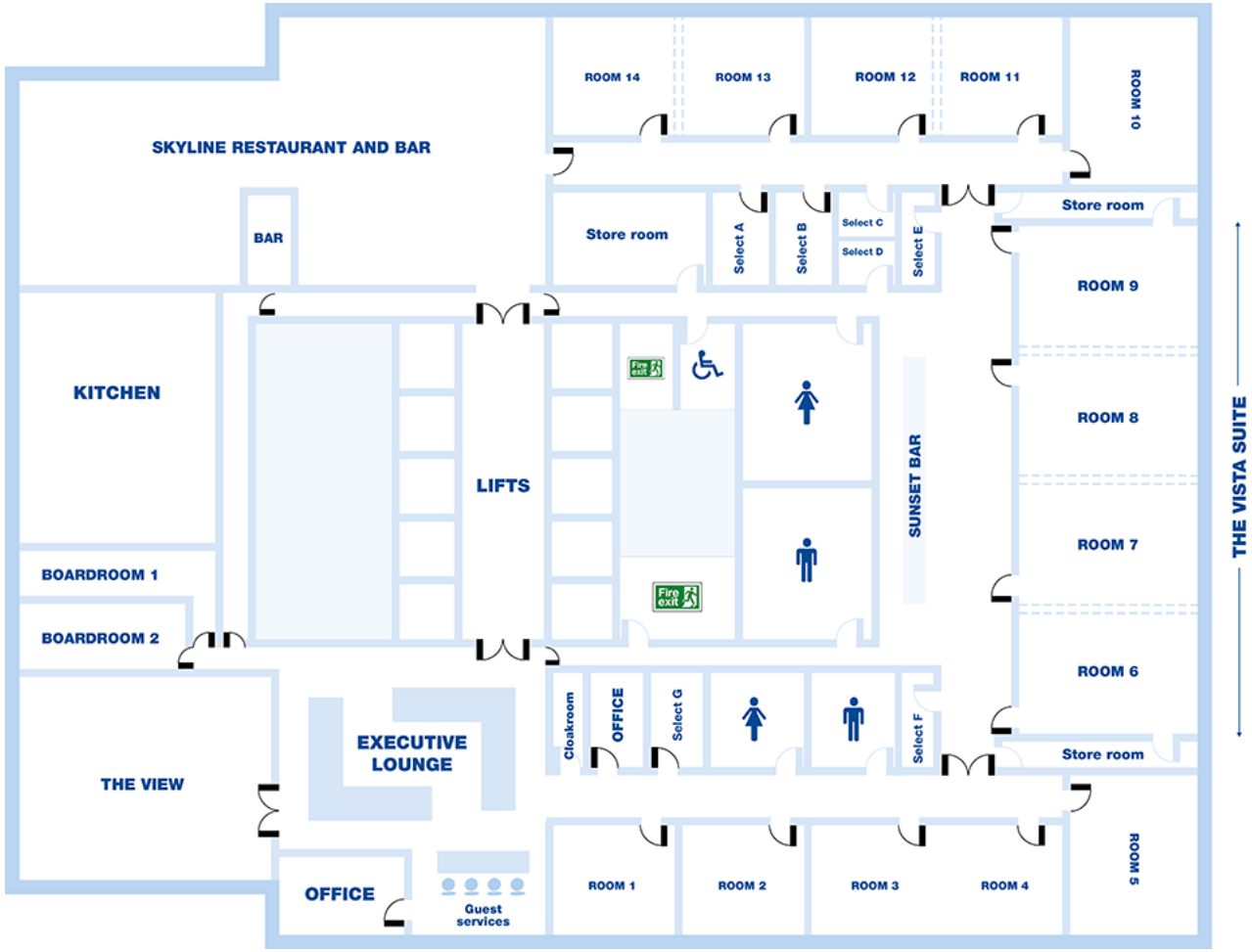
November 11, 2015 3:15 pm – 5:30 pm		
Session 17: Security **Session Chair: Amanda Peart** **(Room 5)**	**Session 18: Artificial Intelligence** **Session Chair: Yaxin Bi** **(Room 6)**	**Session 19: Robotics** **Session Chair: Pedro Martins** **(Room 7)**
9 - Self-Stabilizing Clustering Algorithm in Mobile Ad Hoc Networks 63 - Analysis of Brute Force Attack using TG–Dataset 83 - An Ensemble Framework of Anomaly Detection using Hybridized Feature Selection Approach (HFSA) 90 - Detecting Changes in Context using Time Series Analysis of Social Network 95 - Taxonomy of Honeynet Solutions 97 - Host Intrusion Detection using System Call Argument-based Clustering Combined with Bayesian Classification 160 - AuRo-Rec: An Unsupervised and Robust Sybil Attack Defense in Online Recommender Systems 208 - Computer Forensics–Digitized Science 291 - Support Vector Machines, Mel-Frequency Cepstral Coefficients and the Discrete Cosine Transform Applied on Voice based Biometric Authentication	265 - Analyzing the Intelligence in User Interfaces 274 - ANN-Based Prediction of Cementation Factor in Carbonate Reservoir 280 - Application of Support Vector Machines and Two Dimensional Discrete Cosine Transform in Speech Automatic Recognition 314 - Adaptive Fuzzy Influence Function for Cultural Algorithm 359 - Rule-based Monitoring and Error Detecting for Converged Telecommunication Processes 377 - Robust Visual Tracking via Binocular Multi-Task Multi-View Joint Sparse Representation 380 - Hidden Markov Models for Churn Prediction 332 - Initiations of Chaotic Regimes of Attitude Dynamics of Multi-Spin Spacecraft and Gyrostat-Satellites Basing on Multiscroll Strange Chaotic Attractors 312 - Computational Modelling of Personal Pronouns for English to Yorùbá Machine Translation System	223 - Adaptive Operator Selection for Path Planning in Static Environments 245 - Control of 3D Printed Ambidextrous Robot Hand Actuated by Pneumatic Artificial Muscles 279 - Intelligent Service Robot with Voice Recognition and Telepresence Capabilities 316 - Robotic Bodily Aware Interaction within Human Environments 348 - Multiple Robots Task Allocation for Cleaning a Large Public Space 350 - Multivariable Centralized Fractional Order PID Controller Tuned using Harmony Search Algorithm for Two Interacting Conical Tank Process

Networking & Idea Sharing London Tour (Optional)

Thursday, November 12, 2015

09:45 am – 10:00 am	Pickup from 40 Bank Street, Canary Wharf (Attendees are requested to wait for the coaches outside the venue building)
10:00 am – 12:00 pm	Panoramic tour of London seeing all the major sights, Big Ben and the Houses of Parliament, Trafalgar Square, St Paul's Cathedral and Tower Bridge.
12:00 pm – 12:40 pm	You will then get to see the Changing of the Guard at Buckingham Palace (weather permitting).
01:00 pm – 02:30 pm	For lunch we will visit the area of Covent Garden with a huge array of restaurants, bars, shops and market stalls. A unique opportunity to informally meet and discuss ideas with other researchers in the field from around the world.
03:00 pm – 04:15 pm	After Lunch you will have a guided tour of the highlights of the British Museum. The British Museum is home to over 6 million artefacts from all over the world, and during your tour you will see some of the most famous including; the Rosetta stone, the Parthenon Sculptures, the Mummies, and the Assyrian Collection.
04:15 pm – 05:30 pm	Depart for the panoramic tour of the "City of London", seeing Fleet Street, St Paul's Cathedral, The Tower of London, Tower Bridge and the financial district.
05:30 pm	Drop-off at 40 Bank Street, Canary Wharf

Floor Plan



Activity	Location
Keynote and Knowledge Talks	Room 6 and 7
Breaks and Networking	Sunset Bar
Lunch	Skyline Restautant
Exhibits	Room 9
Poster and Demo Presentation Session	Room 8 and 9
Paper Presentation Sessions	Room 5, 6, 7, 8
Conference Registration	Main Entrance

Conference Team

Honorary Chairs
Kevin Warwick - Coventry University
David Fogel - Natural Selection, Inc.
Lotfi A. Zadeh - University of California, Berkeley

Chairs
Yaxin Bi - University of Ulster (General Chair)
Nikola Serbedzija - Fraunhofer FOKUS (Vice Chair)
Plamen Angelov - Lancaster University (Publicity Chair)
JOSE ANTONIO IGLESIAS - Carlos III University of Madrid (Publicity Chair)
Teck-Hou Teng - Nanyang Technological University (Publicity Chair)

Steering Committee
Kohei Arai - Saga University
Liming Chen - De Montfort University
Yaxin Bi - University of Ulster
Yvo Desmedt - University College London
Nikola Serbedzija - Fraunhofer FOKUS
Peter Sapaty - National Academy of Sciences of Ukraine

Program Chair
Kohei Arai - Saga University

Session Chairs
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