Conference Agenda
SAI Intelligent Systems Conference 2016
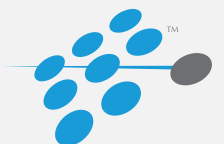21-22 September 2016 | London, United Kingdom

IntelliSys 2016

#IntelliSys2016

CONFERENCE AGENDA

DAY 1 (21 September)

8:00 am – 8:30 am	Delegates Check-in
8:30 am – 8:45 am	Official Opening (Room 17+18)
8:45 am – 10:45 am	MORNING PLENARY (Room 17+18) Anton Nijholt, University of Twente John Fox, Oxford & Warwick Universities David Dasher, CPL Online Ltd/HPCC Systems Amir Banifatemi, IBM Watson AI XPRIZE
10:45 am - 11:00 am	Networking Break (Room 19)
11:00 am – 12:00 pm	PAPER PRESENTATIONS Session 1: Intelligent Agents Session 2: Swarm Intelligence Session 3: Data Science Session 4: Internet of Things
12:00 pm – 1:00 pm	Lunch (Restaurant)
1:00 pm – 3:00 pm	PAPER PRESENTATIONS Session 5: Intelligent Agents Session 6: Machine Learning Session 7: Neural Networks Session 8: Artificial Intelligence Session 9: Intelligent Systems
3:00 pm – 3:30 pm	Networking Break (Room 19)
3:30 pm – 5:30 pm	PAPER PRESENTATIONS Session 10: Robotics Session 11: Pattern Recognition Session 12: Ambient Intelligence Session 13: Artificial Intelligence Session 14: Intelligent Systems

DAY 2 (22 September)

8:00 am – 8:15 am	Check-in & Networking
8:15 am – 8:45 am	POSTER PRESENTATIONS (Room 19)
8:45 am – 10:30 am	MORNING PLENARY (Room 17+18) Felix Govaers, Fraunhofer FKIE Eric Postma, Tilburg University Marta Kwiatkowska, University of Oxford
10:30 am - 11:00 am	Networking Break (Room 19)
11:00 am – 12:30 pm	PAPER PRESENTATIONS Session 15: Bioinformatics Session 16: Security Session 17: Artificial Intelligence Session 18: Intelligent Systems
12:30 pm – 1:15 pm	Lunch (Restaurant)
1:15 pm – 3:15 pm	PAPER PRESENTATIONS Session 19: Image Processing Session 20: Security Session 21: Artificial Intelligence Session 22: Intelligent Systems
3:15 pm – 3:30 pm	Networking Break (Room 19)
3:30 pm – 5:30 pm	PAPER PRESENTATIONS Session 23: Image Processing Session 24: Smart Healthcare Session 25: Artificial Intelligence Session 26: Intelligent Systems
5:30 pm – 6:00 pm	Closing Ceremonies (Room 17+18)

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The IBM Watson AI XPRIZE is a $5 million competition, challenging teams globally, to develop and demonstrate how humans can collaborate with powerful AI technologies to tackle the world's grand challenges. The prize aims to accelerate adoption of AI technologies, and spark creative, innovative and audacious demonstrations of the technology that are truly scalable and solve societal grand challenges. To encourage innovation in any form, the competition is an open challenge in AI. Rather than set a single, universal goal for all teams, this competition will invite teams to each declare their own goal and solution to a grand challenge. The IBM Watson AI XPRIZE is a four-year competition with annual milestone competitions in 2017, 2018, and 2019. The top three finalists will compete for the Grand Prize at TED 2020.

SPEAKERS

Anton Nijholt
University of Twente The Netherlands
Imagineering Institute, Malaysia

Talk Title: Brain-Computer Interfaces for Intelligent Systems

21 September 2016 - 8:45 am

John Fox
Oxford & Warwick Universities, United Kingdom

Talk Title: Cognitive systems at the point of care: the CREDO stack

21 September 2016 - 9:15 am

David Dasher
Managing Director, CPL Online Ltd, United Kingdom

Talk Title: How Big Data has transformed training

21 September 2016 - 9:45 am

Felix Govaers
Fraunhofer FKIE, Germany

Talk Title: Trends in Sensor Data and Information Fusion

22 September 2016 - 8:45 am

Eric Postma
Tilburg University, The Netherlands

Talk Title: Socially-aware Intelligent Systems

22 September 2016 - 9:15 am

Marta Kwiatkowska
University of Oxford, United Kingdom

Talk Title: Safety and trust for mobile autonomous robots

22 September 2016 - 9:45 am

21 SEPTEMBER – PAPER PRESENTATIONS

Room 17 (11:00 am – 12:00 pm)
Session 1: Intelligent Agents
Session Chair: John Fox

380 - Strategic Development and Dynamic Models of Supply Chains: Search for Effective Model Constructions

31 - An Efficient Agent Scheming in Distributed Time Varying Networks

128 - Learning to Negotiate Optimally in a Multi-Agent based Negotiation System for Web Service Selection

182 - Multi-Agent System for Safeguarding Children Online

Room 16 (11:00 am – 12:00 pm)
Session 2: Swarm Intelligence
Session Chair: Mattias Wahde

161 - Maritime Static Target Search based on Particle Swarm Algorithm

209 - Particle Swarm Optimization Algorithms for Maximizing Area Coverage in Wireless Sensor Networks

83 - Accelerated Particle Swarm Algorithm for Optimal Allocation of Capacitor Banks in Radial Distribution Feeders

202 - Particle Swarm Optimization based Placement of Data Acquisition Points in a Smart Water Metering Network

Room 15 (11:00 am – 12:00 pm)
Session 3: Data Science
Session Chair: Michael Negnevitsky

48 - Corroborating Quality of Data Through Density Information

144 - Measuring Player's Behaviour Change over Time in Public Goods Game

359 - Data Workflow for Extension Framework to Interpret and Transform Human Behavior

401 - Credibility Perception for Arab Users

Room 14 (11:00 am – 12:00 pm)
Session 4: Internet of Things
Session Chair: Yaxin Bi

194 - An Ontology For Modelling Human Machine Interaction In Smart Environments

228 - A Practical Wireless Sensors based Gas Leakage Monitoring System using Satellite Technology

249 - An Energy Efficient M2M Routing Protocol for IoT based on 6LoWPAN with a Smart Sleep Mode

260 - Evolutionary Testing using Particle Swarm Optimization in IOT Applications

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Room 18 (1:00 pm – 3:00 pm)
Session 5: Intelligent Agents
Session Chair: Yaxin Bi

187 - Hybrid Service Discovery Approach for Peer-to-peer Web Service Systems

200 - Embodied Conversational Agent-based Deception Detection

296 - Synthetizing Qualitative (Logical) Patterns for Pedestrian Simulation from Data

300 - Petri Nets for Mobile Agent: Theory and Application

372 - Multi-Resource Minority Games: Redefining the game

402 - An Object-Oriented Agent Framework for HEMS

163 - Agent-Based Outsourcing Solution for Agency Service Management

Room 17 (1:00 pm – 3:00 pm)
Session 6: Machine Learning
Session Chair: David Dasher

2 - Machine Learning Approaches to Predict Repetitive Transcranial Magnetic Stimulation Treatment Response in Major Depressive Disorder

99 - A Machine Learning based Model for Software Cost Estimation

122 - Performance Analysis of Various Missing Value Imputation Methods on Heart Failure Dataset

143 - Deep Learning Based Semantic Video Indexing and Retrieval

264 - Optimization Techniques to Enhance Allocation of Computing Resources for Cloud-Based Video Analytic

397 - Using Machine Learning for Evaluating the Quality of Exercises in a Mobile Exergame for Tackling Obesity in Children

259 - Deep Reinforcement Learning: An Overview

Room 16 (1:00 pm – 3:00 pm)
Session 7: Neural Networks
Session Chair: Kohei Arai

295 - Cantilever Beam Natural Frequency Prediction using Artificial Neural Networks

59 - Deep Learning with Random Neural Networks

148 - Recognition System of Numerical Command of Speech Signal using Neural Networks based on DCT Parameters

197 - Integration of Fuzzy C-Means and Artificial Neural Network for Short-Term Localized Rainfall Forecast in Tropical Climate

290 - Short-Term Localized Weather Forecasting by using Different Artificial Neural Network Algorithm in Tropical Climate

302 - Query Caching and Answering using an Atom based Neuro-Architecture

307 - Initialising Deep Neural Networks: An Approach based on Linear Interval Tolerance

Room 15 (1:00 pm – 3:00 pm)
Session 8: Artificial Intelligence
Session Chair: David Mathias

20 - Lessons Learned from Developing Smart Systems

54 - Simulated Annealing and Cloud Computing Applied to Forest Planning

130 - Multiobjective Clonal Selection Algorithm For The Forecasting Models On The Base Of The Strictly Binary Trees

199 - Random Forests to Predict Length of Stay and Discharge Destination for Elderly Hip-Fracture Patients in Ireland

255 - Intellectualization of the Data Processing in the Industrial Automatization

285 - A New Variable Neighborhood Search For MAX-SAT Problems

305 - Adaptive NeuroFuzzy Sliding Mode Based Damping Control for SSSC

Room 14 (1:00 pm – 3:00 pm)
Session 9: Intelligent Systems
Session Chair: Vassilis Kodogiannis

231 - Computational Intelligence Applications to Crisis Management in Power Systems

149 - Emergency Management: Exploring Hard and Soft Data Fusion Modeling with Unmanned Aerial Systems and Non-Governmental Human Intelligence Mediums

16 - Strategic location models and their impact on operational level

33 - A credit risk model based on contour subspaces for decision support systems in loan granting

146 - Visualizing Large Graphs out of Unstructured Data for Competitive Intelligence Purposes

101 - An Interactive Mobile Augmented Reality for Advertising Industry

21 SEPTEMBER – PAPER PRESENTATIONS

Room 18 (3:30 pm – 5:30 pm) Session 10: Robotics Session Chair: David Sanders	Room 17 (3:30 pm – 5:30 pm) Session 11: Pattern Recognition Session Chair: Kohei Arai	Room 16 (3:30 pm – 5:30 pm) Session 12: Ambient Intelligence Session Chair: Yaxin Bi	Room 15 (3:30 pm – 5:30 pm) Session 13: Artificial Intelligence Session Chair: David Mathias	Room 14 (3:30 pm – 5:30 pm) Session 14: Intelligent Systems Session Chair: David Dasher
111 – Adjustment of Tele-Operator Learning When Provided with Different Levels of Sensor Support While Driving Mobile Robots	304 – Steady Illumination Color Local Ternary Pattern as a Feature Extractor in Iris Authentication	403 – Modeling the Dynamic Context of Ambient Systems	297 – Genomic Variant Classifier Tool (Demo)	284 – Smartphone-Based Vehicular Tire Pressure and Condition Monitoring
158 – Development of Guided Autonomous Navigation for Indoor Material Handling Applications	387 – Fast Fingerprint Rotation Recognition Technique using Circular Strings in Lexicographical Order	292 – A Virtual Assistive Companion for Older Adults: Design Implications for a Real-World Application	367 – Performance Analysis of CPW Fed Multiband Microstrip Patch Antenna	42 – An Introduction to the NMPC-Graph as General Schema for Causal Modeling of Nonlinear, Multivariate, Dynamic, and Recursive Systems with Focus on Time-Series Prediction
180 – Motion Control of a Terrain Following Unmanned Aerial Vehicle under Uncertainty	35 – Design and Performance Evaluation of a Committee Machine for Gas Identification	152 – Data Driven Monitoring of Rolling Stock Components	368 – A Conceptual Framework for Integrating Scientific Tacit Knowledge	177 – Fast-and-Fit: An Intelligent Auto-Pricing System for Airlines Travel Agencies
121 – Rule-Based System to Assist a Tele-Operator with Driving a Mobile Robot	114 – Vehicle Logo Recognition using SIFT Representation and SVM	390 – Emotional Domotics: Inhabitable Space Variable Control for the Emotions Modulation	142 – Event Abstraction for Process Mining using Supervised Learning Techniques	193 – Hybrid Intelligence Nano-enriched Sensing and Management System for Efficient Water-Quality Monitoring
77 – Position Control and Stabilization of Fully Actuated AUV using PID Controller	398 – Efficient Way of Feature Extraction for the Recognition of Handwritten Arabic Characters	308 – Inference Engine Based on a Hierarchical Structure for Detecting Everyday Activities within the Home	320 – A Framework for Collaborative Human–Computer Interaction in E-Learning	195 – Providing Intelligent Assistance for Product Configuration in Manufacturing: A Learning-to-Rank Approach
164 – Path Following of Underactuated Catamaran Surface Vessel (WAM-V) Using Fuzzy Waypoint Guidance Algorithm	112 – A Review of Frequent Pattern Mining Algorithms for Uncertain Data	189 – CASA: Towards Safe and Green Driving for Real-Time Driving Events	38 – Two Prediction Models for Some Economic Indicators of the Russian Arctic Zone	198 – Large-Scale Traffic Grid Signal Control using Decentralized Fuzzy Reinforcement Learning
275 – Controlling Line Follower Robot with the Remote Web Server		155 – WheelScout – Barrier-Free Navigation	157 – Ideo-Dynamic Diagnostic Expert Systems	213 – Intelligence: The Interdependence of Independent Members of Teams
			310 – A Belief Rule-Based Expert System to Assess Bronchiolitis Suspicion from Signs and Symptoms under Uncertainty	

22 SEPTEMBER – POSTER PRESENTATIONS

Room 19 (8:15 am – 8:45 am)
Poster Presentation Session
Session Chair: Yaxin Bi

166 – Applications of Artificial Intelligence in the Export Control Domain

203 – Exploring Patient-Oriented Healthcare Support System by using General Bayesian Network

256 – Automatic Question Answering System for Consumer Products

274 – Agent-based Decision Making and Fusion Protocol

375 – Neural Networks for Robotic Detection of Mastitis in Dairy Cows

385 – Feature Selection for Document Retrieval in the Export Control Domain
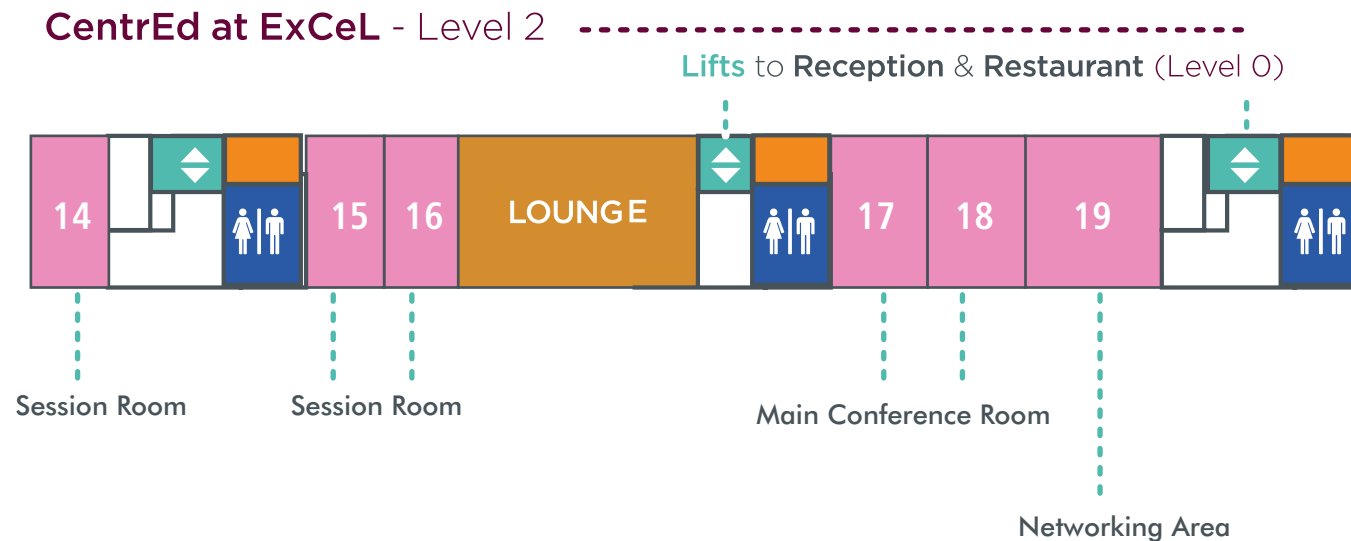
22 SEPTEMBER – PAPER PRESENTATIONS

Room 18 (11:00 am – 12:30 pm)
Session 15: Bioinformatics
Session Chair: Il Song Han

90 - Classification of Liver Fibrosis Patients by Multi-Dimensional Analysis and SVM Classifier: An Egyptian Case Study

97 - Self-Regulation and Covariance of Intermittent DNA Activity in the Major Networks inside Cells

261 - Modeling of Cognitive Brain Activity through the Information Images Theory in Terms of the Bilingual Stroop Test

345 - A Novel Approach of Protein Secondary Structure Prediction by SVM using PSSM Combined by Sequence Features

262 - Investigating Off-Angle Iris Recognition in Unconstrained Acquisition

Room 17 (11:00 am – 12:30 pm)
Session 16: Security
Session Chair: Haiming Liu

18 - HADM: Hybrid Analysis for Detection of Malware

92 - A Model of a Malware Infected Automated Guided Vehicle for Experimental Cyber-Physical Security

124 - A Smart Card Web Server in the Web of Things

153 - Semantic Events: A New Linguistics-Inspired Way to Interpret and Represent Events

171 - Chaos-based Audio Steganography and Cryptography using LSB Method and One-Time Pad

Room 16 (11:00 am – 12:30 pm)
Session 17: Artificial Intelligence
Session Chair: Violeta Holmes

400 - Fuzzy Modelling of Diffuse Solar Radiation

119 - A Framework for Optimization of Pattern Sets for Financial Time Series Prediction

154 - Application of Cellular Genetic Algorithms and Space Efficient Chromosomes to Wells Placement in Oil Fields

341 - Search-Based Requirements Traceability Recovery

352 - Micro Aerial Vehicle Path Planning and Flight with a Multi-objective Genetic Algorithm

Room 15 (11:00 am – 12:30 pm)
Session 18: Intelligent Systems
Session Chair: Kohei Arai

227 - A Rapid Detection of Meat Spoilage Using an Electronic Nose and Fuzzy-Wavelet Systems

240 - Proactive Business Intelligence to Give Best Customer Experience to Valued Social Networks in Telecoms

271 - Adaptive Associative Classifier for Mammogram Classification

282 - Providing and Adapting Information Assistance for Smart Assembly Stations

337 - NRCS: Neutrosophic Rule-based Classification System

Room 18 (1:15 pm – 3:15 pm)
Session 19: Image Processing
Session Chair: Mattias Wahde

29 - A Robust, Real-time Capable Framework for Fully Automated Order Picking of Pouch-parceled Goods

37 - A Logo-Based Approach for Recognising Multiple Products on a Shelf

39 - Image Segmentation using Clustering Methods

50 - MR Brain Images Segmentation using Joint Information and Fuzzy C-Means

51 - Visual Odometry for Pedestrians based on Orientation Attributes of SURF

405 - Enhanced Object Segmentation for Vehicle Tracking and Dental CBCT by Neuromorphic Visual Processing with Controlled Neuron

273 - Ensemble Neural Networks and Image Analysis for On-site Estimation of Nitrogen Content in Plants

Room 17 (1:15 pm – 3:15 pm)
Session 20: Security
Session Chair: Violeta Holmes

229 - JIR2TA: Joint Invocation of Resource-Based Thresholding and Trust-Oriented Authentication in Mobile Adhoc Network

299 - Resolving DRDoS Attack in Cloud Database Service using Common Source IP and Incremental Replacement Strategy

309 - Review of Potential Attacks on Robotic Swarms

347 - SIMSSP: Secure Instant Messaging System for Smart Phones

353 - Protecting a Sensitive Dataset using a Time Based Password in Big Data

356 - Elastic Serial Substitution Box for Block Ciphers with Integrated Hash Function Generation

413 - Effective Solutions for Most Common Vulnerabilities in Web Applications

Room 16 (1:15 pm – 3:15 pm)
Session 21: Artificial Intelligence
Session Chair: Haiming Liu

69 - Intelligent Hamilton Path: Using Artificial Intelligent A* Algorithm and Hamilton Path to Navigate Multiple Destinations

71 - The Development and Preliminary Applications of Semantic Information Knowledge-Base of Mongolian

272 - Chunking in Dependency Model and Spelling Correction in Russian and English

25 - Oil Whirl Fault Detection in Induction Motors using Orbital Analysis and Neural Networks

374 - Delay and Area Efficient Sound Wave Decomposition by Nonuniform Filter Bank for Digital Hearing Aids

409 - An Improved Algorithm Based on ROMP for Compressive Sensing

350 - Ensemble of Trees for Classifying High-Dimensional Imbalanced Genomic Data

Room 15 (1:15 pm – 3:15 pm)
Session 22: Intelligent Systems
Session Chair: John Cavazos

346 - Surrogate Reservoir Model for Average Reservoir Pressure

244 - Performance Evaluation of Relay Deployment in Long-Term Evolution Advanced (LTE-A) Network

28 - Probabilistic Occupancy Level Estimation based on Opportunistic Passive Wi-Fi Localisation

172 - Development a Real-Time ITS using Vanets: A Case Study for Northampton Town

351 - Multi-Objective Firefly Algorithm for Pricing European Options

190 - Intelligent Predictive Maintenance System

318 - Comparative Study of Different Data Mining Techniques in Predicting Forest Fire in Lebanon and Mediterranean

120 - ARTool - Augmented Reality Platform for Machining Setup and Maintenance

22 SEPTEMBER – PAPER PRESENTATIONS

Room 18 (3:30 pm – 5:30 pm) Session 23: Image Processing Session Chair: Haiming Liu	Room 17 (3:30 pm – 5:30 pm) Session 24: Smart Healthcare Session Chair: Violeta Holmes	Room 16 (3:30 pm – 5:30 pm) Session 25: Artificial Intelligence Session Chair: David Mathias	Room 15 (3:30 pm – 5:30 pm) Session 26: Intelligent Systems Session Chair: John Cavazos
281 - Automatic Bharatnatyam Dance Posture Recognition and Expertise Prediction using Depth Cameras	91 - In-Home Assisted Living for Elderly Dementia Care	317 - Neurophenomenology of Social Tension: A Theoretical Framework for Modelling Prospective Scenarios	173 - Brain-Controlled Wheelchair through Discrimination of Two Mental Tasks
286 - Bag of Features Vs Vector of Locally Aggregated Descriptors	107 - Weibo Surveillance of Public Awareness to Ebola Disaster in China	334 - RP-AG-SOM: A Growing Self-Organizing Map with Assymetric Neighborhood Function and Variable Radius	147 - New Strange Chaotic Attractors in Dynamical Systems of Multi-Spin Spacecraft and Gyrostats
311 - Audiovisual Compression Techniques using DCT-DWT and LPC Codec for Audiovisual Human Machines Interfaces	126 - Design, Develop, and Deploy a Wellness Index Dashboard Utilizing Commonly Available Sensors in the form of Wearable Technology to Monitor Heterogeneous Data	394 - A Forecasting Model for Data Center Bandwidth Utilization	254 - A Review of Animal Behavior-Inspired Methods for Intelligent Systems
343 - Image Splicing Detection using Electromagnetism-like based Descriptor	276 - A Reconfigurable Connected Health Platform using ZYNQ System on Chip	239 - Can the intelligence emerge spontaneously in a not biological, artificial world?	357 - 5G as Intelligent System: Model and Regulatory Consequences
156 - Feature Fusion for Facial Landmark Point Location	333 - A Mobile Healthcare Application for Chronic Diseases Patient	181 - On the Possibility to Resolve the Scientific Paradoxes in Artificial Cognitive System	336 - Suitability of IEEE 802.11ac/n/p for Bandwidth Hungry and Infotainment Applications for Cities
301 - Fast Graph-based Object Segmentation for RGB-D Images	354 - Flexure Hinge Based Fully Compliant Prosthetic Finger	408 - A Bibliometric Analysis of Human Action Recognition	232 - Human Emotion Interpreter
263 - Unsupervised Text Binarization in Handwritten Historical Documents Using k-Means Clustering	204 - A Review of Current Technology-Based Intervention for School Aged Children with Autism Spectrum Disorder	151 - Solving MaxSAT by Successive Calls to a SAT Solver	145 - Location-based Content Delivery using iBeacon Technology

FLOOR PLAN

CentrEd at ExCeL - Level 2

Lifts to Reception & Restaurant (Level 0)

Session Room Session Room Main Conference Room Networking Area

23 SEPTEMBER – NETWORKING AND IDEA SHARING LONDON TOUR
(OPTIONAL)

09:45 am – 10:00 am	Pickup (Delegates 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 many more.
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