



13th International Conference on Construction Applications of Virtual Reality
30 Oct - 01 Nov, 2013, Millennium Gloucester Hotel London

DAY 1 - 30 Oct 2013

| | |
|--|---|
| 8:00 - 9:00 | Registration and Welcome Reception, Orchard Pre Function Area |
| Plenary Session 1 (Chair Prof N Dawood), Room: Orchard 1 | |
| 9:00 - 9:05 | Opening, <i>Prof Nashwan Dawood & Dr Mohamad Kassem</i> |
| 9:05 - 9:15 | Welcome by the Deputy Vice-Chancellor, <i>Prof Cliff Hardcastle</i> |
| 9:15 - 9:25 | ConVR history and plans, <i>Prof Nashwan Dawood</i> |
| 9:25 - 10:05 | BIM: UK Government Task Group, <i>Prof David Philp</i> |
| 10:05 - 10:35 | Coffee and Networking Break |
| 10:35 - 11:20 | Current and Future Trends of VR Technologies Applied to Construction: a Technology Prospective, <i>Paul Jonathan Walker(Autodesk)</i> |
| 11:20 - 12:05 | Implementation of BIM in project management, <i>Dr.-Ing. Jan Tulke (HOCHTIEF ViCon)</i> |
| 12:05 - 12:35 | SEMANCO: an open platform to model urban energy systems using semantic technologies, <i>Prof Leandro Madrazo</i> |
| 12:35 - 14:00 | Lunch |
| 14:00 - 14:30 | Touring Sponsors stands |
| Plenary Session 2, Room: Orchard 1 | |
| Part 1 - BIM & VR in Planning, Design and FM (Chair Dr M Kassem), Room: Orchard 1 | |
| 14:30 - 14:45 | Training in Construction using VR simulation <i>David Lyne, Makemedia and ACT-UK Simulation Centre</i> |
| 14:45 - 15:00 | Live mobile panoramic high accuracy Augmented Reality for Engineering and construction <i>Stéphane Côté, Philippe Trudel, Marc-Antoine Desbiens, Mathieu Giguere & Rob Snyder, Bentley Systems</i> |

Sponsors



| | |
|--|--|
| 15:00 - 15:15 | Experiences of implementing BIM in Skanska facility management: an industry paper <i>Medina Jordan & Howard Jeffrey, Skanska</i> |
| 15:15 - 15:30 | Immersive conceptual design in a 3D city model <i>Andreas Lippold, Autodesk</i> |
| 15:30 - 16:00 | Coffee and Networking Break |
| Part 2 - BIM & VR in Planning, Design & Facility Management (Chair Dr T Crosbie), Room: Orchard 1 | |
| 16:00 - 16:15 | Integrated Virtual Reality and Discrete Event simulation methods for production system research in construction <i>Ury Gurevich & Rafael Sacks</i> |
| 16:15 - 16:30 | Improving sophistication and representation of skilled labor schedules on plant shutdown and maintenance projects <i>Ming-Fung Francis Siu, Ming Lu, Simaan Abourizk & Vincent Tidder</i> |
| 16:30 - 16:45 | BIM for facility management: a review and a case study investigating the value and challenges <i>Graham Kelly, Michael Serginson, Steve Lockley, Nashwan Dawood & Mohamad Kassem</i> |
| 16:45 - 17:00 | ecoCampus: a new approach to sustainable design education <i>Steven Ayer, John Messner & Chimay Anumba</i> |
| 17:00 - 17:15 | Offline spatial panoramic video augmentation for visual communication in the AEC industry <i>Stéphane Côté, Julien Barnard, Rob Snyder & Renaud Gervais</i> |
| 17:15 - 17:30 | Built infrastructure point cloud data cleaning: An overview of gap filling algorithms <i>Abbas Rashidi, Ioannis Brilakis & Patricio Vela</i> |
| Dinner at the Millennium Hotel (Conservatory, 19:30 - 23:30) | |

Sponsors



DAY 2 - 31 Oct 2013

Plenary Session 3 (Chair N Dawood), Room: Orchard 1

| | | | |
|--------------------------|--|---|--|
| 9:00 - 9:30 | Delivering London Olympic-Game Capital Project: Lessons Learned, <i>Jeremy Beeton</i> | | |
| 9:30 - 10:00 | BEAMING: Asymmetric Telepresence Systems, <i>Prof Anthony Steed</i> | | |
| 10:00 -10:30 | BIM and Visualisation: a View from USA, <i>Prof Raymond Issa</i> | | |
| 10:30 - 11:00 | Coffee and Networking Break | | |
| Breakout Sessions | | | |
| 11:00 - 12:45 | Session 1 - BIM & VR: Site Applications, Chair: Dr. Ian Flood, (Orchard 1) | Session 2 - BIM & VR in Education, Learning & Collaboration, Chair: Prof. Nuno Cachadinha, (Kensington Suite 1) | Session 3 - Visualisation, Simulation and Sustainability, Chair: Prof. Raymond Issa, (Kensington Suite 2) |
| 11:00 - 11:15 | SAVES: a Safety Training Augmented Virtuality Environment for construction hazard recognition and severity identification <i>Ao Chen, Mani Golparvar-Fard & Brian Kleiner</i> | The Situation Engine: a hyper-immersive platform for construction workplace simulation and learning. <i>Sidney Newton, Russell Lowe, Rosamond Kember, Rui Wang & Stephen Davey</i> | A BIM-assisted rule-based approach for green building design check <i>Yi-Wen Chen & Shang-Hsien Hsieh</i> |
| 11:15 - 11:30 | Passive RFID-based asset tracking and project management on a large hospital project <i>Aaron Costin, Audrey Shaak, Jochen Teizer, George Pfeiffer, Atul Khanzode, Durga Saripally, Osman Chao, Bernd Schoner & Satyan Shah</i> | An evaluation of immersive Virtual Reality systems for design reviews <i>Fadi Castronovo, Dragana Nikolic, Yifan Liu & John Messner</i> | Integrated process mapping for BIM implementation in green building project delivery <i>Wei Wu & Raymond Issa</i> |
| 11:30 - 11:45 | Experimental investigation of using RFID integrated BIM model for safety and facility management <i>Cheng Zhang, Amin Hammad, Jia Chen & Yifan Yang</i> | Virtual Reality for meeting interaction in infrastructure construction projects <i>Janne Porkka, Timo Kuula, Kalle Kähkönen, & Jukka Rannisto</i> | Visual, Approachable and Operational Checker (VAOC): accessibility study for pipeline maintenance <i>Chu-Hsuan Lee, Meng-Han Tsai & Shih-Chung Kang</i> |

Sponsors



| | | | |
|--------------------------------------|--|---|---|
| 11:45 - 12:00 | Real-time tablet-based VR implementation to facilitate TBM steering control in tunnel construction <i>Sheng Mao, Xuesong Shen, Ming Lu & Xiaodong Wu</i> | Image-based localization for an indoor Virtual and Augmented Reality construction training system <i>Ludovico Carozza, Frédéric Bosché & Mohamed Abdel-Wahab</i> | Swap-based process schedule optimization using Discrete-Event Simulation <i>Maximilian Bügler, Gergő Dori & André Borrmann</i> |
| 12:00 - 12:15 | Automated safety-in-design rule checking for capital facility projects <i>Sijie Zhang, Jochen Teizer, Esau Perez & Michael McDonald</i> | An Interactive Data Visualization System for Flood Warnings in Taiwan <i>Er-Xuan Sung, Meng-Han Tsai & Shih-Chung Kang</i> | Visualization of crowd flow in large-scale facility using Agent-Based simulation <i>Kensuke Yasufuku</i> |
| 12:15 - 12:30 | Effective project scheduling under workspace congestion and workflow disturbance factors <i>Vitaly Semenov, Anton Anichkin, Sergey Morozov, Oleg Tarlapan & Vladislav Zolotov</i> | Flood game: an alternative approach for disaster education <i>Ming-Chang Wen, Meng-Han Tsai, Shih-Chung Kang & Yu-Lien Chang</i> | 3D barrier free verification for wheel chair access <i>Yoshihiro Yasumuro, Shizuka Kusakabe, Hiroshige Dan & Masahiko Fuyuki</i> |
| 12:30 - 12:45 | Construction process modeling: a constrained graphics approach versus conventional construction simulation <i>Ian Flood & Valeh Nowrouzian</i> | A BIM and AR based platform for managing non conformances <i>Pedro Berto & Nuno Cachadinha</i> | Cash flow optimization and visualization of residence housing for builders <i>Hong Xian-Li, Hexu Liu, Xiangyu Zhou, Chen Sun, Ka Hou Ngan & Mohamed Al-Hussein</i> |
| 12:45 - 14:00 | Coffee and networking break | | |
| Plenary Session 4 (Orchard 1) | | | |
| 14:00 - 14:30 | BIM Initiative in China, <i>Prof Xiangyu Wang</i> | | |
| Breakout Sessions | | | |
| 14:30 - 16:00 | Session 4 - BIM & VR: Site Applications, Chair: Prof. Shih-Chung Jessy Kang, (Orchards 1) | Session 5 - BIM & GIS: Interoperability & Standards, Chair: Dr. Manu Ramegowda, (Kensington Suite 1) | Session 6 – Visualization, Numerical Analysis & Optimization, Chair: Prof. Koji Makanae, (Kensington Suite 2) |
| 14:30 - 14:45 | Performance study on natural marker detection for Augmented Reality supported facility maintenance <i>Christian Koch, Matthias Neges, Markus</i> | BIM and GIS for low-disturbance construction <i>Rizal Sebastian, Michel Böhms & Pim van Den Helm</i> | Occlusion method based on three-dimensional feature data for mobile Augmented Reality applications <i>Hiroki Ito & Koji Makanae</i> |

Sponsors



| | | | |
|--------------------------|---|--|---|
| | <i>König & Michael Abramovici</i> | | |
| 14:45 - 15:00 | Vision-based field inspection of concrete reinforcing bars <i>Kevin K. Han, Jun Young Gwak, Mani Golparvar-Fard, Kamel S. Said, Geraldine S. Cheok, Marek Franaszek & Robert R. Lipman</i> | The architecture development for the interoperability between BIM and GIS <i>Tae Wook Kang & Chang Hee Hong</i> | 3D-scan planning of outdoor constructions based on photogrammetric model and mathematical optimization <i>Hiroshige Dan, Yoshihiro Yasumuro, Masataka Imura, Taisuke Ishigaki & Tatsuaki Nishigata</i> |
| 15:00 - 15:15 | Adoption of Building Information Modeling: an evaluation through a case study of a regional contractor <i>Kelly Paine & Ramesh Marasini</i> | Checking spatio-semantic consistency of Building Information Models by means of a query language <i>Simon Daum & André Borrmann</i> | Process-oriented numerical simulation of mechanized tunneling using an IFC-based tunnel product model <i>Janosch Stascheit, Christian Koch, Felix Hegemann, Markus König & Günther Meschke</i> |
| 15:15 - 15:30 | Building Information Modelling uses and applications in Pakistan construction industry <i>Kifayat Hussain & Rafiq Choudhry</i> | Mapping between BIM models and 3D GIS City models of different levels of detail <i>Jack C.P. Cheng, Yichuan Deng & Qianru Du</i> | Numerical simulation of wind loads on high rise buildings <i>Vladimir Alekhin, Aleksey Antipin, Sergey Gorodilov & Sergey Khramtsov</i> |
| 15:30 - 15:45 | Towards a systematic production progress assessment based on BIM – prerequisites and functional requirements <i>João Grazina & Nuno Cachadinha</i> | The design space exploration assistance method: constraints and objectives <i>Fabian Ritter, Philipp Geyer & André Borrmann</i> | Ecosystem Information Models: visualizing complex data to support collaborative decision-making <i>Dermott Mcmeel & Robert Amor</i> |
| 15:45 - 16:15 | Coffee and networking break | | |
| Breakout Sessions | | | |
| 16:15 - 17:30 | Session 7 - Visualisation, Simulation & Sustainability, Chair: Dr. Ramesh Marasini, (Orchard 1) | Session 8 - BIM & VR in Education, Learning & Collaboration, Chair: Dr. John Messner, (Kensington Suite 1) | Session 9 - BIM & VR in Planning, Design & Facility Management, Chair: Graham Kelly, (Kensington Suite 2) |
| 16:15 - 16:30 | Automated sustainability compliance checking process: proof of concept <i>Tala Kasim, Hajang Li, Yacine Rezgui & Tom Beach</i> | The information seeking navigation interface with spatial icons for children <i>Ko-Chiu Wu, Yun-Meng Tang, Hung-Chun Chen, Chia-Jung Lin & Yi-Hsian Lee</i> | A Web3D enabled information integration framework for facility management <i>Edvinas Rasys, Michael Hodds, Nashwan Dawood & Mohamad Kassem</i> |

Sponsors



| | | | |
|---------------|--|---|--|
| 15:30 -15:45 | An augmented reality tool for facilitating on-site interpretation of 2D construction drawings <i>Stéphane Côté, Philippe Trudel, Rob Snyder & Renaud Gervais</i> | Assessing the pedagogical value of Augmented Reality-based learning in construction Engineering <i>Arezoo Shirazi & Amir Behzadan</i> | Numerical simulation and visualization of air flow in Ranque-Hilsch vortex tube <i>Anatoliy Khait, Alexander Noskov, Vladimir Alekhin & Aleksey Antipin</i> |
| 15:45 - 17:00 | Integrating simulation and visualization for energy efficiency in a large public mall in the tropics <i>Puteri Shireen Jahnkassim, Yousif Abakr & Ihab Faisal Ibrahim</i> | A distributed virtual reality application framework for collaborative construction planning using BIM server <i>Wei Zhou, David Heesom & Joseph Tah</i> | Practical application of 3D/4D modeling and process simulation in construction <i>Yang Zhang, Mohammed Al-Bataineh, Jesse Kostelyk & Simaan AbouRizk</i> |
| 17:00 - 17:15 | The conception of making decision support system introduction into building structures design practice <i>Vladimir Alekhin & Anna Khanina</i> | Improving the knowledge and management of the historical built environment with BIM and ontologies <i>Danilo Di Mascio, Pieter Pauwels & Ronald De Meyer</i> | Design for safety analysis support system for building designers <i>Imriyas Kamardeen</i> |
| 17:15 - 17:30 | Automation and visualisation of location-based earthwork scheduling <i>Raj Shah, Nashwan Dawood & Serafim Castro</i> | Pilot tests of Augmented Realities in science displays and design presentations <i>Syed Huzaiyah Syed Omar, Puteri Shireen Jahnkassim & Murni Mahmud</i> | Effectiveness of visual features on as-built building indoor environments modeling <i>Zhenhua Zhu</i> |

DAY 3 - 01 Nov 2013

| | |
|---------------|---|
| 08:00 - 13:00 | Meet at <u>hotel reception at 08:00</u> . Visit to Olympic park from 09:00 onwards - included in the conference fee and available for delegates who pre-booked it |
| 19:30 - 23:00 | Boat trip including dinner – not included in the conference fee and available for delegates who registered only |

Sponsors

