

This workshop aims to start a virtuous circle of practitioner engagement, research informed decision making based on a large automated data set, applying the Internet of Things (IOT), Crowd Sourced, Open and Big Data with analytics and visualisation to this field of Heritage and its sustainability, informing key decision makers and the public.

Beyond the workshop the project will establish a longer term sustainable built heritage research cooperation, commencing with the Egyptian and UK attendees. This will establish a platform for interdisciplinary research (IOT, Remote Sensed, Big Data, Analytics, heritage, local economy, & social & local well-being of communities). Portal Users will be invited to meet, present, and share learning at least annually in the International Conference series on Visualisation in Built and Rural Environments.

Wednesday 22nd Feb. 2017

Arrival at Ahti Hotel Luxor and Settling in

Thursday 23rd Feb. 2017

07:00 - 08:00	Breakfast	
09:00	Registration	
10:00	Opening & Welcome Subject Liaison Committee chairs: Prof. Ebad Banissi- Head of Big Data & informatics research Group, London South Bank University, United Kingdom Mr. John Counsell, Cardiff Metropolitan University, United Kingdom Dr. Gehan Nagy, Architectural Engineering, The British University in Egypt, Egypt	Ahti Resort, Luxor, Egypt
	Session SBH2017_1.1: Sustaining Occupied Built Heritage - The trends and challenges of Sustaining Occupied Built Heritage, - Speed-dating event to break the ice between participants - Form small groups (mixed UK/Egypt) for the following breakout sessions - Breakout session & report back on differences between Egyptian and UK experience approaches Session Chair: John Counsell <i>20 minutes briefing and putting into groups, 30 minutes breakout discussion over coffee,</i>	Trigger Presentation 1.1.1 Ebad Banissi Heritage Assessment Model
	Coffee Break	
	<i>15 minutes group feedback after coffee</i>	
	Session SBH2017_1.2: Sustaining Occupied Built Heritage – Energy / Resource challenges	1.2.1. Eng. Maryam El Sharkawy Design optimization of hospital patient’s room light redirecting-system for visual comfort under

	<p>- Keynote – Renewable Energy, Resources, and challenges</p> <p>Session Chair: Prof. Yehia Bahei El Din <i>12 minutes per presentation</i></p>	<p>desert clear skies</p> <p>1.2.2. Dr. Tim Taylor Preservation of cultural heritage: the design of low-energy archival storage</p>
	<p>Session SBH2017_1.3: Cultural Heritage Preservation in Egypt</p> <p>- The multi-layered palimpsest of built cultural heritage in Egypt, the complexity of cultural heritage preservation in Egypt, threats to this heritage, and the status of current preservation efforts. The Urban Regeneration Project for Historic Cairo progress and challenges. Other enhancement and refurbishment schemes e.g. pedestrianisation and their outcomes.</p> <p>Session Chair: Prof. Soheir Hawas <i>12 minutes per presentation, - Breakout session & report back on differences between Egyptian and UK experience approaches over lunch break</i></p>	<p>1.3 0 Prof. Soheir Hawas Title to be confirmed</p> <p>1.3.1. Eng. Marianne Nabil/ Prof. Khaled Dewidar Visual Analysis of the Architecture of the Coptic Church; A Case Study of the Church of Saint Mercurius (Abu Sayfayn) in Old Cairo.</p> <p>1.3.2. Dr. Madga Sibley “Belle Epoque Cairo Museum Itineraries”: Engaging Students with a Forgotten Heritage</p> <p>1.3.3. Prof. Lobna El Sherif Place Making and Cultural Identity in Cairo</p> <p>1.3.4. Eng. Rasha Said/ Prof. Khaled Mythical aspects Interpretation of the Ptolemaic architecture, The Temple of Horus at Edfu</p> <p>1.3.5. Eng. Samar Awad Well-being, Economic Sustainability</p>
13:30	Lunch Break	BREAKOUT SESSION over lunch
	<i>15 minutes group feedback after lunch</i>	
	<p>Session SBH2017_1.4: Sustaining Occupied Built Heritage – Open Data and Crowd-Sourced Datasets</p> <p>- Available open data and crowd-sourced datasets (e.g. open street map) and its potential to leverage other datasets. Experience and potential of 3D open street map data (Heidelberg repository). Potential for analysis of renewable energy (as Google US trial project sunroof, a potential 'treasure map' of rooftop solar power potential).</p> <p>Session Chair: Prof. Ebad Banissi <i>12 minutes per presentation,</i></p>	<p>1.4.1. Mr. John Counsell Linkable open source heritage data and crowd-sourced datasets – some evidence to date</p>
	Coffee Break	
	<p>Session SBH2017_1.5: Sustaining Occupied Built Heritage _ Data Capture</p> <p>- Available and imminent Remote Sensed (e.g. Copernicus Sentinel Satellite) Datasets and information that can be processed from these, e.g. Climate Change impacts, and Building Heights via InSAR. Processing challenges. Open source open standard solutions.</p> <p>Session Chair: Dr. Gehan Nagy</p>	<p>Trigger Presentation</p> <p>1.5.1. Dr. Ahmed Baik Data acquisition in Heritage BIM</p> <p>1.5.2. Dr. Mohamed Marzouk Documenting Egyptian Heritage using Laser Scanning</p> <p>1.5.3. Germin El Gohary Laser Power in Heritage Revival</p> <p>1.5.4. Eng. Deena El Mahdy</p>

	<i>12 minutes per presentation, plus 30 minutes Breakout Session and discussion, followed by 15 minutes feedback by group leaders</i>	Digital documentation as an interactive tool in the arab world's heritage 1.5.5. Eng. Mohamed Refaat Ali Framework for HBIM Applications in Egyptian Heritage
18:00	Dinner	
19:15	Session SBH2017_1.5: Sustaining Occupied Built Heritage _ Data Capture continued <i>15 minutes group feedback = 1.75 hours</i>	1.5.6. Dr. John Hoath 3D imagery and its potential application for smart phone technology
20:00	Night Activity	

Friday 24th Feb. 2017

07:00 -	Breakfast	
08:00	Registration	
09:00	Session SBH2017_2.1: Sustaining Occupied Built Heritage - Conservation measures. Session Chair: Prof. Khaled Dewidar <i>12 minutes per presentation</i>	2.1.1. Dr. Paul Coates Using Choosing by Advantages to make more sustainable building product selections related to Conservation and Climate Change 2.1.2 Dr. Sura Al-Maiyah Heritage D-Light: Sustaining Local Identities with Daylight
	Session SBH2017_2.2: Sustaining Occupied Built Heritage – The Internet of Things - The Internet of Things / Internet of Sensors and its implications for data collection. Reducing cost of sensors and data capture devices, emerging standards, security and privacy risks. Session Chair: Prof. Ebad Banissi <i>12 minutes per presentation, plus 30 minutes Break out and discussion, 15 minutes group feedback</i>	2.2.1. Dr. Yasmine Sabry Transforming Heritage Districts to Smart Destinations via Internet of Things Concept 2.2.2. Eng. Ammar Al Zaatreh UK HBIM – Data Capture for Thermal Performance and Retrofitting Efficacy Studies
	Coffee Break	
	Session SBH2017_2.3: Sustaining Occupied Built Heritage - Sustainable Retrofit and Refurbishment Methodology - Sustainable retrofit and refurbishment approaches. UK Heritage Energy Efficiency analysis and its applicability to Egypt – (e.g. Carbon Action 2050, Heritage Energy Efficiency Tool (HEET), Energy Efficiency in Historic Buildings and Green Heritage Project) Session Chair: Prof. Lobna El Sherif <i>12 minutes per presentation, plus Breakout and discussion, followed by 15 minutes group feedback</i>	trigger presentation 2.3.1. Dr. Walaa Salah Life cycle approach for Green Heritage assessment and benchmarking 2.3.2. Dr. Christopher Whitman Low Energy Retrofit of Historic Timber Framed Buildings in the UK 2.3.3. Dr. Hany Omar Towards an automated approach for progress monitoring
13:30	Lunch break	

	Professor Ahmed Hamad's welcoming and opening word	
	<p>Session SBH2017_2.4: Sustaining Occupied Built Heritage – Big Data challenges</p> <p>- Built Heritage Big Data challenges – Lidar & 3D scan Point Clouds / Photogrammetry and Digital Video / Survey Data with Semantic Attributes - increasing amounts of digitized material; differing policies, procedures and guidelines for digitization reusability & archival storage & IPR with limited ICT expertise; lack of open standards, interoperability or citizen engagement; high costs due to lack of automation; issues of contextualization; need for an open science infrastructure and federated access. A look at recent case studies.</p> <p>Session Chair: Prof. Ahmed Hamad</p> <p><i>12 minutes per presentation, plus 30 minutes Breakout and discussion, plus 15 minute group feedback</i></p>	<p>Trigger Presentation looking at recent case studies</p> <p>2.4.1. Dr. Mahmoud Abdelrahman Big Data Analytics by Using Knowledge Management Systems to Support Knowledge Sharing and Decision Making Processes in Multinational Corporations</p> <p>2.4.2. Dr. Yusuf Arayici An IDM based Interoperability Specification for Cross-organisational Business Processes in Building Design</p> <p>2.4.3. Dr. Ehab Kandil Virtual Reality Conserving the Image of the City</p> <p>2.4.4. Dr. Suha Jaradat Understanding BIM through a professionalism lens</p>
	Coffee Break	
	Site Visits to: the World Heritage Sites of Historic Luxor	
19:00	Dinner	

Saturday 25th Feb. 2017

07:00	Breakfast	
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08:00		
08:00	Registration	
09:00	Site Visits to: the World Heritage Sites of Historic Luxor	
	Coffee break	
	<p>Session SBH2017_3.1: Sustaining Occupied Built Heritage - Wellbeing, Economic sustainability</p> <p>- Indicators of Occupant Wellbeing, economic sustainability, fuel poverty and deprivation in the UK and Egypt. UK granularity down to lower layer super output areas, applicable in GIS. Egyptian research in similarly applying spatial analysis to Egyptian population census combined with Household Income Expenditure Consumption Survey data. Challenges in identifying a living wage threshold. GIS for analysing access to resources and transport.</p> <p>Session Chair: Prof. Hisham El Kadi</p> <p><i>12 minutes per presentation,</i></p>	<p>trigger presentation</p> <p>3.1.1. Dr. Ahmed Rashed Green Heritage “Chance- Change- Challenge”</p> <p>3.1.2. Dr. Ayman Othman/ Eng. Heba El Saay Public private partnership: a novel approach for developing sustainable heritage communities in developing countries</p> <p>3.1.3. Dr. Gehan Nagy/ Eng. Esraa Abdelhady Post Occupancy Evaluation for Heritage Buildings</p> <p>3.1.4. Dr. Rodrigo Tavares Safety, Comfort and Sustainability within Historic Buildings: “Quo Vadimus?”</p> <p>3.1.45. Dr. Emad Al Far GIS-based Pavement Maintenance Model</p>

	<p>Session SBH2017_3.2: Sustaining Occupied Built Heritage _ Prediction</p> <p>- The predicted impacts of Climate Change, in addition to manmade (e.g. fire, pollution, waste etc.) and natural disasters (e.g. earthquakes and rockslides). Analysis of the situation in Cairo in particular and Egypt in general.</p> <p>Session Chair: Dr. Gehan Nagy</p> <p><i>12 minutes per presentation, plus 30 minutes break out and discussion over lunch, plus 15 minutes group feedback,</i></p>	<p>trigger presentation</p> <p>3.2.1. Dr. Noha Saleeb Predictive Practices for Heritage Asset Conservation between Virtual and Physical</p>
13:30	Lunch Break	
	Feedback from group discussion over lunch	
	<p>Session SBH2017_3.3: Sustaining Occupied Built Heritage – Data Collection Portal</p> <p>Filling in gaps in data, crowd sourcing, and information collection via data collection portal. Other resources, e.g. advertisements for property rentals input into analysis of affordability and income, and value for landlords and management to justify refurbishment, adaptation and mitigation.</p> <p>Session Chair: John Counsell</p> <p><i>12 minutes per presentation, plus 30 minutes discussion, plus 15 minutes group feedback session.</i></p>	<p>trigger presentation</p> <p>3.1.1. Dr. Mahtab Akhavan Farshchi The future of built environment professionals in the age of Digital technology</p>
	<p>Session SBH2017_3.4: Sustaining Occupied Built Heritage – Collaboration</p> <p>- Next steps and commitments</p> <p>Focused upon:</p> <ol style="list-style-type: none"> 1. Application of IOT applications to Occupied Built Heritage and Sustainability 2. Development of data collection portal for general & specific sites for input by public, experts and other stake holders 3. Plans to use OPEN DATA and Big Data tools to analyse factors affecting the sustainability of the Heritage sites – A new opening for multidisciplinary collaboration <p>- Close.</p> <p>Session Chair: Professor Ebad Banissi</p>	<p>trigger presentation</p>
19:00	Dinner	
20:00 - 22:00	Workshop Concluding Celebration and Certificate Distribution	

Sunday 26th Feb. 2017

Check-out and departure from Luxor

The work shop will produce proceedings of the presentations and examples of case studies and the visions and challenges of achieving these. It will build a research network for realising these and will forge new collaborative engagements as well as strengthen the existing ones. The emphasis will be on:

- **Encourage early career researchers**
- **Increase critical mass in research**
- **Encourage interdisciplinary research**
- **Transfer Knowledge in Sustaining Heritage adoption and implementation between the UK and Egypt**
- **Consolidate mutually beneficial research and scholarly collaboration. It is anticipated to deliver a high profile joint publication between participants at various stages of their research careers**
- **Initiate a treasure map of potential in Egypt to meet the challenges of responsible Heritage retrofit including renewable energy**
- **Researchers in the two countries will explore a special issue in one of the key research areas, such as Poverty Renewable Energy and Heritage, Big Data and Sustainable Heritage, IOT application in Sustaining Heritage, Crowd Sourcing, and Sustainable Heritage awareness.**
- **Heritage Education, explore a joint research application in the area of heritage education.**

It is expected that the workshops will strengthen the bond, and future collaboration between the two countries.