The Quest for Socio-Cultural Sustainability

Implications for Research and Education

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Sustainable Design of the Built Environment: Research in Practice

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Proceedings

Editors

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SDBE Sustainable Development of the Built Environment | UEL University of East London | Ain Shams University | University of Strathclyde Glasgow

Foreword

The International Conference for Sustainable Design of the Built Environment SDBE 2018 forms one of the key deliverables of the British Council Newton Institutional Links Fund project: Building Capacity for Sustainable Development of the Built Environment (BC-SDBE) launched in April 2016. The aim of the BC-SDBE institutional link project is to bridge the gap between the rapidly developing advancements in research and training in sustainable development of the built environment globally, and the demanding professional development required in the construction labour market. The main objective of BC-SDBE project is to build capacity in education, research, innovation, and exploitation of state-of-the art sustainable development strategies to help promote and sustain socio-economic growth in Egypt.

Following the great success of SDBE 2017 conference where 112 papers were published in the proceedings, SDBE 2018 conference offers yet, another unique opportunity for academics, researchers, architects, urban designers, engineers, and professionals to meet and share the latest knowledge, research and innovations on low carbon building design, building performance, simulation tools and energy efficient building-related technologies. The conference theme is 'Research in Practice' where the focus is on showcasing sustainable design, building energy performance, sustainable planning of neighbourhoods and cities, emphasising a balanced approach to environmental, socio-economic and technical aspects of sustainability in practice based on research.

The book of abstracts includes all 110 accepted papers under 12 themes clustered into 6 thematic groupings. The full conference proceedings are available to download at http://newton-sdbe.uk/conferences/sdbe-2018/

On behalf of the SDBE 2018 Organising Committee, I hope the research papers hereby presented help stimulate further ideas for research in the near future.

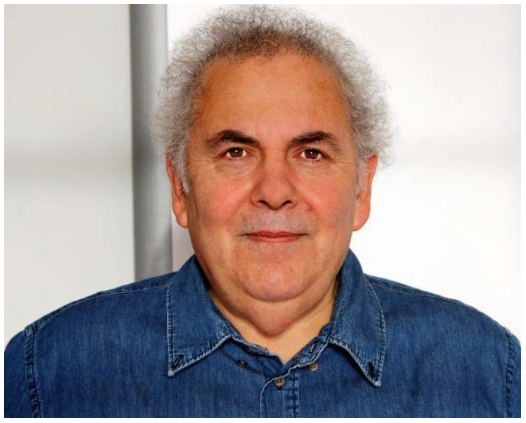
Yours sincerely,

Heba Elsharkawy

BC-SDBE Principal Investigator

Keynote Speakers

Philip Jones, Professor, Welsh School of Architecture, Cardiff University



Phil Jones is Professor of Architectural Science at the Welsh School of Architecture, Cardiff University, where he currently co-directs the University's Energy Systems Research Institute. His research area is in low energy, low carbon, and sustainable design in the built environment. He currently directs the Low Carbon Built Environment Project, including ten demonstrations of energy positive buildings and low carbon retrofits. He chairs the Welsh Government's Building Regulation Advisory Committee. He chairs the Board of Directors of Warm Wales, a community interest company which helps to mitigate fuel poverty in Wales. He has chaired two European COST Action networks, *Low Carbon Urban Built Environments* (2005-2009), and *Smart Energy Regions* (2012-2016). He is *Master Academic Adviser* on Tianjin University's Low Carbon Buildings '111' project (2014-2018). From 2015 to 2017 he was Distinguished Visiting Research Professor at University of Hong Kong and continues to collaborate with their Sustainable High-Density Cities Laboratory.

Ashraf Salama, Professor, Head of Department of Architecture, University of Strathclyde

Ashraf M. Salama is Chair in Architecture and Head of the Department of Architecture at the University of Strathclyde Glasgow, UK. He has led three schools of architecture over the past 25 years in Egypt, Qatar, and the United Kingdom. He is a licensed architect in Egypt and was the Director of Research and Consulting at Adams Group Architects, Charlotte, North Carolina. Prof. Salama is the Chief Editor of ArchNet-IJAR, collaborating editor of Open House International, and editorial board member for numerous international journals. He also serves on the scientific and review boards of several international organizations in North America, Europe, and South East Asia. Professor Salama is the recipient of the 2017 UIA Jean Tschumi Prize for Excellence in the Architectural Education and Criticism. Professor Salama has published 9 books and over 170 articles and book chapters. His research interests and involve theories and methodologies of design studio teaching in architecture and urbanism; learning environments and workplaces; users-centred assessment of designed environments; adaptive urbanism and the spatial practice of migrant communities; liveability and diversity in rapidly growing contexts. He established and is currently leading the efforts CRAUCGS-Cluster for Research on Architecture and Urbanism of Cities in the Global South.

Patrik Schumacher, Director, Zaha Hadid Architects

Patrik Schumacher is principal of Zaha Hadid Architects and is leading the firm since Zaha Hadid's passing in March 2016. He joined Zaha Hadid in 1988 and was seminal in developing Zaha Hadid Architects to become a 400 strong global architecture and design brand. He has been a partner since 2003 and a co-author on all projects. In 2010 Patrik Schumacher won the Royal Institute of British Architects' Stirling Prize for excellence in architecture together with Zaha Hadid, for MAXXI, the National Italian Museum for Art and Architecture of the 21st century in Rome. He is an academician of the Berlin Academy of Arts. In 1996 he founded the Design Research Laboratory at the Architectural Association in London where he continues to teach. Patrik Schumacher is lecturing worldwide and is currently a guest professor at Harvard's GSD. Over the last 20 years he has contributed over 100 articles to architectural journals and anthologies. In 2008 he coined the phrase Parametricism and has since published a series of manifestos promoting Parametricism as the new epochal style for the 21st century. In 2010/2012 he published his two-volume theoretical opus magnum "The Autopoiesis of Architecture". Patrik Schumacher is widely recognized as one of the most prominent thought leaders within the fields of architecture, urbanism and design.

Sean Smith, Professor, Director of the Institute for Sustainable Construction, Edinburgh Napier University

Sean leads the Institute for Sustainable Construction, the CIAT Centre of Excellence in Architectural Technology and is Professor of Construction Innovation at Edinburgh Napier University. He has been an invited guest scientist in government construction research institutes in Canada, Italy and Germany. In 2009 and 2015 his research teams were awarded the Queen's Anniversary Prize for the positive impact of their work for industry, environment and society for the 'development of Robust Details' and 'Timber engineering and sustainable construction'. Over 1 million new homes across the UK have used his technical designs. He has supported over 80 low carbon innovative construction products to market, co-inventor of 17 patented products and led the formation of the Construction Scotland Innovation Centre. He currently chairs the Scottish Government working group for new housing construction skills.

Mina Hasman, Associate Director – Skidmore Owings & Merrill LLP (SOM)

Mina Hasman leads Skidmore Owings and Merrill's sustainability and wellness operations and long-term vision, for the London office. She challenges existing best-practices by developing new systematic and design-based approaches applied and tested in complex, international projects.
Mina embraces multi-disciplinary research and collaboration with others to deliver sustainable design solutions that yield long-term environmental, societal and cost benefits.

Mark Jenkinson, Head of AMO Cities & City Director London
Siemens Global Center of Competence Cities, Sustainability and Cities.

Based out of Siemens' Global Centre of Competence for Cities at one of the world's most sustainable buildings, the Crystal in the east of London, Mark oversees Siemens' account management approach to cities world-wide.
In March 2013, Mark also took on the role of City Director for London – a key focus of the role is to support London's sustainable development through the provision of smart, efficient technological solutions and services for building, energy and transport infrastructure.
Mark joined Siemens in 1993 and since then has taken on a variety of roles and responsibilities across Siemens in a wide range of industries and markets in the UK, across mainland Europe, the Middle East and Asia.
Mark has participates in a number of committees including the Royal Docks Advisory Board and sits on UEL Industry Advisory Board for Civil Engineering.

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