INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session: Design4Energy

Name, Title and Affiliation of Chair: **Dr Yusuf Arayici,**
Reader in Construction Informatics,
School of the Built Environment,
Salford University

Details of Session (including aim and scope):

The purpose of this special session is to bring together the research and developments in Building Information Modelling for energy efficient building design to reflect the state-of-the art in neighbourhood, building design and optimisation, retrofit planning and simulation for support and facilitate the transition to energy efficient and low carbon economy and society. The special session invites papers on implementation and use of ICTs such as BIM and GIS (Geospatial Information Science) that can support stakeholders to both design and construct energy efficient buildings to minimising energy waste and contributing to a sustainable energy infrastructure at both building and neighbourhood levels.

The special session will address a range of challenges such as

- Considering neighbourhood level issues in building design as a way forward to micro grid modelling using GIS and/or BIM
- the automatic generation of building information that can be used as the basis for enhancing energy efficiency in buildings,
- a collaborative design environment to optimise energy efficiency with support from multi-disciplinary experts and simulations,
- Interoperability solutions for integrated supply chain for energy efficient building design and retrofit
- BIM based decision support systems for energy efficiency in building design and building planning
- Development of Building Component libraries/databases of BIM for energy efficiency in design.
- Effective considerations of operation and maintenance issues in early building design
- creation of an innovative user-led (not supplier led) smart metering system to support effective management of high quality living standards with reduced energy demands and CO2 emissions,
- Implementation of an energy efficiency simulation environment that takes behaviour of building users into consideration.

Special session invites papers from academia and industry. The special session aims to publish highly innovative ICT systems that offer a range of virtual spaces for energy-efficient design, decision support and energy performance control and optimisation by monitoring, assessing and encouraging changes in user behaviour.

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

- Think Lab Research Centre in SOBE
- EU funded Design4Energy project partner organisations

Website URL of Call for Papers (if any):

Email & Contact Details:

Dr Yusuf Arayici
Reader in Construction Informatics
School of the Built Environment
Salford University
y.arayici@salford.ac.uk