

2019 Researcher Links Workshop on Investigation of the Impact of Occupant Behaviour on Building Performance in the UK and China

In order to tackle the climate change challenge and to meet worldwide goals of energy reduction in buildings, the understanding of how buildings are used, the dynamic nature of occupants' behaviour and innovation in construction is essential. In this context, the '2019 Researcher Links Workshop on Investigation of the Impact of Occupant Behaviour on Building Performance in the UK and China' was held in Coventry in the UK from 3rd to 5th June 2019.



The workshop was hosted by Professor Shuli Liu from Coventry University and by Dr Da Yan of Tsinghua University, and was funded by the British Council Newton Fund and NSFC (National Natural Science Foundation of China). 50 early-career researchers and 7 established researchers convened in Coventry sharing their experiences and complementary technologies such as occupant behaviour models, building performance simulations and computational techniques for buildings. Topics such as 'Building Performance Simulation', 'Building Energy Systems', 'Occupant Behaviour' and 'Occupant's Health and Indoor Environment' were discussed, sparking collaborations between the researchers.

The workshop witnessed seven plenary talks from senior researchers, 40 oral presentations from early-career researchers, as well as brainstorming and discussion over research gaps. Dr David Pilsbury (Deputy Vice-Chancellor, Coventry University) and Professor Kai Peters (Pro-Vice-Chancellor, Coventry University) delivered welcome speech and Professor Saffa Riffat, Fellow of the European Academy of Science from the University of Nottingham, delivered the opening plenary talk in 'Low Carbon Technology in the Built Environment'.



Professor Fergus Nicol, Dr Lori McElroy and Professor Tim Wentz shared their comprehensive research in occupant behaviour, thermal comfort, and indoor environment to pursue optimal building energy efficiency. To better understand building performance in cities, Dr Don Mclean, founder of the Integrated Environment Solutions (IES) presented a perspective in creating digital twins for cities for the 21st century. With the focus on building technologies, Professor Angui Li, from Xi'an University of Architecture and Technology, China, gave a talk in attachment ventilation and its application in buildings. Last but not least, Dr Stephanie Renforth, from the British Council, highlighted the strategic funding opportunities and collaboration perspectives between the UK and China.



The workshop has also provided cooperation platform for all the delegates to establish research links for UK-UK, China-China and UK-China collaboration. After the final discussions, goals and directions for future cooperation were determined including literature of building energy consumption, combined system (Heat Pump + solar system + Energy storage), building envelope (TSC +PCM/ PVT), ventilation/cooling system, and operation system.

Potential funding opportunities were highlighted during the group discussion session with funding proposals and potential application collaborations summarised by the delegates including funding application for EPSRC, Newton Fund (institute links and workshops), GCRF, ESRC, Network plus and Open reach area, EU Horizontal 2020 and Innovate UK.

Pathways have been created and impacts will be seen in the long term. A dedicated blog has been developed on Research Gate and Wechat by the workshop delegates. Professor Shuli Liu from the UK and Dr Da Yan from China are leading the blog. It is available for all the delegates to facilitate dialogue, share their research and access relevant networking calls. The blog can also be shared within the delegates' research groups leading to new collaborations.