

## **SESSION 9**

**1, Title— Urban-scale building energy and carbon evaluation to achieve sustainable future**

**2, Organizers--**For each organizer, provide affiliation, address, phone, email, and URL. Indicate the main contact person who can reply the questions about this workshop.

Chair: Wei Wang (Southeast University, China), [weiwang@seu.edu.cn](mailto:weiwang@seu.edu.cn) (main contact)

Co-chairs: Zhixing Luo (Xi'an University of Architecture and Technology, China)

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**3, Abstract--** ( 100-200 words ) : The transition towards sustainable urban environments requires comprehensive strategies for assessing and reducing building energy consumption and carbon emissions at the urban scale. This section of the conference focuses on innovative methodologies and models for urban-scale building energy and carbon evaluation. We explore urban-scale simulation techniques to predict energy use and carbon footprints, with an emphasis on rapid, high-resolution models capable of informing decision-making processes. Topics will address the integration of energy and carbon data across various building and urban scales, exploring how energy flows and emissions are interconnected between individual buildings, districts, and entire cities. Additionally, we will delve into multi-scale building carbon emission evaluation methods and strategies for achieving synergy between energy and carbon reduction efforts at these different scales. By highlighting cutting-edge research and practical solutions, this section aims to contribute to the realization of a sustainable future through optimized building performance and urban planning.

### **4, Topics:**

Topic 1: Urban-scale simulation method

Topic 2: Fast urban energy/carbon model and tools

Topic 3: Energy/carbon linkage between different urban-building scales

Topic 4: Multi-scale building carbon emission evaluation

Topic 5: Synergy to Energy and Carbon in different scales