



INVITED SESSION SUMMARY

Title of Session:

Urban form and microclimate: energy efficiency of the compact city

Name, Title and Affiliation of Chair:

Dr Michele Morganti, PhD, Research Fellow at Sapienza University of Rome (Italy), SOS Urban Lab, DICEA Department

Details of Session (including aim and scope):

The intended session will explore the interactions between urban form and microclimate in the compact city, in order to embed the energy performance of the **urban fabric** in the **design process**. **Studies are expected to address the influence of building and urban form on such performance and to propose cross-scale methods, design criteria and solutions fostering the energy efficiency of the compact city.**

As a reaction to the demanding need for reducing the environmental impact of human settlements, in recent years research efforts have focused on energy performance and urban microclimate. One of the most significant part of this body of research introduces cross-scale studies aiming at comprehending the most important urban and building **factors** that determine such performance.

Moreover, researchers appear to agree on the sustainability of the European city due to microclimate conditions and urban form (settings, geometry, building type, construction, density, etc.). Microclimate determines a complex balance between solar gain, mutual shading and natural ventilation, while urban form characterises the historical compact city model.

Despite recent developments in the field, a wider application of this knowledge in the design practice still lacks. In light of this, the session explores key factors on the mutual dependence between urban form and microclimate in the compact city, in order to promote energy-sensitive perspective in the urban renovation process.

Possible Topics

The session will invite submissions that present original research and review papers that focus on one or more of the following themes with a cross-scale/urban scale approach:

- Building-urban environment mutual dependence and interaction
- Urban building energy modelling
- Solar energy and daylighting for the urban environment
- Urban heat island and outdoor thermal comfort
- Urban renovation design strategies: methods, tools, criteria and case studies
- Urban systems analysis and simulation.

Dates and Deadlines

Submission of Papers for Review (complete papers, not abstracts): **19th March 2019**

Notification of Acceptance: 5th April 2019

Upload of Final Camera-Ready Publication Files & Final Conference Registration: 17th May 2019

Website URL of Call for Papers (if any):**Email & Contact Details:**

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