

International Conference on Sustainability in Energy and Buildings

Invited Sessions

Title of Session:

Measuring and mitigating the Urban Heat Island effect

Name of Chair:

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Description:

The intensive urbanization observed in the last decades has produced several environmental issues, and in particular the well-known Urban Heat Island phenomenon (UHI). Urban Heat Islands must be regarded as a negative factor for thermal comfort and air pollution in outdoor urban spaces. The intensity of this effect depends, with variable strength, on the changes in radiative and thermal properties of urban infrastructures if compared to the natural environment; however, the activities carried out in the urban context have also impact on the local micro-climate. Furthermore, the UHI effect is influenced by the geographic location and by the local weather patterns, and its intensity changes on a daily and seasonal basis.

In this context, modelling techniques have become a powerful tool to investigate the thermal environment within a city, hence to help decision makers to define mitigation strategies. This special session aims to collect scientific contributions that investigate the effective strategies to reduce the UHI phenomena, both at a buildings scale and at an urban scale, such as green roofs, cool roofs, cool pavements, green areas.

In this session, papers addressing the following topics are welcome:

Urbanization

Air and surface temperature

Cool materials

Remote sensing

Mitigation/adaptation plans

Urban Air quality

Pedestrian comfort

Urban health

Climate change

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