

**Mitigation of Urban Heat Island:
the synergic effect of green solutions
on outdoor microclimate and human comfort**

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The Urban Heat Island (UHI) is a phenomenon affecting contemporary cities, characterized by dense urbanization and high percentage of building materials. Its primary effect is the rise of temperature within the urban environment, which has negative consequences at several levels. Energetically, it imports the increase of consumptions and additional costs for cooling; for citizens the repercussions are at comfort level, as well as, for the human health and the psychological wellbeing. High temperatures reduce thermal comfort, cause cardiovascular and respiratory diseases, and increase psychological distress. Increasing the green spaces contrasts the UHI since the vegetation favors the decrease of temperature. Moreover, plants and other green materials has direct positive effect on the environment and people: they reduce the CO₂, improve the environmental comfort, induce positive behaviors such as walking, sports and socialization, and reduce the incidence of some diseases. These effects depend on the typology of vegetation used in the urban environment. This Special Session is addressed to studies on the synergic impact of several typologies of green solutions on multiple aspects: urban microclimate, human comfort, health and psychological wellbeing. The studies could regard environmental measurements, human surveys and simulations in the urban context.

