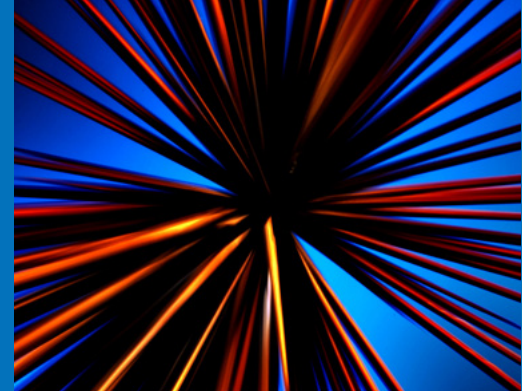# MARC Research Profile
Climate Science in Urban Design: A Historical and Comparative Study of Applied Urban Climatology

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Climate Science and Urban Design is a historical and comparative study of applied urban climatology. The time frame is from 1950 to the present. The comparative framework includes the seminal work of German and Japanese urban climatologists, as well as the more recent climate policy initiatives of New York City and the City of Manchester.

Our focus is on the small-scale climatic impacts of a city's physical form and functions. The design of buildings and spaces directly affects urban temperature, wind, rain and air quality - which in turn influence human comfort and health. These relations are systematically studied by urban climatologists, whose discipline has immediate relevance for urban design.

The connections between design and microclimate were historically recognised in Chinese feng shue and the European tradition of Vitruvian design. However, contemporary urbanism has paid comparatively little attention to these factors, despite the efforts of climatologists to establish the relevance of their discipline for physical planning - for example through technical publications of the World Meteorological Organisation.

The first aim of the research is to examine the interaction between climatology and urban design since 1950, and explain its limitations The second aim is to examine the role of urban climate knowledge in contemporary urban design. As cities try to reduce their carbon burden and adapt to new weather risks, are they becoming better informed about their own heat islands? Do they procure reliable climate knowledge? Are they able to translate such knowledge into city plans and urban design?

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