

**Local Urban Climate Modelling Within the Built Environment: An Improved  
Parametrization  
Faculty of Science and Technology, Universiti Kebangsaan Malaysia  
23<sup>rd</sup> March 2016**

On 23<sup>rd</sup> March 2016, a talk on **Local Urban Climate Modelling within the Built Environment: An Improved Parametrization** was held in the Faculty of Science and Technology, Universiti Kebangsaan Malaysia, by Dr Yasemin Didem Aktas from the University College London, Environmental and Geomatic Engineering.

Urban climate is a set of climatic conditions that distinguished from the less built-up area. It is the effect of urban development and land-use change where urban morphology made of heat absorbing building material and smaller green and open areas dominated the urban territory. This results in entrapment of short-wave radiation within narrow streets and restricted wind flows which generates an urban area that is significantly warmer than its surrounding counterparts of which known as urban heat island (UHI) phenomena. As half of the world population is now living in urban areas, there is increasing awareness on how local climate should inform urban design decision.

Urban climate modelling and simulation is viewed as the most useful tools that enable improved understanding of interacting component of earth system jointly with human activities. This talk discussed the potential of land-use and anthropogenic features to be included in a local climate model specifically, Atmospheric Dispersion Modelling System (ADMS) Temperature and Humidity to assess the impact of urban design on local temperatures and urban heat island (UHI) of Olympic Park, London, United Kingdom. Three key parametrizations used in the models were meteorological input, urban morphology and material capacity to absorb and store heat and reflectivity. Although the design and results are indicative, this type of tools illustrate an integrated design approach that can offer benefits to designers and policy makes to preparing a mitigation in those area that will be affected by UHI or experience climate change temperature.

Dr Aktas also discussed the importance of similar studies in Asian cities as most of cities in Asia are located in the equator where the wind speed are generally low and steadily decreasing as urban areas extends, making cities in this region more susceptible to UHI and other urban crisis. Kuala Lumpur has been suggested for future work on building resilience for urban communities under climate induced physical hazards. This initiatives aims to link and provide a platform for researchers and practitioners working on physical hazards in Southeast Asia with specific emphasis on Malaysia with the counterparts UK partners.