THE HONG KONG POLYTECHNIC UNIVERSITY
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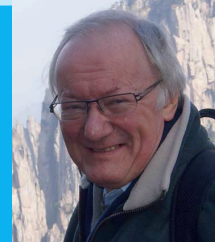DEPARTMENT OF LAND SURVEYING AND GEO-INFORMATICS
土地測量及地理資訊學系

LSGI Distinguished Lecture Series

Big Data and The City: Redefining Big, Recasting Small

Prof. Michael Batty
Bartlett Professor of Planning
Centre for Advanced Spatial Analysis (CASA)
University College London (UCL), UK

Date : 21 April 2016 (Thursday)
Time : 5:00 pm
Venue : ZN603

Abstract

The development of data with respect to its use in understanding and planning cities is intimately bound up with the development of methods for manipulating such data, in particular digital computation. We argue that although data volumes have dramatically increased as has their variety in urban contexts largely due to the development of micro devices that enable all kinds of human and physical phenomena to be sensed in real time, big data is not peculiar to contemporary times. It essentially goes back to basic notions of how we deal with relationships and functions in cities that relate to interactions. Big data is thus generated by concatenating smaller data sets and in particular if we change our focus from locations to interactions and flows, then data has faced the challenges of bigness for many years. This should make us more careful about defining what is 'big data' and to illustrate these points, we first look at traditional interaction patterns – flows of traffic in cities and show some of the problems of searching for pattern in such data. We then augment this discussion of big data by examining much more routine travel data which is sensed from using smart cards for fare-charging and relating this to questions of matching demand and supply in the context of understanding the routine operation of transit. This gives us some sense of the variety of big data and the challenges that are increasingly necessary in dealing with this kind of data in the face of advances in digital computation.

Biography

Michael Batty is Bartlett Professor of Planning at University College London where he is Chair of the Centre for Advanced Spatial Analysis (CASA). He has worked on computer models of cities and their visualisation since the 1970s and has published several books, such as Fractal Cities (Academic Press, 1994) Cities and Complexity (MIT Press, 2005) which won the Alonso Prize of the Regional Science Association in 2011, and most recently The New Science of Cities (MIT Press, 2013). His blogs www.complexcity.info cover the science underpinning the technology of cities and his posts and lectures on big data and smart cities are at www.spatialcomplexity.info. He is the editor of the journal Environment and Planning B. His research group is working on simulating long term structural change and dynamics in cities as well as their visualisation, as well as urban analytics for smart cities. He is a Fellow of the British Academy (FBA) and a Fellow of the Royal Society (FRS) and was awarded the CBE in the 2004 Queen Birthday Honours List. Most recently he was the 2013 recipient of the Lauréat Prix International de Géographie Vautrin Lud, and in 2015, he received the Founders Gold Medal of the Royal Geographical Society.

All interested are welcome

All registered attendees will receive a Certificate of Attendance after the lecture.
Registration link: https://myacs.polyu.edu.hk/utils/mysurvey/index.php/261847/lang-en
Contact: Ms. Kathy Law, Email: kathywj.luo@polyu.edu.hk