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"

Overview

It was our pleasure to invite Professor Michael BATTY, Distinguished Chair Professor at The Hong Kong Polytechnic University, Bartlett Professor of Planning at University College London and, Chairman of the Centre for Advanced Spatial Analysis (CASA), to deliver a seminar of the LSGI Distinguished Lecture Series on 2 Oct 2018.

Biography

Professor 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 Cities and Complexity (MIT Press, 2005) and The New Science of Cities (MIT Press, 2013). His most recent book Inventing Future Cities will be published by MIT Press in late 2018. 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. Prior to his current position, he was Professor of City Planning and Dean at the University of Wales at Cardiff from 1979 to 1990 and then Director of the National Center for Geographic Information and Analysis at the State University of New York at Buffalo (1990-1995). He is a Fellow of the British Academy (FBA) and the Royal Society (FRS), was awarded the CBE in the Queen's Birthday Honours in 2004 and the 2013 recipient of the Lauréat Prix International de Géographie Vautrin Lud. In 2015 he received the Gold Medal of the Royal Geographical Society for his work on the science of cities. In 2016, he received the Senior Scholar Award of the Complex Systems Society and the Gold Medal of the Royal Town Planning Institute.

Big Data and City

Big data has become very important in the last 10 years largely because with the advent of the smart phone and a variety of sensors being placed in the built environment, data is now being collected in real time. This data is 'big' in that it is streamed incessantly or gathered in short, sharp bursts as, for example, in the use of social media. Big data is largely unstructured and thus the scientist must

develop tools for exploring what structure is contained within such data and this is leading to all kinds of new methods involving data mining which involve the search for pattern. Cities are at the forefront of collecting big data and in this talk, I will define big data in several ways using several examples. Data which is traditionally collected can become big as it blown up by considering interactions between its components while data which is streamed, for example, from cards used to pay for transit can also generate enormous volumes. The same is true of social media which we will explore briefly with respect to what this data can tell us about cities; and last but not least, we will explore how different methods of visualisation can be used to search for pattern in big data. There are many examples contained in the special issue of Built Environment in 2016 called Big Data and the City which has been circulated with this notice

Michael Batty (Guest Editor) Big Data and the City, Built Environment, 42, Number 3, 2016, pages 317-509