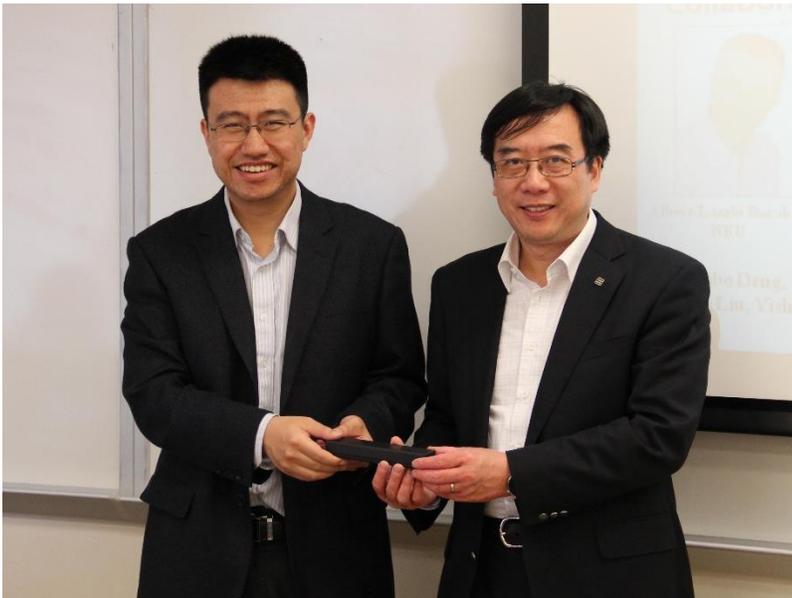


LSGI Distinguished Lecture

Topic: Understanding Human Mobility Patterns in Urban Areas

Overview

It was our pleasure to invite Prof. Pu Wang, Full Professor of the School of Traffic and Transportation Engineering in Central South University, China to deliver a seminar of the LSGI Distinguished Lecture Series on 22 April 2016.



Prof. Pu Wang gave an insightful seminar on understanding human mobility patterns, which was of significant importance for public health, city planning, traffic engineering and economic forecasting. With the emergence of big data recording human activities, the analysis and modeling of human mobility had achieved unprecedented developments in the last ten years. In an era of global urbanization, the rapidly accelerating demand for mobility places generated immense pressure on road network and urban space. His team combined large-scale human mobility data with detailed Geographic Information System (GIS) data to understand road usage patterns and crowd gathering processes in urban areas.

In the first study, they traced the surprisingly few driver sources of each road segment and found that locating the few driver sources contributing to the major traffic flow allowed them to create more efficient congestion mitigation strategies. In the second study, they estimated the dynamical distribution of crowd based on multiple sources of human mobility data, discovering that high-density crowd gatherings could be sensed in advance by monitoring specific characteristics of human mobility.

Prof. Pu Wang



Prof. Pu Wang received the B.S. degree in Physics from University of Science and Technology of China, in 2005, and the Ph.D. degree in Physics from University of Notre Dame, in 2010. From 2010/5 to 2011/12, he worked as a Postdoc researcher in the Department of Civil and Environmental Engineering in MIT. He is currently a Full Professor of the School of Traffic and Transportation Engineering in Central South University. His research interests include complex networks, traffic analytics, human dynamics and data mining.