

学术报告会

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The role of Socio-economic status in Urban Mobility Networks

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Abstract:

Understanding human mobility patterns have attracted the attention of researchers from many different scientific realms. The advent of the big data era, have spurred this activity by providing detailed data sets of real transportation systems that are complementary to the classical source of information obtained from personal surveys. Here, we pay attention to human mobility in two large urban areas in Colombia, Bogotá and Medellín, for which a large number of trips have been collected through direct surveys. The main novelty of our study relies on the compartmentalization of the individuals in six socio-economic strata, a feature that characterizes the Colombian society. We first unveil the differences between these strata in terms of their origin-destination networks and their use of the different transportation modes at hand. In addition, we show that the differences found have a large impact in the evolution of processes taking place in large urban areas such as the spread of diseases and the onset of epidemics.

Biography:

Jesus Gomez-Gardenes obtained his PhD in Physics in 2006 and after a postdoctoral period in different Universities he is currently "Ramon y Cajal" senior researcher at the University of Zaragoza (Spain) and visiting professor of the Brazilian CNPq. He has coauthored more than 80 research articles covering different topics related to network science collecting more than 3700 citations according to Google Scholar. These topics include synchronization, epidemics, evolutionary dynamics and stochastic processes, among others. He is also associate editor of the journals PLoS One, Journal of Complex Networks and Chaos, Solitons & Fractals.