

Statistics Seminar
Department of Mathematical Sciences

DATE:	Thursday, April 18, 2019
TIME:	1:15pm - 2:15pm
LOCATION:	WH 100E
SPEAKER:	Zili Yang, Binghamton University
TITLE:	The Economy is Bright — a Geography of Light

Abstract

In this paper, we studied “phototaxis” of socio-economic indicators in spatial setting. Different from conventional spatial econometric approach, we use geographic information to infer statistical connections among the variables. We proved a proposition stating that if two variables’ gravity centers are close and their respective auto-correlation coefficients (Moran’s I_s) are high, then the correlation coefficient between these two variables is high. In other words, a sufficient condition in geographical characteristics of the concerned variables guarantees their statistical inference. We use GIS data on nightlight and four socio-economic indicators from 18 cities in the U.S. to test such relationship empirically. GIS data supports the conclusion of the proposition. The novel approach in this research might be useful to the application of GIS in economic analysis and policy formation.

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