Thursday, March 23, 2023

1:00-1:50 p.m.

RB 125


Sabbatical Presentation:

"Identification of Multiple Outliers in Spatial Regression"

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Abstract:  Traditional outlier detection methods cannot be directly applied to spatial data because of its global nature. Spatial outlier detection methods concentrate on discovering neighborhood instabilities. However, most of the traditional detection methods may not accurately locate outliers when multiple outliers exist. Things could be even more cumbersome in spatial regression where the entire inferential procedure is generally affected in the presence of unusual observations called outliers (y-outliers) and high leverage points (x-outliers) or both. A large body of literature are available now for the identification of unusual observations in linear and/or generalized linear regression but this is still an unexplored area in spatial regression. In this paper we propose a new method for the identification of multiple spatial outliers and spatial high leverage points based on robust and clustering algorithms. We also propose a very simple but attractive graphical display to locate these two types of outliers in the same graph.