

MSCS COLLOQUIUM - MONDAY, MARCH 20 - 3:30 PM, RNS 310



Advances in Spatial Point Process Models for Urban Policing

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Recent advances in police open data initiatives across the United States allow for analyses of datasets in criminology and policing across a variety of spatial scales. However, existing statistical methods often do not allow for the utilization of the original spatial granularity or event-level information present in these complex datasets. I will present an overview of some of the gaps in spatial statistical methodology for analyzing crime and policing data. In particular I will discuss my work to (1) develop a two-stage approach to study police use of force incident outcomes across space, (2) adapt a new shared component model for point process data that allows for flexible characterization of shared spatial patterns between point processes, and unique drivers of each point process, and (3) explore a method for privatizing data that preserves its statistical utility. If time allows, I will also discuss some other exciting areas of interest in point processes.