TUM CHATURAPRUEK, Harvey Mudd College
Crime Modeling with Lévy Flights

We extend the Short *et al.* model of crime to incorporate biased Lévy Flights for the criminal's motion, with step-sizes distributed according to a power-law distribution. Such motion is considered to be more realistic than the biased diffusion that was originally proposed. This generalization leads to fractional Laplacians. We then investigate the effect of introducing the Lévy Flights on the formation of hot-spots using linear stability and full numerics. Joint works with Jonah Breslau, Daniel Yazdi, Theodore Kolokolnikov, and Scott McCalla.