
HUAIPING ZHU, York University, Toronto

Epidemic Models for Complex Networks with Demographics

Usually the network models do not involve demographical dynamics. In this talk, I will introduce the generalized epidemic models for modeling infectious diseases spreading in complex networks. We will incorporate demographics and random mixing in to the modeling. The basic reproduction number will be calculated in terms of conditional probability for the correlated network models. The stationary state(s) will be calculated, we will also discuss their local and global asymptotic stability when they exist. Examples of application, including application to the modeling of HIV/AIDS will be presented.

This is a joint work with Professor Zhen Jin.