



The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on PDE

**How the distribution for the time since
infection to recovery affects the course of
an epidemic**

By

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Abstract

Most mathematical models assume that the rate people recover from an infection is independent of the length of time they have been infected. This assumption leads to an exponentially distributed waiting time from infection to recovery that can be a poor approximation of the actual recovery distribution. We use theoretical analysis and numerical simulations to demonstrate how the solution of susceptible-infected-recovery (SIR) epidemic models depends on this assumption by comparing different distributions for the time from infection to recovery. We also analyze how the assumed distribution for the time from infection to recovery affects the estimates for the reproductive number and model parameters based on epidemic infection data.

This research was in collaboration with Nick Hengartner (Los Alamos National Laboratory) and Mac Hyman (Tulane University)

Date : : Friday, 1 June 2018

Time: : 2:30 p.m. – 3:30 p.m.

**Venue: : Room 3464, Academic Building,
HKUST (near Lifts 25&26)**

All are welcome!