

Department of Mathematics
City University of Hong Kong

Colloquium

Organised by Prof. Tong YANG and Prof. Tao LUO

Time scales and spectral gaps for quasi-stationary distributions in large populations birth and death processes

by

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Abstract :

We study a general class of birth-and-death processes that describe the size of populations going to extinction with probability one. The scale of the population is measured in terms of a 'carrying capacity' K . When K is large, the process is expected to stay close to its deterministic equilibrium during a long time but ultimately goes extinct.

Our aim is to quantify the time for the process to reach the quasi-stationary regime and the mean time to extinction in the quasi-stationary distribution as a function of K , for large K . In dimension one, we also give a quantitative description of this quasi-stationary distribution.

Date: 28 February 2017 (Tuesday)
Time: 4:30 – 5:30pm
Venue: G5-314 (AC1)
City University of Hong Kong

**** All interested are welcome ****
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