The Hong Kong University of Science and Technology

Department of Mathematics

<u>Seminar on Applied Mathematics</u>

Stochastic analysis and statistical learning at single-molecule and single-cell levels

by

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<u>Abstract</u>
Stochastic process and statistics has a glorious history in physics, chemistry and biology. Due to the advance of experimental techniques at single-molecule and single-cell levels, stochastic modeling and statistics become more and more useful and popular in chemistry and biology recently. I will talk about three short stories, including cycle symmetry of nearest-neighbor random walks and general diffusion processes on a circle, the fluctuating-rate model as well as the rate formula for the phenotype transition in an intermediate scenario of a single cell, and inference of dynamic network via repeated cross-sectional data such as single-cell transcriptome data.

Date: **Friday, 2 February 2018**

Time: **3:00p.m. – 4:00p.m.**

Venue: **Room 2304, Academic Building
(near Lifts 17 & 18), HKUST**

All are welcome!