



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Colloquium

Dispersal in Advective Environments

by

Prof. Yuan Lou

Ohio State University and Renmin University of China

Abstract

We consider some mathematical models in advective environments, where individuals are exposed to unidirectional flow, with the possibility of being lost through the boundary. We study the persistence and range for a single species. We also consider the evolution of dispersal in such advective environments. Our analysis suggests that, in contrast to the case of no advection, slow dispersal is generally selected against in advective environments, and fast or intermediate dispersal rate will be favored.

Biography

Professor Yuan Lou is a world-leading expert in nonlinear partial differential equations and its applications to mathematical ecology, population genetics, and disease dynamics. He obtained his Bachelor from Beijing University and Ph. D from the University of Minnesota. He is currently the professor of mathematics in the Ohio State University and State Thousand Talent Program Expert (国家“千人计划”特聘教授) in the Renmin University of China. He was the associate director of Mathematical Bioscience Institute from 2009 to 2013. He is the editor-in-chief of Discrete and Continuous Dynamical System-Series B, and on the editorial board of many flagship journals in the field, including the Journal of Differential Equations, Journal of Mathematical Biology, SIAM Journal of Applied Mathematics, Mathematical Biosciences and Engineering, Tamkang Journal of Mathematics, and so on.

Date : 15 April, 2016 (Friday)

Time : 3p.m. – 4p.m.

Venue : TU801, The Hong Kong Polytechnic University

***** ALL ARE WELCOME *****