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

Colloquium

On

Dispersal in Heterogeneous Landscapes

by

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Abstract

From habitat degradation and climate change to spatial spread of invasive species, dispersal plays a central role in determining how organisms cope with a changing environment. How should organisms disperse "optimally" in heterogeneous environments? The dispersal of many organisms depends upon local biotic and abiotic factors and as such is often biased.   In contrast with unbiased dispersal which is better understood from theoretical perspectives, we have fairly limited knowledge of the consequences of biased dispersal, especially in the context of the spatial dynamics of interacting species. In this talk I will discuss some recent development on the evolution of biased dispersal via Lotka-Volterra two species competition models.

Biography: Professor Yuan Lou received his Bachelor from Beijing University, and his Ph.D from University of Minnesota. His research mainly focuses on applications of partial differential equations to mathematical ecology, population genetics, and disease dynamics. He is currently the Editor in Chief of *Discrete and Continuous Dynamical System-Series B*, and is on editorial board of many applied mathematical journals including *Journal of Differential Equations, SIAM J. Appl. Math, J. Math. Anal. Appl, Mathematical Biosciences and Engineering.*

**Date : 6 December, 2012 (Thursday)
Time : 11:00 a.m. – 12:00 noon
Venue : HJ610, The Hong Kong Polytechnic University**

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