The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Energetic Variational Approaches: Onsager's Maximum Dissipation Principle, General Diffusion, Optimal Transport and Stochastic Integrals

by

Prof. Chun Liu

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In the talk, I will explore the underlying mechanism governing various diffusion processes. We will employ a general framework of energetic variational approaches, consisting of in particular, Onsager's Maximum Dissipation Principles, and their specific applications in application is biology and physiology. We will discuss the roles of different stochastic integrals (Ito's form, Stratonovich's form and other possible forms), and the procedure of optimal transport in the context of general framework of theories of linear responses.

Biography: Professor Chun Liu is a world leading expert in partial differential equations and applications in Complex Fluids, Viscoelasticity, Liquid crystals, Soft Materials, Electrophysiology, Biology and Physiology. He obtained Bachelor degree from Fudan University, Master from Duke University and Ph.D from Courant Institute of Mathematical Sciences in New York University. Currently he is on the editorial board of many top mathematical journals, such as *Communications in Mathematical Sciences, SIAM Journal on Mathematical Analysis, Kinetic and Related Topics, Analysis and Application, Nonlinear Analysis and Differential Equations, Molecular Based Mathematical Biology (MBMB).*

Date : 11 December, 2014 (Thursday)
Time : 10:30a.m. – 11:30a.m.
Venue : HJ610, The Hong Kong Polytechnic University

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