



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

**Seminar
On**

**Optimal Design of Municipal Water Supply Portfolios
with Implicit Filtering**

by

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Abstract

In this talk we describe an optimal design problem for a portfolio of water rights, leases, and options in the Southwestern United States. The design is based on a Monte Carlo model of rainfall and demand. The design parameters encode the government's response to demand and expected supply. The stochastic model implies that the objective function, the cost of a city's water supply for a year, is a discontinuous function of the design parameters. Constraints on reliability and conditional value at risk can only be tested when the simulation is complete and are not given by explicit formulae. We show how the implicit filtering method can solve the problem and exploit our knowledge of the size of the noise.

Date : 28 May, 2008 (Wednesday)
Time : 3:00 – 4:00 p.m.
Venue : Departmental Conference Room HJ610
The Hong Kong Polytechnic University

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