#### THE UNIVERSITY



### **OF HONG KONG**

### **Department of Mathematics**

# Operations Research Group Seminar (ORG)

February 10, 2009 (Tuesday) 4:00 – 5:00pm Room 324, Meng Wah Complex, HKU

## A Lagrangian Heuristic for The Singleand Multi-Period Inventory Problems with Quantity Discounts

### **Professor Guoqing ZHANG**

University of Windsor, Canada

### **Abstract**

We consider the single-period constrained inventory problem with supplier quantity discounts, which is formulated as a mixed integer nonlinear programming model. A Lagrangian relaxation approach is presented to solve the problem. Computational results on both small and large-scale test instances indicate that the proposed algorithm is very effective for the problem. An extension to multi-period inventory problems and preliminary computational results are also reported.