

THE UNIVERSITY



OF HONG KONG

Department of Mathematics

# Operations Research Group Seminar (ORG)

June 10, 2002 (Monday)

10:30 – 11:30am

517 Meng Wah Complex, HKU

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Mini-series on Multiple Objective Programming: First Talk

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*Distance Metric Optimisation: Theory and Application*

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## Abstract

Distance metric optimisation methods form part of the paradigm of multiple criteria decision making (MCDM), falling into the sub-area of multiple objective programming. This seminar details the theory of distance optimisation methods for the modelling and solution of multiple objective programming situations. The major distance metric based techniques such as goal programming, compromise programming, composite programming, and the reference point method are discussed. The theory of distance metrics and the modelling and utility significance of difference distance metric models are examined. Linkages between the different techniques in the light of the developed theory are made. The concept of Pareto efficiency and the need for restoration or subsequent stage distance metric optimisation in certain techniques is discussed. An example from the field of Macroeconomics is given in order to elaborate the discrete case.

**Keywords:** Multiple criteria decision making, multiple objective programming, distance metric optimisation, utility theory, goal programming, compromise programming.

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**All are welcome**

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<http://hkumath.hku.hk/~org>