Operations Research Seminar Series in 2011

Seminars are listed in reverse chronological order, most recent first.

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30 November - Bilal Gokpinar (UCL)
In-house Globalization: The Role of Globally Distributed Design and Product Architecture on Product Development Performance

Abstract not available

23 November - Vasiliki Kostami (London Business School)
Speed Quality Trade-offs in a Dynamic Model

Abstract not available

2 November - Nektarios Oraiopoulos (Cambridge)
Competitive Product Positioning through Technological Differentiation

Abstract not available

26 October - Fangruo Chen (Columbia)
Warranty Costs Sharing in a Supply Chain

Abstract not available

19 October - Itai Ashlagi (MIT)
Stability in Large Matching Markets with Complementarities

Abstract not available

5 October - Eddie Anderson (University of Sydney Business School)
Ranking games and gambling: When to quit when you're ahead

It is common for rewards to be given on the basis of a rank ordering, so that relative performance amongst a cohort is the criterion. In this paper we formulate an equilibrium model in which an agent makes successive decisions on whether or not to gamble and is rewarded on the basis of a rank ordering of final wealth. This is a model of the behaviour of mutual fund managers who are paid depending on funds under management which in turn are largely determined by annual or quarterly rank orderings. In this model fund managers can elect either to pick stocks or to use a market tracking strategy. In equilibrium the final distribution of rewards will have a negative skew. We explore how this distribution depends on the number of players, the probability of success when gambling, the structure of the rewards, and on information regarding the other player's performance.

9 March - Selin Damla Ahipasaoglu (LSE)
Analytical Results on the PAUSE Auction Procedure

In this talk, we focus on the analytical properties of a decentralized auction, namely the PAUSE Auction Procedure. We prove that the revenue of the auctioneer from PAUSE is greater than or equal to the profit from the well-known VCG mechanism when there are only two bidders, and provide lower bounds on the profit for an arbitrary number of bidders. Based on these bounds, together with observations from auctions with few items, we propose a modification of the procedure that increases the profit. We believe that this study, which is still in progress, will be a milestone in designing better decentralized auctions, since it is the first analytical study on such auctions with promising results.

23 February - Uriel Rothblum (Technion - Israel Institute of Technology)
Ranking games and gambling: When to quit when you're ahead

Partition problems constitute a large class of combinatorial optimizationproblems. Of particular interest are problems where it is clusteringproperties facilitating the solution of the partition problem in polynomialtime. The talk will introduce a classification of partition problem andsurvey of numerous approaches to solve such problems by focusing onpartitions that exhibit clustering properties.

2 February - Lars Peter Østerdal (Copenhagen)
On Assessing Poverty, Social Welfare and Inequality with Ordinal Multidimensional Data

Traditional approaches to social welfare and inequality assessment assume that a person's well-being or poverty status can be measured in monetary terms, like annual income, and a specified index measures the amount of social welfare or inequality in a population. In recent years there has been an increased recognition of the importance of including other dimensions than the monetary one - such as health and education status - in analyzing poverty, social welfare and inequality. The use of multidimensional poverty/welfare/inequality indices is, however, far from being well established in empirical studies. A major obstacle for the use of such multidimensional indices is that it is very hard to determine the relative importance of each dimension. Under these circumstances, relying on any single multidimensional index tend to be ad hoc and lacking in analytical robustness. This talk will discuss the challenges of assessing multidimensional social welfare and inequalities without relying on ad hoc aggregation methods and present some new approaches to this problem.

2 February - Nikolaos Argyris (LSE)
Rationalising Concavifiable Preferences

The typical way to deal with problems involving multiple criteria is to aggregate these via a utility function that represents the underlying preferences. Obtaining the utility function, however, often requires that we accept restrictive assumptions on the nature of these preferences. In applications of multi-criteria decision analysis and multi-objective optimisation, it is particularly common to use additively separable utility functions, which require independence among attributes. In this talk, we consider how we may lift the assumption of additivity and impose instead a concavity assumption on the utility function. We take an axiomatic approach and consider under what conditions on the underlying preferences we may reasonably assume that the representing utility function is concave and nondecreasing. We then consider the general problem of rationalising partial preference information by means of a concave and nondecreasing utility function. We introduce a complete characterisation of all utility functions compatible with the partial preference information. Finally, we consider how these results may be utilised in several multi-criteria problem settings, namely pre-ordering (ranking), 1-out-of-n choice and multi-objective optimisation.

Joint work with Alec Morton and Jose Rui Figueira