ISORA'2006
Tentative Programs*

The 6th International Symposium on Operations Research and Its Applications
August 8-12, 2006, Xinjiang, China

August 7 (Monday): Participants arrive Urumqi, check in Yilite Hotel, and Registration package pick up.

August 8 (Tuesday): Technical sessions. (Xinjiang time = Beijing time +2 hours.)

10:00-10:20 Opening Session
Welcome address from ISORA2006 co-chairs: Prof. Xiangsun Zhang, Prof. Tatsuo Oyama.

10:20-12:05 Plenary Session I (Session Chair: Xiangsun Zhang)
10:20-11:05 "*Newsvendor Bounds and Heuristics for Optimal Policy of Serial Supply Chains with and without Expedited Shippings*", Xiuli Chao, North Carolina State University, USA.
11:05-11:50 "*Applying Network Flow Optimization Techniques for Measuring the Robustness of Water Supply Network System in Tokyo*", Hiroshi Ashida (Tokyo Metropolitan Government), Hozumi Morohoshi, and Tatsuo Oyama (National Graduate Institute for Policy Studies).
11:50-12:10 Coffee Break

12:10-13:40 Plenary Session II (Session Chair: Tatsuo Oyama)
12:10-12:55 *"Network Dimensioning Problems by Applying Achievement Functions"*, Hsing Luh, Taiwan Zhengchi University, Taiwan
12:55-13:40 "*ILOG Optimization Software and Industrial Solutions"* Kiat Shi Tan and and Lily Deng, ILOG Beijing. (ILOG Software Demo is available during the symposium)

14:00-15:30 Lunch

16:00-17:40 Parallel Session A1 (Session Chair: Prof. Wuyi Yue)
16:00-16:25 "Algorithmic Solutions for the Stationary Distribution of M/M/c/K Retrial Queue" Yang Woo Shin, Dug Hee Moon, Changwon National University, Korea
16:25-16:50 "Analytical Network Process of Group Choice for a Foreign Market Entry Mode", Su-Chuan Shih, Taiwan Providence University, Taiwan
16:50-17:15 "Global logistics road planning: a genetic algorithm approach" Wu Yue, University of Southampton, UK
17:15-17:40 "Stochastic Optimal Control Problems with a Bounded Memory", Tao Pang, North Carolina State University, USA

16:00-17:40 Parallel Session B1 (Session Chair: Prof. Masanori Fushimi)
16:00-16:25 "Dual Scaling Using Mathematical Programming and Its Application", Tohru Ueda, Seikei University, Japan

16:25-16:50 "A linear programming model for value chain management in the production of chemical commodities", Hans-Otto Gunther, Technical University of Berlin, Germany

16:50-17:15 "A Solution Method for the Quadratic Assignment Problem (QAP)", Ping Ji, The Hong Kong Polytechnic University, Hong Kong

17:15-17:40 "An Improved Algorithm for the Bilateral Assignment Problem", Takeo Yamada, National Defense Academy, Japan

17:40-18:00 Coffee Break

18:00-19:15 ILOG Software Demo Session

20:00-21:30 **Welcome reception.**

August 9 (Wednsday) Technical Sessions, General Reception

10:00-11:40 Parallel Session A2 (Session chair: Prof. Tohru Ueda)

10:00-10:25 "Performance Analysis of an M/M/c/N Queueing System with Balking, Reneging and Synchronous Vacations of Partial Servers" Wuyi YUE, Konan University, Japan

10:25-10:50"Topological and Optimization Modeling for Internet Data of Online Auction Markets", Sydney Chu, University of Hong Kong, Hong Kong

10:50-11:15 "Simulation of Container Queues for Port Investment Decisions", Mohammad Ali Alattar, Kuwait University, Kuwait.

11:15-11:40 "Two New Interval Parameter Fuzzy Programming Models with Violation Analysis for Petruleum Waste Management", Boting Yang, University of Regina, Canada

10:00-11:40 Parallel Session B2 (Session Chair: Prof. Ping Ji)

10:00-10:25 "A new arbitrary starting variable dimension algorithm for computing an integer point of an n-dimensional complex", Chuangyin Dang, City University of HK, Hong Kong

10:25-10:50 "An Optimal Bound for sum of square roots of special type of integers", Cao An Wang, Memorial University of Newfoundland, Canada

10:50-11:15 "An Educational System Based on the Questionnaire Proposed by the Students: Construction and Practical Usage", Nobuo Umemura, Toshiharu Hasegawa, Nanzan University, Japan

11:15-11:40"Ranking of DEA Units with Common Weights", Fuh-Hwa.F. Liu, National Chiao Tung University, Taiwan

11:40-12:00 Coffee Break

12:00-13:40 Parallel Session A3 (Session Chair: Cao An Wang)

12:00-12:25 "Optimal investment policy for real option models with regime switching", Noaki Makimoto, University of Tsukuba, Japan

12:25-12:50 "A Stochastic Inventory Placement Model for A Multi-echelon Seasonal Product Supply Chain with multiple Retailers", Jihong Zhang, Tsinghua University, China

12:50-13:15 "Scheduling with Discretely Compressible Processing Times to Minimize Makespan", Yuzhong Zhang, Qufu Normal University, China

13:15:13:40 "The Branch and Bound Algorithm for Solving a Sort of Non-Smooth Programming on Simplex", Zai-En Hou, Shaanxi University of Science and Tech, China

12:00-13:40 Parallel Session B3 (Session Chair: Prof. Chuangyin Dang)

12:00-12:25 "Shortest path problems for ambulances in case of severe earthquakes", Rumi Umitsu, Masanori Fushimi, Nanzan University, Japan

12:25-12:50 "Some results on classification of f-colored graphs", Jiguo Yu, Qufu Normal University, China

12:50-13:15 "E-Bayesian Method to Estimate Failure Rate", Ming Han, Fujian University of Technology, China

13:15:13:40 "Optimization Models for Quality and Cost of Software Systems Based on COTS", Xueshi, Shen, National University of Defense, China

14:00-15:30 Lunch

16:00-17:15 Parallel Session A4 (Session Chair: Prof. Sydney Chu)

16:00-16:25 "Optimization model analyses for measuring the effects of introducing MGTs". Tatsuo Oyama, National Graduate Institute for Policy Studies, Japan

16:25-16:50 "Reputation Management in Contents Distribution System over P2P Network" Hiroyuki Kawano, Nanzan University, Japan

16:50-17:15 "A Robust Collaborative Optimization Method Under Multidisciplinary Uncertainty", Huihui Liu, Tsinghua University, China

17:15-17:40 "*An Algorithm for Optimization of Buffer Allocation in Assembly-like Queueing Systems"*, Yu Song, Masayoshi HASAMA, Fukuoka Institute of Technology, Japan

16:00-17:40 Parallel Session B4 (Session Chair: Prof. Noaki Makimoto)

16:00-16:25 "Some Results on Fractional Covered Graphs", Jiguo Yu, Qufu Normal University, China

16:25-16:50 "*Leadership in Virtual Teams"*, Mojtaba Tabari, Department of Management Ghaemshahr Azad University, Iran

16:50-17:15 "An improved Approximation Algorithm for the Disjoint 2-Catalog Segmentation Problem", Houchun Zhou, Linyi Normal University, Shandong, China

17:15-17:40 "A Symbolic Analysis Method of Communication Set Generation for Irregular Array Reference" Zhen Liu, Nagasaki Institute of Applied Science, Japan

17:40-18:00 Coffee Break

19:00-22:00 *General Reception with Ethnic Songs & Dance Shows*

August 10 (Thursday) One-day excursion to Turpan

9:00 Departure for Turpan

19:00 Back to Hotel

20:00-21:30 Dinner at local restaurant

August 11 (Friday) Tianchi Lake and Urumqi Downtown

8:30-16:00 Tian-Chi Lake

16:00- Urumqi International Grand Bazzar

August 12 (Saturday) Back home.

*The above program subjects to revision based on further registration and talk submissions information

A linear programming model for value chain management in the production of chemical commodities

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Chemical commodities are characterized by contract and spot demand, volatile and uncertain demand forecasts, sales quantity flexibility, price-quantity-functions, and volatile raw material prices. Hence, decisions have to be coordinated throughout the entire value chain to ensure profitability. A linear programming model is proposed which optimizes profit integrating sales quantity, price and supply decisions. Numerical experiments using industry case data demonstrate the impact of demand elasticity, variable raw material consumption rates and price uncertainties on planned profit and sales volumes.

An Algorithm for Optimization of Buffer Allocation in Assembly-like Queueing Systems

SONG Yu
Masayoshi HASAMA

Abstract

Assembly operations arise in many practical situations, including assembly lines in production plants, mixing operations in chemical industries and data flow through computer systems. Assembly-like queueing systems are used for modelling such operations.

Our interest here stems from the need to solve the resource allocation problems in assembly-like queueing systems. However, there is not an effective technique to solve the optimal allocation problems of queueing networks.

In this study, based on the results of computer simulations, we investigate various resource allocations and examine the performance of the systems in terms of throughputs, and present some heuristic policies for effective resource allocation in such systems. Further, we propose an algorithm to maximize the throughput in systems. Numerical tests show the algorithm yields satisfactory results.

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Analytical Network Process of Group Choice for a Foreign Market Entry Mode

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Abstract

Entry mode selection is an important and practical task for an enterprise when entering a foreign market. We illustrate the proposed group decision process for entry mode selection by the case of a notebook computer company in Taiwan considers to enter Vietnam market. The process would benefit enterprises in practice implementation. Base on the theories of Transaction Cost Economics, Resource Base, and Institutional Approach, we tailored major factors and indices for the enterprise to select entry modes. In the first phase of the Two-Phase approach, we employ Analytical Hieratical Process (AHP) to determine equity or non-equity investment. In the second phase, we employ Analytical Network Process (ANP) to select six entry modes with equity investment: New Venture, Acquisition, Merger, Majority Joint Venture, Equality Joint Venture, and Minority Joint Venture.

Keywords: entry mode selection, Analytical network process (ANP), Analytical hieratical process (AHP), multiple criteria decision