

International Symposium on Applied Optimization and Game-Theoretic Models

Program Overview

Registration: 9:30-10:00 (Auditorium)

Inaugural Session Details

January 9, 2013 Time: 10:00 -10:30 Venue: Auditorium

Welcome address, Opening Remarks, About symposium

Sessions Details

Parallel Sessions

January 9, 2013 Time: 11:00 -13:00 Venue: Auditorium

Invited Session I

Chairman : Jean B. Lasserre, LAAS-CNRS and Institute of Mathematics, University of Toulouse, Toulouse, France

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| 1. | Zdenek Dostal (VSB-Technical University of Ostrava, Ostrava, Czech Republic) Optimal QP and QPQC algorithms and applications |
| 2. | Jean B. Lasserre, (LAAS-CNRS and Institute of Mathematics, University of Toulouse, Toulouse, France) Inverse Polynomial Optimization |
| 3. | Jiyuan Tao (Loyola University , Maryland, Baltimore, USA) On the completely-Q property for linear transformations on symmetric cones |
| 4. | Yasunori Kimura (Toho University, Funabashi, Japan) Approximation of a fixed point of an operator defined on a geodesic space |

January 9, 2013 Time: 11:00 -13:00 Venue: Conference Room

Technical Session-I A

**Chairman : T parthasarathy, Chennai Mathematical Institute
and Indian Statistical Institute Chennai**

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|----|---|
| 1. | A.K. Bhurjee , G. Panda, (Indian Institute of Technology Kharagpur, India) Optimality and Duality for Interval Optimization Problem |
| 2. | S. K. Mishra Vivek Laha (Banaras Hindu University) and Bader Al-Shamary (Kuwait University) On nonsmooth V-invexity and vector variational-like inequalities in terms of the Michel-Penot subdifferentials |
| 3. | Archana Khurana , Tripti Verma (Guru Gobind Singh Indraprastha University, Delhi) Solving Impaired Flow Multi-Index Transportation Problem With Axial Constraints |
| 4 | S. K. Mishra and Vinay Singh (Banaras Hindu University, Varanasi-221005, India) Multiobjective Programming Problems involving Generalized V-pseudo-invexity |
| 5 | Anusuya Ghosh and Vishnu Narayanan (Indian Institute of Technology Bombay) Characterizations of semidefinite representable sets |
| 6 | S K Mishra, Vivek Laha, Yogendra Pandey (Banaras Hindu University, Varanasi-221005, India) Vector optimization problem and epsilon vector variational-like inequality |

January 9, 2013 Time: 11:00 -13:00 Venue: Seminar Room 2

Technical Session-I B

Chairman : Tiru S. Arthanari, University of Auckland, Auckland, New Zealand

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| 1. | S. K. Chhillar and S.C.Malik, Department of Statistics, M.D. University, Haryana India) Reliability Modeling of a Cold Standby System with Priority to Repair over Maintenance Subject to Random Shocks. |
| 2. | Ashish Kumar and S.C. Malik (Department of Statistics, M.D. University, Haryana, India) Cost- Benefit Analysis of a Computer System with Priority to Preventive Maintenance over the H/W Repair Activities Subject to MOT and MRT |
| 3. | Jayesh B. Shah and M.N Patel (Gujarat University, Ahmedabad) Bayesian approach to inference in reliability studies based on multiply Type II censored data from a Rayleigh distribution |
| 4 | Jitender Kumar , M.S. Kadyan and S.C. Malik (Kurukshetra University, Kurukshetra India), Reliability Modelling of Single-Unit System with Degradation and Preventive Maintenance |
| 5 | J.K. Sureria and S.C. Malik (Department of Statistics, M. D. University, Haryana, India) Stochastic Analysis of a Computer System with Arrival Time and Priority to H/w Repair over S/w Replacement |
| 6 | Ramniwash , M.S. Kadyan* and Jitender Kumar (Kurukshetra University, Kurukshetra India) Reliability And Cost-Benefit Analysis Of A Single-Unit System Subject To Warranty Period |

Lunch : Guest House Lawn

Time 13:00 – 14:00

January 9, 2013 Time: 14:00 -15:30 Venue: Auditorium

Invited Session II A

Chairman : Michel Grabisch, Universit'e Paris I, Paris

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| 1. | Sandeep Juneja (Tata Institute of Fundamental Research, Mumbai) The Concert Queueing Game: Processor Sharing Regime |
| 2. | T E S Raghavan (University of Illinois at Chicago, USA). Policy Improvement algorithms for zero sum ARAT stochastic games with discounted and Cesaro payoffs. |
| 3. | Nandyala Hemachandra , (Indian Institute of Technology Bombay, India) A model for equilibrium in some firm-market interactions |

January 9, 2013 Time: 14:00 -15:30 Venue: Conference Room

Invited Session II B

Chairman : Shiv Prasad Yadav (Deptt. of Mathematics, Indian Institute of Technology Roorkee)

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|----|---|
| 1. | Pankaj Gupta (Department of Operational Research, University of Delhi, Delhi) Behavioral portfolio selection models based on financial and ethical considerations |
| 2. | Reshma Khemchandani^a , Avikant Bhardwaj^b , Suresh Chandra^{b(a)} Royal Bank of Scotland IDC, Gurgaon (India) , Indian Institute of Technology, Delhi India Single Asset Optimal Trading Strategies with Stochastic Dominance Constraints |
| 3. | S.C. Malik , (M.D. University, Rohtak-124001, Haryana India) Reliability Modeling of an Integrated H/W and S/W System with Preventive Maintenance and Priority Subject to Maximum Operation and Repair Times |

January 9, 2013 Time: 15:45 -17:30 Venue: Auditorium

Invited Session III

Chairman: Jiyuan Tao, Loyola University , Maryland, Baltimore, USA

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| 1. | Dusan Ku and Tiru S. Arthanari (University of Auckland, Auckland, New Zealand) On Double Cycling for Container Port Productivity Improvement |
| 2. | Aparna Mehra (Department of Mathematics, Indian Institute Of Technology, Delhi) Gap Function and Error Bounds for Variational Inequality and Its Variants |
| 3. | C. S. Lalitha (Department of Mathematics, University of Delhi South Campus, New Delhi-110021) Subgradients using Henig Proper Efficiency in Set-Valued Optimization |

January 9, 2013 Time: 15:45 –17:45 Venue: Conference Room

Technical Session II

Chairman: Zdenek Dostal (VSB-Technical University of Ostrava, Ostrava, Czech Republic)

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| 1. | Ankush Agarwal and Sandeep Juneja (Tata Institute of Fundamental Research, Mumbai) Nearest Neighbor Based Estimation Technique for Pricing Bermudan Options |
| 2. | Dipti Dubey , Suresh Chandra, Aparna Mehra (Indian Institute of Technology Delhi) Integrating Bipolarity in Fuzzy Linear Programming with Several Objective Functions |
| 3. | C.S.Lalitha and Mansi Dhingra (Department of Mathematics, University of Delhi, India.) Constrained optimization reformulations and relaxation methods for generalized Nash equilibrium problems using nonmonotone inexact line search |
| 4. | S. K. Mishra and B. B. Upadhyay (Banaras Hindu University, Varanasi-221005, India) Some relations between vector variational inequality problems and nonsmooth vector optimization problems |
| 5 | Mrinal Janay and Geetanjali Panda (Department of Mathematics, Indian Institute of Technology,Kharagpur, India) Solution of Interval Geometric Programming Problem |
| 6. | Dinesh KumarYadav and Sant Sharan Misha(Department of Economics and Statistics, Vikas Bhawan, Faizabad, UP India) Ratio Optimization Of Profit Per Unit Cost For Lost Customers |

January 9, 2013 Time: 18:15 –20:15 Venue: Auditorium

Cultural Programme: Classical Music

Dinner : Guest House Lawn Time 20:30 – 21:30

Professor Santosh N. Kabadi Memorial session

January 10, 2013 Time: 10:00 -11:45 Venue: Auditorium

Invited Session IV

Chairman: R. Chandrasekaran (The University of Texas at Dallas)

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| 1. | R. Chandrasekaran , M. Dawande, M. Baysan (The University of Texas at Dallas) Graph Labelings |
| 2 | R.B.Bapat (Indian Statistical Institute, Delhi Centre) On a quadratic programming problem involving distances in trees. |
| 3 | Prabha Sharma (Deptt. of CSE &IT, ITM University, Gurgaon) Local Search Does Work |

January 10, 2013 Time: 10:00 -11:45 Venue: Conference Room

Technical Session III

Chairman: Agnieszka Rusinowska, Paris School of Economics – CNRS, Centre d’Economie de la Sorbonne, Paris, France

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| 1. | Prasenjit Mondal & Sagnik Sinha (Jadavpur University, Kolkata, India)An Ordered Field Property For One Player Control Finite Semi-Markov Games |
| 2. | John Mathew and R K Amit (Department of Management Studies, Indian Institute of Technology Madras, Chennai India) Some Results in the Competitive Newsvendor Model |
| 3. | Mahima Gupta , B.K. Mohanty (Indian Institute of Management Lucknow) Products selection in E-Commerce-A Fuzzy logic based game theoretic approach |
| 4 | Arindum Mukhopadhyay , Adrijit Goswami (Department of Mathematics, Indian Institute of Technology Kharagpur, India) Stock-out averse newsvendor game: Applications to Pharmaceuticals |
| 5 | Harinam Singh (School of Social Sciences, Indira Gandhi National Open University,) Cooperative Games And Economic Application |

January 10, 2013 Time: 12:00 -13:00 Venue: Auditorium

Invited Session V A

Chairman: T. Parthasarathy, Chennai mathematical Institute and Indian Statistical Institute Chennai.

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| 1. | Reinoud Joosten (University of Twente, The Netherlands) Long-run strategic advertising and short-run Bertrand competition |
| 2. | Michel Grabisch ¹³ and Agnieszka Rusinowska ²³ ¹ Paris School of Economics, Universit´e Paris I Panth´eon-Sorbonne, ² Paris School of Economics – CNRS ³ Centre d’Economie de la Sorbonne,Paris, France) Lattices in social networks with influence |

January 10, 2013 Time: 12:00 -13:00 Venue: Conference Room

Invited Session V B

Chairman: R. B. Bapat, Indian Statistical Institute Delhi

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|----|---|
| 1. | C. Srinivasan (University of Kentucky, USA) Neural Network related optimization issues |
| 2. | B.S.Panda (Department of Mathematics, Indian Institute of Technology Delhi) Griggs and Yeh's Conjecture on L(2,1)-Labeling of Graphs |

Lunch : Guest House Lawn Time 13:00 – 14:00

January 10, 2013 Time: 14:00 -15:15 Venue: Auditorium

Invited Session VI A

Chairman: T E S Raghavan (University of Illinois at Chicago, USA).

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| 1. | Jerzy A. Filar (joint work with Vladimir Ejov and Justin Beck) (Flinders University Bedford Park, South Australia, Australia), Games, Incompetence, Training & Related Parametric Analysis |
| 2. | Michel Grabisch (Paris School of Economics, Université Paris, Paris) The core of games with restricted cooperation |

January 10, 2013 Time: 14:00 -15:30 Venue: Conference Room

Invited Session VI B

Chairman: Prabha Sharma (Deptt. of CSE &IT, ITM University, Gurgaon)

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|----|---|
| 1. | K S Mallikarjuna Rao (Indian Institute of Technology Bombay, India) A game theoretic view of the smallest enclosing and intersecting ball problems |
| 2. | Kusum Deep (Department of Mathematics, Indian Institute of Technology Roorkee) A new Genetic Algorithm to solve Sudoku Puzzles |
| 3. | B.K.Mohanty (Indian Institute of Management, Lucknow), Game Theory Under Fuzzy Environment |

January 10, 2013 Time: 16:00 -17:30 Venue: Conference Room

Invited Session VII

Chairman: S. K. Neogy, Indian Statistical Institute Delhi Centre

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| 1. | T. Parthasarathy (Chennai Mathematical Institute, Chennai, India & Indian Statistical Institute, Chennai, India) Relationship between Q-property of a given matrix A and the Q-property of some linear transformation defined through A |
| 2. | K.C. Sivakumar (Department of Mathematics, Indian Institute of Technology Madras, Chennai India) Nonnegative Generalized Inverses of Certain Classes of Matrices and Applications to Linear Complementarity Problems |
| 3. | A. K. Das (Indian Statistical Institute, Kolkata) Almost Fully Copositive and Fully Semimonotone Matrices in Linear Complementarity Theory |

January 10, 2013 Time: 16:00 -18:00 Venue: Auditorium

Technical Session IV

Chairman: Reinoud Joosten (University of Twente, The Netherlands)

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| 1. | Amita Sharma and Aparna Mehra (Department of Mathematics, Indian Institute of Technology Delhi, India) An Overview of the Momentum Strategies in Finance |
| 2. | Anjana Gupta ¹ , Aparna Mehra ² , S. S. Appadoo ³ (¹ Delhi Technological University Delhi, India, ² Indian Institute of Technology Delhi, ³ University of Manitoba, Winnipeg, MB R3T5V4 Canada.) Mixed Solution Strategy For MCGDM Problems Using Entropy/Cross Entropy In Interval-Valued Intuitionistic Fuzzy Environment |
| 3. | B.S. Panda, Arti Pandey (Indian Institute of Technology Delhi) Outer-connected domination in graphs Complexity and Approximation Hardness |
| 4. | Vishnu Narayanan, Kunal Sharma (Indian Institute of Technology, Bombay, India) Design of Survivable Communication Networks |
| 5. | Mukesh Kumar Mehlawat (Department of Operational Research, University of Delhi, Delhi, India) Asset portfolio optimization using analytical hierarchy process and multi-choice goal programming |
| 6. | S.K.Suneja (Miranda House, University of Delhi, Delhi-11000) and Bhawna Kohli (Department of Mathematics, University of Delhi), Duality for Multiobjective Fractional Programming Problem Using Convex factors |

Symposium Dinner: January 10, 2013, Time: 20:00

Note: Bus leaves from Indian Statistical Institute campus on January 10, 2013 for India International Centre at 19:30

January 11, 2013 Time: 10:00 -11:30 Venue: Auditorium

Invited Session VIII A

Chairman: Jerzy A. Filar (Flinders University Bedford Park, South Australia, Australia)

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| 1. | Agnieszka Wiszniewska-Matyszekiel (Institute of Applied Mathematics and Mechanics, Warsaw University, Poland) On new concepts of equilibria in games with imperfect information and ambiguity about future and their applications in economics and ecology |
| 2. | Prasenjit Mondaly & Sagnik Sinha (Mathematics Department, Jadavpur University, Kolkata-India) On Average Reward Semi-Markov Decision Processes: An Example |
| 3. | Philippe Uyttendaele and Frank Thuijsman (Maastricht University, Department of Mathematics, Maastricht, The Netherlands) Evolutionary Games and Local Dynamics |

January 11, 2013 Time: 10:00 -11:30 Venue: Conference Room

Invited Session VIII B

Chairman: Yasunori Kimura (Toho University, Funabashi, Japan)

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| 1. | J. Dutta (Indian Institute of Technology Kanpur, India) Stationarity Concepts for single stage SMPCC problem. |
| 2. | S. K. Mishra and Yogendra Pandey (Banaras Hindu University, Varanasi, India) On Duality For Mathematical Programming Problems With Equilibrium Constraints |
| 3. | Shiv Prasad Yadav (Deptt. of Mathematics, Indian Institute of Technology Roorkee) Data envelopment analysis and its applications |

January 11, 2013 Time: 11:45 -13:15 Venue: Conference Room

Invited Session IX A

Chairman: S. K. Mishra (Banaras Hindu University, Varanasi, India)

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| 1. | P C Jha , (Department of Operational Research University of Delhi) Joint Optimization of Procurement and Distribution in Supply Chain Management |
| 2. | Sanjeet Singh and Nivedita Haldar (Indian Institute of Management Calcutta, , India) A New Method to Solve Bi-level Quadratic Linear Fractional Programming Problems |
| 3. | C.S. Lalitha and Prashanto Chatterjee (University of Delhi) A study of well-posedness and stability in vector optimization problem using Henig proper efficiency |

January 11, 2013 Time: 11:45 -13:15 Venue: Seminar Room 2

Technical Session V A

Chairman: **Prabal Roy Chowdhury, Indian Statistical Institute Delhi Centre**

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| 1. | Debasis Mondal (Indian Institute of Technology Delhi) Private provision of public good game and endogenous inequality |
| 2 | Diganta Mukherjee ,(Indian Statistical Institute, Kolkata) Identity, Envy and Resource Loss |
| 3 | Rajlakshmi Mallik (NSHM Business School, Kolkata) Being Credit Rationed: Perception and Transaction Cost |

January 11, 2013 Time: 11:45 -13:15 Venue: Auditorium

Technical Session V B

Chairman: **Tiru S. Arthanari, University of Auckland, Auckland, New Zealand**

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| 1. | Ritwik Bhattacharya , Biswabrata Pradhan, Anup Dewanji (Indian Statistical Institute, Kolkata), On Optimum Life Testing Plans In Presence of Progressive Censoring : A Cost Function Approach |
| 2 | K.K.Thampi (Department of Statistics, SNMC, M.G.University, Kerala-683516, INDIA) Finite time Ruin Probability of the Compound Renewal Model with Constant Interest rate and Weakly Negatively Dependent Claims. |
| 3 | Sadia Samar Ali (Fortune Institute of International Business, New Delhi) A Value Adding Approach To Reliability Under Preventive Maintenance |
| 4 | To be announced later |

Lunch : Guest House Lawn Time 13:15 – 14:00

January 11, 2013 Time: 14:00 –16:00 Venue: Auditorium

Technical Session VI A

Chairman: Tiru S. Arthanari, University of Auckland, Auckland, New Zealand

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| 1. | Bani Mukherjee and Krishna Prasad (Department of Applied Mathematics, Indian School of Mines, Dhanbad, India) Optimal production inventory model for deteriorating items with production disruption and shortage |
| 2 | Prerna Manik , Anshu Gupta, P. C. Jha (Department of Operational Research, University of Delhi, Delhi) Multi Stage Promotional Resource Allocation for Segment Specific and Spectrum Effect of Promotion for a Product Incorporating Repeat Purchase Behavior |
| 3 | Pratiksha Saxena , Tulsı Kushwaha (Gautam Buddha University, Greater Noida India) Simulation Tool for Inventory Models: SIMIN |
| 4. | Chirag J. Trivedi and Y. K. Shah. (Gujarat University, India) An Analytical Order level Lot size Inventory Model With Random Lead time When Quantity Received Is Uncertain |
| 5 | S. R. Singh & Anuradha (D. N. College Meerut) Perishable Inventory Model with Two type of Retailers under Inflation |
| 6 | Hari Ram Prajapati (Centre for Studies in Economic and Planning, Central University of Gujarat, India) An Application of Game Theory in Strategic Decision of Marriage Occurrence |

January 11, 2013 Time: 14:00 –16:00 Venue: Conference Room

Technical Session VII A

Chairman: S. K. Mishra (Banaras Hindu University, Varanasi, India)

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| 1. | Rajni Goyal And Shiv Prasad Yadav (Indian Institute Of Technology Roorkee, Roorkee-, India.) A New Approach With Biasedness To Construct Balanced Boolean Functions Having The Best Trade-Off Between Nonlinearity And Autocorrelation For 7 Variables |
| 2 | Sujeet Kumar Singh And Shiv Prasad Yadav (Indian Institute Of Technology Roorkee, Roorkee-, India.) A New Approach for Solving Intuitionistic Fuzzy Transportation Problems of Type-2 |
| 3 | Sanjeet Singh and Surya Sarathi Majumdar (Indian Institute of Management Calcutta, Joka, Kolkata, India.) Efficiency improvement strategy under constant sum of inputs with restricted weights |
| 4. | S. K. Mishra and Vivek Laha (Banaras Hindu University, Varanasi, India) On characterizing the blunt minimizers of epsilon convex programs |
| 5 | Vinay Singh, B. B. Upadhyay and Y. Singh (Banaras Hindu University, Varanasi) India Sufficiency and duality in differentiable multiobjective programming involving generalized type-I functions |
| 6 | S.K.Mishra and Kalpna Shukla (Banaras Hindu University, Varanasi) Parametric Dual Models for Semi-infinite Discrete Minimax Fractional Programming Problems Involving Generalized $V - \rho$ Invex Functions. |