International Conference on Computational Operations Research and Algorithmic Game Theory

January 21-23, 2025

Program Overview

Inaugural Session Details

January 21, 2025 Time: 10:00 -10:30 Venue: Auditorium

Welcome address, Opening Remarks, About the Conference, Vote of Thanks

Group Photograph 10:30-10:45 Tea Break: 10:45 -11:00

Sessions Details

January 21, 2025 Time: 11:00 -13:00 Venue: Auditorium

Invited Session I

Chairman : Reinoud AMG Joosten, University of Twente, The Netherlands.

| 1. | Juan Enrique Martinez-Legaz (Universitat Autnoma de Barcelona, Spain), Four |
|----|--|
| | Types of Voronoi Diagrams |
| 2. | Yasunori Kimura (Toho University, Funabashi, Japan) Convex minimization |
| | problem and approximating technique inspired by the cutting-plane method |
| 3. | Lina Mallozzi (Department of Mathematics and Applications "R. Caccioppoli" |
| | University of Naples "Federico II") Core solutions for normal form non-cooperative |
| | games |
| 4. | Andreay Garnaev (Rutgers University, North Brunswick, NJ 08901, USA) Fairness |
| | as a criterion in game-theoretical models of wireless communication |

Lunch Break: 13:00 -14:00 Venue: Guest House Lawn

January 21, 2025 Time: 14:00 -15:30 Venue: Auditorium

Invited Session II

Chairman: Yasunori Kimura, Toho University, Funabashi, Japan

| 1. | J. Dutta (Institute of Technology, Kanpur, India) Tea time notes on error bounds. |
|----|--|
| 2. | Sanjeet Singh, (Indian Institute of Management Lucknow), An Innovative Stochastic Cross- |
| | Evaluation Framework for Building Composite Indicators |
| 3. | Michal Feldman, (Tel Aviv University, Israel), Ambiguous Contracts |
| | |

January 21, 2025 Time: 14.00 -15:30 Venue: Conference Room

Technical Session-I

Chairman : Michel De Lara (Cermics, 'Ecole nationale des ponts et chauss'ees, IP Paris, France)

| 1. | Michel De Lara (Cermics, 'Ecole nationale des ponts et chauss'ees, IP Paris, France) |
|----|--|
| | Games in Product Form |
| 2. | Thirumulanathan D (Indian Institute of Technology Kanpur) KKT Reformulations for |
| | Single Leader and Multi-Follower Games |
| 3. | Amit Kumar Bardhan (University of Delhi, Delhi) Frequency, Market Size, and |
| | Airline Competition |
| 4. | Kishan Suthar (Indian Institute of Management Indore) Stochastic Generalized Nash |
| | Equilibrium under Shared Constraints: A CVaR-Based Approach |

Tea: 15:30-15:45

January 21, 2025 Time: 15:45 -18:45 Venue: Auditorium Best Paper award Session (Methodology/Application Category Chairman : Lina Mallozzi ,Department of Mathematics and Applications "R. Caccioppoli" University of Naples "Federico II"

| 1. | Anveksha Moar (University of Delhi) An algorithm to solve polytopic set optimization |
|-----|---|
| | problem based on a partial set order relation. (Mehodology category) |
| 2. | Rupesh K. Pandey (IIT Patna) A Generalization of Generalized Hukuhara Newton's |
| | Method for Interval-Valued Multiobjective Optimization Problems (Mehodology |
| | category) |
| 3 | Subham Poddar (IIT Patna) Inexact proximal point method with a Bregman |
| | regularization for quasiconvex multiobjective optimization problems via limiting |
| | subdifferential (Mehodology category) |
| 4. | Pallabi Samal, IIT (ISM), Dhanbad, LP well-posedness for multidimensional bilevel |
| | controlled variational inequalities (Mehodology category) |
| 5 | Shivani Sain (IIT Patna) Characterizations of the solution set of nonsmooth semi-infinite |
| | programming problems on Hadamard manifold (Mehodology category) |
| 6. | Sunil Kumar (ISI Chennai Centre) On Completely Mixed Games (Mehodology category) |
| 7. | Prachi Sachan (Banaras Hindu University) On multiobjective optimization problems |
| | involving higher order strong convexity using directional convexificators (Mehodology |
| | category) |
| 8 | Vandana Singh (Institute of Science, Banaras Hindu University0 On multiobjective |
| | semi-infinite programs with vanishing constraints and tangential subdifferentials |
| 9. | Pooja Balhara (Birla Institute of Technology and Science, Pilani) Dependability-Based |
| | Analysis for Spectrum Sensing and Spectrum Access in Cognitive Radio Networks with |
| | Heterogeneous Traffic (Application Category) |
| 10. | Sajal Ghosh (ISI Delhi Centre) On Solving a Larger Subclass of Linear Complementarity |
| | Problems by Lemke's Method (Application Category) |
| 11 | Raina Ahuja (Thapar Institute of Engineering and Technology, Patiala, Punjab) Multi- |
| | criteria decision-making using a complete ranking of generalized trapezoidal fuzzy |
| | numbers: modified results (Application Category) |

Tea: 15:30-16:00 January 21, 2025 Time: 16:00 -18:45 Venue: Conference Hall Technical Session-II

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

| 1. | Abarar Ahamad Khan (Manipal University Jaipur, Jaipur)Combinatorial |
|----|--|
| | optimization of Balanced Transportation Problem Using Parametric Analysis |
| 2. | Nandhini K (Division of Mathematics, Vellore Institute of Technology Chennai) A |
| | Matrix Analytic Method of Fluid queues with Adaptive Sleep Mode Strategies: To |
| | empower energy efficiency in 5G |
| 3 | Rishita Mishra (Manav Rachna University) COMPARATIVE ANALYSIS OF: NEW |
| | VOGEL'S APPROXIMATION METHOD WITH LOGICAL DEVELPOPMENT OF VOGEL'S |
| | APPROXIMATION METHOD |
| 4. | Awdhesh Kumar Bind (DR. B.R. Ambedkar National Institute of Technology Jalandhar, |
| | Punjab)A Modified Particle Swarm Optimization Algorithm to Solve the Solid |
| | Transportation Problem |
| 5 | Vaishaly Verma (Motilal Nehru National Institute of Technology Allahabad, Prayagraj, |
| | Uttar Pradesh) A novel approach for solving linear fractional programming problem in a |
| | Neutrosophic environment: Application in Production Planning Problem |
| 6. | Saurabh Kumar Mishra (Madan Mohan Malaviya University of Technology, Gorakhpur, |
| | U.P) Optimizing Substitution Policies in EOQ-Based Inventory Model Considering |
| | Weighted Demand Factors: Promotion, Pricing, and Seasonality |
| 7. | Neeraj Singh (Thapar Institute of Engineering and Technology Patiala) Interval-Valued |
| | Bilevel Optimization Problem with Equilibrium Constraints: Application to Risk |
| | Management |
| 8. | Fida Parveen (Vellore Institute of Technology, Chennai) Enhancing Retrial Queue with |
| | Neutrosophic Sets: An Innovative Parametric Programming Approach to Uncertainty in |
| | Arrival, Service, and Retrial Parameters |
| 9. | |
| 10 | |

Conference Dinner: 7:30 pm onwards

Venue: Guest House Lawn

January 22, 2025 Time: 9:30 -11:30 Venue: Auditorium

Invited Session III

Chairman: Juan Enrique Martinez-Legaz, Universitat Autnoma de Barcelona, Spain

| 1. | Edith Elkind, University of Oxford, Towards fair and efficient public transportation: the bus stop |
|----|--|
| | model |
| 2. | Bart de Keijzer (King's College London), Not Obviously Manipulable and Budget-Feasible |
| | Mechanism Design |
| 3. | Reinoud Joosten (University of Twente, The Netherlands), Rogier Harmelink, Three person data |
| | sharing dilemmas. |
| 4. | S. Dharmaraja, Indian Institute of Technology Delhi, India, Reliability Analysis of Communication |
| | Systems |

Tea Break: 11:30 -12:00

January 22, 2025 Time: 12:00 -13:00 Venue: Auditorium

Invited Session IV

Chairman: Arunava Sen, Indian Statistical Institute Delhi Centre

| 1. | N. Hemachandra, (Indian Institute of Technology Bombay, India), Game theoretic analysis of cross |
|----|--|
| | channel retailing |
| 2. | Vijay V. Vazirani, University of California, Irvine, The Assignment Game: Equitable Core |
| | Imputations |

Tea Break: 11:30 -12:00

January 22, 2025 Time: 12:00 -13:00 Venue: Conference Room

Technical Session III

Chairman: Bart de Keijzer (King's College London)

| 1. | Vivek Laha (Institute of Science, Banaras Hindu University, Varanasi) SOME APPLICATIONS OF |
|----|---|
| | DIRECTIONAL CONVEXIFICATORS IN NONSMOOTH OPTIMIZATION PROBLEMS |
| 2. | Gaurav Uniyal (Indian Institute of Technology (Indian School of Mines), Dhanbad, India) Semi- |
| | infinite variational programming problem with Caputo-Fabrizio fractional derivative |
| 3. | Vinay Singh (National Insitute of Technology Mizoram, Chaltlang, Aizawl, Mizoram, India) |
| | Sufficient and duality results for nonsmooth multiobjective semi-infinite programming with |
| | switching constraints using tangential subdifferentials |

Lunch Break: 13:00 -14:00 January 22, 2025 Time: 14:00 -16:00 Venue: Auditorium

Invited Session V

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

| 3 | Dipti Dubey (Shiv Nadar University) On Almost Semimonotone Matrices |
|----|---|
| | Pandam Constrained Markov Dagisian Process |
| 3. | Vikas Vikram Singh, (Indian Institute of Technology Delhi, India) Convex Approximations of |
| | Matrix |
| | Republic, A New Nucleolus-Like Method to Compute the Priority Vector of a Pairwise Comparison |
| 2. | David Bartl, Silesian University in Opava, School of Business Administration in Karvina, Czech |
| | vanishing constraints. |
| | Jharkhand, India), Exact penalty results for semi-infinite interval-valued mathematical programs with |
| 1. | Anurag Jayswal (Indian Institute of Technology (Indian School of Mines), Dhanbad-826004, |

January 22, 2025 Time: 14:00 -16:00 Venue: Conference Room

Technical Session IV

Chairman: Vivek Laha (Institute of Science, Banaras Hindu University, Varanasi)

| 1. | Soham Das (Indian Institute of Technology Delhi, Hauz Khas, New Delhi) The Modified Solution |
|----|--|
| | Space Truncation Algorithm |
| 2. | Rekha (Shiv Nadar Institution of Eminence) Compressive Sensing: A Paradigm Shift in Computer |
| | Tomography Image Reconstruction |
| 3. | Saad Ashraf (Bennett University, Greater Noida, UP) Remuneration Strategies to Gig-based |
| | Delivery Workers for Competing Online Delivery Platforms |
| 4. | Rimpi (Maitreyi College, University of Delhi) On Weak Sharpness and Optimality Conditions in |
| | Multiobjective Optimization through Convexificators4. |
| 5 | Vimal Dixit (Jawaharlal Nehru University, New Mehrauli Road, New Delhi) Optimizing |
| | Hyperparameters in Quantum Neural Networks using the ANOVA Framework |
| 6. | Vaibhav Kannojiya (Jawaharlal Nehru University, New Mehrauli Road, New Delhi)Application |
| | of Structured Sparsity Techniques in Natural Language Processing |
| 7. | Manikandan Rangaswamy (Central University of Kerala, Kasaragod) Customer Decision- |
| | Making in M/M/1 Queueing-Inventory Systems with Dual Replenishment Policies |
| 8 | Saleem Yousuf (Department of Mathematics and Computing, IIT (ISM), Dhanbad) Earth Moon |
| | Optimal Transfer Trajectory using Particle Swarm Optimization |

Tea: 16:00-16:30

January 22, 2025 Time: 16:30 -18:15 Venue: Auditoriam

Technical Session V

Chairman: Reinoud AMG Joosten, University of Twente, The Netherlands.

| 1. | Yogendra Pandey (Satish Chandra College, Ballia, India.) Optimality conditions for robust |
|----|--|
| | nonsmooth multiobjective optimization problem using tangential subdifferentials |
| 2. | Ajeet Kumar (Indian Institute of Technology (Indian School of Mines), Dhanbad, India) A |
| | parametric approach for robust semi-infinite interval-valued optimization problems |
| 3. | Anjali Rawat (National Insitute Of Technology Mizoram, Chaltlang, Aizawl, Mizoram, India) A |
| | neurodynamic model for solving MPEC and its application to Stackelberg–Cournot–Nash |
| | equilibrium problem |
| 4. | Poushali Das (Indian Institute of Technology Patna)Gap Functions and Error Bounds for a Class of |
| | Stochastic Vector Quasi-Variational Inequality Problems |
| 5 | Rishabh Pandey (National Insitute Of Technology Mizoram, Chaltlang, Aizawl, Mizoram, |
| | India)Sufficient and Duality For Nonsmooth Interval-Valued Bilevel Optimization Problem |

January 22, 2025 Time: 16:30 -18:15

Venue: Conference Room

Technical Session VI

Chairman: Nagarajan Krishnamurthy (Indian Institute of Management (IIM), Indore)

| 1. | Manish Sarkhel (Indian Institute of Management, Sirmaur) Strategic Network Formation in |
|----|---|
| | Manufacturing & Distribution |
| 2. | Debasish Ghorui (Ghani Khan Choudhury Institute of Engineering and Technology, Malda) On |
| | existence and computation of ε-Nash equilibrium strategies for generalized bimatrix game |
| 3. | Shubham Singh (VIT-AP University, Amaravati, Andhra Pradesh, India.) A Relationship Between |
| | Multitime Fractional Variational-Like Inequalities and Optimization Problems |
| 4. | Sudeep Singh Sanga (SV National Institute of Technology, Surat, Gujarat, India) Analysis of a |
| | Finite Multi-Server Queue with Admission Control and Customer Balking |
| 5 | Varun Kumar S G (Manipal Academy of Higher Education)Predicting and Explaining |
| | Electric Vehicle Adoption with Shapley Additive Explanation |

January 23, 2025 Time: 9:30 -11:30 Venue: Auditorium

Invited Session VI

Chairman: Agnieszka Wiszniewska-Matyszkiel, University of Warsaw, Poland

| 1. | Nagarajan Krishnamurthy (Indian Institute of Management (IIM), Indore) Pure Nash Equilibria in |
|----|--|
| | Bimatrix Games |
| 2. | Agnieszka Wiszniewska-Matyszkiel, University of Warsaw, Poland and Rajani Singh, Copenhagen |
| | Business School, Denmark, How to avoid the tragedy of the commons in the imprefect wordl |
| 3. | Gajendra Pratap Singh (School of Computational and Integrative Sciences, Jawaharlal Nehru |
| | University, New Delhi-110067, India) Optimizing Graph Algorithms through Petri Net Modeling |
| | and Simulation |
| 4. | Best paper award Ceremony |

Tea Break: 11:30 -12:00

January 23, 2025 Time: 12:00 -13:00 Venue: Auditorium

Invited Session VII

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

| 1. | T. E. S. Raghavan, (University of Illinois at Chicago, USA) An algorithm for computing the |
|----|---|
| | nucleolus for cyclic permutation games |
| 2. | Pankaj Gupta (University of Delhi, India) Large-scale group decision-making under uncertainty |

January 23, 2025 Time: 12:00 -13:00 Venue: Conference Hall

Technical Session VII

Chairman: Shanta Laishram, Indian Statistical Institute, Delhi Centre

| 1. | Shubham Kumar Singh (Indian Institute of Technology Patna) Duality for Nonsmooth |
|----|---|
| | Semidefinite Multiobjective Programming Problems with Equilibrium Constraints Using |
| | Convexificators |
| 2. | Bhawna Kohli (SGND Khalsa College, University of Delhi, Delhi) On Schaible dual for |
| | bilevel multiobjective fractional programming problem |
| 3. | Akriti Dwivedi (Banaras Hindu University, Varanasi, India)ON APPROXIMATE SOLUTIONS |
| | FOR NONSMOOTH INTERVAL-VALUED MULTIOBJECTIVE OPTIMIZATION PROBLEMS WITH VANISHING |
| | CONSTRAINTS |

Lunch Break: 13:00 -14:00 January 23, 2025 Time: 14:00 -16:00 Venue: Auditorium Invited Session VIII Chairman: C. S. Lalitha. (University of Delbi South Compus)

| | Chairman: C. S. Lantha, (University of Deini South Campus), |
|----|--|
| 1. | S.K. Mishra (Banaras Hindu University, India) Duality for Mathematical Programs in terms of |
| | Tangential Subdifferentials |
| 2. | C. S. Lalitha, (University of Delhi South Campus), Painlevé-Kuratowski Convergence of Solution |
| | Sets in Set Optimization |
| 3. | Tadashi SAKUMA, Yamagata University, Japan, The pebble motion problem |

January 23, 2025 Time: 14:00 -16:00 Venue: Conference Hall

Technical Session VIII

Chairman: Monisankar Bishnu, Indian Statistical Institute, Delhi Centre

| 1. | Prashant Jaiswal, Banaras Hindu University, Varanasi, India OPTIMALITY CONDITIONS |
|----|--|
| | FOR NONSMOOTH QUASIDIFFERENTIABLE MATHEMATICAL PROGRAMS WITH |
| | EQUILIBRIUM CONSTRAINTS IN BANACH SPACES |
| 2. | Murari Kumar Roy (Graphic Era (Deemed to be University), Dehradun)Optimality and duality in |
| | multi-objective fractional programming problem using generalized convex functions |
| 3. | Priyanka Bharati (Banaras Hindu University, Varanasi, India) OPTIMALITY CRITERIA FOR ROBUST |
| | MULTIOBJECTIVE OPTIMIZATION WITH VANISHING CONSTRAINTS UNDER UNCERTAIN DATA |
| 4. | Gautam Beniwal (Manipal University Jaipur) Networks System with Unreliable Nodes |
| 5. | Vidhi Tiwari (Graphic Era Deemed to be University) Food waste system reliability evaluation with |
| | Pythagorean fuzzy approach |
| 6. | |

Tea Break: 16:00 -16:15

January 23, 2025 Time: 16:15 -18:30 Venue: Auditorium

Technical Session IX

Chairman: Deepayan Sarkar, Indian Statistical Institute, Delhi Centre

| 1. | Mukil M (Vellore Institute of Technology, Chennai campus)Parametric Analysis of Neutrosophic |
|----|--|
| | Vacation Queues |
| 2. | Merina Dhara (Indian Institute of Technology, Madras) Integrating ARMAX Forecasting with |
| | Game Theoretic Applications for Analyzing HRV Data in Strategic Decision-Making |
| 3. | N Vimalraj (Vellore Institute of Technology, Chennai) Analysis of Single and Multiple Server |
| | Finite Capacity Neutrosophic Queueing Model |
| 4. | Satyendra Kumar (SSSVS Government PG College Chunar, Mirzapur, Uttar Pradesh, |
| | Approximation of Common Fixed Points and Solution of Variational Inequality using a new |
| | Viscosity-extragradient method of S-iteration type |
| 5. | Priya Sharma (University of Delhi, Delhi 110007, India) Integrating Machine Learning and Fuzzy |
| | Logic for Large-Scale Decision-Making Frameworks |
| 6. | |

January 23, 2025 Time: 16:15 -18:30 Venue: Conference Hall

Technical Session X

Chairman: Anurag Jayswal* (Indian Institute of Technology (Indian School of Mines), Dhanbad

| 1. | Prabhjot Kaur (UIET, Panjab University, Chandigarh, 160014, India) A bi-criteria bottleneck |
|----|---|
| | assignment problem with categorized tasks |
| 2. | Dr. Anupam (Netaji Subhas University of Technology) Reliability analysis of energy |
| | management subsystem in a high altitude platform station |
| 3. | Bhawna Kohli (SGND Khalsa College, University of Delhi, Delhi) On Schaible dual for |
| | bilevel multiobjective fractional programming problem |
| 4. | |
| 5. | |
| 6. | |