

***International Conference on Operations
Research and Game Theory with Economic
Applications***

January 28-30, 2026

ICORGTE26



Organized by

Centre for Research on Economics and Data Analysis

Indian Statistical Institute Delhi Centre

Contents

Welcome.....	3
Committees.....	6
Overview of Program.....	9
Abstract of the papers	18
Paper for consideration for the Best Paper Award.....	84

Welcome to ICORGTE 2026

On behalf of the organizers of ICORGTE26, I welcome you in the three days International Conference on Operations Research and Game Theory with Economic Applications (ICORGTE) organized by Centre for Research on Economics and Data Analysis (**CREDA**) during 28-30 January 2026 at Indian Statistical Institute, Delhi Centre.

This International conference on Operations Research and Game Theory aims at discussing new developments in the methods of decision making in Economic Applications and promises to build an interaction between the users from industry and the academic model developers by bringing them together. **ICORGTE** intends to present the state-of-the-art results and recent advances in these areas with a view to highlight possible future course of research in economic applications of these models working in the area of Operations Research (OR), Management Science, Data Science.

This conference also intends to bring out a publication of selected and refereed papers in the Special Issues on Computational Operations Research and Algorithmic Game Theory in honor of Prof. T. Parthasarathy and Prof. T. E. S. Raghavan focused on "Operations Research and Algorithmic Game Theory". We invite researchers and scholars from various disciplines to participate/present the paper in this conference and contribute their original research papers to this conference and special issues.

Selected articles will get an opportunity of possible publication in special issues of the following journals.



subject to acceptance after the standard peer review process adopted by the journals.

The aim of these special issues is to explore both theoretical and algorithmic advances in the field of computational operations research and algorithmic game theory. Furthermore, these special issues will focus on game theoretical applications of Operations Research

Also, book chapters/expository articles are invited for the book-volume ‘Applied Operations Research, Game theory, and Decision Science’ which is intended to be published in some reputed series of SPRINGER.



Authors are encouraged to submit papers as a book chapter/ expository articles that contribute to the advancement of knowledge in the field and offer practical insights for policymakers, industry professionals, and researchers. All submissions will undergo a rigorous peer-review process to ensure the highest quality of published articles. Paper presented in the conference may be submitted as a book chapter before June 30, 2026 to the organizing committee chair Prof. S. K Neogy (e.mail: skn@isid.ac.in)

The conference topics include (but not limited to):

- *Operations Research problems in Statistics and Game Theory*
- *Application of operations research in Management science and Economics*
- *Unconstrained and constrained optimization.*
- *Game Theoretical applications of Operations Research*
- *Multi-objective and robust optimization*
- *Integrating Artificial Intelligence, machine learning and operations research methods*
- *Exact/heuristic hybrid methods, involving natural computing techniques in operations research and game theory*
- *Optimization in dynamic and/or noisy environments*
- *Optimization on graphs*
- *Large-scale optimization, in parallel and distributed computational environments*

- *Static and Dynamic games*
- *Complementarity and Variational inequalities model in Game Theory*
- *Portfolio Optimization*
- *Stochastic Optimization*
- *Financial Optimization*

Research articles with novelty presented at the conference shall qualify for the possible publication in any of the above publications, if the article is within the scope of the conference as well as the journal and clears the standard peer review process adopted by the journal. Review articles with contents useful for future research and open problems are also welcome.

You may write to the organizing committee chair (**Prof. S. K. Neogy, e.mail skn@isid.ac.in**) about suitability of your paper and Journal name for submission from the journals listed above after acceptance of the abstract to be presented in the conference.

Information about social events will be available to you at the time of registration.

S. K. Neogy
Organizing Committee Chair

Organizing Committee

S. K. Neogy (Chair), Indian Statistical Institute, Delhi Centre



R.B. Bapat, Indian Statistical Institute, Delhi Centre



Arunava Sen, Indian Statistical Institute, Delhi Centre



Prabal Roy Chowdhury, Indian Statistical Institute, Delhi Centre



Monisankar Bishnu, Indian Statistical Institute, Delhi Centre



K. Manjunatha Prasad, Manipal Academy of Higher Education, Manipal



Deepayan Sarkar, Indian Statistical Institute, Delhi Centre



Programme Co-ordinating Committee

Prabal Roy Chowdhury, R. B. Bapat, K. Manjunatha Prasad, Deepayan Sarkar

Facilities Committee

Samapan Padhi (Chair), Simmi Marwah, S. A. Srinivas, Pankaj Kumar Meena, Parama Gogoi, P. Sreejith, Dinesh Kumar, Rajes, Khusboo Singh, Praveen Pandey -- Convener



International Conference on Operations Research and Game Theory with Economic Applications

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Program Overview

Inaugural Session Details

January 28, 2026 Time: 10:00 -10:30 Venue: Auditorium

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

Group Photograph 10:30-10:45

Tea Break: 10:45 -11:00

Sessions Details

January 28, 2026 Time: 11:00 -13:00 Venue: Auditorium

Invited Session I

Chairman : S K Neogy, Indian Statistical Institute Delhi Centre

1.	Yasunori Kimura (Toho University, Funabashi, Japan) Iterative schemes for approximating a solution to a convex minimization problem over fixed point sets
2.	T. E. S. Raghavan , (University of Illinois at Chicago, USA) On the applications of scaling the entries of a matrix
3.	C. S. Lalitha (Department of Mathematics, University of Delhi South Campus, New Delhi) Essential stability for vector variational inequality problems
4.	Andreay Garnaev (Rutgers University, North Brunswick, NJ 08901, USA) Guaranteed Payoffs Resource Allocation Problem with Game-Theoretic Applications

Lunch Break: 13:00 -14:00

Venue: Guest House Lawn

January 28, 2026 Time: 14:00 -15:20 Venue: Auditorium

Invited Session II

Chairman: S K Neogy, Indian Statistical Institute Delhi Centre

1.	Frank Thuijsman (Maastricht University, The Netherlands) Industry-Academia Collaboration - A Game Theoretic Approach
2.	Bo Chen (The University of Warwick, UK) Sequential Voting and the Reliability of Collective Decisions: Game-Theoretic Insights from Condorcet Juries to Digital Platforms.

January 28, 2026 Time: 14.00 -15:00 Venue: Conference Room
Technical Session-I
Chairman : Aseem Pahuja, University of Manchester

1.	Aseem Pahuja a, Zhiling Guo b, Tahir Abbas Syed a(a University of Manchester , b University of North Texas) Sweet Little Lies: Strategic Manipulation by AI Shopping Assistants
2.	Thirumulanathan D (Indian Institute of Technology Kanpur) On the equivalence of Monge and Kantorovich Problems in Discrete Optimal Transport
3.	Ram Kumar Phuyal (Tribhuvan University, Kirtipur, Nepal) Duopoly Competition with Quality-Dependent Fixed Costs in Covered and Uncovered Markets

January 28, 2026 Time: 14.00 -15:20 Venue: Seminar Room 2
Technical Session-II
Chairman : Vivek LAHA Banaras Hindu University, Varanasi, India

1.	Palanivel K. (Vellore Institute of Technology (VIT), Vellore) Sustainable optimization of E-waste management through neutrosophic applications: A comprehensive decision-making approach
2	Amit Kumar Goyal (Manipal University Jaipur) Two-warehouse inventory model for imperfect production process under the effect of learning
3.	Sudharsan J R (Vellore Institute of Technology, Vellore, India) Sustainable Biomedical Waste Optimization through Neutrosophic Decision Making
4.	

January 28, 2026 Time: 15.30 -18:30 Venue: Seminar Room 2
Technical Session-III

Chairman : Anurag Jayswal, Indian Institute of Technology (ISM) Dhanbad

1.	Vivekananda Rayanki (VNR Vignana Jyothi Institute of Engineering and Technology affiliated to JNTU Hyderabad) Variational Control Problems with Multiobjective Interval-Valued Functions: Optimality and Duality
2.	Km Raksha (Department of Economics, University of Allahabad) Optimal Export Allocation and Growth Outcomes: Evidence from India
3	Akhilesh Kumar (Arignar Anna Government Arts & Science College, Karaikal) Optimal Replenishment Policy for a Dual-Warehouse Fractional-Order Inventory System with Memory-Dependent Deterioration and Shortages
4	Prashant Khileri (Christ (Deemed to be University) A Sustainable Inventory Model for Growing Items Considering Carbon Emission, Trade Credit, and Shortages.
5	Akanksha Singh (Chandigarh University, Gharuan, Mohali) Generalized Fuzzy Entropy for Intuitionistic Fuzzy Soft Sets: Theoretical Insights and Decision-Making Applications
6	Muskaan Saini (Sardar Vallabhbhai National Institute of Technology, Surat) Application of Double Orbit Retrieval Repair Model in Hydraulic Cylinder Repair Workshop
7.	Arpita Bhattacharyya (Indian Institute of Social Welfare & Business Management, University of Calcutta, Kolkata) Optimization of the Number of Variables for Model Development
8.	Ayushi Verma (Bundelkhand University, Jhansi) A Hybrid WASPAS-CRADIS Decision Analytics Framework for Smart Power Grid Analyst Selection under Multi-Criteria Environments
9.	

January 28, 2026 Time: 17:00- 18:30 Venue: Conference Room

Technical Session-IV

Chairman : Thirumulanathan D (Indian Institute of Technology Kanpur)

1.	Ayush Gupta (Indian Institute of Management Indore) Advance Purchasing: Strategic Inventory or Forward Contracts?
2.	KM Soni ((MNNIT Allahabad) Ant colony optimization algorithm for solving capacitated vehicle routing problem with neutrosophic fuzzy stochastic demands
3	Afasar Ali (MNNIT Allahabad) A hybrid ant colony optimization algorithm based on clark wright saving algorithm for vehicle routing problem with driver fatigue
4	Sourish Dutta (VIPS-TC (GGSIPU, Delhi)) The Anatomy of Value Creation: Input-Output Linkages, Policy Shifts, and Economic Impact in India's Mobile Phone GVC

Tea: 15:00-15:30

January 28, 2026 Time: 15:30 -18:45 Venue: Auditorium

Best Paper award Session (Methodology/Application Category)

Chairman : K. Manjunatha Prasad, Manipal Academy of Higher Education, Manipal

1.	Shivani Sain (IIT Patna) Gap Functions and Existence Results for Approximate Vector Variational Inequality Problems on Hadamard Manifolds (Mehodology Category)
2.	Subham Poddar (IIT Patna) Inertial proximal point algorithm on Hadamard manifolds: convergence analysis and finite termination (Mehodology Category)
3.	Gaurav Uniyal (IIT (ISM), Dhanbad) Lagrange duality and saddle point criteria for semi-infinite variational programming problem with Caputo-Fabrizio fractional derivative (Mehodology category)
4.	Prashant Jaiswal (Banaras Hindu University) On quasidifferentiable interval-valued multiobjective optimization (Mehodology Category)
5.	Pallabi Samal, IIT (ISM), Dhanbad, Well-posedness of multidimensional semi-infinite variational inequalities with applications (Mehodology Category)
6	Meenakshi(University of Delhi) Normal Cones in Groups and Optimality Conditions (Mehodology category)
7	Divyaneer Garg (IIT Delhi) Enhanced indexing using cumulative prospect theory utility function with expectile risk (Application Category)
8.	Salini K (Central University of Kerala) The Price of Anarchy in Queueing-Inventory Systems with Delay-Sensitive Customers (Application Category)
9	Akhil Vijayan R (Central University of Kerala) Assessing the Impact of Replenishment Policies and Repair Mechanisms on Energy Management System Reliability (Application Category)
10	Rekha (Shiv Nadar Institution of Eminence) An Optimized Model for Pseudo-Random and Deterministic Construction of Sensing Matrix (Application Category)
11.	Sajal Ghosh (ISI Delhi Centre) A Note on Some Open Problems on Quitting Games (Application Category)
12	Kamayani Shukla (Netaji Subhas University of Technology, Delhi) Robust Portfolio Optimization via Linear Deviation Risk Measures (Application Category)

Cultural Programme: 7pm-8pm

Venue: Auditorium

Conference Dinner: 8:15 pm onwards

Venue: Guest House Lawn

January 29, 2026 Time: 10:00 -11:45 Venue: Auditorium

Invited Session III

Chairman: Reinoud Joosten (University of Twente)

1.	Reinoud Joosten (University of Twente, The Netherlands), The power of weak threats in stochastic games
2.	Anurag Jayswal (Indian Institute of Technology (Indian School of Mines), Dhanbad-826004) A neural network approach for mathematical programming problems having vanishing constraints
3.	J. Dutta (Indian Institute of Technology Kanpur, India) Second Order Conditions in Convex Multiobjective Optimization

Tea Break: 11:45 -12:00

January 29, 2026 Time: 12:00 -13:00 Venue: Auditorium

Invited Session IV

Chairman: S. Dharmaraja, (Indian Institute of Technology Delhi, India)

1.	S. Dharmaraja , (Indian Institute of Technology Delhi, India), Reliability analysis of anti-UAV systems: an analytical approach
2.	Bart de Keijzer (King's College London) On the Approximation Ratio of Optimal Fixed-Price Mechanisms for Single and Multi-Unit Bilateral Trade

Tea Break: 11:30 -12:00

January 29, 2026 Time: 12:00 -13:00 Venue: Conference Room

Technical Session V

Chairman: Varun Ramamohan (Indian Institute of Technology Delhi)

1.	Ram Krishna Vinayak (IIT Delhi) Farmer's Game: A N-person Stag hunt game model
2.	Arindam Maity (IIT Guwahati) Robust mean-variance portfolio selection with intractable claim under probability distortion
3.	Varun Ramamohan (Indian Institute of Technology Delhi) A Statistical Assessment of the Impact of Machine Learning Inputs on the Performance of Integer-Valued Markowitz-Type Portfolios

Lunch Break: 13:00 -14:00

January 29, 2026 Time: 14:00 -16:00 Venue: Auditorium

Invited Session V

Chairman: Agnieszka Wiszniewska-Matyszek (Institute of Applied Mathematics and Mechanics. University of Warsaw, Poland)

1.	Gajendra Pratap Singh (Jawaharlal Nehru University, New Delhi-110067, India) Characterization and Optimality of Boolean and Crisp Boolean Petri Nets
2.	David Bartl, (Silesian University in Opava, School of Business Administration in Karvina, Czech Farkas' Lemma), Gale's Theorem of the Alternative, and the Bondareva-Shapley Theorem in the Infinite Case
3.	Vikas Vikram Singh, (Indian Institute of Technology Delhi, India) Distributionally Robust Single-Controller Chance-Constrained Stochastic Games
4.	Dipti Dubey, (Shiv Nadar University), On the Properties of Solutions of Absolute Value Equations and Related Matrix Classes

January 29, 2026 Time: 14:00 -16:00 Venue: Conference Room

Technical Session VI

Chairman: Abhay G. Bhatt (Indian Statistical Institute Delhi)

1.	Akriti Dwivedi (Banaras Hindu University, Varanasi) Stationarity conditions for nonsmooth interval-valued multiobjective semi-infinite programming problems with switching constraints via tangential subdifferentials
2.	Bhawna Kohli (Sri Guru Nanak Dev Khalsa College, University of Delhi) A study on solution criteria for bilevel multi-objective optimization problems
3.	Shweta Yadav (Shiv Nadar Institution of Eminence) On the Properties of Solution Set of Absolute Value Equations
4.	Dinesh Kumar (Indian Institute of Technology Kharagpur, Kharagpur) A Subgradient-Based Approach for Nonsmooth Quasiconvex Multiobjective Optimization
5.	Rashmi Kumari (Indian Institute of Technology Kharagpur) A Two-Step Smoothing Newton Method for Second-Order Cone Complementarity Problems
6.	Umashankar Bajpei (Banaras Hindu University, Varanasi, India) Vector Optimization Problems and Vector Variational Inequalities via Lower Global Subdifferentials

Tea: 16:00-16:30

January 29, 2026 Time: 16:30 -18:50 Venue: Auditoriam

Technical Session VII

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

1.	Dipanjali Ghosh (Indian Institute of Technology Bombay) Efficiency is not Stability: An Endogenous Coalition formation game in Last-mile delivery
2.	Neha Punetha (IIIT Delhi) Integrating Game Theory and Linguistic Intelligence for Hindi Review Sentiment
3.	Arpan Dutta (IIT Kharagpur) A bilevel approach to optimize farm subsidies in India
4.	Kushal Guha (Amity University Kolkata) β -Discounted Approximations and Limiting Average Optimality in Zero-Sum Perfect Information Stochastic Games
5	Karl Darryl Lewis (Indian Institute of Technology Madras) Replicator Dynamics on Bilinear Games with Exponential Strategies: A Comparison with Static Stability
6	Paritosh Roy (IIT Delhi) Discounted Robust stochastic games
7	Ghurumuruhan Ganesan (University of Bristol) Redundancy mitigation in big data using graphs and Shapley value

January 29, 2026 Time: 16:30 -18:30

Venue: Conference Room

Technical Session VIII

Chairman: J. Dutta (Indian Institute of Technology Kanpur, India)/ **K.S. Mallikarjuna Rao** (Indian Institute of Technology Bombay, India)

1.	Priyanka Bharati (Banaras Hindu University) Stationarity conditions and constraint qualifications for robust nonsmooth optimization problems with switching constraints
2.	Debasish Ghorui (Ghani Khan Choudhury Institute of Engineering and Technology, Malda) Solutions of Binary Mean Payoff Games and its Matrix Classes
3.	Vanshika Datta (IIT Kharagpur) Robust Optimization Frameworks for 3D Sensor Networks in Uncertain Terrains
4.	Vandana Singh (Indian Institute of Technology (BHU)) Duality results for quasidifferentiable mathematical programs with equilibrium constraints
5	Dhruv Singh (Institute of Science, Banaras Hindu University, Varanasi) Duality results for E-differentiable multiobjective fractional programming problems under E-B-invexity
6.	Prasad Kothari (Editorial Board Member - Blockchain for Healthcare Today), Evolutionary Game Theory for Optimizing LLM Performance, Compute Costs, Hallucinations, and Accuracy

January 30, 2026 Time: 10:00 -11:30 Venue: Auditorium

Invited Session VI

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

1.	Agnieszka Wiszniewska-Matyszek (Institute of Applied Mathematics and Mechanics. University of Warsaw, Poland) Partial cooperation in resource extraction on networks: sharing wealth versus sharing extraction rights
	K.S. Mallikarjuna Rao (Indian Institute of Technology Bombay, India) Cooperative Games and Focal Point Inducing Mechanisms
3.	R K Amit (IIT Madras) Approximate dynamic programming based thresholds for cargo capacity management considering postponements

Tea Break: 11:30 -12:00

January 30, 2026 Time: 12:00 -13:00 Venue: Auditorium

Invited Session VII

Chairman: Sivaramakrishnan Sivasubramanian (IIT Bombay)

1.	Sivaramakrishnan Sivasubramanian (Department of Mathematics IIT Bombay) Unimodality and peak location of the characteristic polynomials of two distance matrices of trees
2.	K C. Sivakumar (Department of Mathematics IIT Madras) Q_0 -matrices revisited.

January 30, 2026 Time: 12:00 -13:00 Venue: Conference Hall

Technical Session IX

Chairman: Q. M. Danish Lohani (South Asian University)

1.	Q. M. Danish Lohani (South Asian University) Intuitionistic Fuzzy Clustering Technique Emphasizing the Fuzzy Variant
2.	Amita Sharma (Netaji Subhas University of Technology Delhi) On analysis the different modeling approaches for index tracking problem
3.	Sumit Maheshwari (Indian Institute of Management Jammu) A Closed-Loop Supply Chain

Lunch Break: 13:00 -14:00

January 30, 2026 Time: 14:00 -15:30 Venue: Auditorium

Invited Session VIII

Chairman: S. K. Mishra (Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi)

1.	S. K. Mishra (Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi) Solving Mathematical Programs with Vanishing Constraints
2.	N. Hemachandra (Indian Institute of Technology Bombay, India) Would congestion-based service systems with impatient users be in equilibrium?
3.	K. Manjunatha Prasad (Department of Applied Statistics and Data Science, PSPH, Manipal Academy of Higher Education, Manipal, Karnataka, India 576 104) Generalized Inverses associated with Networks

January 30, 2026 Time: 14:00 -15:40 Venue: Conference Hall

Technical Session X

Chairman: Monisankar Bishnu, Indian Statistical Institute, Delhi Centre

1.	Niher Ranjan Das (South Asian University) A Bounded Variation–Based Probabilistic Intuitionistic Fuzzy C-Means Clustering Algorithm
2.	Shikha Tomar (University of Delhi) Pricing and Coordination in Refurbished Closed-Loop Supply Chain: a game-theoretic analysis
3.	Shikha Tripathi (Jawaharlal Nehru University, New Delhi) Applications of Stochastic Game and Graph Theory in Network Security
4.	Ratan Kumar (Indian Institute of Technology, Bombay) Standby Optimization for Airline Crew Scheduling: A Prescriptive Approach with Predictive Integration
5	Oindrila Banerjee (University of Delhi) Standby Optimization for Airline Crew Scheduling: A Prescriptive Approach with Predictive Integration

January 30, 2026 Time: 14:00 -15:40 Venue: Seminar Room 2

Technical Session XI

Chairman: Vivek LAHA(Banaras Hindu University, Varanasi, India)

1.	Umashankara Kelathaya (Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal)	Generalized Inverses in Network Flow Optimization
2.	Vivek LAHA (Banaras Hindu University, Varanasi, India)	First and second order optimality conditions for nonsmooth multiobjective problems with equilibrium constraints
3.	Manisha Kumari (Indira gandhi delhi technical university for women)	A new decision-making framework using an improved aggregation operator in intuitionistic fuzzy soft sets
4.	Md Abu Talhamainuddin Ansary (Indian Institute of Technology Jodhpur, India)	A Hybrid Approach for Box Constrained Multi-objective Optimization Problems Combining Quasi-Newton and NSGA-II Methods"
5	Saloni (Manipal University Jaipur)	Optimization modeling of dea for measuring hospital performance efficiency with python coding

Tea Break: 15:40 -16:00

January 30, 2026 Time: 16:15 -18:30 Venue: Auditorium

Technical Session XII

Chairman: Deepayan Sarkar, Indian Statistical Institute, Delhi Centre

1.	Anjali Naik (IIT Delhi)	Inverse Data Envelopment Analysis under Non-Homogeneity and Negative Data
2.	Nauman Ansary (South Asian University)	Entropy based Intuitionistic Fuzzy Weighted Least Square Twin Support Vector Machine
3.	Rishabh Sahu (Gati Shakti Vishwavidyalaya, Vadodara)	When Priority Fails: A Bilevel Framework for Resolving Passenger-Freight Conflicts in Indian Railways
4.	Arushi Sahu (Indraprastha College For Women)	Ancient Wisdom to Modern System: An Indian Knowledge System (IKS) Driven Spherical Fuzzy WASPAS Framework for Circular Economy
5.	Priyal Jain (IIT Delhi)	Neural Approximation of Optimal DDoS Defense Strategies
6.		

January 30, 2026 Time: 16:15 -18:30 Venue: Conference Hall

Technical Session XIII

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

1.	Gambheer Singh (Indian Statistical Institute, Delhi Center) Additional classes of interval matrices in linear complementarity theory
2.	Kishan Suthar (Indian Institute of Management Indore) Cooperative Games With Shared Constraints Under Uncertainty
3.	Santo Sali (Central University of Kerala, Kasaragod) Equilibrium and Evolutionary Stability in Multi-Threshold Dynamic Service Control of M/M/1 Queues: A Metaheuristic Optimization Approach
4.	Meenakshi patil (Karnatak Art's Science and Commerce Degree College Bidar) Optimal Crop Mix for Wheat, Rice and Vegetables to Maximize Profit Under Resources Constraints
5.	
6.	