



3rd International Conference
on
Recent Advances in Mathematical Sciences and its Applications
(January 17-19, 2019)
Organized by
Department of Mathematics
JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY
A/10, Sector-62, Noida, U.P., India-201307

Conference Programme

January 17, 2019

- 09:00-09:30** Spot Registration and Distribution of Conference Kit
(In front of Auditorium)
- 09:30-10:00** Inauguration and Welcome Note
- 10:00-10:30** High Tea
- 10:30-11:30** Keynote address by Prof. Mališa R. Žižović, University of Kragujevac, Serbia
“Calculation of Weighted Coefficients Based on Level Construction”
- 11:30-12:30** Keynote address by Prof. Debasis Kundu, IIT Kanpur, India
“Geometric Skew Normal Distribution: A Journey Beyond Normality”
- 12:30-13:20** Plenary talk by Prof. Riddhi Shah, JNU Delhi, India
“Distality and Expansivity”
- 13:20-14:20** Lunch
- 14:20-15:10** Plenary talk by Prof. Amitabha Tripathi, IIT Delhi, India
“On Changes in the Frobenius & Sylvester Numbers from 2-Sets to 3-Sets”
- 15:10-15:30** Tea/Coffee
- 15:30-16:20** Plenary talk by Prof. Atma Sahu, Coppin State University, USA
“RBNN Machine Learning Simulation for Vibration Frequencies of the Rotating Blade and Leveraging US-India Metaheuristics of Global Networking”

<i>Paper Presentations</i>		
<i>Timings</i> 16:20-18:00	<i>Track A: Calculus, Algebra, Analysis & Approximation</i>	<i>Track B: Mathematical Modelling & Wave Propagation</i>

20:00-21:00 Dinner

January 18, 2019

09:30-10:20 Plenary talk by Prof. Ankit Agrawal, Northwestern University, USA

“High Performance Data Mining: An essential Paradigm for Applied Mathematics & Interdisciplinary Big Data Analytics”

10:20-11:10 Plenary talk by Prof. M. C. Joshi, Kumaun University, Nanital, India

“Fixed Point Theorems and Metric Completeness”

11:10-11:30 Tea/Coffee Break

11:30-12:20 Plenary talk by Prof. U. C. Gairola, HNB Garhwal University, Uttarakhand, India

“Some Fixed Point Theorem on Finite Product of Metric Spaces”

12:20-13:20 Keynote address by Prof. Indranil Biswas, TIFR Mumbai, India

“Holomorphic Cartan Geometry”

13:20-14:10 Lunch

<i>Paper Presentations</i>		
<i>Timings</i> 14:10-15:10	<i>Track C: Continuum Mechanics & Numerical Analysis</i>	<i>Track D: Soft Computing, Fuzzy, Image Processing & Operational Research</i>

15:10-15:30 Tea/Coffee

15:30-17:00 *Paper Presentations Continued...*

January 19, 2019

09:30-10:30 Keynote address by Prof. S. K. Tomar, Panjab University, Chandigarh, India

“Waves in Elastic Material with Voids Subjected to Electro-Magnetic Interactions”

10:30-11:20 Plenary talk by Prof. C. S. Lalitha, Delhi University, Delhi, India

“Convex Optimization and its Application”

11:20-11:35 Tea/Coffee

11:35-12:25 Plenary talk by Dr. Girish Mishra, SAG, Defence R & D Organisation, New Delhi, India

“Mathematical Foundations for Cryptology”

<i>Paper presentations</i>	
Timings 12:25-13:25	Track E: Probability, Statistics and Others

13:25-14:00 **Valedictory Function**

14:00-15:00 **Lunch**

Track A: Calculus, Algebra, Analysis & Approximations

S.N.	Title (<i>Author(s)</i>)	Page No.
1	Visualizing Data Set using Bivariate Trigonometric Functions (<i>Kuldip Katiyar and Bhagwati Prasad</i>)	A.1
2	On Soft Hemineariness Spaces (<i>Rashmi Singh and Ruhi Chauhan</i>)	A.1
3	On Some Dynamic Inequalities in Two Variables on Time Scales (<i>Deepak Pachpatte</i>)	A.2
4	A Note on Generalized Po-bi-Quasi Γ -Ideals in Po-bi-Ternary Γ -Semigroups (<i>Akbar Ali, M.Y. Abbasi and Sabahat Ali Khan</i>)	A.2
5	Inequalities Concerning B-Operators (<i>A. Liman'</i>)	A.3
6	Genuine Bernstein Durrmeyer Operators in Compact Disks (<i>Deepika Agrawal and Vijay Gupta</i>)	A.3
7	New Iterative Approximation of Fixed Points of Almost Contractions (<i>Amal M. Hashim Albatat and Zeinab Sami Al-Musawi</i>)	A.4
8	I_2 –Lacunary Statistical Convergence of Double Sequences of Order α of Sets (<i>A. M. Brono A. G. K. Ali and B. K. Ma'aji</i>)	A.4
9	A Note on (m,n)- Γ -Ideals of Ordered LA- Γ -Semigroups (<i>Abul Basar</i>)	A.5
10	On Higher Order Mixed Type Integrodifferential Equation with Nonlocal Conditions (<i>Haribhau L. Tidke</i>)	A.5

11	On Implicit Iterations for Strongly Pseudocontractive and Quasinonexpansive Mappings (<i>Neeta Singh</i>)	A.6
12	Nearness of Finite Order in Soft Set Theory (<i>Rashmi Singh and Anuj Kumar Umrao</i>)	A.6
13	Some Common Fixed Point Theorems in 0-Complete Partial Ordered Metric Spaces for Contractive Type Mappings (<i>Sudheer Petwal and R.C. Dimri</i>)	A.7
14	A New Generalization of Edelstein-Suzuki Type Fixed Point Theorem with Applications (<i>Deepak Khantwal and U. C. Gairola</i>)	A.7
15	Ideal Convergent Double Sequence Spaces via Orlicz Functions (<i>Tanweer Jalal</i>)	A.8
16	Product of Polynomial Values at Integral Points and Some of its Applications (<i>U. Balakrishnan</i>)	A.8
17	Semi Symmetric Metric S connection on a Generalized Contact Metric Structure manifold (<i>Shalini Singh</i>)	A.9
18	A Study on Approximation of Signals by Product Means $(\mathbb{N}, \mathbf{pn}, \mathbf{n})(\mathbf{C}, \mathbf{2})$ of the Fourier series in a $\mathbf{W}(\mathbf{Lr}, \xi(\mathbf{t}))(\mathbf{r} \geq \mathbf{1})$ Class (<i>Aradhana Dutt Jauhari</i>)	A.9

Track B: Mathematical Modelling & Wave Propagation

S.N.	Title (<i>Author(s)</i>)	Page No.
1	A Class of Soliton Solutions of Whitham-Broer-Kaup Equations by Means of Generalized $\left(\frac{G'}{G^2}\right)$ - Expansion Method (<i>Pallavi Verma and Lakhveer Kaur</i>)	B.1
2	A Fractional Order Differential Equation Model for Tuberculosis (<i>Gajanan S. Solanke and Deepak B. Pachpatte</i>)	B.1

3	Exact Solutions of the (2+1)-Dimensional Boiti-Leon-Pempinelli System by First Integral Method <i>(Preeti Devi and K. Singh)</i>	B.2
4	Propagation of Torsional Wave at a Corrugated Interface Between Viscoelastic Sandy Medium and Inhomogeneous Half-Space <i>(Raju Kumhar, Santimoy Kundu and Chandani Kumari)</i>	B.2
5	Love Wave Propagation in a Sandy Layer Under Initial Stress Lying Over a Pre-stressed Heterogeneous Orthotropic Half-Space <i>(Bhanu Pratap Rajak and Santimoy Kundu)</i>	B.3
6	Dispersion Characteristics of SH Wave Propagation in a Viscous Fiber-Reinforced Stratified Media <i>(Chandani Kumari, Santimoy Kundu and Raju Kumhar)</i>	B.3
7	Delayed Information Induced Self-protection Leads to Oscillations in an Epidemic Model <i>(Anuj Kumar and Prashant K Srivastava)</i>	B.4
8	A Review of Indian Seismic Zones Based on Historical Earthquake Data Using Geographical Information System <i>(Pato Kumari, Shreyansh Tripathi and V.K. Sharma)</i>	B.5
9	Scattering of Quasi-Longitudinal/Transverse Seismic Wave in the Monoclinic Strip Between Different Monoclinic Half-Spaces <i>(Pato Kumari)</i>	B.6
10	Bifurcation of Traveling Waves and Exact Solutions of Kadomtsev-Petviashvili Modified Equal Width Equation with Fractional Temporal Evolution <i>(Amiya Das and Niladri Ghosh)</i>	B.6
11	Analysis of Frequency Content in Strong Motion Earthquake Records Using Time-Frequency Method <i>(Chhavi P Pandey, Sanjay S Bora, Sushil Kumar and Sandeep K Chabak)</i>	B.7
12	On the Applications of Fractional Differential Equations Chemotaxis of Immune Cells <i>(Shikaa Samuela, Vinod Gill and Yudhveer Singh)</i>	B.8

Track C: Continuum Mechanics & Numerical Analysis

S.N.	Title (<i>Author(s)</i>)	Page No.
1	Dusty Memory Fluid through a Horizontal Channel with Energy Transfer (<i>Debasish Dey and Ashim Jyoti Baruah</i>)	C.1
2	Spectral Boundary Element Method for Shallow Water Waves (<i>Rupali, Gulshan and Prashant Kumar</i>)	C.1
3	Wave Spectrum Analysis for Extreme Wave Oscillation inside Paradip Port (<i>Gulshan, Prashant Kumar, Prashant Patel, Rupali and Sukhwinder Kaur</i>)	C.2
4	Study of Heat Flow in a Rod using Homotopy Analysis Method and Homotopy Perturbation Method (<i>Neelam Gupta and Neel Kanth</i>)	C.3
5	Synchronization Dynamics and Numerical Simulation of Three Coupled Oscillators through Extended Poincaré Cartan Invariants (<i>Pranjal Rastogi and Vikas Rastogi</i>)	C.3
6	Numerical Solution for Buckling and Vibration of Bidirectional FGM Circular Plates (<i>Neha Ahlawat</i>)	C.4
7	Unsteady EMHD Stagnation Flow of a Second Grade Nanofluid over a Stretching Sheet: HAM Solutions (<i>Nisha Shukla and Puneet Rana</i>)	C.5
8	Finite Element Analysis of Melting Effects on MHD Stagnation-point Non-Newtonian Flow and Heat Transfer from a Stretching/Shrinking Sheet (<i>Diksha Gupta, Lokendra Kumar, O. Anwar Bég and Bani Singh</i>)	C.5
9	Elastic-Plastic Analysis of Transversely Isotropic Spherical Shell under Internal Pressure (<i>Gaurav Verma, Pankaj Thakur and Puneet Rana</i>)	C.6
10	Creep Stresses in Functionally Graded Thin Rotating Orthotropic Disk with Variable Thickness and Density (<i>Sanjeev Sharma and Kajol Maheshwari</i>)	C.7

11	Double Diffusive Convection in a Rotating Nanofluid Layer Saturating in a Porous Medium <i>(A.K. Aggarwal and Anushri Verma)</i>	C.8
12	Oscillatory Mixed Convective Hydro-Magnetic Micropolar Fluid Flow in a Porous Medium <i>(Debasish Dey)</i>	C.8
13	Mixed Convective MHD Flow of Non-Newtonian Fluid past a Vertical Surface with Ohmic Heating and Viscous Dissipation <i>(Hridi Ranjan Deb)</i>	C.9
14	Finite Element Analysis for Semilinear Time-Fractional Diffusion Equation <i>(Dileep Kumar, Sudhakar Chaudhary and Srinivas Kumar)</i>	C.9
15	Visualization Techniques of Electrically Conducting Fluid in a Rotating Magnetic System <i>(G. Srinivas, Y. Rameshwar, M. A. Rawoof Sayeed and H. P. Rani)</i>	C.10
16	Radiation Absorption Effect on MHD Dissipative Fluid Past a Vertical Porous Plate Embedded in Porous Media <i>(M. Obulesu and R. Siva Prasad)</i>	C.11
17	Elastic Plastic Transition of Functionally Graded Thin Rotating Disc <i>(Manoj Sahni, Sanjeev Sharma and Richa Sharma)</i>	C.12
18	A Simple Numerical Integration Scheme for Solving Singular Perturbation Problems Using Exponentially Fitted <i>(Rakesh Ranjan and H. S. Prasad)</i>	C.12
19	Influence of Heat Source on Onset of Convection in Nanofluids using LTNE Model <i>(Vishal Gupta and Puneet Rana)</i>	C.13
20	Thermal Radiation Effect on Nanofluid Flow over a Double Rotating Disk Using Buongiorno's Model <i>(A. Renuka and M. Muthamilselvan)</i>	C.14
21	Uniformly Convergent Implicit Scheme for Time-Dependent Singularly Perturbed Reaction-Diffusion Problems with Large State Delay <i>(Parvin Kumari)</i>	C.14

22	Radiation Influence on Stability of Triangular Points in Elliptic Restricted Three-Body Problem <i>(Avaneesh Vaishwar, Devi Prasad Mishra and Badam Singh Kushvah)</i>	C.15
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Track D: Soft Computing, Fuzzy, Image Processing & Operational Research

S.N.	Title (<i>Author(s)</i>)	Page No.
1	Applications of Intuitionistic Fuzzy Divergence to Multi-Attribute Decision Making <i>(Anjali Munde)</i>	D.1
2	A Hybrid Multiresolution Wavelet Transform Based Encryption Scheme <i>(Pankaj Rakheja, Rekha Vig and Phool Singh)</i>	D.1
3	Efficient Computation Offloading Using Grey Wolf Optimization Algorithm <i>(Parmeet Kaur and Shikha Mehta)</i>	D.2
4	Rough Fuzzy (final) Automata <i>(Alka Tripathi and Kanchan Tyagi)</i>	D.3
5	Ranking Approach Based on Incenter in Triangle of Centroids to Solve Type-1 and Type-2 Fuzzy Transportation Problem <i>(Divya Chhibber, Dinesh C. S. Bisht and Pankaj Kumar Srivastava)</i>	D.3
6	An Aggregated Higher Order Fuzzy Logical Relationships Technique <i>(Gunjan Goyal and Dinesh C. S. Bisht)</i>	D.4
7	Image Enhancement in Lifting Wavelet Transform Domain <i>(Anuj Bhardwaj, Anjali Wadhwa and Vivek Singh Verma)</i>	D.4
8	Medical Diagnosis using Intuitionistic Fuzzy Sets <i>(A. Srivastava)</i>	D.5
9	A Pioneer Optimization Approach for Hexagonal Fuzzy Transportation Problem <i>(Nirbhay Mathur and Pankaj Kumar Srivastava)</i>	D.5
10	Quantization Based Unified Blind Watermarking Scheme <i>(Himanshu Agarwal)</i>	D.6

11	A Review of State Minimization and State Reduction Techniques in Fuzzy Automata (Alka Tripathi and Ranjeet Kaur)	D.7
12	Robust Digital Image Watermarking scheme based on Discrete Fractional Fourier Transform (Shubh Saxena, Vibhu Sharma, Vivek Singh Verma and Anuj Bhardwaj)	D.7
13	ANN-NSGA-II Method for Non-Linear Time Cost Trade-Off Problem (Bhupendra Kumar Pathak)	D.8
14	Optimization of Holistic Network Approach for Big Data Analytics with Lingo Binary Search Operations (Mohd. Rizwanullah)	D.8
15	Bi-level Multi-Objective Linear Fractional Programming Problem with FuzzyParameters: Stanojevic's Normalization Technique and FGP Approach (Indrani Maiti, Tarni Mandal and Surapati Pramanik)	D.9
16	An Algorithmic Analysis of Gradient Descent Optimization Algorithms (Dhruv Mittal, Saquib Nadeem Hashmi, Kaushtubh Kumar and Satish Chandra)	D.10
17	A Variant of Dropout for Recurrent Neural Networks (Dhruv Mittal, Saquib Nadeem Hashmi, Kaushtubh Kumar and Satish Chandra)	D.11
18	Applications of Fuzzy Set theory for Image Haze Removal (Ravinder Talwar and Sonali Talwar)	D.11
19	Asymmetric Defense of Small Countries - Multiple Criteria Approach (Spasoje Mučibabić and Srđan Aleksić)	D.12
20	Fuzzy Reliability Analysis through Different Membership Functions and Particle Swarm Optimization (Neha Singhal)	D.13

Track E: Probability, Statistics and Others

S.N.	Title (Author(s))	Page No.
1	Parametric Evaluation of Uncertainty in Markovian Queues (A. Srivastava)	E.1

2	Modeling and Fuzzy Logic Control of Photovoltaic-fuel Cell-battery Hybrid Vehicle <i>(Swet Chandan and Alok P. S. Chauhan)</i>	E.1
3	Performance Analysis of Machine Repair Problem with Working Vacation and Service Interruptions <i>(Rachita Sethi and Amita Bhagat)</i>	E.2
4	Influential Spreader Identification on Twitter <i>(Niyati Aggrawal and Anuja Arora)</i>	E.3
5	Impact of Performance analysis on Optimization for Cloud Computing Using Queueing System <i>(R. Sathish Kumar and S. Anand Gnana Selvam)</i>	E.3
6	Analysis of Two Reliability Models to Decide about having Cold Standby for a Single-Unit Operative System with the Provision of Expert Opinion for Reparability <i>(Anita Taneja)</i>	E.4
7	Complete Controllability of Automobile Suspension System <i>(Arvind Kumar, Chandransh Singh, Anurag Shukla and N. Sukavanam)</i>	E.5
8	High Performance Data Mining: An Essential Paradigm for Applied Mathematics & Interdisciplinary Big Data Analytics <i>(Ankit Agrawal)</i>	E.5
9	Prakaamy Distribution with Properties and Applications <i>(Kamlesh Kumar Shukla)</i>	E.6
10	Bayesian Estimation Procedures for Generalized Inverted Family of Distributions Based On Progressive Type II Right Censoring Under Squared Error and Entropy Losses <i>(Ajit Chaturvedi, Taruna Kumari and Narender Kumar)</i>	E.7
11	Necessary and Sufficient Condition for the Existence of Asymmetrical Reversible Variable Length Codes, based on Kraft's Inequality <i>(Radhika Goel and Richa Gupta)</i>	E.7
12	Secular Perturbations of Exoplanetary Systems Kepler-69 and Kepler-419 <i>(R. Mia)</i>	E.8
13	The Uncertainty-Investment Relationship with Endogenous Investment Size <i>(Sudipto Sarkar)</i>	E.9

14	Role of Range of Hopping in Optimization of Electron Glass <i>(Vikas Malik)</i>	E.9
15	Quantile-based Generalized Entropy Measure and Its Applications <i>(Vikas Kumar and Rekha)</i>	E.10
16	An Inventory Model for Deteriorating Items with Stock Dependent Demand and Tread Credit <i>(Vipin Kumar and C.B. Gupta)</i>	E.11
17	Safe Route Finder – An analysis of Crime in Chicago <i>(Abhishek Mangla, Akshansh Narula, Rohan Katoch and Neetu Sardana)</i>	E.11
18	Verhulst Equation – A Logistic model, and its Solution Based on One Step TGMRK Method <i>(Vijeyata Chauhan and Pankaj Kumar Srivastava)</i>	E.12