Motherhood University, Roorkee

**4th International Conference on Modern Mathematical Methods and
High Performance Computing in Science and Technology (M3HPCST-2022)**

Programme Schedule: December 22-24, 2022

DAY – 1 (Thursday - December 22, 2022)			
09:30 – 10:00	Registration	Venue	Reg. Counter
10:00-11:00	Inaugural Ceremony	Venue	Seminar Hall
11:00-11:30	High-Tea	Venue	Hostel Mess

		Talk Session - 1			
Timing	Talk	Speaker/Talk Topic	Speaker	Session Chair	Venue
12:00-12:30	Talk-1	On Some Development of Metric Fixed Point Results	**Kanhaiya Jha**	Prof. (Dr.) Amlan Chakraborty	V_1 Seminar Hall D-Block
12:30-01:00	Talk-2	Approximation of Parameter Dependent Eigen-value Problems	**Daniele Boffi**		
01:00-01:30	Talk-3	Fundamental, Advancements and Open Problems in Nature Inspired Optimization Techniques	**Kusum Deep**		
01:30-02:15	**Lunch Break**				Hostel Mess

		DAY – 1 (Thursday - December 22, 2022)			
		Talk Session - 2			
Timing	**Talk**	**Speaker/Talk Topic**	**Speaker**	**Session Chair**	**Venue**
02:15-02:45	Talk-1	Digital Convergence in Computer Simulation	**Michael Resch**	Prof. (Dr.) Kanhaiya Jha	V_1 Seminar Hall D-Block
02:45-03:15	Talk-2	During Quantum Paradigm for Machine Learning	**Amlan Chakrabarti**		

		DAY – 1 (Thursday - December 22, 2022)			
		Paper Presentation - 1			
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
22th Dec., 2022 03:15 – 4:30	Paper-1	Fractional Diffusion Equation for Medical Image Denoising Using Adi Scheme	**A. Abirami** & P. Prakash,	Prof. (Dr.) Souvik Ganguli	V_1 Seminar Hall D-Block
	Paper-2	A Result for Generalized Multi-valued Rational Type F-Contraction on Ultra-metric Space	**Özlem Acar**		
	Paper-3	Nonlinear Propagation of Pressure-Driven Waves and Formation of Solar Spicules in The Presence of Pressure Perturbations in the Solar Photosphere in an Expanding Flux Tube	K.A.P. Singh & **Disha Varshney**		

	Paper-4	Transportation of SWCNT and MWCNT-Based Nanofluid through an Exponentially Stretching Riga Plate in the Presence of Viscous Dissipation	**Kiran Kunwar Chouhan** & Santosh Chaudhary		
	Paper-5	Adaptive Lqr-Based Control of 3D of Spherical Articulated Robotic Manipulator	Kalyanam Suryanarayana & Monika Mittal		
	Paper-6	Wave Propagation and Damping of Magnetoacoustic Waves Due to Ambipolar Diffusion and Radiation Losses in Partially Ionized Astrophysical Plasmas	**K.A.P. Singh** & Disha Varshney		
	Paper-7	Effect of Steady Flow on Wave Propagation and Damping of Magnetoacoustic Waves due to Ambipolar Diffusion and Radiation Losses in Quiescent Solar Prominences	**Disha Varshney** & K.A.P. Singh		
	Paper-8				
Tea (4:30 PM)					

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DAY – 1 (Thursday - December 22, 2022)					
Paper Presentation – 2 (Parallel Session)					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
22th Dec, 2022 03:15 – 4:30	Paper-9	Fixed point theorems for expansive mappings in Partial 2-metric spaces	Pooja Dhawan & Ishit Sehgal	Prof. (Dr.) Tanweer Jalal	B-Block
	Paper-10	Weighted Approximation By Exponential Sampling Durrmeyer Operators	Tuncer Acar		
	Paper-11	Existence of Best Proximity for Meir-Keeler Contraction in RM-MS	**Arulravi Amma**		
	Paper-12	Fixed Point Results for JCLR Property on Intuitionistic Fuzzy Metric Spaces	Vishal Gupta, Jonty Jindal, Anil Saini		
	Paper-13	Single and Set Valued $\alpha - \eta - \psi$ Mappings in Fuzzy Metric Space	Vishal Gupta, Manu Verma & Anit Saini		
	Paper-14	Mathematical Modelling of Customer's Flow in Personal Loan Department of Banks	**Jain P** & Ali R		
	Paper-15	New Operators with Respect to a Grill	**Monika Gaur** and M.K.Gupta		
Tea (4:30 PM)					

Special Session

Application of Computational Techniques in Basic/Applied Sciences and Engineering

		DAY – 1 (Thursday - December 22, 2022)			
		Special Session Talk [Parallel]			
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
22th Dec., 2022 11:30 – 1:45	Talk-1	The nuclear equation of state from experiments and astronomical observations	Dr. Rohit Kumar	Prof. Rajeev K. Puri (Chairperson, Punjab University Chandigarh)	V$_2$ B-Block
	Talk-2	Microscopic Modelling of HIC, subthreshold particles and the Nuclear Equation of State	Dr. Christoph Hartnack		
	Talk-3	Experimental study of the symmetry energy from ^{40,48}Ca+^{40,48}Ca reactions at 35 AMeV	Dr. Quentin Fabre		
	Talk-4	Cluster radioactivity of nuclei in heavy and super heavy regions.	Prof. K. P Santosh		
	Talk-5	Nuclear Astrophysics with Stable Radioactive ion beams	Dr. Ragandeep Singh Sidu		
01:45-02:30		Lunch			Hostel Mess

DAY – 1 (Thursday - December 22, 2022)					
Paper Presentation – Special Session					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
22th Dec., 2022 01:45 – 3:00	Paper-16	In Silico dosimetry of nanobrachytherapy using radioactive nanoparticles for the treatment of solid tumors	Dr. Baljeet Seniwal	Prof. Rajeev K. Puri (Chair-person, Panjab University Chandigarh)	V$_2$ B-Block
	Paper-17	Role of clusterization algorithm on nuclear structure effects in multifragmentation	Ms SUCHETA		
	Paper-18	Lattice Energy and Hirshfeld Surface analysis of intermolecular interactions in two ethoxy coumarin derivatives	Dr. Ahsan Elahi		
22th Dec., 2022 03:00 – 04:30	Paper-19	Role of Clusterization Algorithm on Nuclear Structure Effects in Multi-fragmentation	**Sucheta**, Palak Chawla, Sakshi Gautam & Rajeev K. Puri	Dr. Arun Sharma (GDC Billawar, J&K Higher Education Department)	
	Paper-20	To be Announced	Dr. Jadab Sharma		
	Paper-21	To be Announced	Dr. Santosh K. Mahapatra		
	Paper-22	To be Announced	Prof. Sunita Srivastav		
Tea (4:30 PM) - Hostel Mess					

DAY – 2 (Friday - December 23, 2022)					
Talk Session – 1					
Timing	Talk	Speaker/Talk Topic	Speaker	Session Chair	Venue
10:00-10:30	Talk-1	Machine Learning and Logic: Fast and Slow Thinking	Moshe Y. Vardi	Prof. (Dr.) Daniel Boffi	V_1 Seminar Hall D-Block
10:30-11:00	Talk-2	The Impact of Microbial Diseases of Corals Under Macroalgal Toxicity, Overfishing and Rising Sea Surface Temperature (SST)	Samares Pal		
11:00-11:30	Talk-3	Geometrically Preservative Splitting Computations for Adjoint and Nonlinear Kawarada Equations	Qin Sheng		
11:30-12:00	Talk-4	Processing in Memory (PIM): A benchmark Study in Comparison with Other Classical Computing	Partha Acharya		
12:00-12:30	Talk-5	Computer-Aided-Design of Microfluidic Biochips	Sudip Roy		

12:30-01:00	Talk-6	Modeling the dynamics of Hepatitis C virus with a combined antiviral drug therapy: Interferon and Ribavirin	Sandeep Banerjee		
01-00:01-30	Talk-7	Quantum Computing: A New Era of Scientific Computing	Vinai K. Singh		
01:30–02:30	**Lunch Break**			Hostel Mess	

DAY – 2 (Friday - December 23, 2022)					
Talk Session - 2					
Timing	Talk	Speaker/Talk Topic	Speaker	Session Chair	Venue
02:30-02:50	Talk-8	Simulating Quantum Circuit on Classical HPC Infrastructure	Fabio Baruffa	Prof. (Dr.) Sudip Roy	V_1 Seminar Hall D-Block
02:50-03-10	Talk-9	A Unified Approach to Modeling and Control of Induction Motors Using Chaos Based Artificial Gorilla Troop Optimizer	Souvik Ganguli		
03:10-03:30	Talk-10	A Study of Triple n-Normed Sequence Spaces	Tanweer Jalal		

DAY – 2 (Friday - December 23, 2022)					
Paper Presentation – 1 (Parallel Session)					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
23rd Dec., 2022 03:30 – 4:30	Paper-23	Strong Domination Number of Some Graphs in Context of Vertex Switching	**Pariksha Gupta**, Sangeeta Gupta & Sweta Srivastav	Prof. (Dr.) K.A.P. Singh	V1 Seminar Hall D-Block
	Paper-24	Solid Restricted Bi-Byte Detecting and Correcting Linear Optimal Codes Over GF (Q), Q (Prime) $\geq$ 2	**Subodh Kumar** & Tarun Lata[2]		
	Paper-25	Some Characteristics of Generalized Nonlinear Neutrosophic Number	Augus Kurian		
	Paper-26	Convergent Evolving Surface Finite Element Algorithms for Geometric Evolution Equations	Christian Lubich		
	Paper-27	A Case Study of Major Crops in Haryana State Using Intuitionistic Fuzzy Optimization Approach	**Preeti** & Hemant Poonia		
	Paper-28				
	Paper-29				
Tea (4:30 PM)					

DAY – 2 (Friday - December 23, 2022)					
Paper Presentation – 2 (Parallel Session)					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
23rd Dec., 2022 03:30 – 4:30	Paper-30	Fuzzy Relation on Fuzzy Topological TM-Systems	M. Annalakshmi	Prof. (Dr.) K. Palanivel	V₂ B-Block 2nd Floor
	Paper-31	Application of Simulation Software as E-learning Tool in Physics and Engineering	K R Patel, V. D. Patel & K. P. Patel		
	Paper-32	Binary Soft α – Continuous Function with Application	M. John Peter and R. Manoharan		
	Paper-33	Secret Sharing Schemes Based with Tailored Access Priveleges	Prabu J. and Mahalakshmi J.		
	Paper-34	Different Control Strategies for Performance Enhancement of Wind Energy Conversion System	Kalpit Prakash & Monika Mittal		
	Paper-35				
Tea (4:30 PM)					

DAY – 2 (Friday - December 23, 2022)						
Paper Presentation – 3 (Parallel Session)						
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
23rd Dec., 2022 03:30 – 4:30	Paper-36	An Entropy Method for Group Decision Making Under Linguistic Interval Valued Intuitionistic Fuzzy Set Using Connection Number of Set Pair Analysis	Sandeep Kumar & **Reshu Tyagi**	Prof. (Dr.) Anand Tyagi	V3 G-Block 1st Floor
	Paper-37	Solution of Systems of Fractional Differential Equations By Using Conformable Fractional Differential Transform Method with Adomian Polynomials	**R. S. Teppawar**, R. N. Ingle & R. A. Muneshwar		
	Paper-38	Approximate Solution of Fredholm Integral Equations Using Szász-Mirakyan Polynomials	Shikha Pandey		
	Paper-39	A Fourth Order Method with Multiplicative Calculus to Solve the Non-Linear Equation	**Gurjeet Singh** & Sonia Bhalla		
	Paper-40				
	Paper-41				
Tea (4:30 PM)						

DAY – 2 (Friday - December 23, 2022)					
Paper Presentation – 4 (Parallel Session)					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
23rd Dec., 2022 03:30 – 4:30	Paper-42	Stimulation of Fractional Order 2D-Mathematical Model Using Alpha Fractional Differential Transform Method	S. N. Thorat, K. P. Ghadle, R. A. Muneshwar & K. L. Bondar[4]	Prof. (Dr.) K.A.P. Singh	V4 G-Block 2nd Floor
	Paper-43	Investigation of Discrete-Time Queue with Batch Arrivals under Double Vacation Scheme	**Vaishnawi** & Shweta Upadhyaya		
	Paper-44	Existence and Uniqueness of Solution of Second Order Nonlinear Summation-Difference Equation	Gajanan C. Done, Kirankumar L. Bondar & Pandit U. Chopade		
	Paper-45	Assignment Model for Employing Skilled IT Professionals for Appropriate Job Roles under Uncertainty with Different Ranking Approaches using Membership Functions	Jency Leona Edward and Palanivel Kaliyaperumal[1*]		
	Paper-46	Single-valued Neutrosophic Transportation Problem with Mixed Constraints	K. Kalaivani and **K. Palanivel**		
	Paper-47				
Tea (4:30 PM)					

DAY – 3 (Saturday - December 24, 2022)					
Talk Session - 1					
Timing	Talk	Speaker/Talk Topic	Speaker	Session Chair	Venue
09:30-10:00	Talk-1	An Overview of Asynchronous Computing Method For Scalable PDE Solvers	Konduri Aditya	Dr. Anand Tyagi	V_1 Seminar Hall D-Block
10:00-10:30	Talk-2	Role of Machine Learning in the Analysis of Mental Health Data: An Empirical Approach	Kamal Upreti		
10:30-11:00	Talk-3	Study of Antioxidants effects on Oxidation Stability of Karanja Oil Using ML Tools	Balram Rao		
Tea Break					

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DAY – 3 (Saturday - December 24, 2022)						
Paper Presentation – 1 (Parallel Session)						
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue	
24th Dec., 2022 11:00 – 12:30	Paper-48	Mathematical Investigation of Transmission of Vaccinated COVID-19 Virus in Tuberculosis Community	**Krishna Gopal Varshney** & Yogendra Kumar Dwivedi[2]	Prof. (Dr.) Souvik Ganguli	V[1] Seminar Hall D-Block
	Paper-49	On Proximal Point Algorithm for Quasi-Convex Multi-objective Optimization	Ali Farajzadeh		
	Paper-50	An Optimization Model for Fuzzy Nonlinear Programming with Lagrangian Multiplier Conditions Using Trapezoidal Membership Functions	Palanivel Kaliyaperumal		
	Paper-51	Statistics in Agricultural Science Students' Performance Education	Saloni Srivastava & S. B. Kulshrestha		
	Paper-52	Interval-Valued Availability of Repairable Linear onsecutive K-Out-of-N: F Systems Incorporating Uncertainty & Multiple Failure Modes	Amisha Khati, S.B. Singh		
	Paper-53	A Novel Approach for Analyzing System Reliability Based on Weakest T-Norm Arithmetic Operations over Different Types of Pythagorean Fuzzy Numbers	Mintu Kumar & S.B. Singh		

DAY – 3 (Saturday - December 24, 2022)						
Paper Presentation – 2 (Parallel Session)						
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
24th Dec., 2022 11:00 – 12:30	Paper-54	A Mathematical Investigation on a Type of Tuberculosis Model Consisting of Two Infectious Stages	Satyendra Singh Yadav & **Bed Prakash Singh**	Prof. (Dr.) S.B. Singh	V₂ B-Block 2nd Floor
	Paper-55	Modeling and Forecasting the Human Population in Agra using Mathematical Equations	Satyendra Singh Yadav & **Anurag Paliwal**		
	Paper-56	Comparison between Analytical and Numerical Solutions of the Telegraph Equation	**Shaitan Singh**, Shachipati Pandey & A.K Singh		
	Paper-57	On the Outer Connected Edge Monophonic Number of a Graph	K. Ganesa-moorthy, S.I. Saakarika		
	Paper-58	Blockchain Technology Utility Research for Digitization and Clever Settlement Management Based on a Fully Digital Bill VAT Agreement Device	**Jay Chand**, Ravindra Kr. Vishwakarma, Ratnesh Kumar Pandey & Gaurav Agrarwal		

	Paper-59	Anticancer Activity of Biogenic Tio 2 Nps Against Breast Cancer, Lungs Cancer and Prostate Cancer	**Shama Parveen** & Vikas Gupta		

DAY – 3 (Saturday - December 24, 2022)					
Paper Presentation – 3 (Parallel Session)					
Timing	Paper No.	Paper Title	Author/s	Session Chair	Venue
24th Dec., 2022 11:00 – 12:30	Paper-60	Influence Of Second Order Partial Slip Conditions On Peristaltic Transport Of Pseudoplastic Fluid In An Asymmetric Channel Bounded By Permeable Walls With Suction And Injection	**R. Hemadri Reddy**	**Prof. (Dr.) Kamal Upreti**	**V₃ G-Block 1st Floor**
	Paper-61	Herscovici's Conjecture for the Deleted Independent Edges of Some Graphs	Lourdusamy A., Dhivviyanandam I. & Kither Iammal S.		
	Paper-62	Mathematical Modeling and Reliability Analysis of Pulsed Gtaw Process In Mechanical Property For Weld Joints"	**Anand Tyagi** & Sanjay Sharma		
	Paper-63	Experimenting the Image Classification Using Modified Model	Sandeep Kumar, **Amit Sharma**, Pushpendra Singh and		

			Mahesh Kumar Singh		
	Paper-64	Emotion Based Music Recommendation System using CNN Model	Akhilesh Kumar Singh, Mahesh Kumar Singh, Pushpendra Singh, **Amit Sharma** & Sandeep Kumar		
	Paper-65	Effectiveness of Artificial Intelligence for Enhancing Decision Making Process of Recruitment in HRM	Adheer A. Goyal, N. Bindu Madhavi, Jikku Susan Kurian, **Mustafizul Haque**, Mohammed Shafiuddin & Kamal Upreti		

	Paper-66	New Paradigm of Marketing-Financial Integration for Business Performance: An IMC Model	Tejasvini Alok Paralkar, Adheer A. Goyal, Mustafizul Haque, [4]Neha Ramteke, Anantha Rao & **Kamal Upreti**		
	Paper-69	Role of Machine Learning in the Analysis of Mental Health Data: An Empirical Approach	Syed Ghyasuddin Hashmi, Fazal Imam Shahi, Khalid Ali Qidwai, **Mohammed Naser**, Mohammed Shafiuddin, Kamal Upreti		

	Paper-70	Study of Antioxidants effects on Oxidation Stability of Karanja Oil Using ML Tools	Shubham Gupta, Md. Moonisuddin Siddiqui, Kamal Upreti & **Balram Rao**		

DAY – 3 (Satuday - December 24, 2022)			
12:30–12:45	Tea	Venue	Hostel Mess
12:45-01:45	**Valediction Ceremony**	V$_1$ Seminar Hall D-Block	Seminar Hall
01:45-02:30	Lunch	Venue	Hostel Mess

*** Best of Luck ***